



**THE
INDIAN
ASTRONOMICAL EPHEMERIS
FOR THE YEAR
2026**

**POSITIONAL ASTRONOMY CENTRE
INDIA METEOROLOGICAL DEPARTMENT
MINISTRY OF EARTH SCIENCES**

THE
INDIAN
ASTRONOMICAL EPHEMERIS
FOR THE YEAR
2026



POSITIONAL ASTRONOMY CENTRE
INDIA METEOROLOGICAL DEPARTMENT

Issued under the authority of
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(1) Positional Astronomy Centre,
INDIA METEOROLOGICAL DEPARTMENT
PLOT NO. 8; BLOCK- AQ, SECTOR-V, SALT LAKE,
MAHISH BATHAN, KOLKATA - 700 091
PHONE: (033) 2367-1200/1201/1202
FAX: (033) 2367-1203
E-MAIL : pac.kolkata@imd.gov.in
Website: www.packolkata.gov.in

(2) Office of the Director General of Meteorology,
India Meteorological Department,
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PREFACE

The Indian Astronomical Ephemeris is published annually by the India Meteorological Department (IMD) for providing data to astronomers. The speciality of this publication is that it contains calendric information which caters to the requirement of the country's panchang makers and other users. Thus it has great civil and cultural significance. This has been the mandate given to the Positional Astronomy Centre at Kolkata by the Govt. of India.

The calculations of the Indian Calendar portion, such as tithi, nakshatra etc. are given in Indian Standard Time (IST) and covers an extended period upto 21st March 2027 which is the end of the year 1948 Saka Era of the Indian National Calendar. A separate note has also been given to explain the terminology and the basis of different calculations relating to the Indian Calendar.

The epoch of the standard reference system in this publication is J 2000.0 and the argument of the ephemerides is Terrestrial Time (TT). Resolutions of the International Astronomical Union (IAU) recommending the changes from time to time including a list of new IAU constants are given in Part VI - Indian Calendar and Explanation.

Our sincere thanks are due to the Nautical Almanac Office, United States Naval Observatory and Her Majesty's Nautical Almanac Office, U.K.

The work of preparation and publication of the Indian Astronomical Ephemeris for 2026 has been carried out by the officials of the IAE division under the overall supervision of Shri Debapriya Roy, Head, Positional Astronomy Centre, India Meteorological Department, Kolkata.

Dr. M. Mohapatra
Director General of Meteorology

Mausam Bhawan
New Delhi - 110 003
15th August, 2025 A.D.
(24 Sravana, 1947 Saka Era)

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PART - I

TIME, SUN, MOON, PLANETS

TIME-SCALE, 2026

Julian date for Standard epoch

1900 January 0, 12 ^h U.T.	=	JD 241 5020.0
B 1950.0 = 1950 Jan. 0.923	=	JD 243 3282.423
B 2026.0 = 2026 Jan. 0.331	=	JD 246 1040.831
J 2026.5 = 2025 July 2.625	=	JD 246 1224.125
J 2000.0 = 2000 Jan. 1.5	=	JD 245 1545.0

Tabulations of Julian date against calendar date for 2025 are given on pages 4 to 12 and for other years are given at Table IX of Part-V on page 363.

The fraction of the year from 2020.5 is tabulated with the Besselian day numbers on pages 244-251.

The lengths of the principal years and mean months at 2026.0 as derived from the Sun's mean motion and mean Orbital elements respectively are:

Length of the year (ephemeris days) :

	d		d	h	m	s
Tropical (equinox to equinox)	365.242190	=	365	05	48	45.2
Sidereal (fixed star to fixed star)	365.256363	=	365	06	09	09.8
Anomalistic (perigee to perigee)	365.259635	=	365	06	13	52.5
Eclipse (node to node)	346.620074	=	346	14	52	54.4

Length of the Month (ephemeris days)

	d		d	h	m	s
Synodic (new moon to new moon)	29.5305888	=	29	12	44	02.9
Tropical (equinox to equinox)	27.3215822	=	27	07	43	04.7
Sidereal (fixed star to fixed star)	27.3216615	=	27	07	43	11.6
Anomalistic (perigee to perigee)	27.5545501	=	27	13	18	33.1
Nodical (node to node)	27.2122207	=	27	05	05	35.9

	h	m	s
Length of the day: Mean Sidereal	23	56	04.09053 of mean Solar time.
Mean Solar	24	03	56.55537 of mean Sidereal time.

CHRONOLOGICAL TABLE

3

CHRONOLOGICAL CYCLES

Golden Number or Lunar Cycle	XIII	Solar Cycle	19
Epact	11	Roman Indiction	4
Dominical Letter	D		

CHRONOLOGICAL ERAS

The year 1948 of the Saka Era (Indian National Calendar) begins on March 22, 2026.

The year 1948 of the Saka Era or Saka Shalivahana (Lunisolar, Traditional Calendar) begins on March 19, 2026.

The year 1948 of the Saka Era (Solar, Traditional Calendar) begins on April 14, 2026.

The year 5127 Kali Era begins on April 14, 2026.

The year 2083 of the Vikram Samvat begins on March 19, 2026 (Chaitradi) and November 10, 2026 (Kartikadi) according to different systems of reckoning.

The year 1433 of the Bengali San on April 15, 2026.

The year 1202 of the Kollam Era begins on August 17, 2026.

Jovian year (Barhaspatya Varsa or 60-year cycle of Jupiter) 54 Raudra begins on May 07, 2026 (North Indian Usage), and 40 Parabhava March 19, 2026 (Lunar Chaitradi) or April 14, 2026 (Solar) (South Indian Usage).

Vedanga Jyotisa year 2- Parivatsara of the 5-year cycle (390 th cycle of Paitamaha Siddhanta) begins on January 19, 2026.

The year 2570 of the Buddha Nirvana era begins on May 01, 2026.

The year 2553 of the Mahavira Nirvana Era begins on November 10, 2026.

The year 1448 of the Mohammedan Era begins on June 17, 2026.

The year 1396 of the Yazdejardi Era begins on August 15, 2026 according to the Indian Parsi (Shahenshahi) Calendar.

The year 6739 of the Julian period begins on January 14, 2026.

The year 5787 of the Jewish Era (A.M.) begins on September 12, 2026.

The year 2802 of the Greek Olympiad, being the 2nd year of the 4-Year cycle (701 th Olympiad) begins on July, 2026.

The year 2779 of the Foundation of Rome (A.U.C.) begins on January 14, 2026.

The year 2775 of the Nabonassar begins on April 17, 2026.

The year 2338 of the Seleucidian Era begins in the present-day usage of the Syrians on September 14 or October 14, 2026 according to different sects.

The Gregorian Year 2026 begins on January 1, 2026.

CALENDAR, 2026

Day of Month	Day of Year	Day of Week	Days since J 2026.5	Fraction of Year since Jan. 1.0	Julian Day (at 0h U.T.)	Indian Calendar		Phases of the Moon
						Day of Month	Day of Year	
Dec	27	Sat	-187.625	-0.0137	2461 036.5	1947 Saka Era Pausha 6	281	27- First Quarter 19 ⁿ 10 ^m U.T.
	28	Sun	186.625	-0.0110	037.5		282	
	29	Mon	185.625	-0.0082	038.5		283	
	30	Tue	184.625	-0.0055	039.5		284	
	31	Wed	183.625	-0.0027	040.5		285	
Jan	1	Thu	182.625	0.0000	041.5	11	286	3- Full Moon 10 ⁿ 03 ^m U.T.
	2	Fri	181.625	0.0027	042.5	12	287	
	3	Sat	-180.625	0.0055	043.5	13	288	
	4	Sun	179.625	0.0082	044.5	14	289	
	5	Mon	178.625	0.0110	045.5	15	290	
	6	Tue	177.625	0.0137	046.5	16	291	
	7	Wed	176.625	0.0164	047.5	17	292	
	8	Thu	175.625	0.0192	048.5	18	293	
	9	Fri	174.625	0.0219	049.5	19	294	
	10	Sat	-173.625	0.0246	050.5	20	295	10- Last Quarter 15 ⁿ 48 ^m U.T.
	11	Sun	172.625	0.0274	051.5	21	296	
	12	Mon	171.625	0.0301	052.5	22	297	
	13	Tue	170.625	0.0329	053.5	23	298	
	14	Wed	169.625	0.0356	054.5	24	299	
	15	Thu	168.625	0.0383	055.5	25	300	
	16	Fri	167.625	0.0411	056.5	26	301	
	17	Sat	-166.625	0.0438	057.5	27	302	18-New Moon 19 ⁿ 52 ^m U.T.
	18	Sun	165.625	0.0465	058.5	28	303	
	19	Mon	164.625	0.0493	059.5	29	304	
	20	Tue	163.625	0.0520	060.5	30	305	
	21	Wed	162.625	0.0548	061.5	Magha 1	306	
	22	Thu	161.625	0.0575	062.5		307	
	23	Fri	160.625	0.0602	063.5		308	
	24	Sat	-159.625	0.0630	064.5	4	309	26- First Quarter 04 ⁿ 47 ^m U.T.
	25	Sun	158.625	0.0657	065.5	5	310	
	26	Mon	157.625	0.0684	066.5	6	311	
	27	Tue	156.625	0.0712	067.5	7	312	
	28	Wed	155.625	0.0739	068.5	8	313	
	29	Thu	154.625	0.0767	069.5	9	314	
	30	Fri	153.625	0.0794	070.5	10	315	
Feb	31	Sat	-152.625	0.0821	071.5	11	316	1-Full Moon 22 ⁿ 09 ^m U.T.
	1	Sun	151.625	0.0849	072.5	12	317	
	2	Mon	150.625	0.0876	073.5	13	318	
	3	Tue	149.625	0.0904	074.5	14	319	
	4	Wed	148.625	0.0931	075.5	15	320	
	5	Thu	147.625	0.0958	076.5	16	321	
	6	Fri	-146.625	0.0986	077.5	17	322	

CALENDAR, 2026

Day of Month	Day of Year	Day of Week	Days since J 2026.5	Fraction of Year since Jan. 1.0	Julian Day (at 0h U.T.)	Indian Calendar		Phases of the Moon
						Day of Month	Day of Year	
Feb	7	38	Sat	-145.625	0.1013	2461	1947 Saka Era	9-Last Quarter 12 ⁿ 43 ^m U.T.
	8	39	Sun	144.625	0.1040	078.5	Magha 18	323
	9	40	Mon	143.625	0.1068	079.5	19	324
	10	41	Tue	142.625	0.1095	080.5	20	325
	11	42	Wed	141.625	0.1123	081.5	21	326
	12	43	Thu	140.625	0.1150	082.5	22	327
	13	44	Fri	139.625	0.1177	083.5	23	328
						084.5	24	329
	14	45	Sat	-138.625	0.1205	085.5	25	330
	15	46	Sun	137.625	0.1232	086.5	26	331
	16	47	Mon	136.625	0.1259	087.5	27	332
	17	48	Tue	135.625	0.1287	088.5	28	333
	18	49	Wed	134.625	0.1314	089.5	29	334
	19	50	Thu	133.625	0.1342	090.5	30	335
	20	51	Fri	132.625	0.1369	091.5	Phalguna 1	336
	21	52	Sat	-131.625	0.1396	092.5	2	337
	22	53	Sun	130.625	0.1424	093.5	3	338
	23	54	Mon	129.625	0.1451	094.5	4	339
	24	55	Tue	128.625	0.1478	095.5	5	340
	25	56	Wed	127.625	0.1506	096.5	6	341
	26	57	Thu	126.625	0.1533	097.5	7	342
	27	58	Fri	125.625	0.1561	098.5	8	343
	28	59	Sat	-124.625	0.1588	099.5	9	344
Mar	1	60	Sun	123.625	0.1615	100.5	10	345
	2	61	Mon	122.625	0.1643	101.5	11	346
	3	62	Tue	121.625	0.1670	102.5	12	347
	4	63	Wed	120.625	0.1698	103.5	13	348
	5	64	Thu	119.625	0.1725	104.5	14	349
	6	65	Fri	118.625	0.1752	105.5	15	350
	7	66	Sat	-117.625	0.1780	106.5	16	351
	8	67	Sun	116.625	0.1807	107.5	17	352
	9	68	Mon	115.625	0.1834	108.5	18	353
	10	69	Tue	114.625	0.1862	109.5	19	354
	11	70	Wed	113.625	0.1889	110.5	20	355
	12	71	Thu	112.625	0.1917	111.5	21	356
	13	72	Fri	111.625	0.1944	112.5	22	357
	14	73	Sat	-110.625	0.1971	113.5	23	358
	15	74	Sun	109.625	0.1999	114.5	24	359
	16	75	Mon	108.625	0.2026	115.5	25	360
	17	76	Tue	107.625	0.2053	116.5	26	361
	18	77	Wed	106.625	0.2081	117.5	27	362
	19	78	Thu	105.625	0.2108	118.5	28	363
	20	79	Fri	-104.625	0.2136	119.5	29	364
								19-New Moon 1 ⁿ 23 ^m U.T.

CALENDAR, 2026

Day of Month	Day of Year	Day of Week	Days since J 2026.5	Fraction of Year since Jan. 1.0	Julian Day (at 0h U.T.)	Indian Calendar		Phases of the Moon
						Day of Month	Day of Year	
Mar	21	80	Sat	-103.625	0.2163	2461	1947 Saka Era	25- First Quarter 19 ^h 18 ^m U.T.
	22	81	Sun	102.625	0.2190	120.5	Phalguna 30	
	23	82	Mon	101.625	0.2218	121.5	1948, Chaitra 1	
	24	83	Tue	100.625	0.2245	122.5	2	
	25	84	Wed	99.625	0.2272	123.5	3	
	26	85	Thu	98.625	0.2300	124.5	4	
	27	86	Fri	97.625	0.2327	125.5	5	
Apr						126.5	6	2-Full Moon 2 ⁿ 12 ^m U.T.
	28	87	Sat	-96.625	0.2355	127.5	7	
	29	88	Sun	95.625	0.2382	128.5	8	
	30	89	Mon	94.625	0.2409	129.5	9	
	31	90	Tue	93.625	0.2437	130.5	10	
	1	91	Wed	92.625	0.2464	131.5	11	
	2	92	Thu	91.625	0.2491	132.5	12	
	3	93	Fri	90.625	0.2519	133.5	13	10-Last Quarter 4 ⁿ 52 ^m U.T.
	4	94	Sat	-89.625	0.2546	134.5	14	
	5	95	Sun	88.625	0.2574	135.5	15	
	6	96	Mon	87.625	0.2601	136.5	16	
	7	97	Tue	86.625	0.2628	137.5	17	
	8	98	Wed	85.625	0.2656	138.5	18	
	9	99	Thu	84.625	0.2683	139.5	19	
	10	100	Fri	83.625	0.2711	140.5	20	17-New Moon 11 ⁿ 52 ^m U.T.
	11	101	Sat	-82.625	0.2738	141.5	21	
	12	102	Sun	81.625	0.2765	142.5	22	
	13	103	Mon	80.625	0.2793	143.5	23	
	14	104	Tue	79.625	0.2820	144.5	24	
	15	105	Wed	78.625	0.2847	145.5	25	
	16	106	Thu	77.625	0.2875	146.5	26	
	17	107	Fri	76.625	0.2902	147.5	27	24- First Quarter 2 ⁿ 32 ^m U.T.
	18	108	Sat	-75.625	0.2930	148.5	28	
	19	109	Sun	74.625	0.2957	149.5	29	
	20	110	Mon	73.625	0.2984	150.5	30	
	21	111	Tue	72.625	0.3012	151.5	Vaishakha 1	
	22	112	Wed	71.625	0.3039	152.5	2	
	23	113	Thu	70.625	0.3066	153.5	3	
May	24	114	Fri	69.625	0.3094	154.5	4	1- Full Moon 17 ⁿ 23 ^m U.T.
	25	115	Sat	-68.625	0.3121	155.5	5	
	26	116	Sun	67.625	0.3149	156.5	6	
	27	117	Mon	66.625	0.3176	157.5	7	
	28	118	Tue	65.625	0.3203	158.5	8	
	29	119	Wed	64.625	0.3231	159.5	9	
	30	120	Thu	63.625	0.3258	160.5	10	
	1	121	Fri	-62.625	0.3285	161.5	11	

CALENDAR, 2026

Day of Month	Day of Year	Day of Week	Days since J 2026.5	Fraction of Year since Jan. 1.0	Julian Day (at 0h U.T.)	Indian Calendar		Phases of the Moon
						Day of Month	Day of Year	
May	2	122	Sat	-61.625	0.3313	2461	1948 Saka Era	
	3	123	Sun	60.625	0.3340	162.5	Vaishakha 12	
	4	124	Mon	59.625	0.3368	163.5	13	
	5	125	Tue	58.625	0.3395	164.5	14	
	6	126	Wed	57.625	0.3422	165.5	15	
	7	127	Thu	56.625	0.3450	166.5	16	
	8	128	Fri	55.625	0.3477	167.5	17	
						168.5	18	
	9	129	Sat	-54.625	0.3505	169.5	19	
	10	130	Sun	53.625	0.3532	170.5	20	
	11	131	Mon	52.625	0.3559	171.5	21	
	12	132	Tue	51.625	0.3587	172.5	22	
	13	133	Wed	50.625	0.3614	173.5	23	
	14	134	Thu	49.625	0.3641	174.5	24	
	15	135	Fri	48.625	0.3669	175.5	25	
	16	136	Sat	-47.625	0.3696	176.5	26	
	17	137	Sun	46.625	0.3724	177.5	27	
	18	138	Mon	45.625	0.3751	178.5	28	
	19	139	Tue	44.625	0.3778	179.5	29	
	20	140	Wed	43.625	0.3806	180.5	30	
	21	141	Thu	42.625	0.3833	181.5	31	
	22	142	Fri	41.625	0.3860	182.5	Jyaishtha 1	
Jun	23	143	Sat	-40.625	0.3888	183.5	2	
	24	144	Sun	39.625	0.3915	184.5	3	
	25	145	Mon	38.625	0.3943	185.5	4	
	26	146	Tue	37.625	0.3970	186.5	5	
	27	147	Wed	36.625	0.3997	187.5	6	
	28	148	Thu	35.625	0.4025	188.5	7	
	29	149	Fri	34.625	0.4052	189.5	8	
	30	150	Sat	-33.625	0.4079	190.5	9	
	31	151	Sun	32.625	0.4107	191.5	10	
	1	152	Mon	31.625	0.4134	192.5	11	
	2	153	Tue	30.625	0.4162	193.5	12	
	3	154	Wed	29.625	0.4189	194.5	13	
	4	155	Thu	28.625	0.4216	195.5	14	
	5	156	Fri	27.625	0.4244	196.5	15	
	6	157	Sat	-26.625	0.4271	197.5	16	
	7	158	Sun	25.625	0.4299	198.5	17	
	8	159	Mon	24.625	0.4326	199.5	18	
	9	160	Tue	23.625	0.4353	200.5	19	
	10	161	Wed	22.625	0.4381	201.5	20	
	11	162	Thu	21.625	0.4408	202.5	21	
	12	163	Fri	-20.625	0.4435	203.5	22	

CALENDAR, 2026

Day of Month	Day of Year	Day of Week	Days since J 2026.5	Fraction of Year since Jan. 1.0	Julian Day (at 0h U.T.)	Indian Calendar		Phases of the Moon
						Day of Month	Day of Year	
Jun	13	164	Sat	-19.625	0.4463	2461	1948 Saka Era	15-New Moon 2 ⁿ 54 ^m U.T.
	14	165	Sun	18.625	0.4490	204.5	Jyaishtha 23	
	15	166	Mon	17.625	0.4518	205.5	24	
	16	167	Tue	16.625	0.4545	206.5	25	
	17	168	Wed	15.625	0.4572	207.5	26	
	18	169	Thu	14.625	0.4600	208.5	27	
	19	170	Fri	13.625	0.4627	209.5	28	
						210.5	29	
	20	171	Sat	-12.625	0.4654	211.5	30	
	21	172	Sun	11.625	0.4682	212.5	31	
	22	173	Mon	10.625	0.4709	213.5	Ashadha 1	
	23	174	Tue	9.625	0.4737	214.5	2	
	24	175	Wed	8.625	0.4764	215.5	3	
	25	176	Thu	7.625	0.4791	216.5	4	
	26	177	Fri	6.625	0.4819	217.5	5	
Jul	27	178	Sat	-5.625	0.4846	218.5	6	29- Full Moon 23 ⁿ 57 ^m U.T.
	28	179	Sun	4.625	0.4873	219.5	7	
	29	180	Mon	3.625	0.4901	220.5	8	
	30	181	Tue	2.625	0.4928	221.5	9	
	1	182	Wed	1.625	0.4956	222.5	10	
	2	183	Thu	-0.625	0.4983	223.5	11	
	3	184	Fri	+0.375	0.5010	224.5	12	
	4	185	Sat	+1.375	0.5038	225.5	13	
	5	186	Sun	2.375	0.5065	226.5	14	
	6	187	Mon	3.375	0.5093	227.5	15	
	7	188	Tue	4.375	0.5120	228.5	16	7-Last Quarter 19 ⁿ 29 ^m U.T.
	8	189	Wed	5.375	0.5147	229.5	17	
	9	190	Thu	6.375	0.5175	230.5	18	
	10	191	Fri	+7.375	0.5202	231.5	19	
	11	192	Sat	+8.375	0.5229	232.5	20	
	12	193	Sun	9.375	0.5257	233.5	21	14-New Moon 9 ⁿ 44 ^m U.T.
	13	194	Mon	10.375	0.5284	234.5	22	
	14	195	Tue	11.375	0.5312	235.5	23	
	15	196	Wed	12.375	0.5339	236.5	24	
	16	197	Thu	13.375	0.5366	237.5	25	
	17	198	Fri	14.375	0.5394	238.5	26	
	18	199	Sat	+15.375	0.5421	239.5	27	
	19	200	Sun	16.375	0.5448	240.5	28	
	20	201	Mon	17.375	0.5476	241.5	29	
	21	202	Tue	18.375	0.5503	242.5	30	
	22	203	Wed	19.375	0.5531	243.5	31	21- First Quarter 11 ⁿ 06 ^m U.T.
	23	204	Thu	20.375	0.5558	244.5	Sravana 1	
	24	205	Fri	+21.375	0.5585	245.5	2	

CALENDAR, 2026

Day of Month	Day of Year	Day of Week	Days since J 2026.5	Fraction of Year since Jan. 1.0	Julian Day (at 0h U.T.)	Indian Calendar			Phases of the Moon	
						Day of Month		Day of Year		
Jul	25	206	Sat	+22.375	0.5613	2461	1948 Saka Era			29-Full Moon 14 ⁿ 36 ^m U.T.
	26	207	Sun	23.375	0.5640	246.5	Sravana	3	126	
	27	208	Mon	24.375	0.5667	247.5		4	127	
	28	209	Tue	25.375	0.5695	248.5		5	128	
	29	210	Wed	26.375	0.5722	249.5		6	129	
	30	211	Thu	27.375	0.5750	250.5		7	130	
	31	212	Fri	28.375	0.5777	251.5		8	131	
Aug								9	132	6-Last Quarter 2 ⁿ 21 ^m U.T.
	1	213	Sat	+29.375	0.5804	252.5		10	133	
	2	214	Sun	30.375	0.5832	253.5		11	134	
	3	215	Mon	31.375	0.5859	254.5		12	135	
	4	216	Tue	32.375	0.5887	255.5		13	136	
	5	217	Wed	33.375	0.5914	256.5		14	137	
	6	218	Thu	34.375	0.5941	257.5		15	138	
	7	219	Fri	35.375	0.5969	258.5		16	139	
	8	220	Sat	+36.375	0.5996	259.5		17	140	
	9	221	Sun	37.375	0.6023	260.5		18	141	
	10	222	Mon	38.375	0.6051	261.5		19	142	
	11	223	Tue	39.375	0.6078	262.5		20	143	
	12	224	Wed	40.375	0.6106	263.5		21	144	
	13	225	Thu	41.375	0.6133	264.5		22	145	
	14	226	Fri	42.375	0.6160	265.5		23	146	
	15	227	Sat	+43.375	0.6188	266.5		24	147	
	16	228	Sun	44.375	0.6215	267.5		25	148	
	17	229	Mon	45.375	0.6242	268.5		26	149	
	18	230	Tue	46.375	0.6270	269.5		27	150	
	19	231	Wed	47.375	0.6297	270.5		28	151	
	20	232	Thu	48.375	0.6325	271.5		29	152	
21	233	Fri	49.375	0.6352	272.5		30	153		
Sep	22	234	Sat	+50.375	0.6379	273.5		31	154	
	23	235	Sun	51.375	0.6407	274.5	Bhadra	1	155	
	24	236	Mon	52.375	0.6434	275.5		2	156	
	25	237	Tue	53.375	0.6461	276.5		3	157	
	26	238	Wed	54.375	0.6489	277.5		4	158	
	27	239	Thu	55.375	0.6516	278.5		5	159	
	28	240	Fri	56.375	0.6544	279.5		6	160	
	29	241	Sat	+57.375	0.6571	280.5		7	161	
	30	242	Sun	58.375	0.6598	281.5		8	162	
	31	243	Mon	59.375	0.6626	282.5		9	163	
	1	244	Tue	60.375	0.6653	283.5		10	164	
	2	245	Wed	61.375	0.6680	284.5		11	165	
	3	246	Thu	62.375	0.6708	285.5		12	166	
	4	247	Fri	+63.375	0.6735	286.5		13	167	
									4- Last Quarter 7 ⁿ 51 ^m U.T.	

CALENDAR, 2026

Day of Month	Day of Year	Day of Week	Days since J 2026.5	Fraction of Year since Jan. 1.0	Julian Day (at 0h U.T.)	Indian Calendar		Phases of the Moon
						Day of Month	Day of Year	
Sep	5	248	Sat	+64.375	0.6763	2461	1948 Saka Era	11-New Moon 3 ⁿ 27 ^m U.T.
	6	249	Sun	65.375	0.6790	288.5	Bhadra 14	168
	7	250	Mon	66.375	0.6817	289.5	15	169
	8	251	Tue	67.375	0.6845	290.5	16	170
	9	252	Wed	68.375	0.6872	291.5	17	171
	10	253	Thu	69.375	0.6900	292.5	18	172
	11	254	Fri	+70.375	0.6927	293.5	19	173
	12	255	Sat	+71.375	0.6954	294.5	20	174
	13	256	Sun	72.375	0.6982	295.5	21	175
	14	257	Mon	73.375	0.7009	296.5	22	176
	15	258	Tue	74.375	0.7036	297.5	23	177
	16	259	Wed	75.375	0.7064	298.5	24	178
	17	260	Thu	76.375	0.7091	299.5	25	179
	18	261	Fri	77.375	0.7119	300.5	26	180
	19	262	Sat	+78.375	0.7146	301.5	27	181
	20	263	Sun	79.375	0.7173	302.5	28	182
	21	264	Mon	80.375	0.7201	303.5	29	183
	22	265	Tue	81.375	0.7228	304.5	30	184
	23	266	Wed	82.375	0.7255	305.5	31	185
	24	267	Thu	83.375	0.7283	306.5	Asvina 1	186
	25	268	Fri	84.375	0.7310	307.5	2	187
	26	269	Sat	+85.375	0.7338	308.5	3	188
	27	270	Sun	86.375	0.7365	309.5	4	189
	28	271	Mon	87.375	0.7392	310.5	5	190
	29	272	Tue	88.375	0.7420	311.5	6	191
	30	273	Wed	89.375	0.7447	312.5	7	192
Oct	1	274	Thu	90.375	0.7474	313.5	8	193
	2	275	Fri	91.375	0.7502	314.5	9	194
	3	276	Sat	+92.375	0.7529	315.5	10	195
	4	277	Sun	93.375	0.7557	316.5	11	196
	5	278	Mon	94.375	0.7584	317.5	12	197
	6	279	Tue	95.375	0.7611	318.5	13	198
	7	280	Wed	96.375	0.7639	319.5	14	199
	8	281	Thu	97.375	0.7666	320.5	15	200
	9	282	Fri	98.375	0.7694	321.5	16	201
	10	283	Sat	+99.375	0.7721	322.5	17	202
	11	284	Sun	100.375	0.7748	323.5	18	203
	12	285	Mon	101.375	0.7776	324.5	19	204
	13	286	Tue	102.375	0.7803	325.5	20	205
	14	287	Wed	103.375	0.7830	326.5	21	206
	15	288	Thu	104.375	0.7858	327.5	22	207
	16	289	Fri	+105.375	0.7885	328.5	23	208
						329.5	24	209

CALENDAR, 2026

Day of Month	Day of Year	Day of Week	Days since J 2026.5	Fraction of Year since Jan. 1.0	Julian Day (at 0h U.T.)	Indian Calendar		Phases of the Moon
						Day of Month	Day of Year	
Oct	17	290	Sat	+106.375	0.7913	2461	1948 Saka Era	18-First Quarter 16 ⁿ 13 ^m U.T.
	18	291	Sun	107.375	0.7940	330.5	Asvina 25	
	19	292	Mon	108.375	0.7967	331.5	26	
	20	293	Tue	109.375	0.7995	332.5	27	
	21	294	Wed	110.375	0.8022	333.5	28	
	22	295	Thu	111.375	0.8049	334.5	29	
	23	296	Fri	112.375	0.8077	335.5	30	
						336.5	Kartika 1	
	24	297	Sat	+113.375	0.8104	337.5	2	
	25	298	Sun	114.375	0.8132	338.5	3	
Nov	26	299	Mon	115.375	0.8159	339.5	4	26-Full Moon 4 ⁿ 12 ^m U.T.
	27	300	Tue	116.375	0.8186	340.5	5	
	28	301	Wed	117.375	0.8214	341.5	6	
	29	302	Thu	118.375	0.8241	342.5	7	
	30	303	Fri	119.375	0.8268	343.5	8	
	31	304	Sat	+120.375	0.8296	344.5	9	1-Last Quarter 20 ⁿ 28 ^m U.T.
	1	305	Sun	121.375	0.8323	345.5	10	
	2	306	Mon	122.375	0.8351	346.5	11	
	3	307	Tue	123.375	0.8378	347.5	12	
	4	308	Wed	124.375	0.8405	348.5	13	
	5	309	Thu	125.375	0.8433	349.5	14	
	6	310	Fri	126.375	0.8460	350.5	15	9-New Moon 7 ⁿ 02 ^m U.T.
	7	311	Sat	+127.375	0.8488	351.5	16	
	8	312	Sun	128.375	0.8515	352.5	17	
	9	313	Mon	129.375	0.8542	353.5	18	
	10	314	Tue	130.375	0.8570	354.5	19	
	11	315	Wed	131.375	0.8597	355.5	20	
	12	316	Thu	132.375	0.8624	356.5	21	17-First Quarter 11 ⁿ 48 ^m U.T.
	13	317	Fri	133.375	0.8652	357.5	22	
	14	318	Sat	+134.375	0.8679	358.5	23	
	15	319	Sun	135.375	0.8707	359.5	24	
	16	320	Mon	136.375	0.8734	360.5	25	
	17	321	Tue	137.375	0.8761	361.5	26	
	18	322	Wed	138.375	0.8789	362.5	27	24-Full Moon 14 ⁿ 53 ^m U.T.
	19	323	Thu	139.375	0.8816	363.5	28	
	20	324	Fri	140.375	0.8843	364.5	29	
	21	325	Sat	+141.375	0.8871	365.5	30	
	22	326	Sun	142.375	0.8898	366.5	Agrahayana 1	
	23	327	Mon	143.375	0.8926	367.5	2	
	24	328	Tue	144.375	0.8953	368.5	3	
	25	329	Wed	145.375	0.8980	369.5	4	
	26	330	Thu	146.375	0.9008	370.5	5	
	27	331	Fri	+147.375	0.9035	371.5	6	

CALENDAR, 2026

Day of Month	Day of Year	Day of Week	Days since J 2026.5	Fraction of Year since Jan. 1.0	Julian Day (at 0h U.T.)	Indian Calendar		Phases of the Moon
						Day of Month	Day of Year	
Nov	28	332	Sat	+148.375	0.9062	2461	1948 Saka Era	1-Last Quarter 6 ⁿ 09 ^m U.T.
	29	333	Sun	149.375	0.9090	372.5	Agrahayana 7	
	30	334	Mon	150.375	0.9117	373.5	8	
Dec	1	335	Tue	151.375	0.9145	374.5	9	
	2	336	Wed	152.375	0.9172	375.5	10	
	3	337	Thu	153.375	0.9199	376.5	11	
	4	338	Fri	154.375	0.9227	377.5	12	
						378.5	13	
	5	339	Sat	+155.375	0.9254	379.5	14	9-New Moon 0 ⁿ 52 ^m U.T.
	6	340	Sun	156.375	0.9282	380.5	15	
	7	341	Mon	157.375	0.9309	381.5	16	
	8	342	Tue	158.375	0.9336	382.5	17	
	9	343	Wed	159.375	0.9364	383.5	18	
	10	344	Thu	160.375	0.9391	384.5	19	
	11	345	Fri	161.375	0.9418	385.5	20	
	12	346	Sat	+162.375	0.9446	386.5	21	17-First Quarter 5 ⁿ 43 ^m U.T.
	13	347	Sun	163.375	0.9473	387.5	22	
	14	348	Mon	164.375	0.9501	388.5	23	
	15	349	Tue	165.375	0.9528	389.5	24	
	16	350	Wed	166.375	0.9555	390.5	25	
	17	351	Thu	167.375	0.9583	391.5	26	
	18	352	Fri	168.375	0.9610	392.5	27	
	19	353	Sat	+169.375	0.9637	393.5	28	24-Full Moon 1 ⁿ 28 ^m U.T.
	20	354	Sun	170.375	0.9665	394.5	29	
	21	355	Mon	171.375	0.9692	395.5	30	
	22	356	Tue	172.375	0.9720	396.5	1	
	23	357	Wed	173.375	0.9747	397.5	2	
	24	358	Thu	174.375	0.9774	398.5	3	
	25	359	Fri	175.375	0.9802	399.5	4	
	26	360	Sat	+176.375	0.9829	400.5	5	30- Last quarter 18 ⁿ 59 ^m U.T.
	27	361	Sun	177.375	0.9856	401.5	6	
	28	362	Mon	178.375	0.9884	402.5	7	
	29	363	Tue	179.375	0.9911	403.5	8	
	30	364	Wed	180.375	0.9939	404.5	9	
	31	365	Thu	181.375	0.9966	405.5	10	
	32	1	Fri	+182.375	0.9993	406.5	11	

The new epoch is the middle of the Julian year, denoted by J 2026.5 (i.e. 2026, July 2.625) where the length of the Julian year is taken to be 365.25 days.

The Fraction of year is reckoned from January 1, 0^h U.T and is based on the tropical year of 365.2422 days. The Julian Day begins at noon. In order to obtain the Julian Day Number completed at noon as given in Table IX, increase the above figure by 0.5.

The Day of year of the Gregorian Calendar is reckoned from January 1, and that of the Indian Calendar from Chaitra 1.

SIDEREAL TIME, 2026

Date	Mean Greenwich Sidereal Time at 0 ^h U.T. (G.H.A. of the Equinox)				Equation of the Equinox- es at 0 ^h U.T.	Greenwich Transit of Mean Equinox (U.T. at 0 ^h G.M.S.T.)			Date	Mean Greenwich Sidereal Time at 0 ^h U.T. (G.H.A. of the Equinox)				Equation of the Equinox- es at 0 ^h U.T.	Greenwich Transit of Mean Equinox (U.T. at 0 ^h G.M.S.T.)			
	h	m	s		s	h	m	s		h	m	s		s	h	m	s	
Jan.	0	6	38	42.047	+0.322	17	18	27.361	Feb.	15	9	40	03.594	+0.447	14	17	35.526	
	1	6	42	38.602	0.332	17	14	31.452		16	9	44	00.149	0.449	14	13	39.616	
	2	6	46	35.158	0.345	17	10	35.542		17	9	47	56.705	0.448	14	09	43.707	
	3	6	50	31.713	0.359	17	06	39.633		18	9	51	53.260	0.444	14	05	47.797	
	4	6	54	28.268	0.371	17	02	43.723		19	9	55	49.815	0.438	14	01	51.888	
	5	6	58	24.824	0.380	16	58	47.814		20	9	59	46.371	0.430	13	57	55.978	
	6	7	02	21.379	+0.385	16	54	51.904		21	10	03	42.926	+0.422	13	54	00.069	
	7	7	06	17.934	0.385	16	50	55.995		22	10	07	39.481	0.417	13	50	04.159	
	8	7	10	14.490	0.383	16	47	00.086		23	10	11	36.037	0.415	13	46	08.250	
	9	7	14	11.045	0.379	16	43	04.176		24	10	15	32.592	0.417	13	42	12.341	
	10	7	18	07.601	0.375	16	39	08.267		25	10	19	29.148	0.423	13	38	16.431	
11	7	22	04.156	0.372	16	35	12.357	26	10	23	25.703	0.431	13	34	20.522			
	12	7	26	00.711	+0.372	16	31	16.448	Mar.	27	10	27	22.258	+0.439	13	30	24.612	
	13	7	29	57.267	0.374	16	27	20.538		28	10	31	18.814	0.445	13	26	28.703	
	14	7	33	53.822	0.378	16	23	24.629		1	10	35	15.369	0.447	13	22	32.793	
	15	7	37	50.377	0.384	16	19	28.719		2	10	39	11.924	0.446	13	18	36.884	
	16	7	41	46.933	0.392	16	15	32.810		3	10	43	08.480	0.441	13	14	40.974	
	17	7	45	43.488	0.400	16	11	36.900		4	10	47	05.035	0.433	13	10	45.065	
	18	7	49	40.044	+0.408	16	07	40.991		5	10	51	01.591	+0.424	13	06	49.155	
	19	7	53	36.599	0.414	16	03	45.081		6	10	54	58.146	0.416	13	02	53.246	
	20	7	57	33.154	0.418	15	59	49.172		7	10	58	54.701	0.409	12	58	57.336	
	21	8	01	29.710	0.419	15	55	53.262		8	11	02	51.257	0.405	12	55	01.427	
	22	8	05	26.265	0.416	15	51	57.353		9	11	06	47.812	0.403	12	51	05.517	
23	8	09	22.820	0.412	15	48	01.444	10	11	10	44.367	0.403	12	47	09.608			
	24	8	13	19.376	+0.407	15	44	05.534		11	11	14	40.923	+0.405	12	43	13.698	
	25	8	17	15.931	0.402	15	40	09.625		12	11	18	37.478	0.409	12	39	17.789	
	26	8	21	12.486	0.400	15	36	13.715		13	11	22	34.033	0.413	12	35	21.879	
	27	8	25	09.042	0.402	15	32	17.806		14	11	26	30.589	0.416	12	31	25.970	
	28	8	29	05.597	0.408	15	28	21.896		15	11	30	27.144	0.417	12	27	30.061	
	29	8	33	02.153	0.417	15	24	25.987		16	11	34	23.700	0.415	12	23	34.151	
	30	8	36	58.708	+0.428	15	20	30.077		17	11	38	20.255	+0.411	12	19	38.242	
	31	8	40	55.263	0.439	15	16	34.168		18	11	42	16.810	0.404	12	15	42.332	
	1	8	44	51.819	0.447	15	12	38.258		19	11	46	13.366	0.395	12	11	46.423	
	2	8	48	48.374	0.451	15	08	42.349		20	11	50	09.921	0.385	12	07	50.513	
	3	8	52	44.929	0.451	15	04	46.439		21	11	54	06.476	0.378	12	03	54.604	
4	8	56	41.485	0.447	15	00	50.530	22	11	58	03.032	0.374	11	59	58.694			
	5	9	00	38.040	+0.441	14	56	54.620		23	12	01	59.587	+0.375	11	56	02.785	
	6	9	04	34.596	0.434	14	52	58.711		24	12	05	56.143	0.379	11	52	06.875	
	7	9	08	31.151	0.429	14	49	02.801		25	12	09	52.698	0.386	11	48	10.966	
	8	9	12	27.706	0.425	14	45	06.892		26	12	13	49.253	0.393	11	44	15.056	
	9	9	16	24.262	0.423	14	41	10.983		27	12	17	45.809	0.398	11	40	19.147	
	10	9	20	20.817	0.424	14	37	15.073		28	12	21	42.364	0.401	11	36	23.237	
	11	9	24	17.372	+0.427	14	33	19.164		Apr.	29	12	25	38.919	+0.400	11	32	27.328
	12	9	28	13.928	0.432	14	29	23.254			30	12	29	35.475	0.395	11	28	31.418
	13	9	32	10.483	0.438	14	25	27.345			31	12	33	32.030	0.388	11	24	35.509
	14	9	36	07.038	0.443	14	21	31.435			1	12	37	28.585	0.379	11	20	39.600
	15	9	40	03.594	+0.447	14	17	35.526			2	12	41	25.141	+0.370	11	16	43.690

N.B.-Apparent Sidereal Time = Mean Sidereal Time + Equation of Equinoxes for the instant

SIDEREAL TIME, 2026

Date	Mean Greenwich Sidereal Time at 0 ^h U.T. (G.H.A. of the Equinox)				Equation of the Equinoxes at 0 ^h U.T.	Greenwich Transit of Mean Equinox (U.T. at 0 ^h G.M.S.T.)				Date	Mean Greenwich Sidereal Time at 0 ^h U.T. (G.H.A. of the Equinox)				Equation of the Equinoxes at 0 ^h U.T.	Greenwich Transit of Mean Equinox (U.T. at 0 ^h G.M.S.T.)			
	h	m	s		s	h	m	s		h	m	s		s	h	m	s		
Apr.	1	12	37	28.585	+0.379	11	20	39.600	May	17	15	38	50.132	+0.352	8	19	47.764		
	2	12	41	25.141	0.370	11	16	43.690		18	15	42	46.688	0.362	8	15	51.854		
	3	12	45	21.696	0.363	11	12	47.781		19	15	46	43.243	0.375	8	11	55.945		
	4	12	49	18.252	0.357	11	08	51.871		20	15	50	39.799	0.386	8	08	00.035		
	5	12	53	14.807	0.355	11	04	55.962		21	15	54	36.354	0.396	8	04	04.126		
	6	12	57	11.362	0.354	11	01	00.052		22	15	58	32.909	0.401	8	00	08.217		
	7	13	01	07.918	+0.356	10	57	04.143		23	16	02	29.465	+0.402	7	56	12.307		
	8	13	05	04.473	0.360	10	53	08.233		24	16	06	26.020	0.400	7	52	16.398		
	9	13	09	01.028	0.364	10	49	12.324		25	16	10	22.575	0.395	7	48	20.488		
	10	13	12	57.584	0.367	10	45	16.414		26	16	14	19.131	0.390	7	44	24.579		
	11	13	16	54.139	0.370	10	41	20.505		27	16	18	15.686	0.386	7	40	28.669		
	12	13	20	50.695	0.370	10	37	24.595		28	16	22	12.241	0.384	7	36	32.760		
	13	13	24	47.250	+0.367	10	33	28.686	June	29	16	26	08.797	+0.384	7	32	36.850		
	14	13	28	43.805	0.362	10	29	32.776		30	16	30	05.352	0.386	7	28	40.941		
	15	13	32	40.361	0.354	10	25	36.867		31	16	34	01.908	0.391	7	24	45.031		
	16	13	36	36.916	0.346	10	21	40.958		1	16	37	58.463	0.398	7	20	49.122		
	17	13	40	33.471	0.339	10	17	45.048		2	16	41	55.018	0.406	7	16	53.212		
	18	13	44	30.027	0.335	10	13	49.139		3	16	45	51.574	0.414	7	12	57.303		
	19	13	48	26.582	+0.335	10	09	53.229		4	16	49	48.129	+0.420	7	09	01.393		
	20	13	52	23.137	0.340	10	05	57.320		5	16	53	44.684	0.426	7	05	05.484		
	21	13	56	19.693	0.348	10	02	01.410		6	16	57	41.240	0.428	7	01	09.575		
	22	14	00	16.248	0.357	9	58	05.501		7	17	01	37.795	0.428	6	57	13.665		
	23	14	04	12.804	0.365	9	54	09.591		8	17	05	34.351	0.426	6	53	17.756		
	24	14	08	09.359	0.371	9	50	13.682		9	17	09	30.906	0.422	6	49	21.846		
	25	14	12	05.914	+0.372	9	46	17.772		10	17	13	27.461	+0.418	6	45	25.937		
	26	14	16	02.470	0.370	9	42	21.863		11	17	17	24.017	0.415	6	41	30.027		
	27	14	19	59.025	0.365	9	38	25.953		12	17	21	20.572	0.416	6	37	34.118		
	28	14	23	55.580	0.358	9	34	30.044		13	17	25	17.127	0.420	6	33	38.208		
	29	14	27	52.136	0.351	9	30	34.134		14	17	29	13.683	0.430	6	29	42.299		
	30	14	31	48.691	0.344	9	26	38.225		15	17	33	10.238	0.443	6	25	46.389		
	May	1	14	35	45.247	+0.340	9	22		42.315		16	17	37	06.793	+0.457	6	21	50.480
		2	14	39	41.802	0.339	9	18		46.406		17	17	41	03.349	0.469	6	17	54.570
		3	14	43	38.357	0.340	9	14		50.496		18	17	44	59.904	0.478	6	13	58.661
		4	14	47	34.913	0.343	9	10		54.587		19	17	48	56.460	0.482	6	10	02.751
		5	14	51	31.468	0.349	9	06		58.678		20	17	52	53.015	0.482	6	06	06.842
		6	14	55	28.023	0.354	9	03		02.768		21	17	56	49.570	0.479	6	02	10.932
7		14	59	24.579	+0.360	8	59	06.859	22	18		00	46.126	+0.475	5	58	15.023		
8		15	03	21.134	0.365	8	55	10.949	23	18		04	42.681	0.471	5	54	19.114		
9		15	07	17.689	0.368	8	51	15.040	24	18		08	39.236	0.469	5	50	23.204		
10		15	11	14.245	0.368	8	47	19.130	25	18		12	35.792	0.469	5	46	27.295		
11		15	15	10.800	0.366	8	43	23.221	26	18		16	32.347	0.472	5	42	31.385		
12		15	19	07.356	0.361	8	39	27.311	27	18		20	28.903	0.477	5	38	35.476		
	13	15	23	03.911	+0.355	8	35	31.402	July	28	18	24	25.458	+0.484	5	34	39.566		
	14	15	27	00.466	0.350	8	31	35.492		29	18	28	22.013	0.492	5	30	43.657		
	15	15	30	57.022	0.346	8	27	39.583		30	18	32	18.569	0.500	5	26	47.747		
	16	15	34	53.577	0.347	8	23	43.673		1	18	36	15.124	0.508	5	22	51.838		
	17	15	38	50.132	+0.352	8	19	47.764		2	18	40	11.679	+0.514	5	18	55.928		

N.B.-Apparent Sidereal Time = Mean Sidereal Time + Equation of Equinoxes for the instant

SIDEREAL TIME, 2026

Date	Mean Greenwich Sidereal Time at 0 ^h U.T. (G.H.A. of the Equinox)				Equation of the Equinox- es at 0 ^h U.T.	Greenwich Transit of Mean Equinox (U.T. at 0 ^h G.M.S.T.)			Date	Mean Greenwich Sidereal Time at 0 ^h U.T. (G.H.A. of the Equinox)				Equation of the Equinox- es at 0 ^h U.T.	Greenwich Transit of Mean Equinox (U.T. at 0 ^h G.M.S.T.)		
	h	m	s		s	h	m	s		h	m	s		s	h	m	s
July	1	18	36	15.124	+0.508	5	22	51.838	Aug.	16	21	37	36.671	+0.584	2	22	00.002
	2	18	40	11.679	0.514	5	18	55.928		17	21	41	33.226	0.578	2	18	04.093
	3	18	44	08.235	0.517	5	15	00.019		18	21	45	29.782	0.573	2	14	08.183
	4	18	48	04.790	0.518	5	11	04.109		19	21	49	26.337	0.571	2	10	12.274
	5	18	52	01.345	0.516	5	07	08.200		20	21	53	22.892	0.571	2	06	16.364
	6	18	55	57.901	0.513	5	03	12.290		21	21	57	19.448	0.574	2	02	20.455
	7	18	59	54.456	+0.508	4	59	16.381	22	22	01	16.003	+0.578	1	58	24.545	
	8	19	03	51.012	0.505	4	55	20.471	23	22	05	12.559	0.583	1	54	28.636	
	9	19	07	47.567	0.503	4	51	24.562	24	22	09	09.114	0.587	1	50	32.726	
	10	19	11	44.122	0.506	4	47	28.653	25	22	13	05.669	0.590	1	46	36.817	
	11	19	15	40.678	0.513	4	43	32.743	26	22	17	02.225	0.591	1	42	40.907	
	12	19	19	37.233	0.523	4	39	36.834	27	22	20	58.780	0.589	1	38	44.998	
13	19	23	33.788	+0.536	4	35	40.924	28	22	24	55.335	+0.585	1	34	49.089		
14	19	27	30.344	0.549	4	31	45.015	29	22	28	51.891	0.578	1	30	53.179		
15	19	31	26.899	0.559	4	27	49.105	30	22	32	48.446	0.570	1	26	57.269		
16	19	35	23.455	0.564	4	23	53.196	31	22	36	45.002	0.562	1	23	01.360		
17	19	39	20.010	0.565	4	19	57.286	Sept.	1	22	40	41.557	0.555	1	19	05.451	
18	19	43	16.565	0.562	4	16	01.377		2	22	44	38.112	0.551	1	15	09.541	
19	19	47	13.121	+0.557	4	12	05.467		3	22	48	34.668	+0.551	1	11	13.632	
20	19	51	09.676	0.552	4	08	09.558		4	22	52	31.223	0.555	1	07	17.722	
21	19	55	06.231	0.548	4	04	13.648		5	22	56	27.778	0.562	1	03	21.813	
22	19	59	02.787	0.547	4	00	17.739		6	23	00	24.334	0.570	0	59	25.903	
23	20	02	59.342	0.547	3	56	21.829	7	23	04	20.889	0.576	0	55	29.994		
24	20	06	55.897	0.551	3	52	25.920	8	23	08	17.444	0.580	0	51	34.084		
25	20	10	52.453	+0.556	3	48	30.010	9	23	12	14.000	+0.580	0	47	38.175		
26	20	14	49.008	0.563	3	44	34.101	10	23	16	10.555	0.575	0	43	42.265		
27	20	18	45.564	0.569	3	40	38.192	11	23	20	07.111	0.568	0	39	46.356		
28	20	22	42.119	0.576	3	36	42.282	12	23	24	03.666	0.559	0	35	50.446		
29	20	26	38.674	0.581	3	32	46.373	13	23	28	00.221	0.550	0	31	54.537		
30	20	30	35.230	0.583	3	28	50.463	14	23	31	56.777	0.543	0	27	58.627		
Aug.	31	20	34	31.785	+0.583	3	24	54.554	15	23	35	53.332	+0.538	0	24	02.718	
	1	20	38	28.340	0.580	3	20	58.644	16	23	39	49.887	0.536	0	20	06.808	
	2	20	42	24.896	0.575	3	17	02.735	17	23	43	46.443	0.537	0	16	10.899	
	3	20	46	21.451	0.568	3	13	06.825	18	23	47	42.998	0.539	0	12	14.990	
	4	20	50	18.007	0.563	3	09	10.916	19	23	51	39.554	0.542	0	08	19.080	
	5	20	54	14.562	0.559	3	05	15.006	20	23	55	36.109	0.546	0	04	23.171	
	6	20	58	11.117	+0.558	3	01	19.097	21	23	59	32.664	+0.548	0	00	27.261	
	7	21	02	07.673	0.561	2	57	23.187	22	0	03	29.220	0.549	23	52	35.442	
	8	21	06	04.228	0.568	2	53	27.278	23	0	07	25.775	0.547	23	48	39.533	
	9	21	10	00.783	0.578	2	49	31.368	24	0	11	22.330	0.542	23	44	43.623	
	10	21	13	57.339	0.588	2	45	35.459	25	0	15	18.886	0.535	23	40	47.714	
	11	21	17	53.894	0.597	2	41	39.549	26	0	19	15.441	0.527	23	36	51.805	
12	21	21	50.449	+0.602	2	37	43.640	27	0	23	11.996	+0.517	23	32	55.895		
13	21	25	47.005	0.602	2	33	47.731	28	0	27	08.552	0.509	23	28	59.986		
14	21	29	43.560	0.598	2	29	51.821	29	0	31	05.107	0.504	23	25	04.076		
15	21	33	40.116	0.592	2	25	55.912	30	0	35	01.663	0.503	23	21	08.167		
16	21	37	36.671	+0.584	2	22	00.002	Oct.	1	0	38	58.218	+0.506	23	17	12.257	

N.B.-Apparent Sidereal Time = Mean Sidereal Time + Equation of Equinoxes for the instant

SIDEREAL TIME, 2026

Date					Mean	Equation	Greenwich			Date	Mean	Equation	Greenwich						
					Greenwich	of the	Transit of Mean								Greenwich	of the	Transit of Mean		
					Sidereal Time at	Equinox-	Equinox (U.T. at								Sidereal Time at	Equinox-	Equinox (U.T. at		
					0 ^h U.T. (G.H.A.	es at 0 ^h	0 ^h G.M.S.T.)								0 ^h U.T. (G.H.A.	es at 0 ^h	0 ^h G.M.S.T.)		
					of the Equinox)	U.T.									of the Equinox)	U.T.			
Oct.		h	m	s	s	h	m	s	Nov.		h	m	s	s	h	m	s		
	1	0	38	58.218	+0.506	23	17	12.257		16	3	40	19.765	+0.514	20	16	20.421		
	2	0	42	54.773	0.511	23	13	16.348		17	3	44	16.320	0.515	20	12	24.512		
	3	0	46	51.329	0.519	23	09	20.438		18	3	48	12.876	0.514	20	08	28.603		
	4	0	50	47.884	0.525	23	05	24.529		19	3	52	09.431	0.510	20	04	32.693		
	5	0	54	44.439	0.529	23	01	28.619		20	3	56	05.986	0.505	20	00	36.784		
	6	0	58	40.995	0.530	22	57	32.710		21	4	00	02.542	0.500	19	56	40.874		
	7	1	02	37.550	+0.527	22	53	36.800		22	4	03	59.097	+0.497	19	52	44.965		
	8	1	06	34.106	0.520	22	49	40.891		23	4	07	55.652	0.497	19	48	49.055		
	9	1	10	30.661	0.511	22	45	44.981		24	4	11	52.208	0.501	19	44	53.146		
	10	1	14	27.216	0.503	22	41	49.072		25	4	15	48.763	0.510	19	40	57.236		
	11	1	18	23.772	0.495	22	37	53.162		26	4	19	45.319	0.522	19	37	01.327		
12	1	22	20.327	0.490	22	33	57.253	27	4	23	41.874	0.535	19	33	05.417				
Nov.	13	1	26	16.882	+0.488	22	30	01.344	28	4	27	38.429	+0.546	19	29	09.508			
	14	1	30	13.438	0.488	22	26	05.434	29	4	31	34.985	0.554	19	25	13.598			
	15	1	34	09.993	0.490	22	22	09.525	30	4	35	31.540	0.557	19	21	17.689			
	16	1	38	06.548	0.494	22	18	13.615	Dec. 1	4	39	28.095	0.557	19	17	21.779			
	17	1	42	03.104	0.498	22	14	17.706	2	4	43	24.651	0.553	19	13	25.870			
	18	1	45	59.659	0.502	22	10	21.796	3	4	47	21.206	0.549	19	09	29.961			
	19	1	49	56.215	+0.504	22	06	25.887	4	4	51	17.762	+0.546	19	05	34.051			
	20	1	53	52.770	0.504	22	02	29.977	5	4	55	14.317	0.544	19	01	38.142			
	21	1	57	49.325	0.502	21	58	34.068	6	4	59	10.872	0.545	18	57	42.232			
	22	2	01	45.881	0.497	21	54	38.158	7	5	03	07.428	0.548	18	53	46.323			
	23	2	05	42.436	0.490	21	50	42.249	8	5	07	03.983	0.554	18	49	50.413			
	24	2	09	38.991	0.482	21	46	46.339	9	5	11	00.538	+0.561	18	45	54.504			
	25	2	13	35.547	+0.475	21	42	50.430	10	5	14	57.094	0.570	18	41	58.594			
	26	2	17	32.102	0.470	21	38	54.520	11	5	18	53.649	0.578	18	38	02.685			
	27	2	21	28.658	0.469	21	34	58.611	12	5	22	50.204	0.586	18	34	06.775			
	28	2	25	25.213	0.472	21	31	02.701	13	5	26	46.760	0.592	18	30	10.866			
	29	2	29	21.768	0.480	21	27	06.792	14	5	30	43.315	0.595	18	26	14.956			
	30	2	33	18.324	0.489	21	23	10.882	15	5	34	39.871	0.596	18	22	19.047			
Nov.	31	2	37	14.879	+0.499	21	19	14.973	16	5	38	36.426	+0.594	18	18	23.137			
	1	2	41	11.434	0.506	21	15	19.064	17	5	42	32.981	0.591	18	14	27.228			
	2	2	45	07.990	0.509	21	11	23.154	18	5	46	29.537	0.588	18	10	31.318			
	3	2	49	04.545	0.508	21	07	27.245	19	5	50	26.092	0.585	18	06	35.409			
	4	2	53	01.100	0.504	21	03	31.335	20	5	54	22.647	0.585	18	02	39.499			
	5	2	56	57.656	0.498	20	59	35.426	21	5	58	19.203	0.589	17	58	43.590			
	6	3	00	54.211	+0.492	20	55	39.516	22	6	02	15.758	+0.597	17	54	47.681			
	7	3	04	50.767	0.486	20	51	43.607	23	6	06	12.314	0.609	17	50	51.771			
	8	3	08	47.322	0.482	20	47	47.697	24	6	10	08.869	0.623	17	46	55.862			
	9	3	12	43.877	0.481	20	43	51.788	25	6	14	05.424	0.637	17	42	59.952			
	10	3	16	40.433	0.483	20	39	55.878	26	6	18	01.980	0.648	17	39	04.043			
	11	3	20	36.988	0.487	20	35	59.969	27	6	21	58.535	0.654	17	35	08.133			
	12	3	24	33.543	+0.493	20	32	04.059	28	6	25	55.090	+0.656	17	31	12.224			
	13	3	28	30.099	0.500	20	28	08.150	29	6	29	51.646	0.654	17	27	16.314			
	14	3	32	26.654	0.506	20	24	12.240	30	6	33	48.201	0.651	17	23	20.405			
	15	3	36	23.210	0.511	20	20	16.331	31	6	37	44.756	0.647	17	19	24.495			
	16	3	40	19.765	+0.514	20	16	20.421	32	6	41	41.312	+0.646	17	15	28.586			

N.B.-Apparent Sidereal Time = Mean Sidereal Time + Equation of Equinoxes for the instant

SUN, 2026
MEAN LONGITUDE AND ANOMALY

Date	Horizonta Parallax	Mean Longitude				Mean Anomaly	Date	Horizonta Parallax	Mean Longitude				Mean Anomaly
		"	°	'	"	°			"	°	'	"	°
Jan. 1	8.94	280	39	59.777	357.282		July 10	8.65	107	56	22.571	184.546	
	11	8.94	290	31	23.082	7.138		20	8.65	117	47	45.876	194.402
	21	8.94	300	22	46.387	16.994		30	8.66	127	39	09.181	204.258
	31	8.93	310	14	09.692	26.850	Aug. 9	8.67	137	30	32.486	214.114	
Feb. 10	8.91	320	05	32.997	36.706		19	8.69	147	21	55.791	223.970	
	20	8.90	329	56	56.302	46.562		29	8.71	157	13	19.096	233.826
Mar. 2	8.88	339	48	19.607	56.418		Sept. 8	8.73	167	04	42.401	243.682	
	12	8.85	349	39	42.912	66.274		18	8.75	176	56	05.706	253.538
	22	8.83	359	31	06.217	76.130		28	8.77	186	47	29.011	263.394
Apr. 1	8.80	9	22	29.522	85.986		Oct. 8	8.80	196	38	52.316	273.250	
	11	8.78	19	13	52.827	95.842		18	8.82	206	30	15.621	283.106
	21	8.75	29	05	16.132	105.698		28	8.85	216	21	38.926	292.962
May 1	8.73	38	56	39.437	115.554		Nov. 7	8.87	226	13	02.231	302.818	
	11	8.71	48	48	02.742	125.410		17	8.89	236	04	25.536	312.674
	21	8.69	58	39	26.047	135.266		27	8.91	245	55	48.841	322.530
	31	8.68	68	30	49.352	145.122	Dec. 7	8.92	255	47	12.146	332.386	
June 10	8.66	78	22	12.656	154.978		17	8.94	265	38	35.451	342.242	
	20	8.66	88	13	35.961	164.834		27	8.94	275	29	58.756	352.098
	30	8.65	98	04	59.266	174.690		37	8.94	285	21	22.061	1.954
July 10	8.65	107	56	22.571	184.546		47	8.94	295	12	45.366	11.810	

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date		Geometric (Mean Equinox of date)	Longitude* (Ecliptic of date)	Latitude (Ecliptic of date)		Apparent Longitude (True equinox of date)	Aberra- tion	Prec. in Long. (J 2026.5 of date)	Nut. in Long.	Nut. in Obliquity	True Obliquity (23° 26')		
		°	'	"		°	'	"					
Jan.	0	279	33	11.57	+0.61	279	32	56.04	20.84	-25.57	+5.26	+8.12	17.35
	1	280	34	19.38	0.65	280	34	04.01	20.84	25.43	5.42	8.07	17.29
	2	281	35	27.07	0.65	281	35	11.90	20.84	25.29	5.63	8.04	17.27
	3	282	36	34.73	0.61	282	36	19.80	20.84	25.16	5.86	8.05	17.27
	4	283	37	42.35	0.50	283	37	27.62	20.84	25.02	6.07	8.09	17.31
	5	284	38	50.07	0.43	284	38	35.48	20.84	24.88	6.22	8.15	17.37
	6	285	39	57.82	+0.29	285	39	43.31	20.84	-24.74	+6.29	+8.21	17.44
	7	286	41	05.67	0.18	286	40	51.17	20.84	24.60	6.30	8.27	17.49
	8	287	42	13.64	+0.04	287	41	59.10	20.84	24.46	6.25	8.31	17.53
	9	288	43	21.67	-0.11	288	43	07.07	20.84	24.32	6.19	8.33	17.55
	10	289	44	29.81	0.22	289	44	15.14	20.84	24.18	6.13	8.33	17.55
	11	290	45	38.00	0.32	290	45	23.29	20.84	24.04	6.09	8.31	17.53
	12	291	46	46.15	-0.43	291	46	31.44	20.84	-23.90	+6.08	+8.28	17.49
	13	292	47	54.27	0.47	292	47	39.59	20.84	23.76	6.11	8.25	17.46
	14	293	49	02.24	0.50	293	48	47.63	20.84	23.62	6.18	8.22	17.43
	15	294	50	10.07	0.54	294	49	55.56	20.84	23.48	6.28	8.20	17.41
	16	295	51	17.66	0.50	295	51	03.28	20.83	23.35	6.41	8.19	17.40
	17	296	52	24.91	0.47	296	52	10.67	20.83	23.21	6.54	8.21	17.42
	18	297	53	31.78	-0.40	297	53	17.66	20.83	-23.07	+6.67	+8.25	17.45
	19	298	54	38.13	0.29	298	54	24.12	20.83	22.93	6.77	8.30	17.51
	20	299	55	43.91	0.18	299	55	29.96	20.83	22.79	6.83	8.36	17.57
	21	300	56	49.03	-0.07	300	56	35.09	20.83	22.65	6.84	8.43	17.63
	22	301	57	53.36	+0.07	301	57	39.38	20.82	22.51	6.81	8.49	17.69
	23	302	58	56.86	0.22	302	58	42.82	20.82	22.37	6.73	8.52	17.72
	24	303	59	59.40	+0.32	303	59	45.28	20.82	-22.23	+6.65	+8.54	17.74
	25	305	01	00.92	0.43	305	00	46.73	20.82	22.09	6.58	8.53	17.72
	26	306	02	01.33	0.54	306	01	47.10	20.82	21.95	6.54	8.49	17.69
	27	307	03	00.62	0.58	307	02	46.43	20.81	21.81	6.57	8.45	17.65
	28	308	03	58.74	0.61	308	03	44.64	20.81	21.67	6.67	8.41	17.60
	29	309	04	55.68	0.61	309	04	41.74	20.81	21.54	6.82	8.39	17.58
Feb.	30	310	05	51.44	+0.58	310	05	37.68	20.81	-21.40	+7.00	+8.39	17.59
	31	311	06	46.02	0.50	311	06	32.44	20.80	21.26	7.17	8.43	17.62
	1	312	07	39.45	0.40	312	07	26.00	20.80	21.12	7.31	8.50	17.69
	2	313	08	31.84	0.29	313	08	18.46	20.80	20.98	7.37	8.57	17.76
	3	314	09	23.14	+0.14	314	09	09.76	20.80	20.84	7.37	8.65	17.83
	4	315	10	13.42	0.00	315	09	59.98	20.79	20.70	7.30	8.71	17.89
	5	316	11	02.72	-0.14	316	10	49.19	20.79	-20.56	+7.21	+8.74	17.92
	6	317	11	51.07	0.25	317	11	37.43	20.79	20.42	7.10	8.75	17.94
	7	318	12	38.46	0.36	318	12	24.73	20.78	20.28	7.01	8.74	17.93
	8	319	13	24.89	0.47	319	13	11.10	20.78	20.14	6.95	8.72	17.90
	9	320	14	10.34	0.54	320	13	56.53	20.77	20.00	6.92	8.69	17.87
	10	321	14	54.74	0.58	321	14	40.96	20.77	19.86	6.94	8.67	17.84
	11	322	15	38.14	-0.61	322	15	24.41	20.77	-19.73	+6.99	+8.65	17.82
	12	323	16	20.47	0.61	323	16	06.82	20.76	19.59	7.07	8.64	17.82
	13	324	17	01.66	0.54	324	16	48.11	20.76	19.45	7.16	8.66	17.83
	14	325	17	41.67	0.50	325	17	28.21	20.75	19.31	7.25	8.69	17.86
15	326	18	20.48	-0.40	326	18	07.09	20.75	-19.17	+7.32	+8.74	17.91	

*To obtain the geometric longitude referred to the mean equinox of J 2000.0, add -22' 12".709 and subtract precession from J 2026.5.

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Semi Diameter		Ephemeris Transit		
		h	m	s	°	'	"		'	"	h	m	s
Jan.	0	18	41	33.52	-23	05	39.32	0.983 3478	16	15.90	12	03	05.47
	1	18	45	58.52	23	01	02.32	0.983 3267	16	15.92	12	03	33.75
	2	18	50	23.20	22	55	57.85	0.983 3119	16	15.93	12	04	01.70
	3	18	54	47.53	22	50	26.06	0.983 3038	16	15.94	12	04	29.29
	4	18	59	11.49	22	44	27.11	0.983 3023	16	15.94	12	04	56.49
	5	19	03	35.05	22	38	01.15	0.983 3075	16	15.94	12	05	23.29
	6	19	07	58.18	-22	31	08.34	0.983 3192	16	15.92	12	05	49.65
	7	19	12	20.87	22	23	48.86	0.983 3372	16	15.91	12	06	15.55
	8	19	16	43.08	22	16	02.89	0.983 3612	16	15.88	12	06	40.97
	9	19	21	04.80	22	07	50.63	0.983 3911	16	15.85	12	07	05.89
	10	19	25	26.01	21	59	12.31	0.983 4264	16	15.82	12	07	30.28
	11	19	29	46.68	21	50	08.16	0.983 4670	16	15.78	12	07	54.12
	12	19	34	06.78	-21	40	38.45	0.983 5125	16	15.73	12	08	17.38
	13	19	38	26.30	21	30	43.44	0.983 5628	16	15.68	12	08	40.05
	14	19	42	45.21	21	20	23.41	0.983 6176	16	15.63	12	09	02.09
	15	19	47	03.50	21	09	38.67	0.983 6767	16	15.57	12	09	23.49
	16	19	51	21.13	20	58	29.51	0.983 7399	16	15.51	12	09	44.22
	17	19	55	38.09	20	46	56.27	0.983 8070	16	15.44	12	10	04.27
	18	19	59	54.35	-20	34	59.27	0.983 8779	16	15.37	12	10	23.62
	19	20	04	09.90	20	22	38.86	0.983 9524	16	15.30	12	10	42.24
	20	20	08	24.71	20	09	55.37	0.984 0306	16	15.22	12	11	00.12
	21	20	12	38.77	19	56	49.18	0.984 1124	16	15.14	12	11	17.24
	22	20	16	52.07	19	43	20.63	0.984 1978	16	15.05	12	11	33.59
	23	20	21	04.58	19	29	30.11	0.984 2869	16	14.96	12	11	49.15
	24	20	25	16.29	-19	15	17.98	0.984 3800	16	14.87	12	12	03.91
	25	20	29	27.21	19	00	44.64	0.984 4771	16	14.78	12	12	17.87
	26	20	33	37.31	18	45	50.47	0.984 5785	16	14.68	12	12	31.00
	27	20	37	46.59	18	30	35.87	0.984 6846	16	14.57	12	12	43.31
	28	20	41	55.06	18	15	01.25	0.984 7956	16	14.46	12	12	54.79
	29	20	46	02.70	17	59	07.00	0.984 9119	16	14.35	12	13	05.44
Feb.	30	20	50	09.51	-17	42	53.53	0.985 0336	16	14.23	12	13	15.27
	31	20	54	15.49	17	26	21.23	0.985 1611	16	14.10	12	13	24.27
	1	20	58	20.65	17	09	30.50	0.985 2945	16	13.97	12	13	32.44
	2	21	02	24.98	16	52	21.69	0.985 4338	16	13.83	12	13	39.80
	3	21	06	28.49	16	34	55.19	0.985 5791	16	13.69	12	13	46.35
	4	21	10	31.19	16	17	11.36	0.985 7301	16	13.54	12	13	52.09
	5	21	14	33.09	-15	59	10.57	0.985 8867	16	13.38	12	13	57.03
	6	21	18	34.19	15	40	53.20	0.986 0486	16	13.22	12	14	01.18
	7	21	22	34.50	15	22	19.65	0.986 2156	16	13.06	12	14	04.54
	8	21	26	34.04	15	03	30.31	0.986 3873	16	12.89	12	14	07.13
	9	21	30	32.80	14	44	25.58	0.986 5635	16	12.71	12	14	08.95
	10	21	34	30.80	14	25	05.89	0.986 7439	16	12.54	12	14	10.00
	11	21	38	28.04	-14	05	31.64	0.986 9282	16	12.36	12	14	10.30
	12	21	42	24.53	13	45	43.26	0.987 1161	16	12.17	12	14	09.85
	13	21	46	20.28	13	25	41.17	0.987 3074	16	11.98	12	14	08.66
	14	21	50	15.30	13	05	25.81	0.987 5016	16	11.79	12	14	06.75
	15	21	54	09.58	-12	44	57.61	0.987 6987	16	11.60	12	14	04.11

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date		Geometric Longitude* (Mean Equinox of date)			Latitude (Ecliptic of date)	Apparent Longitude (True equinox of date)			Aberra- tion	Prec. in Long. (J 2026.5 of date)	Nut. in Long.	Nut. in Obliquity	True Obliquity (23° 26')
		°	'	"	"	°	'	"	"	"	"	"	"
Feb.	15	326	18	20.48	-0.40	326	18	07.09	20.75	-19.17	+7.32	+8.74	17.91
	16	327	18	57.96	0.29	327	18	44.60	20.75	19.03	7.35	8.80	17.97
	17	328	19	34.08	0.18	328	19	20.71	20.74	18.89	7.33	8.87	18.04
	18	329	20	08.73	-0.04	329	19	55.31	20.74	18.75	7.27	8.93	18.10
	19	330	20	41.81	+0.11	330	20	28.28	20.73	18.61	7.16	8.97	18.14
	20	331	21	13.29	0.22	331	20	59.64	20.73	18.47	7.03	8.99	18.16
Mar.	21	332	21	43.04	+0.36	332	21	29.27	20.72	-18.33	+6.91	+8.98	18.15
	22	333	22	10.99	0.43	333	21	57.13	20.72	18.19	6.82	8.95	18.11
	23	334	22	37.04	0.50	334	22	23.16	20.72	18.05	6.79	8.90	18.07
	24	335	23	01.16	0.54	335	22	47.32	20.71	17.91	6.83	8.86	18.02
	25	336	23	23.34	0.58	336	23	09.60	20.71	17.78	6.92	8.83	17.99
	26	337	23	43.48	0.54	337	23	29.87	20.70	17.64	7.04	8.82	17.98
	27	338	24	01.67	+0.47	338	23	48.19	20.70	-17.50	+7.17	+8.84	18.00
	28	339	24	17.84	0.40	339	24	04.46	20.69	17.36	7.27	8.89	18.05
	1	340	24	32.05	0.29	340	24	18.72	20.69	17.22	7.31	8.96	18.11
	2	341	24	44.38	+0.14	341	24	31.03	20.68	17.08	7.29	9.02	18.17
	3	342	24	54.83	0.00	342	24	41.40	20.68	16.94	7.21	9.08	18.23
	4	343	25	03.41	-0.14	343	24	49.86	20.67	16.80	7.08	9.12	18.26
	5	344	25	10.24	-0.29	344	24	56.56	20.67	-16.66	+6.94	+9.13	18.27
	6	345	25	15.38	0.40	345	25	01.56	20.66	16.52	6.80	9.11	18.26
	7	346	25	18.76	0.50	346	25	04.84	20.66	16.38	6.69	9.08	18.23
	8	347	25	20.48	0.58	347	25	06.49	20.65	16.24	6.61	9.05	18.19
9	348	25	20.58	0.65	348	25	06.56	20.65	16.10	6.58	9.00	18.15	
10	349	25	18.98	0.65	349	25	04.98	20.64	15.97	6.59	8.97	18.11	
Apr.	11	350	25	15.77	-0.65	350	25	01.81	20.63	-15.83	+6.63	+8.95	18.09
	12	351	25	10.88	0.65	351	24	56.99	20.63	15.69	6.69	8.94	18.08
	13	352	25	04.38	0.58	352	24	50.54	20.62	15.55	6.75	8.95	18.09
	14	353	24	56.15	0.50	353	24	42.37	20.62	15.41	6.79	8.98	18.12
	15	354	24	46.23	0.40	354	24	32.47	20.61	15.27	6.81	9.02	18.16
	16	355	24	34.58	0.29	355	24	20.81	20.61	15.13	6.79	9.08	18.21
	17	356	24	21.15	-0.14	356	24	07.31	20.60	-14.99	+6.72	+9.13	18.26
	18	357	24	05.85	0.00	357	23	51.90	20.59	14.85	6.60	9.16	18.29
	19	358	23	48.64	+0.11	358	23	34.55	20.59	14.71	6.45	9.18	18.30
	20	359	23	29.49	0.25	359	23	15.25	20.58	14.57	6.30	9.16	18.29
	21	0	23	08.22	0.32	0	22	53.87	20.58	14.43	6.18	9.12	18.24
	22	1	22	44.84	0.40	1	22	30.43	20.57	14.29	6.12	9.05	18.18
	23	2	22	19.27	+0.40	2	22	04.87	20.57	-14.15	+6.12	+8.99	18.11
	24	3	21	51.40	0.29	3	21	37.08	20.56	14.02	6.19	8.93	18.06
	25	4	21	21.04	0.07	4	21	06.84	20.55	13.88	6.30	8.90	18.02
	26	5	20	48.23	0.14	5	20	34.15	20.55	13.74	6.42	8.90	18.02
27	6	20	13.32	0.25	6	19	59.34	20.54	13.60	6.51	8.93	18.04	
28	7	19	36.12	0.18	7	19	22.19	20.54	13.46	6.56	8.97	18.09	
29	8	18	56.64	+0.11	8	18	42.70	20.53	-13.32	+6.54	+9.02	18.13	
30	9	18	14.85	-0.04	9	18	00.83	20.53	13.18	6.46	9.06	18.17	
31	10	17	30.83	0.14	10	17	16.69	20.52	13.04	6.34	9.08	18.19	
Apr.	1	11	16	44.67	0.29	11	16	30.40	20.51	12.90	6.20	9.08	18.19
	2	12	15	56.42	-0.40	12	15	42.01	20.51	-12.76	+6.05	+9.06	18.17

*To obtain the geometric longitude referred to the mean equinox of J 2000.0, add -22' 12".709 and subtract precession from J 2026.5.

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Semi Diameter		Ephemeris Transit		
		h	m	s	°	'	"		'	"	h	m	s
Feb.	15	21	54	09.58	-12	44	57.61	0.987 6987	16	11.60	12	14	04.11
	16	21	58	03.15	12	24	17.00	0.987 8984	16	11.40	12	14	00.75
	17	22	01	56.01	12	03	24.41	0.988 1004	16	11.20	12	13	56.70
	18	22	05	48.16	11	42	20.29	0.988 3047	16	11.00	12	13	51.95
	19	22	09	39.62	11	21	05.07	0.988 5110	16	10.80	12	13	46.51
	20	22	13	30.39	10	59	39.18	0.988 7195	16	10.59	12	13	40.40
	21	22	17	20.50	-10	38	03.06	0.988 9300	16	10.39	12	13	33.62
	22	22	21	09.96	10	16	17.14	0.989 1429	16	10.18	12	13	26.19
	23	22	24	58.77	9	54	21.84	0.989 3581	16	09.97	12	13	18.13
	24	22	28	46.95	9	32	17.61	0.989 5760	16	09.75	12	13	09.44
Mar.	25	22	32	34.52	9	10	04.86	0.989 7968	16	09.54	12	13	00.14
	26	22	36	21.49	8	47	44.01	0.990 0208	16	09.32	12	12	50.25
	27	22	40	07.88	-8	25	15.47	0.990 2483	16	09.10	12	12	39.79
	28	22	43	53.71	8	02	39.64	0.990 4794	16	08.87	12	12	28.78
	1	22	47	38.99	7	39	56.90	0.990 7145	16	08.64	12	12	17.24
	2	22	51	23.75	7	17	07.63	0.990 9535	16	08.41	12	12	05.19
	3	22	55	08.01	6	54	12.17	0.991 1965	16	08.17	12	11	52.66
	4	22	58	51.78	6	31	10.89	0.991 4436	16	07.93	12	11	39.65
	5	23	02	35.11	-6	08	04.14	0.991 6945	16	07.68	12	11	26.21
	6	23	06	18.00	5	44	52.27	0.991 9491	16	07.43	12	11	12.35
	7	23	10	00.49	5	21	35.63	0.992 2072	16	07.18	12	10	58.09
	8	23	13	42.59	4	58	14.59	0.992 4686	16	06.93	12	10	43.46
	9	23	17	24.33	4	34	49.53	0.992 7329	16	06.67	12	10	28.47
	10	23	21	05.73	4	11	20.80	0.992 9998	16	06.41	12	10	13.14
	11	23	24	46.80	-3	47	48.80	0.993 2691	16	06.15	12	09	57.51
	12	23	28	27.58	3	24	13.90	0.993 5404	16	05.88	12	09	41.58
	13	23	32	08.07	3	00	36.48	0.993 8135	16	05.62	12	09	25.38
	14	23	35	48.29	2	36	56.93	0.994 0880	16	05.35	12	09	08.93
	15	23	39	28.28	2	13	15.63	0.994 3635	16	05.08	12	08	52.24
	16	23	43	08.03	1	49	32.99	0.994 6398	16	04.82	12	08	35.34
	17	23	46	47.58	-1	25	49.39	0.994 9166	16	04.55	12	08	18.24
	18	23	50	26.93	1	02	05.21	0.995 1936	16	04.28	12	08	00.96
	19	23	54	06.11	0	38	20.87	0.995 4705	16	04.01	12	07	43.52
	20	23	57	45.14	-0	14	36.74	0.995 7472	16	03.74	12	07	25.93
	21	0	01	24.03	+0	09	06.78	0.996 0237	16	03.48	12	07	08.21
	22	0	05	02.80	0	32	49.30	0.996 2999	16	03.21	12	06	50.38
	23	0	08	41.47	+0	56	30.42	0.996 5759	16	02.94	12	06	32.45
	24	0	12	20.06	1	20	09.71	0.996 8519	16	02.68	12	06	14.44
	25	0	15	58.57	1	43	46.70	0.997 1282	16	02.41	12	05	56.36
	26	0	19	37.01	2	07	21.42	0.997 4050	16	02.14	12	05	38.23
Apr.	27	0	23	15.43	2	30	53.38	0.997 6825	16	01.87	12	05	20.09
	28	0	26	53.85	2	54	22.03	0.997 9610	16	01.61	12	05	01.95
	29	0	30	32.27	+3	17	47.05	0.998 2408	16	01.34	12	04	43.84
	30	0	34	10.72	3	41	08.15	0.998 5219	16	01.07	12	04	25.77
	31	0	37	49.23	4	04	25.00	0.998 8044	16	00.79	12	04	07.76
	1	0	41	27.81	4	27	37.31	0.999 0885	16	00.52	12	03	49.85
	2	0	45	06.49	+4	50	44.75	0.999 3741	16	00.25	12	03	32.04

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date		Geometric Longitude* (Mean Equinox of date)			Latitude (Ecliptic of date)	Apparent Longitude (True equinox of date)			Aberra- tion	Prec. in Long. (J 2026.5 of date)	Nut. in Long.	Nut. in Obliquity	True Obliquity (23° 26')
		°	'	"	"	°	'	"	"	"	"	"	"
Apr.	1	11	16	44.67	-0.29	11	16	30.40	20.51	-12.90	+6.20	+9.08	18.19
	2	12	15	56.42	0.40	12	15	42.01	20.51	12.76	6.05	9.06	18.17
	3	13	15	06.11	0.50	13	14	51.58	20.50	12.62	5.93	9.02	18.13
	4	14	14	13.81	0.58	14	13	59.20	20.50	12.48	5.84	8.96	18.07
	5	15	13	19.59	0.65	15	13	04.94	20.49	12.34	5.80	8.90	18.01
	6	16	12	23.46	0.68	16	12	08.82	20.48	12.20	5.80	8.85	17.95
	7	17	11	25.50	-0.68	17	11	10.90	20.48	-12.07	+5.83	+8.80	17.91
	8	18	10	25.72	0.65	18	10	11.17	20.47	11.93	5.88	8.77	17.87
	9	19	09	24.19	0.61	19	09	09.72	20.47	11.79	5.95	8.76	17.86
	10	20	08	20.88	0.54	20	08	06.47	20.46	11.65	6.01	8.76	17.87
	11	21	07	15.82	0.43	21	07	01.45	20.45	11.51	6.04	8.79	17.89
	12	22	06	09.03	0.32	22	05	54.67	20.45	11.37	6.05	8.82	17.92
	13	23	05	00.49	-0.22	23	04	46.09	20.44	-11.23	+6.00	+8.85	17.95
	14	24	03	50.22	-0.07	24	03	35.75	20.44	11.09	5.92	8.88	17.97
	15	25	02	38.20	+0.07	25	02	23.60	20.43	10.95	5.79	8.88	17.98
	16	26	01	24.38	0.18	26	01	09.66	20.43	10.81	5.66	8.86	17.96
	17	27	00	08.72	0.29	26	59	53.88	20.42	10.67	5.54	8.81	17.91
	18	27	58	51.09	0.40	27	58	36.19	20.41	10.53	5.47	8.74	17.83
	19	28	57	31.52	+0.43	28	57	16.63	20.41	-10.39	+5.48	+8.65	17.74
	20	29	56	09.89	0.47	29	55	55.09	20.40	10.26	5.56	8.58	17.67
	21	30	54	46.13	0.47	30	54	31.46	20.40	10.12	5.69	8.52	17.61
	22	31	53	20.25	0.43	31	53	05.75	20.39	9.98	5.84	8.50	17.59
	23	32	51	52.13	0.36	32	51	37.76	20.39	9.84	5.98	8.51	17.59
	24	33	50	21.86	0.25	33	50	07.58	20.38	9.70	6.06	8.53	17.62
	25	34	48	49.42	+0.14	34	48	35.17	20.38	-9.56	+6.08	+8.57	17.65
	26	35	47	14.77	0.00	35	47	00.49	20.37	9.42	6.05	8.60	17.68
	27	36	45	38.05	-0.11	36	45	23.69	20.37	9.28	5.96	8.61	17.69
	28	37	43	59.26	0.25	37	43	44.80	20.36	9.14	5.85	8.61	17.69
	29	38	42	18.47	0.36	38	42	03.89	20.36	9.00	5.73	8.58	17.66
	30	39	40	35.71	0.47	39	40	21.04	20.35	8.86	5.63	8.53	17.61
May	1	40	38	51.12	-0.54	40	38	36.38	20.35	-8.72	+5.56	+8.47	17.55
	2	41	37	04.69	0.61	41	36	49.93	20.34	8.58	5.54	8.40	17.48
	3	42	35	16.56	0.65	42	35	01.82	20.34	8.44	5.56	8.34	17.41
	4	43	33	26.73	0.65	43	33	12.06	20.33	8.31	5.61	8.28	17.35
	5	44	31	35.33	0.61	44	31	20.75	20.32	8.17	5.70	8.24	17.31
	6	45	29	42.37	0.58	45	29	27.89	20.32	8.03	5.79	8.21	17.28
	7	46	27	47.90	-0.50	46	27	33.52	20.31	-7.89	+5.89	+8.21	17.27
	8	47	25	52.00	0.43	47	25	37.70	20.31	7.75	5.96	8.22	17.28
	9	48	23	54.74	0.32	48	23	40.49	20.31	7.61	6.01	8.24	17.30
	10	49	21	56.11	0.22	49	21	41.87	20.30	7.47	6.02	8.26	17.33
	11	50	19	56.15	-0.07	50	19	41.88	20.30	7.33	5.98	8.29	17.35
	12	51	17	54.94	+0.07	51	17	40.60	20.29	7.19	5.91	8.30	17.36
	13	52	15	52.41	+0.18	52	15	37.98	20.29	-7.05	+5.81	+8.28	17.34
	14	53	13	48.59	0.29	53	13	34.07	20.28	6.91	5.72	8.24	17.30
	15	54	11	43.47	0.40	54	11	28.90	20.28	6.77	5.66	8.18	17.23
	16	55	09	36.98	0.43	55	09	22.43	20.27	6.63	5.67	8.09	17.15
	17	56	07	29.12	+0.47	56	07	14.66	20.27	-6.49	+5.76	+8.01	17.06

*To obtain the geometric longitude referred to the mean equinox of J 2000.0, add -22' 12".709 and subtract precession from J 2026.5.

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Semi Diameter		Ephemeris Transit		
		h	m	s	°	'	"		'	"	h	m	s
Apr.	1	0	41	27.81	+4	27	37.31	0.999 0885	16	00.52	12	03	49.85
	2	0	45	06.49	4	50	44.75	0.999 3741	16	00.25	12	03	32.04
	3	0	48	45.29	5	13	47.02	0.999 6611	15	59.97	12	03	14.37
	4	0	52	24.24	5	36	43.80	0.999 9494	15	59.69	12	02	56.86
	5	0	56	03.36	5	59	34.77	1.000 2388	15	59.42	12	02	39.52
	6	0	59	42.67	6	22	19.62	1.000 5290	15	59.14	12	02	22.38
	7	1	03	22.19	+6	44	58.00	1.000 8199	15	58.86	12	02	05.46
	8	1	07	01.95	7	07	29.58	1.001 1112	15	58.58	12	01	48.78
	9	1	10	41.95	7	29	54.03	1.001 4026	15	58.30	12	01	32.36
	10	1	14	22.21	7	52	11.00	1.001 6937	15	58.02	12	01	16.21
	11	1	18	02.76	8	14	20.14	1.001 9844	15	57.74	12	01	00.35
	12	1	21	43.61	8	36	21.11	1.002 2741	15	57.47	12	00	44.80
	13	1	25	24.77	+8	58	13.54	1.002 5627	15	57.19	12	00	29.58
	14	1	29	06.27	9	19	57.08	1.002 8497	15	56.92	12	00	14.70
	15	1	32	48.11	9	41	31.38	1.003 1348	15	56.65	12	00	00.18
	16	1	36	30.31	10	02	56.08	1.003 4177	15	56.38	11	59	46.02
	17	1	40	12.89	10	24	10.81	1.003 6981	15	56.11	11	59	32.24
	18	1	43	55.85	10	45	15.22	1.003 9758	15	55.84	11	59	18.84
	19	1	47	39.21	+11	06	08.96	1.004 2507	15	55.58	11	59	05.85
	20	1	51	22.97	11	26	51.66	1.004 5227	15	55.32	11	58	53.26
	21	1	55	07.15	11	47	22.98	1.004 7921	15	55.07	11	58	41.08
	22	1	58	51.75	12	07	42.54	1.005 0590	15	54.81	11	58	29.33
	23	2	02	36.77	12	27	50.01	1.005 3236	15	54.56	11	58	18.01
	24	2	06	22.24	12	47	45.04	1.005 5862	15	54.31	11	58	07.14
	25	2	10	08.15	+13	07	27.29	1.005 8471	15	54.07	11	57	56.72
	26	2	13	54.51	13	26	56.45	1.006 1065	15	53.82	11	57	46.77
	27	2	17	41.35	13	46	12.22	1.006 3646	15	53.58	11	57	37.31
	28	2	21	28.68	14	05	14.29	1.006 6215	15	53.33	11	57	28.33
	29	2	25	16.50	14	24	02.36	1.006 8775	15	53.09	11	57	19.86
	30	2	29	04.83	14	42	36.15	1.007 1325	15	52.85	11	57	11.90
May	1	2	32	53.69	+15	00	55.36	1.007 3865	15	52.61	11	57	04.47
	2	2	36	43.08	15	18	59.72	1.007 6396	15	52.37	11	56	57.57
	3	2	40	33.02	15	36	48.91	1.007 8917	15	52.13	11	56	51.23
	4	2	44	23.51	15	54	22.66	1.008 1426	15	51.89	11	56	45.44
	5	2	48	14.56	16	11	40.65	1.008 3921	15	51.66	11	56	40.21
	6	2	52	06.18	16	28	42.59	1.008 6402	15	51.42	11	56	35.56
	7	2	55	58.37	+16	45	28.18	1.008 8865	15	51.19	11	56	31.48
	8	2	59	51.15	17	01	57.10	1.009 1308	15	50.96	11	56	27.98
	9	3	03	44.51	17	18	09.06	1.009 3729	15	50.73	11	56	25.08
	10	3	07	38.45	17	34	03.74	1.009 6124	15	50.51	11	56	22.76
	11	3	11	32.98	17	49	40.83	1.009 8491	15	50.29	11	56	21.03
	12	3	15	28.10	18	05	00.02	1.010 0826	15	50.07	11	56	19.90
	13	3	19	23.82	+18	20	01.02	1.010 3125	15	49.85	11	56	19.35
	14	3	23	20.12	18	34	43.50	1.010 5385	15	49.64	11	56	19.40
	15	3	27	17.01	18	49	07.19	1.010 7602	15	49.43	11	56	20.02
	16	3	31	14.48	19	03	11.79	1.010 9773	15	49.22	11	56	21.22
	17	3	35	12.53	+19	16	57.00	1.011 1897	15	49.03	11	56	22.99

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date	Geometric Longitude* (Mean Equinox of date)			Latitude (Ecliptic of date)	Apparent Longitude (True equinox of date)			Aberra- tion	Prec. in Long. (J 2026.5 of date)	Nut. in Long.	Nut. in Obliquity	True Obliquity (23° 26')	
	°	'	"	"	°	'	"	"	"	"	"	"	
May	17	56	07	29.12	+0.47	56	07	14.66	20.27	-6.49	+5.76	+8.01	17.06
	18	57	05	19.79	0.47	57	05	05.50	20.26	6.36	5.92	7.94	16.99
	19	58	03	08.94	0.43	58	02	54.85	20.26	6.22	6.12	7.90	16.96
	20	59	00	56.55	0.36	59	00	42.66	20.26	6.08	6.32	7.90	16.95
	21	59	58	42.55	0.29	59	58	28.81	20.25	5.94	6.47	7.93	16.97
	22	60	56	26.92	0.18	60	56	13.27	20.25	5.80	6.55	7.96	17.01
	23	61	54	09.67	+0.07	61	53	56.04	20.25	-5.66	+6.57	+8.00	17.05
	24	62	51	50.85	-0.07	62	51	37.19	20.24	5.52	6.53	8.02	17.07
	25	63	49	30.45	0.18	63	49	16.72	20.24	5.38	6.46	8.03	17.07
	26	64	47	08.54	0.32	64	46	54.73	20.23	5.24	6.38	8.01	17.05
	27	65	44	45.15	0.40	65	44	31.27	20.23	5.10	6.31	7.97	17.01
	28	66	42	20.39	0.50	66	42	06.48	20.23	4.96	6.27	7.91	16.95
	29	67	39	54.30	-0.54	67	39	40.39	20.22	-4.82	+6.27	+7.85	16.89
	30	68	37	26.98	0.58	68	37	13.12	20.22	4.68	6.32	7.79	16.83
	31	69	34	58.43	0.58	69	34	44.65	20.22	4.54	6.40	7.74	16.77
	June	1	70	32	28.81	0.58	70	32	15.14	20.21	4.41	6.51	7.70	16.73
2		71	29	58.16	0.54	71	29	44.63	20.21	4.27	6.63	7.68	16.71
	3	72	27	26.58	0.47	72	27	13.18	20.21	4.13	6.76	7.67	16.71
	4	73	24	54.11	-0.36	73	24	40.82	20.21	-3.99	+6.87	+7.69	16.72
	5	74	22	20.84	0.25	74	22	07.64	20.20	3.85	6.96	7.71	16.74
	6	75	19	46.82	0.14	75	19	33.67	20.20	3.71	7.00	7.75	16.78
	7	76	17	12.13	-0.04	76	16	58.98	20.20	3.57	7.01	7.78	16.81
	8	77	14	36.82	+0.11	77	14	23.64	20.19	3.43	6.97	7.81	16.83
	9	78	12	00.96	0.22	78	11	47.72	20.19	3.29	6.91	7.81	16.83
	10	79	09	24.54	+0.32	79	09	11.23	20.19	-3.15	+6.84	+7.79	16.81
	11	80	06	47.62	0.43	80	06	34.27	20.19	3.01	6.79	7.75	16.77
	12	81	04	10.22	0.50	81	03	56.88	20.18	2.87	6.80	7.68	16.70
	13	82	01	32.28	0.54	82	01	19.02	20.18	2.73	6.87	7.61	16.63
	14	82	58	53.83	0.54	82	58	40.73	20.18	2.59	7.03	7.54	16.56
	15	83	56	14.79	0.50	83	56	01.90	20.18	2.46	7.24	7.50	16.52
	16	84	53	35.07	+0.47	84	53	22.42	20.18	-2.32	+7.47	+7.50	16.52
	17	85	50	54.71	0.36	85	50	42.25	20.18	2.18	7.68	7.53	16.54
	18	86	48	13.61	0.25	86	48	01.30	20.17	2.04	7.81	7.58	16.59
	19	87	45	31.76	+0.14	87	45	19.51	20.17	1.90	7.88	7.64	16.65
	20	88	42	49.12	0.00	88	42	36.86	20.17	1.76	7.87	7.68	16.69
	21	89	40	05.72	-0.11	89	39	53.42	20.17	1.62	7.83	7.70	16.71
	22	90	37	21.59	-0.22	90	37	09.23	20.17	-1.48	+7.76	+7.70	16.71
	23	91	34	36.73	0.32	91	34	24.31	20.17	1.34	7.70	7.68	16.69
	24	92	31	51.20	0.43	92	31	38.75	20.17	1.20	7.67	7.65	16.65
	25	93	29	05.06	0.47	93	28	52.61	20.17	1.06	7.67	7.60	16.61
	26	94	26	18.40	0.50	94	26	06.00	20.16	0.92	7.72	7.55	16.56
	27	95	23	31.24	0.54	95	23	18.92	20.16	0.78	7.80	7.51	16.52
	28	96	20	43.69	-0.50	96	20	31.49	20.16	-0.64	+7.91	+7.49	16.49
	29	97	17	55.80	0.47	97	17	43.73	20.16	0.50	8.05	7.48	16.48
July	30	98	15	07.65	0.40	98	14	55.72	20.16	0.37	8.18	7.49	16.48
	1	99	12	19.34	0.32	99	12	07.52	20.16	0.23	8.30	7.51	16.51
	2	100	09	30.91	-0.22	100	09	19.19	20.16	-0.09	+8.40	+7.55	16.55

*To obtain the geometric longitude referred to the mean equinox of J 2000.0, add -22' 12".709 and subtract precession from J 2026.5.

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Semi Diameter		Ephemeris Transit		
		h	m	s	°	'	"		'	"	h	m	s
May	17	3	35	12.53	+19	16	57.00	1.011 1897	15	49.03	11	56	22.99
	18	3	39	11.14	19	30	22.57	1.011 3971	15	48.83	11	56	25.31
	19	3	43	10.30	19	43	28.19	1.011 5997	15	48.64	11	56	28.17
	20	3	47	10.00	19	56	13.59	1.011 7975	15	48.46	11	56	31.57
	21	3	51	10.22	20	08	38.50	1.011 9908	15	48.27	11	56	35.49
	22	3	55	10.96	20	20	42.64	1.012 1797	15	48.10	11	56	39.91
	23	3	59	12.19	+20	32	25.78	1.012 3647	15	47.92	11	56	44.84
	24	4	03	13.92	20	43	47.67	1.012 5459	15	47.75	11	56	50.26
	25	4	07	16.14	20	54	48.10	1.012 7236	15	47.59	11	56	56.16
	26	4	11	18.83	21	05	26.84	1.012 8980	15	47.42	11	57	02.54
June	27	4	15	21.98	21	15	43.71	1.013 0694	15	47.26	11	57	09.37
	28	4	19	25.60	21	25	38.51	1.013 2378	15	47.11	11	57	16.66
	29	4	23	29.67	+21	35	11.04	1.013 4034	15	46.95	11	57	24.40
	30	4	27	34.18	21	44	21.13	1.013 5663	15	46.80	11	57	32.56
	31	4	31	39.12	21	53	08.60	1.013 7264	15	46.65	11	57	41.15
	1	4	35	44.48	22	01	33.28	1.013 8837	15	46.50	11	57	50.15
	2	4	39	50.23	22	09	34.98	1.014 0383	15	46.36	11	57	59.54
	3	4	43	56.38	22	17	13.55	1.014 1899	15	46.22	11	58	09.31
	4	4	48	02.90	+22	24	28.80	1.014 3385	15	46.08	11	58	19.45
	5	4	52	09.78	22	31	20.59	1.014 4840	15	45.94	11	58	29.94
July	6	4	56	16.99	22	37	48.76	1.014 6261	15	45.81	11	58	40.77
	7	5	00	24.54	22	43	53.14	1.014 7646	15	45.68	11	58	51.92
	8	5	04	32.39	22	49	33.59	1.014 8992	15	45.56	11	59	03.36
	9	5	08	40.53	22	54	49.98	1.015 0296	15	45.44	11	59	15.09
	10	5	12	48.94	+22	59	42.17	1.015 1556	15	45.32	11	59	27.08
	11	5	16	57.60	23	04	10.05	1.015 2767	15	45.21	11	59	39.31
	12	5	21	06.50	23	08	13.51	1.015 3927	15	45.10	11	59	51.75
	13	5	25	15.60	23	11	52.47	1.015 5031	15	44.99	12	00	04.38
	14	5	29	24.88	23	15	06.85	1.015 6076	15	44.90	12	00	17.18
	15	5	33	34.31	23	17	56.59	1.015 7062	15	44.81	12	00	30.11
July	16	5	37	43.86	+23	20	21.65	1.015 7986	15	44.72	12	00	43.14
	17	5	41	53.50	23	22	21.96	1.015 8848	15	44.64	12	00	56.25
	18	5	46	03.19	23	23	57.48	1.015 9651	15	44.56	12	01	09.40
	19	5	50	12.91	23	25	08.18	1.016 0397	15	44.50	12	01	22.57
	20	5	54	22.63	23	25	54.05	1.016 1087	15	44.43	12	01	35.73
	21	5	58	32.33	23	26	15.07	1.016 1726	15	44.37	12	01	48.85
	22	6	02	41.98	+23	26	11.26	1.016 2316	15	44.32	12	02	01.92
	23	6	06	51.56	23	25	42.64	1.016 2860	15	44.27	12	02	14.91
	24	6	11	01.05	23	24	49.25	1.016 3360	15	44.22	12	02	27.79
	25	6	15	10.43	23	23	31.14	1.016 3818	15	44.18	12	02	40.56
July	26	6	19	19.68	23	21	48.36	1.016 4237	15	44.14	12	02	53.18
	27	6	23	28.78	23	19	40.97	1.016 4618	15	44.10	12	03	05.63
	28	6	27	37.71	+23	17	09.04	1.016 4963	15	44.07	12	03	17.90
	29	6	31	46.44	23	14	12.65	1.016 5271	15	44.04	12	03	29.97
	30	6	35	54.96	23	10	51.86	1.016 5544	15	44.02	12	03	41.81
July	1	6	40	03.25	23	07	06.77	1.016 5783	15	43.99	12	03	53.41
	2	6	44	11.28	+23	02	57.46	1.016 5986	15	43.98	12	04	04.76

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FOR 0^h TERRESTRIAL TIME

Date	Geometric Longitude* (Mean Equinox of date)			Latitude (Ecliptic of date)	Apparent Longitude (True equinox of date)			Aberra- tion	Prec. in Long. (J 2026.5 of date)	Nut. in Long.	Nut. in Obliquity	True Obliquity (23° 26')	
	°	'	"	"	°	'	"	"	"	"	"	"	
July	1	99	12	19.34	-0.32	99	12	07.52	20.16	-0.23	+8.30	+7.51	16.51
	2	100	09	30.91	0.22	100	09	19.19	20.16	-0.09	8.40	7.55	16.55
	3	101	06	42.51	-0.07	101	06	30.85	20.16	+0.05	8.45	7.60	16.60
	4	102	03	54.16	+0.04	102	03	42.52	20.16	0.19	8.47	7.65	16.65
	5	103	01	05.96	0.18	103	00	54.29	20.16	0.33	8.44	7.70	16.69
	6	103	58	17.98	0.29	103	58	06.24	20.16	0.47	8.38	7.72	16.7
	7	104	55	30.29	+0.40	104	55	18.48	20.16	+0.61	+8.31	+7.72	16.71
	8	105	52	42.91	0.50	105	52	31.04	20.16	0.75	8.25	7.70	16.69
	9	106	49	55.96	0.58	106	49	44.08	20.16	0.89	8.23	7.66	16.65
	10	107	47	09.39	0.61	107	46	57.54	20.16	1.03	8.27	7.61	16.59
	11	108	44	23.28	0.65	108	44	11.54	20.16	1.17	8.38	7.56	16.54
	12	109	41	37.58	0.61	109	41	26.02	20.16	1.31	8.56	7.52	16.51
	13	110	38	52.27	+0.58	110	38	40.92	20.16	+1.45	+8.77	+7.52	16.50
	14	111	36	07.32	0.47	111	35	56.18	20.16	1.58	8.98	7.55	16.53
	15	112	33	22.68	0.36	112	33	11.70	20.16	1.72	9.14	7.61	16.59
	16	113	30	38.33	0.25	113	30	27.43	20.16	1.86	9.22	7.68	16.66
	17	114	27	54.16	+0.11	114	27	43.27	20.17	2.00	9.23	7.75	16.73
	18	115	25	10.19	0.00	115	24	59.26	20.17	2.14	9.18	7.80	16.77
	19	116	22	26.40	-0.14	116	22	15.38	20.17	+2.28	+9.10	+7.82	16.80
	20	117	19	42.79	0.25	117	19	31.69	20.17	2.42	9.02	7.82	16.79
	21	118	16	59.38	0.36	118	16	48.22	20.17	2.56	8.96	7.80	16.77
	22	119	14	16.18	0.43	119	14	04.99	20.17	2.70	8.94	7.77	16.74
	23	120	11	33.27	0.47	120	11	22.09	20.17	2.84	8.95	7.74	16.70
	24	121	08	50.64	0.47	121	08	39.52	20.18	2.98	9.00	7.71	16.67
	25	122	06	08.42	-0.47	122	05	57.37	20.18	+3.12	+9.09	+7.69	16.65
	26	123	03	26.56	0.43	123	03	15.62	20.18	3.26	9.20	7.69	16.65
	27	124	00	45.21	0.36	124	00	34.38	20.18	3.40	9.31	7.70	16.66
	28	124	58	04.44	0.29	124	57	53.71	20.18	3.53	9.41	7.74	16.70
	29	125	55	24.27	0.18	125	55	13.62	20.19	3.67	9.49	7.79	16.75
	30	126	52	44.82	-0.04	126	52	34.21	20.19	3.81	9.53	7.85	16.81
Aug.	31	127	50	06.18	+0.07	127	49	55.56	20.19	+3.95	+9.53	+7.91	16.87
	1	128	47	28.41	0.22	128	47	17.74	20.19	4.09	9.48	7.96	16.92
	2	129	44	51.60	0.32	129	44	40.85	20.20	4.23	9.40	8.00	16.96
	3	130	42	15.83	0.47	130	42	04.97	20.20	4.37	9.30	8.02	16.98
	4	131	39	41.16	0.54	131	39	30.20	20.20	4.51	9.20	8.02	16.97
	5	132	37	07.69	0.65	132	36	56.66	20.20	4.65	9.13	7.99	16.94
	6	133	34	35.46	+0.68	133	34	24.42	20.21	+4.79	+9.12	+7.95	16.90
	7	134	32	04.50	0.72	134	31	53.51	20.21	4.93	9.17	7.90	16.85
	8	135	29	34.88	0.68	135	29	24.00	20.21	5.07	9.29	7.87	16.82
	9	136	27	06.58	0.65	136	26	55.86	20.21	5.21	9.45	7.87	16.81
	10	137	24	39.57	0.58	137	24	29.02	20.22	5.35	9.62	7.89	16.84
	11	138	22	13.89	0.47	138	22	03.47	20.22	5.49	9.76	7.94	16.89
	12	139	19	49.41	+0.36	139	19	39.07	20.22	+5.62	+9.84	+8.02	16.96
	13	140	17	26.17	0.22	140	17	15.83	20.23	5.76	9.84	8.09	17.03
	14	141	15	04.07	+0.07	141	14	53.66	20.23	5.90	9.78	8.15	17.09
	15	142	12	43.10	-0.07	142	12	32.58	20.23	6.04	9.67	8.19	17.13
16	143	10	23.18	-0.18	143	10	12.54	20.24	+6.18	+9.55	+8.20	17.14	

*To obtain the geometric longitude referred to the mean equinox of J 2000.0, add -22' 12".709 and subtract precession from J 2026.5.

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Semi Diameter		Ephemeris Transit		
		h	m	s	°	'	"		'	"	h	m	s
July	1	6	40	03.25	+23	07	06.77	1.016 5783	15	43.99	12	03	53.41
	2	6	44	11.28	23	02	57.46	1.016 5986	15	43.98	12	04	04.76
	3	6	48	19.05	22	58	24.03	1.016 6153	15	43.96	12	04	15.82
	4	6	52	26.52	22	53	26.57	1.016 6283	15	43.95	12	04	26.59
	5	6	56	33.69	22	48	05.17	1.016 6376	15	43.94	12	04	37.05
	6	7	00	40.54	22	42	19.97	1.016 6428	15	43.93	12	04	47.18
	7	7	04	47.05	+22	36	11.07	1.016 6438	15	43.93	12	04	56.96
	8	7	08	53.21	22	29	38.60	1.016 6403	15	43.94	12	05	06.39
	9	7	12	58.99	22	22	42.71	1.016 6320	15	43.95	12	05	15.43
	10	7	17	04.40	22	15	23.56	1.016 6186	15	43.96	12	05	24.07
	11	7	21	09.39	22	07	41.33	1.016 5996	15	43.98	12	05	32.29
	12	7	25	13.97	21	59	36.21	1.016 5749	15	44.00	12	05	40.08
	13	7	29	18.10	+21	51	08.40	1.016 5442	15	44.03	12	05	47.41
	14	7	33	21.77	21	42	18.12	1.016 5072	15	44.06	12	05	54.27
	15	7	37	24.94	21	33	05.59	1.016 4638	15	44.10	12	06	00.62
	16	7	41	27.61	21	23	31.04	1.016 4142	15	44.15	12	06	06.47
	17	7	45	29.74	21	13	34.68	1.016 3584	15	44.20	12	06	11.77
	18	7	49	31.33	21	03	16.74	1.016 2968	15	44.26	12	06	16.54
	19	7	53	32.37	+20	52	37.47	1.016 2295	15	44.32	12	06	20.74
	20	7	57	32.83	20	41	37.10	1.016 1569	15	44.39	12	06	24.36
	21	8	01	32.73	20	30	15.89	1.016 0792	15	44.46	12	06	27.41
	22	8	05	32.04	20	18	34.09	1.015 9969	15	44.54	12	06	29.87
	23	8	09	30.76	20	06	31.97	1.015 9101	15	44.62	12	06	31.74
	24	8	13	28.89	19	54	09.79	1.015 8191	15	44.70	12	06	33.00
	25	8	17	26.41	+19	41	27.81	1.015 7242	15	44.79	12	06	33.66
	26	8	21	23.34	19	28	26.29	1.015 6255	15	44.88	12	06	33.72
	27	8	25	19.65	19	15	05.51	1.015 5233	15	44.98	12	06	33.16
	28	8	29	15.36	19	01	25.72	1.015 4177	15	45.07	12	06	32.00
	29	8	33	10.45	18	47	27.18	1.015 3089	15	45.18	12	06	30.23
	30	8	37	04.94	18	33	10.17	1.015 1970	15	45.28	12	06	27.85
Aug.	31	8	40	58.81	+18	18	34.92	1.015 0819	15	45.39	12	06	24.87
	1	8	44	52.08	18	03	41.72	1.014 9638	15	45.50	12	06	21.28
	2	8	48	44.75	17	48	30.80	1.014 8426	15	45.61	12	06	17.10
	3	8	52	36.82	17	33	02.44	1.014 7181	15	45.73	12	06	12.32
	4	8	56	28.30	17	17	16.88	1.014 5903	15	45.84	12	06	06.95
	5	9	00	19.20	17	01	14.42	1.014 4589	15	45.97	12	06	01.00
	6	9	04	09.51	+16	44	55.31	1.014 3238	15	46.09	12	05	54.47
	7	9	07	59.26	16	28	19.87	1.014 1845	15	46.22	12	05	47.37
	8	9	11	48.43	16	11	28.38	1.014 0408	15	46.36	12	05	39.69
	9	9	15	37.04	15	54	21.17	1.013 8924	15	46.50	12	05	31.45
	10	9	19	25.08	15	36	58.56	1.013 7390	15	46.64	12	05	22.65
	11	9	23	12.56	15	19	20.90	1.013 5804	15	46.79	12	05	13.28
	12	9	26	59.47	+15	01	28.51	1.013 4165	15	46.94	12	05	03.35
	13	9	30	45.82	14	43	21.73	1.013 2471	15	47.10	12	04	52.86
	14	9	34	31.61	14	25	00.89	1.013 0723	15	47.26	12	04	41.82
	15	9	38	16.84	14	06	26.32	1.012 8923	15	47.43	12	04	30.24
	16	9	42	01.53	+13	47	38.35	1.012 7074	15	47.60	12	04	18.11

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date	Geometric Longitude* (Mean Equinox of date)			Latitude (Ecliptic of date)	Apparent Longitude (True equinox of date)			Aberra- tion	Prec. in Long. (J 2026.5 of date)	Nut. in Long.	Nut. in Obliquity	True Obliquity (23° 26')
	°	'	"	"	°	'	"	"	"	"	"	"
Aug. 16	143	10	23.18	-0.18	143	10	12.54	20.24	+6.18	+9.55	+8.20	17.14
17	144	08	04.33	0.29	144	07	53.58	20.24	6.32	9.44	8.19	17.13
18	145	05	46.50	0.36	145	05	35.66	20.25	6.46	9.37	8.17	17.10
19	146	03	29.74	0.43	146	03	18.86	20.25	6.60	9.33	8.13	17.06
20	147	01	14.05	0.47	147	01	03.18	20.25	6.74	9.34	8.10	17.03
21	147	58	59.41	0.47	147	58	48.58	20.26	6.88	9.38	8.08	17.01
22	148	56	45.93	-0.43	148	56	35.16	20.26	+7.02	+9.45	+8.07	17.00
23	149	54	33.59	0.36	149	54	22.90	20.27	7.16	9.52	8.08	17.01
24	150	52	22.45	0.29	150	52	11.82	20.27	7.30	9.60	8.11	17.03
25	151	50	12.59	0.18	151	50	02.00	20.28	7.44	9.65	8.15	17.08
26	152	48	04.02	-0.07	152	47	53.45	20.28	7.57	9.66	8.21	17.13
27	153	45	56.83	+0.04	153	45	46.22	20.28	7.71	9.64	8.27	17.19
28	154	43	51.05	+0.18	154	43	40.37	20.29	+7.85	+9.56	+8.32	17.24
29	155	41	46.85	0.32	155	41	36.06	20.29	7.99	9.45	8.36	17.28
30	156	39	44.23	0.43	156	39	33.30	20.30	8.13	9.32	8.38	17.30
31	157	37	43.31	0.54	157	37	32.23	20.30	8.27	9.18	8.38	17.30
Sept. 1	158	35	44.15	0.65	158	35	32.96	20.31	8.41	9.07	8.35	17.27
2	159	33	46.82	0.68	159	33	35.57	20.31	8.55	9.01	8.30	17.22
3	160	31	51.41	+0.72	160	31	40.15	20.32	+8.69	+9.01	+8.26	17.17
4	161	29	57.95	0.72	161	29	46.75	20.32	8.83	9.08	8.21	17.13
5	162	28	06.46	0.68	162	27	55.37	20.33	8.97	9.19	8.19	17.11
6	163	26	17.01	0.61	163	26	06.04	20.33	9.11	9.31	8.20	17.11
7	164	24	29.59	0.50	164	24	18.72	20.34	9.25	9.42	8.24	17.15
8	165	22	44.12	0.40	165	22	33.31	20.34	9.39	9.48	8.30	17.20
9	166	21	00.63	+0.25	166	20	49.81	20.35	+9.53	+9.48	+8.36	17.27
10	167	19	19.08	+0.11	167	19	08.18	20.35	9.66	9.41	8.42	17.32
11	168	17	39.38	0.00	168	17	28.36	20.36	9.80	9.29	8.45	17.36
12	169	16	01.47	-0.14	169	15	50.29	20.36	9.94	9.14	8.47	17.37
13	170	14	25.35	0.25	170	14	14.03	20.37	10.08	8.99	8.45	17.35
14	171	12	50.94	0.36	171	12	39.49	20.37	10.22	8.88	8.42	17.32
15	172	11	18.21	-0.43	172	11	06.68	20.38	+10.36	+8.80	+8.37	17.27
16	173	09	47.13	0.47	173	09	35.57	20.38	10.50	8.77	8.32	17.22
17	174	08	17.71	0.47	174	08	06.14	20.39	10.64	8.78	8.28	17.18
18	175	06	49.91	0.43	175	06	38.38	20.39	10.78	8.82	8.26	17.15
19	176	05	23.75	0.40	176	05	12.26	20.40	10.92	8.87	8.25	17.14
20	177	03	59.25	0.32	177	03	47.81	20.41	11.06	8.92	8.26	17.15
21	178	02	36.41	-0.25	178	02	25.01	20.41	+11.20	+8.96	+8.28	17.17
22	179	01	15.26	-0.14	179	01	03.86	20.42	11.34	8.97	8.32	17.21
23	179	59	55.85	0.00	179	59	44.41	20.42	11.48	8.94	8.36	17.25
24	180	58	38.20	+0.11	180	58	26.69	20.43	11.62	8.87	8.40	17.29
25	181	57	22.33	0.25	181	57	10.69	20.43	11.75	8.76	8.44	17.32
26	182	56	08.35	0.36	182	55	56.57	20.44	11.89	8.61	8.45	17.33
27	183	54	56.29	+0.47	183	54	44.35	20.45	+12.03	+8.46	+8.44	17.32
28	184	53	46.23	0.58	184	53	34.15	20.45	12.17	8.33	8.40	17.28
29	185	52	38.24	0.65	185	52	26.08	20.46	12.31	8.24	8.34	17.22
30	186	51	32.43	0.68	186	51	20.23	20.46	12.45	8.22	8.27	17.15
Oct. 1	187	50	28.85	+0.68	187	50	16.69	20.47	+12.59	+8.27	+8.21	17.08

*To obtain the geometric longitude referred to the mean equinox of J 2000.0, add -22' 12".709 and subtract precession from J 2026.5.

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Semi Diameter		Ephemeris Transit		
		h	m	s	°	'	"		'	"	h	m	s
Aug.	16	9	42	01.53	+13	47	38.35	1.012 7074	15	47.60	12	04	18.11
	17	9	45	45.69	13	28	37.32	1.012 5176	15	47.78	12	04	05.45
	18	9	49	29.31	13	09	23.55	1.012 3235	15	47.96	12	03	52.27
	19	9	53	12.42	12	49	57.37	1.012 1253	15	48.15	12	03	38.57
	20	9	56	55.03	12	30	19.12	1.011 9232	15	48.34	12	03	24.37
	21	10	00	37.14	12	10	29.11	1.011 7176	15	48.53	12	03	09.68
	22	10	04	18.77	+11	50	27.67	1.011 5089	15	48.73	12	02	54.52
	23	10	07	59.94	11	30	15.12	1.011 2972	15	48.92	12	02	38.90
	24	10	11	40.64	11	09	51.78	1.011 0828	15	49.13	12	02	22.83
	25	10	15	20.91	10	49	17.95	1.010 8661	15	49.33	12	02	06.33
Sept.	26	10	19	00.76	10	28	33.94	1.010 6472	15	49.53	12	01	49.42
	27	10	22	40.20	10	07	40.06	1.010 4263	15	49.74	12	01	32.11
	28	10	26	19.25	+9	46	36.59	1.010 2036	15	49.95	12	01	14.42
	29	10	29	57.93	9	25	23.83	1.009 9792	15	50.16	12	00	56.38
	30	10	33	36.26	9	04	02.05	1.009 7533	15	50.38	12	00	38.00
	31	10	37	14.26	8	42	31.55	1.009 5258	15	50.59	12	00	19.30
	1	10	40	51.95	8	20	52.61	1.009 2966	15	50.81	12	00	00.30
	2	10	44	29.35	7	59	05.52	1.009 0657	15	51.02	11	59	41.02
	3	10	48	06.49	+7	37	10.57	1.008 8328	15	51.24	11	59	21.48
	4	10	51	43.39	7	15	08.09	1.008 5977	15	51.46	11	59	01.70
	5	10	55	20.06	6	52	58.38	1.008 3603	15	51.69	11	58	41.70
	6	10	58	56.51	6	30	41.80	1.008 1200	15	51.92	11	58	21.50
	7	11	02	32.76	6	08	18.67	1.007 8768	15	52.14	11	58	01.11
	8	11	06	08.84	5	45	49.36	1.007 6304	15	52.38	11	57	40.54
	9	11	09	44.74	+5	23	14.22	1.007 3805	15	52.61	11	57	19.82
	10	11	13	20.49	5	00	33.61	1.007 1271	15	52.85	11	56	58.95
	11	11	16	56.10	4	37	47.86	1.006 8701	15	53.10	11	56	37.96
	12	11	20	31.59	4	14	57.35	1.006 6095	15	53.34	11	56	16.85
	13	11	24	06.97	3	52	02.41	1.006 3456	15	53.59	11	55	55.65
	14	11	27	42.27	3	29	03.40	1.006 0785	15	53.85	11	55	34.37
	15	11	31	17.50	+3	06	00.67	1.005 8084	15	54.10	11	55	13.02
	16	11	34	52.68	2	42	54.57	1.005 5357	15	54.36	11	54	51.63
	17	11	38	27.82	2	19	45.44	1.005 2606	15	54.62	11	54	30.21
	18	11	42	02.95	1	56	33.62	1.004 9835	15	54.89	11	54	08.79
	19	11	45	38.09	1	33	19.47	1.004 7046	15	55.15	11	53	47.38
	20	11	49	13.24	1	10	03.31	1.004 4243	15	55.42	11	53	26.00
	21	11	52	48.44	+0	46	45.49	1.004 1429	15	55.69	11	53	04.68
	22	11	56	23.70	0	23	26.34	1.003 8607	15	55.95	11	52	43.43
	23	11	59	59.05	+0	00	06.19	1.003 5781	15	56.22	11	52	22.27
	24	12	03	34.50	-0	23	14.64	1.003 2952	15	56.49	11	52	01.24
	25	12	07	10.07	0	46	35.84	1.003 0123	15	56.76	11	51	40.34
	26	12	10	45.80	1	09	57.08	1.002 7298	15	57.03	11	51	19.62
Oct.	27	12	14	21.71	-1	33	18.06	1.002 4478	15	57.30	11	50	59.08
	28	12	17	57.82	1	56	38.48	1.002 1664	15	57.57	11	50	38.75
	29	12	21	34.16	2	19	58.04	1.001 8857	15	57.84	11	50	18.67
	30	12	25	10.75	2	43	16.42	1.001 6056	15	58.11	11	49	58.84
	1	12	28	47.62	-3	06	33.30	1.001 3261	15	58.37	11	49	39.31

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Date		Geometric Longitude* (Mean Equinox of date)			Latitude (Ecliptic of date)	Apparent Longitude (True equinox of date)			Aberra- tion	Prec. in Long. (J 2026.5 of date)	Nut. in Long.	Nut. in Obliquity	True Obliquity (23° 26')
		°	'	"	"	°	'	"	"	"	"	"	"
Oct.	1	187	50	28.85	+0.68	187	50	16.69	20.47	+12.59	+8.27	+8.21	17.08
	2	188	49	27.52	0.65	188	49	15.46	20.47	12.73	8.36	8.16	17.04
	3	189	48	28.51	0.58	189	48	16.56	20.48	12.87	8.48	8.15	17.02
	4	190	47	31.85	0.50	190	47	20.00	20.49	13.01	8.59	8.16	17.04
	5	191	46	37.54	0.40	191	46	25.75	20.49	13.15	8.66	8.20	17.07
	6	192	45	45.52	0.25	192	45	33.73	20.50	13.29	8.67	8.24	17.11
	7	193	44	55.83	+0.14	193	44	43.98	20.50	+13.43	+8.61	+8.28	17.15
	8	194	44	08.39	0.00	194	43	56.42	20.51	13.57	8.50	8.31	17.18
	9	195	43	23.14	-0.14	195	43	11.03	20.51	13.71	8.36	8.31	17.18
	10	196	42	40.01	0.25	196	42	27.76	20.52	13.84	8.22	8.29	17.15
	11	197	41	58.99	0.32	197	41	46.61	20.53	13.98	8.09	8.24	17.11
	12	198	41	19.95	0.40	198	41	07.48	20.53	14.12	8.01	8.18	17.05
	13	199	40	42.88	-0.47	199	40	30.36	20.54	+14.26	+7.97	+8.12	16.98
	14	200	40	07.75	0.47	200	39	55.22	20.54	14.40	7.98	8.06	16.92
	15	201	39	34.45	0.47	201	39	21.96	20.55	14.54	8.02	8.01	16.87
	16	202	39	02.96	0.43	202	38	50.53	20.56	14.68	8.08	7.97	16.83
	17	203	38	33.31	0.36	203	38	20.94	20.56	14.82	8.15	7.96	16.82
	18	204	38	05.39	0.25	204	37	53.08	20.57	14.96	8.20	7.96	16.82
	19	205	37	39.23	-0.18	205	37	26.94	20.57	+15.10	+8.24	+7.98	16.83
	20	206	37	14.83	-0.04	206	37	02.53	20.58	15.24	8.24	8.00	16.86
	21	207	36	52.15	+0.07	207	36	39.82	20.59	15.38	8.20	8.03	16.88
	22	208	36	31.25	0.22	208	36	18.83	20.59	15.52	8.12	8.05	16.90
	23	209	36	12.07	0.32	209	35	59.53	20.60	15.66	8.01	8.06	16.91
	24	210	35	54.71	0.47	210	35	42.04	20.60	15.80	7.88	8.04	16.89
	25	211	35	39.14	+0.54	211	35	26.34	20.61	+15.93	+7.76	+7.99	16.84
	26	212	35	25.47	0.61	212	35	12.59	20.61	16.07	7.68	7.92	16.77
	27	213	35	13.72	0.68	213	35	00.82	20.62	16.21	7.67	7.84	16.69
	28	214	35	04.02	0.68	214	34	51.17	20.63	16.35	7.72	7.76	16.60
	29	215	34	56.35	0.65	215	34	43.61	20.63	16.49	7.84	7.69	16.54
	30	216	34	50.80	0.61	216	34	38.21	20.64	16.63	8.00	7.66	16.50
Nov.	31	217	34	47.45	0.54	217	34	35.00	20.64	+16.77	+8.15	+7.65	16.49
	1	218	34	46.26	+0.43	218	34	33.92	20.65	16.91	8.27	7.67	16.51
	2	219	34	47.29	0.32	219	34	35.00	20.65	17.05	8.32	7.70	16.54
	3	220	34	50.51	0.18	220	34	38.21	20.66	17.19	8.31	7.73	16.57
	4	221	34	55.87	+0.04	221	34	43.50	20.66	17.33	8.25	7.75	16.59
	5	222	35	03.32	-0.07	222	34	50.84	20.67	17.47	8.15	7.75	16.58
	6	223	35	12.86	-0.18	223	35	00.28	20.67	+17.61	+8.04	+7.72	16.56
	7	224	35	24.34	0.29	224	35	11.65	20.68	17.75	7.95	7.67	16.51
	8	225	35	37.79	0.36	225	35	25.04	20.68	17.89	7.89	7.61	16.44
	9	226	35	53.04	0.40	226	35	40.27	20.69	18.02	7.87	7.54	16.37
	10	227	36	10.08	0.40	227	35	57.34	20.69	18.16	7.90	7.47	16.30
	11	228	36	28.81	0.40	228	36	16.13	20.70	18.30	7.97	7.41	16.23
	12	229	36	49.17	-0.36	229	36	36.58	20.70	+18.44	+8.07	+7.36	16.19
	13	230	37	11.10	0.29	230	36	58.61	20.71	18.58	8.17	7.34	16.16
	14	231	37	34.51	0.22	231	37	22.12	20.71	18.72	8.27	7.33	16.15
	15	232	37	59.38	-0.11	232	37	47.06	20.72	18.86	8.36	7.34	16.16
16	233	38	25.65	0.00	233	38	13.38	20.72	+19.00	+8.41	+7.36	16.18	

*To obtain the geometric longitude referred to the mean equinox of J 2000.0, add -22' 12".709 and subtract precession from J 2026.5.

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Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Semi Diameter		Ephemeris Transit		
	h	m	s	°	'	"		'	"	h	m	s
Oct.	1	12	28	47.62	-3	06	33.30	1.001 3261	15 58.37	11	49	39.31
	2	12	32	24.79	3	29	48.35	1.001 0469	15 58.64	11	49	20.08
	3	12	36	02.29	3	53	01.21	1.000 7678	15 58.91	11	49	01.18
	4	12	39	40.13	4	16	11.53	1.000 4887	15 59.18	11	48	42.64
	5	12	43	18.33	4	39	18.92	1.000 2091	15 59.44	11	48	24.46
	6	12	46	56.90	5	02	23.01	0.999 9289	15 59.71	11	48	06.68
	7	12	50	35.87	-5	25	23.40	0.999 6479	15 59.98	11	47	49.31
	8	12	54	15.26	5	48	19.72	0.999 3658	16 00.25	11	47	32.36
	9	12	57	55.08	6	11	11.57	0.999 0826	16 00.53	11	47	15.85
	10	13	01	35.34	6	33	58.57	0.998 7983	16 00.80	11	46	59.80
	11	13	05	16.08	6	56	40.32	0.998 5129	16 01.07	11	46	44.22
	12	13	08	57.29	7	19	16.43	0.998 2265	16 01.35	11	46	29.13
	13	13	12	39.01	-7	41	46.51	0.997 9393	16 01.63	11	46	14.54
	14	13	16	21.23	8	04	10.18	0.997 6514	16 01.90	11	46	00.48
	15	13	20	03.99	8	26	27.02	0.997 3632	16 02.18	11	45	46.94
	16	13	23	47.29	8	48	36.66	0.997 0749	16 02.46	11	45	33.96
	17	13	27	31.15	9	10	38.69	0.996 7867	16 02.74	11	45	21.54
	18	13	31	15.59	9	32	32.73	0.996 4991	16 03.02	11	45	09.70
	19	13	35	00.61	-9	54	18.39	0.996 2122	16 03.29	11	44	58.46
	20	13	38	46.24	10	15	55.27	0.995 9264	16 03.57	11	44	47.84
	21	13	42	32.48	10	37	23.00	0.995 6421	16 03.85	11	44	37.85
	22	13	46	19.37	10	58	41.19	0.995 3595	16 04.12	11	44	28.50
	23	13	50	06.90	11	19	49.46	0.995 0790	16 04.39	11	44	19.82
	24	13	53	55.11	11	40	47.45	0.994 8010	16 04.66	11	44	11.81
	25	13	57	44.01	-12	01	34.78	0.994 5256	16 04.93	11	44	04.51
	26	14	01	33.63	12	22	11.11	0.994 2533	16 05.19	11	43	57.92
	27	14	05	23.97	12	42	36.06	0.993 9840	16 05.45	11	43	52.07
	28	14	09	15.05	13	02	49.29	0.993 7180	16 05.71	11	43	46.97
	29	14	13	06.91	13	22	50.42	0.993 4551	16 05.97	11	43	42.64
	30	14	16	59.54	13	42	39.07	0.993 1954	16 06.22	11	43	39.09
Nov.	31	14	20	52.96	-14	02	14.83	0.992 9385	16 06.47	11	43	36.34
	1	14	24	47.19	14	21	37.30	0.992 6843	16 06.72	11	43	34.40
	2	14	28	42.22	14	40	46.04	0.992 4325	16 06.96	11	43	33.28
	3	14	32	38.08	14	59	40.64	0.992 1828	16 07.21	11	43	32.99
	4	14	36	34.77	15	18	20.68	0.991 9350	16 07.45	11	43	33.53
	5	14	40	32.29	15	36	45.72	0.991 6889	16 07.69	11	43	34.92
	6	14	44	30.66	-15	54	55.35	0.991 4444	16 07.93	11	43	37.15
	7	14	48	29.87	16	12	49.14	0.991 2013	16 08.16	11	43	40.23
	8	14	52	29.93	16	30	26.67	0.990 9595	16 08.40	11	43	44.15
	9	14	56	30.85	16	47	47.54	0.990 7192	16 08.63	11	43	48.93
	10	15	00	32.61	17	04	51.32	0.990 4803	16 08.87	11	43	54.55
	11	15	04	35.23	17	21	37.61	0.990 2429	16 09.10	11	44	01.02
	12	15	08	38.69	-17	38	05.98	0.990 0073	16 09.33	11	44	08.33
	13	15	12	42.99	17	54	16.04	0.989 7736	16 09.56	11	44	16.49
	14	15	16	48.13	18	10	07.37	0.989 5419	16 09.79	11	44	25.47
	15	15	20	54.11	18	25	39.58	0.989 3126	16 10.01	11	44	35.29
	16	15	25	00.91	-18	40	52.28	0.989 0859	16 10.23	11	44	45.94

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Date		Geometric Longitude* (Mean Equinox of date)			Latitude (Ecliptic of date)	Apparent Longitude (True equinox of date)			Aberra- tion	Prec. in Long. (J 2026.5 of date)	Nut. in Long.	Nut. in Obliquity	True Obliquity (23° 26')
		°	'	"	"	°	'	"	"	"	"	"	"
Nov.	16	233	38	25.65	0.00	233	38	13.38	20.72	+19.00	+8.41	+7.36	16.18
	17	234	38	53.28	+0.14	234	38	41.03	20.73	19.14	8.42	7.38	16.20
	18	235	39	22.19	0.29	235	39	09.90	20.73	19.28	8.40	7.40	16.22
	19	236	39	52.42	0.40	236	39	40.07	20.74	19.42	8.34	7.41	16.22
	20	237	40	23.90	0.50	237	40	11.46	20.74	19.56	8.26	7.40	16.21
	21	238	40	56.63	0.61	238	40	44.11	20.74	19.70	8.18	7.36	16.17
	22	239	41	30.61	+0.68	239	41	18.02	20.75	+19.84	+8.12	+7.30	16.11
	23	240	42	05.86	0.76	240	41	53.27	20.75	19.98	8.12	7.22	16.03
	24	241	42	42.44	0.76	241	42	29.92	20.76	20.11	8.19	7.14	15.95
	25	242	43	20.35	0.76	242	43	07.97	20.76	20.25	8.34	7.07	15.87
Dec.	26	243	43	59.71	0.68	243	43	47.53	20.76	20.39	8.54	7.02	15.82
	27	244	44	40.51	0.61	244	44	28.54	20.77	20.53	8.75	7.00	15.81
	28	245	45	22.81	+0.50	245	45	11.02	20.77	+20.67	+8.93	+7.02	15.83
	29	246	46	06.68	0.40	246	45	55.01	20.78	20.81	9.06	7.06	15.86
	30	247	46	52.10	0.25	247	46	40.48	20.78	20.95	9.11	7.10	15.90
	1	248	47	39.06	+0.14	248	47	27.42	20.78	21.09	9.10	7.13	15.93
	2	249	48	27.53	0.00	249	48	15.84	20.79	21.23	9.05	7.13	15.93
	3	250	49	17.50	-0.11	250	49	05.74	20.79	21.37	8.98	7.12	15.92
	4	251	50	08.90	-0.22	251	49	57.07	20.79	+21.51	+8.92	+7.08	15.88
	5	252	51	01.63	0.29	252	50	49.78	20.80	21.65	8.89	7.03	15.82
6	253	51	55.62	0.32	253	51	43.78	20.80	21.79	8.90	6.97	15.76	
7	254	52	50.87	0.36	254	52	39.07	20.80	21.93	8.96	6.91	15.70	
8	255	53	47.19	0.32	255	53	35.48	20.80	22.07	9.06	6.85	15.65	
9	256	54	44.59	0.29	256	54	33.01	20.81	22.21	9.18	6.82	15.61	
10	257	55	42.92	-0.25	257	55	31.48	20.81	+22.34	+9.32	+6.80	15.58	
11	258	56	42.15	0.14	258	56	30.84	20.81	22.48	9.46	6.79	15.58	
12	259	57	42.15	-0.07	259	57	30.96	20.81	22.62	9.58	6.81	15.60	
13	260	58	42.86	+0.07	260	58	31.76	20.82	22.76	9.67	6.84	15.62	
14	261	59	44.23	0.18	261	59	33.18	20.82	22.90	9.73	6.87	15.66	
15	263	00	46.17	0.32	263	00	35.14	20.82	23.04	9.74	6.91	15.69	
16	264	01	48.58	+0.43	264	01	37.52	20.82	+23.18	+9.72	+6.93	15.71	
17	265	02	51.45	0.54	265	02	40.34	20.83	23.32	9.67	6.94	15.72	
18	266	03	54.73	0.65	266	03	43.56	20.83	23.46	9.61	6.93	15.71	
19	267	04	58.35	0.72	267	04	47.14	20.83	23.60	9.57	6.90	15.67	
20	268	06	02.25	0.79	268	05	51.04	20.83	23.74	9.57	6.84	15.62	
21	269	07	06.49	0.79	269	06	55.33	20.83	23.88	9.62	6.78	15.55	
22	270	08	11.06	+0.79	270	08	00.02	20.83	+24.02	+9.76	+6.71	15.49	
23	271	09	15.95	0.76	271	09	05.11	20.84	24.16	9.96	6.67	15.44	
24	272	10	21.16	0.68	272	10	10.56	20.84	24.30	10.19	6.66	15.43	
25	273	11	26.85	0.58	273	11	16.48	20.84	24.43	10.42	6.68	15.45	
26	274	12	32.95	0.43	274	12	22.75	20.84	24.57	10.60	6.73	15.50	
27	275	13	39.59	0.29	275	13	29.50	20.84	24.71	10.70	6.79	15.55	
28	276	14	46.74	+0.14	276	14	36.67	20.84	+24.85	+10.73	+6.84	15.61	
29	277	15	54.45	+0.04	277	15	44.35	20.84	24.99	10.70	6.88	15.64	
30	278	17	02.66	-0.11	278	16	52.50	20.84	25.13	10.64	6.89	15.65	
31	279	18	11.36	0.22	279	18	01.15	20.84	25.27	10.58	6.87	15.63	
32	280	19	20.55	-0.29	280	19	10.31	20.84	+25.41	+10.55	+6.84	15.60	

*To obtain the geometric longitude referred to the mean equinox of J 2000.0, add -22' 12".709 and subtract precession from J 2026.5.

SUN, 2026
FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Semi Diameter		Ephemeris Transit		
		h	m	s	°	'	"		'	"	h	m	s
Nov.	16	15	25	00.91	-18	40	52.28	0.989 0859	16	10.23	11	44	45.94
	17	15	29	08.53	18	55	45.07	0.988 8621	16	10.45	11	44	57.41
	18	15	33	16.97	19	10	17.57	0.988 6414	16	10.67	11	45	09.69
	19	15	37	26.21	19	24	29.42	0.988 4243	16	10.88	11	45	22.78
	20	15	41	36.26	19	38	20.23	0.988 2110	16	11.09	11	45	36.68
	21	15	45	47.11	19	51	49.67	0.988 0019	16	11.30	11	45	51.36
	22	15	49	58.75	-20	04	57.39	0.987 7973	16	11.50	11	46	06.83
	23	15	54	11.17	20	17	43.05	0.987 5975	16	11.70	11	46	23.09
	24	15	58	24.37	20	30	06.35	0.987 4029	16	11.89	11	46	40.11
	25	16	02	38.35	20	42	06.96	0.987 2136	16	12.07	11	46	57.90
	26	16	06	53.08	20	53	44.57	0.987 0297	16	12.26	11	47	16.44
	27	16	11	08.57	21	04	58.86	0.986 8511	16	12.43	11	47	35.73
	28	16	15	24.80	-21	15	49.51	0.986 6779	16	12.60	11	47	55.75
	29	16	19	41.75	21	26	16.19	0.986 5097	16	12.77	11	48	16.50
Dec.	30	16	23	59.40	21	36	18.55	0.986 3464	16	12.93	11	48	37.94
	1	16	28	17.75	21	45	56.30	0.986 1875	16	13.09	11	49	00.07
	2	16	32	36.76	21	55	09.11	0.986 0329	16	13.24	11	49	22.86
	3	16	36	56.43	22	03	56.69	0.985 8822	16	13.39	11	49	46.30
	4	16	41	16.72	-22	12	18.77	0.985 7354	16	13.53	11	50	10.34
	5	16	45	37.62	22	20	15.07	0.985 5921	16	13.67	11	50	34.98
	6	16	49	59.09	22	27	45.35	0.985 4522	16	13.81	11	51	00.18
	7	16	54	21.12	22	34	49.36	0.985 3157	16	13.95	11	51	25.91
	8	16	58	43.66	22	41	26.88	0.985 1825	16	14.08	11	51	52.14
	9	17	03	06.69	22	47	37.68	0.985 0526	16	14.21	11	52	18.85
	10	17	07	30.17	-22	53	21.58	0.984 9260	16	14.33	11	52	45.98
	11	17	11	54.07	22	58	38.37	0.984 8028	16	14.45	11	53	13.52
	12	17	16	18.35	23	03	27.88	0.984 6830	16	14.57	11	53	41.43
	13	17	20	42.99	23	07	49.94	0.984 5669	16	14.69	11	54	09.68
	14	17	25	07.94	23	11	44.42	0.984 4546	16	14.80	11	54	38.23
	15	17	29	33.17	23	15	11.17	0.984 3463	16	14.91	11	55	07.04
	16	17	33	58.65	-23	18	10.08	0.984 2422	16	15.01	11	55	36.09
	17	17	38	24.35	23	20	41.05	0.984 1426	16	15.11	11	56	05.33
	18	17	42	50.22	23	22	43.99	0.984 0477	16	15.20	11	56	34.74
	19	17	47	16.24	23	24	18.83	0.983 9579	16	15.29	11	57	04.28
	20	17	51	42.38	23	25	25.54	0.983 8735	16	15.37	11	57	33.92
	21	17	56	08.60	23	26	04.08	0.983 7948	16	15.45	11	58	03.62
	22	18	00	34.88	-23	26	14.45	0.983 7222	16	15.52	11	58	33.36
	23	18	05	01.18	23	25	56.63	0.983 6559	16	15.59	11	59	03.10
	24	18	09	27.48	23	25	10.66	0.983 5961	16	15.65	11	59	32.83
	25	18	13	53.74	23	23	56.53	0.983 5430	16	15.70	12	00	02.50
	26	18	18	19.93	23	22	14.26	0.983 4964	16	15.75	12	00	32.09
	27	18	22	46.02	23	20	03.86	0.983 4564	16	15.79	12	01	01.57
	28	18	27	11.98	-23	17	25.37	0.983 4225	16	15.82	12	01	30.91
	29	18	31	37.79	23	14	18.82	0.983 3946	16	15.85	12	02	00.09
	30	18	36	03.41	23	10	44.28	0.983 3723	16	15.87	12	02	29.06
	31	18	40	28.82	23	06	41.84	0.983 3553	16	15.89	12	02	57.81
	32	18	44	53.98	-23	02	11.62	0.983 3433	16	15.90	12	03	26.28

SUN, 2026
EQUATORIAL RECTANGULAR CO-ORDINATES FOR 0^h TERRESTRIAL TIME
MEAN EQUATOR AND EQUINOX OF J 2026.5 AND J 2000.0

Date		X _{2026.5}	X _{2000.0}	Y _{2026.5}	Y _{2000.0}	Z _{2026.5}	Z _{2000.0}
Jan.	0	+0.158 0443	+0.157 0503	-0.890 6499	-0.890 6470	-0.385 6653	-0.386 0778
	1	0.175 2724	0.174 2815	0.887 9279	0.887 9251	0.384 4410	0.384 8978
	2	0.192 4452	0.191 4577	0.884 9312	0.884 9283	0.383 0979	0.383 5989
	3	0.209 5579	0.208 5741	0.881 6606	0.881 6578	0.381 6365	0.382 1815
	4	0.226 6055	0.225 6258	0.878 1173	0.878 1145	0.380 0571	0.380 6461
	5	0.243 5833	0.242 6079	0.874 3022	0.874 2994	0.378 3603	0.378 9929
	6	+0.260 4864	+0.259 5155	-0.870 2162	-0.870 2135	-0.376 5464	-0.377 2225
	7	0.277 3097	0.276 3437	0.865 8605	0.865 8578	0.374 6157	0.375 3351
	8	0.294 0482	0.293 0875	0.861 2360	0.861 2333	0.372 5688	0.373 3313
	9	0.310 6968	0.309 7416	0.856 3439	0.856 3412	0.370 4061	0.371 2114
	10	0.327 2503	0.326 3009	0.851 1853	0.851 1827	0.368 1281	0.368 9760
	11	0.343 7035	0.342 7603	0.845 7617	0.845 7591	0.365 7354	0.366 6256
	12	+0.360 0512	+0.359 1144	-0.840 0744	-0.840 0718	-0.363 2285	-0.364 1608
	13	0.376 2882	0.375 3580	0.834 1251	0.834 1225	0.360 6083	0.361 5823
	14	0.392 4090	0.391 4859	0.827 9154	0.827 9129	0.357 8753	0.358 8909
	15	0.408 4087	0.407 4927	0.821 4472	0.821 4447	0.355 0304	0.356 0871
	16	0.424 2818	0.423 3734	0.814 7224	0.814 7199	0.352 0745	0.353 1721
	17	0.440 0232	0.439 1227	0.807 7430	0.807 7406	0.349 0085	0.350 1465
	18	+0.455 6277	+0.454 7353	-0.800 5113	-0.800 5089	-0.345 8332	-0.347 0114
	19	0.471 0902	0.470 2062	0.793 0296	0.793 0272	0.342 5499	0.343 7678
	20	0.486 4055	0.485 5302	0.785 3004	0.785 2980	0.339 1595	0.340 4168
	21	0.501 5687	0.500 7024	0.777 3263	0.777 3240	0.335 6633	0.336 9596
	22	0.516 5749	0.515 7178	0.769 1100	0.769 1077	0.332 0625	0.333 3974
	23	0.531 4192	0.530 5715	0.760 6545	0.760 6522	0.328 3584	0.329 7315
	24	+0.546 0969	+0.545 2590	-0.751 9627	-0.751 9605	-0.324 5524	-0.325 9632
	25	0.560 604	0.559 776	0.743 0377	0.743 0356	0.320 6458	0.322 0939
	26	0.574 935	0.574 117	0.733 8829	0.733 8807	0.316 6401	0.318 1251
	27	0.589 086	0.588 279	0.724 5013	0.724 4992	0.312 5368	0.314 0581
	28	0.603 054	0.602 257	0.714 8963	0.714 8943	0.308 3372	0.309 8944
	29	0.616 834	0.616 048	0.705 0713	0.705 0692	0.304 0429	0.305 6356
	30	+0.630 4222	+0.629 6482	-0.695 0293	-0.695 0274	-0.299 6553	-0.301 2829
Feb.	31	0.643 816	0.643 053	0.684 7739	0.684 7719	0.295 1757	0.296 8377
	1	0.657 010	0.656 259	0.674 3080	0.674 3061	0.290 6057	0.292 3016
	2	0.670 002	0.669 264	0.663 6350	0.663 6331	0.285 9464	0.287 6757
	3	0.682 789	0.682 062	0.652 7578	0.652 7560	0.281 1993	0.282 9615
	4	0.695 365	0.694 651	0.641 6798	0.641 6780	0.276 3657	0.278 1601
	5	+0.707 7287	+0.707 0271	-0.630 4040	-0.630 4023	-0.271 4469	-0.273 2731
	6	0.719 875	0.719 186	0.618 9338	0.618 9321	0.266 4443	0.268 3017
	7	0.731 801	0.731 125	0.607 2723	0.607 2706	0.261 3593	0.263 2474
	8	0.743 503	0.742 840	0.595 4231	0.595 4215	0.256 1934	0.258 1115
	9	0.754 976	0.754 327	0.583 3896	0.583 3880	0.250 9481	0.252 8957
	10	0.766 218	0.765 583	0.571 1754	0.571 1739	0.245 6249	0.247 6013
	11	+0.777 2254	+0.776 6040	-0.558 7842	-0.558 7827	-0.240 2254	-0.242 2302
	12	0.787 994	0.787 386	0.546 2198	0.546 2184	0.234 7514	0.236 7837
	13	0.798 520	0.797 927	0.533 4861	0.533 4847	0.229 2044	0.231 2638
	14	0.808 800	0.808 222	0.520 5870	0.520 5857	0.223 5862	0.225 6720
	15	+0.818 8319	+0.818 2679	-0.507 5267	-0.507 5254	-0.217 8986	-0.220 0101

SUN, 2026
EQUATORIAL RECTANGULAR CO-ORDINATES FOR 0^h TERRESTRIAL TIME
MEAN EQUATOR AND EQUINOX OF J 2026.5 AND J 2000.0

Date		X _{2026.5}	X _{2000.0}	Y _{2026.5}	Y _{2000.0}	Z _{2026.5}	Z _{2000.0}
Feb.	15	+0.818 8319	+0.818 2679	-0.507 5267	-0.507 5254	-0.217 8986	-0.220 0101
	16	0.828 6114	0.828 0621	0.494 3092	0.494 3080	0.212 1435	0.214 2801
	17	0.838 1355	0.837 6013	0.480 9389	0.480 9377	0.206 3227	0.208 4838
	18	0.847 4013	0.846 8822	0.467 4202	0.467 4191	0.200 4381	0.202 6230
	19	0.856 4058	0.855 9020	0.453 7576	0.453 7565	0.194 4919	0.196 6999
	20	0.865 1464	0.864 6579	0.439 9557	0.439 9547	0.188 4860	0.190 7164
	21	+0.873 6203	+0.873 1475	-0.426 0191	-0.426 0181	-0.182 4224	-0.184 6745
	22	0.881 8253	0.881 3682	0.411 9526	0.411 9516	0.176 3034	0.178 5765
	23	0.889 7591	0.889 3179	0.397 7608	0.397 7600	0.170 1308	0.172 4243
	24	0.897 4198	0.896 9946	0.383 4486	0.383 4478	0.163 9070	0.166 2201
	25	0.904 8055	0.904 3965	0.369 0207	0.369 0199	0.157 6338	0.159 9659
	26	0.911 9146	0.911 5218	0.354 4816	0.354 4808	0.151 3134	0.153 6636
Mar.	27	+0.918 7456	+0.918 3691	-0.339 8359	-0.339 8353	-0.144 9476	-0.147 3154
	28	0.925 2968	0.924 9369	0.325 0883	0.325 0876	0.138 5385	0.140 9231
	1	0.931 5671	0.931 2237	0.310 2430	0.310 2425	0.132 0880	0.134 4886
	2	0.937 5549	0.937 2283	0.295 3046	0.295 3041	0.125 5978	0.128 0138
	3	0.943 2590	0.942 9492	0.280 2773	0.280 2768	0.119 0699	0.121 5005
	4	0.948 6780	0.948 3851	0.265 1655	0.265 1650	0.112 5062	0.114 9505
	5	+0.953 8106	+0.953 5346	-0.249 9734	-0.249 9730	-0.105 9083	-0.108 3658
	6	0.958 6554	0.958 3965	0.234 7055	0.234 7052	0.099 2782	0.101 7481
	7	0.963 2111	0.962 9693	0.219 3660	0.219 3658	0.092 6178	0.095 0994
	8	0.967 4764	0.967 2518	0.203 9596	0.203 9594	0.085 9290	0.088 4214
	9	0.971 4500	0.971 2427	0.188 4905	0.188 4903	0.079 2136	0.081 7162
	10	0.975 1307	0.974 9407	0.172 9634	0.172 9633	0.072 4737	0.074 9856
11	+0.978 5173	+0.978 3448	-0.157 3829	-0.157 3828	-0.065 7112	-0.068 2318	
12	0.981 6089	0.981 4538	0.141 7535	0.141 7536	0.058 9282	0.061 4566	
13	0.984 4043	0.984 2668	0.126 0801	0.126 0802	0.052 1267	0.054 6622	
14	0.986 9027	0.986 7828	0.110 3674	0.110 3675	0.045 3088	0.047 8506	
15	0.989 1033	0.989 0009	0.094 6201	0.094 6203	0.038 4765	0.041 0240	
16	0.991 0053	0.990 9205	0.078 8432	0.078 8434	0.031 6321	0.034 1844	
17	+0.992 6081	+0.992 5410	-0.063 0416	-0.063 0419	-0.024 7777	-0.027 3340	
18	0.993 9112	0.993 8618	0.047 2203	0.047 2207	0.017 9155	0.020 4751	
19	0.994 9143	0.994 8826	0.031 3844	0.031 3848	0.011 0478	0.013 6098	
20	0.995 6172	0.995 6032	-0.015 5390	-0.015 5394	-0.004 1768	-0.006 7405	
21	0.996 0200	0.996 0236	+0.000 3108	+0.000 3103	+0.002 6953	+0.000 1307	
22	0.996 1229	0.996 1442	0.016 1598	0.016 1593	0.009 5662	0.007 0013	
23	+0.995 9263	+0.995 9654	+0.032 0030	+0.032 0024	+0.016 4335	+0.013 8693	
24	0.995 4310	0.995 4877	0.047 8354	0.047 8347	0.023 2953	0.020 7324	
25	0.994 6377	0.994 7120	0.063 6520	0.063 6513	0.030 1492	0.027 5885	
26	0.993 5473	0.993 6393	0.079 4480	0.079 4473	0.036 9933	0.034 4355	
27	0.992 1608	0.992 2704	0.095 2188	0.095 2180	0.043 8256	0.041 2715	
28	0.990 4793	0.990 6065	0.110 9598	0.110 9589	0.050 6440	0.048 0943	
29	+0.988 5040	+0.988 6487	+0.126 6665	+0.126 6656	+0.057 4468	+0.054 9023	
30	0.986 2358	0.986 3980	0.142 3345	0.142 3336	0.064 2319	0.061 6934	
31	0.983 6760	0.983 8556	0.157 9595	0.157 9585	0.070 9977	0.068 4658	
Apr.	1	0.980 8256	0.981 0226	0.173 5372	0.173 5362	0.077 7422	0.075 2178
	2	+0.977 6858	+0.977 9001	+0.189 0634	+0.189 0623	+0.084 4637	+0.081 9474

SUN, 2026
EQUATORIAL RECTANGULAR CO-ORDINATES FOR 0^h TERRESTRIAL TIME
MEAN EQUATOR AND EQUINOX OF J 2026.5 AND J 2000.0

Date		X _{2026.5}	X _{2000.0}	Y _{2026.5}	Y _{2000.0}	Z _{2026.5}	Z _{2000.0}
Apr.	1	+0.980 8256	+0.981 0226	+0.173 5372	+0.173 5362	+0.077 7422	+0.075 2178
	2	0.977 6858	0.977 9001	0.189 0634	0.189 0623	0.084 4637	0.081 9474
	3	0.974 2577	0.974 4893	0.204 5337	0.204 5326	0.091 1603	0.088 6530
	4	0.970 5424	0.970 7912	0.219 9440	0.219 9428	0.097 8303	0.095 3326
	5	0.966 5412	0.966 8071	0.235 2900	0.235 2887	0.104 4718	0.101 9845
	6	0.962 2551	0.962 5381	0.250 5673	0.250 5660	0.111 0829	0.108 6068
	7	+0.957 6855	+0.957 9854	+0.265 7718	+0.265 7704	+0.117 6619	+0.115 1976
	8	0.952 8337	0.953 1505	0.280 8990	0.280 8976	0.124 2068	0.121 7551
	9	0.947 7010	0.948 0346	0.295 9447	0.295 9433	0.130 7158	0.128 2774
	10	0.942 2889	0.942 6392	0.310 9045	0.310 9031	0.137 1870	0.134 7626
	11	0.936 5990	0.936 9658	0.325 7741	0.325 7726	0.143 6185	0.141 2088
	12	0.930 6327	0.931 0161	0.340 5490	0.340 5475	0.150 0083	0.147 6141
	13	+0.924 3919	+0.924 7916	+0.355 2249	+0.355 2233	+0.156 3545	+0.153 9765
	14	0.917 8784	0.918 2943	0.369 7974	0.369 7957	0.162 6553	0.160 2941
	15	0.911 0939	0.911 5260	0.384 2619	0.384 2602	0.168 9086	0.166 5650
	16	0.904 0407	0.904 4888	0.398 6140	0.398 6123	0.175 1124	0.172 7870
	17	0.896 7209	0.897 1849	0.412 8493	0.412 8475	0.181 2648	0.178 9583
	18	0.889 1370	0.889 6167	0.426 9632	0.426 9614	0.187 3637	0.185 0770
	19	+0.881 2916	+0.881 7869	+0.440 9514	+0.440 9495	+0.193 4074	+0.191 1409
	20	0.873 1875	0.873 6982	0.454 8095	0.454 8075	0.199 3939	0.197 1483
	21	0.864 8277	0.865 3537	0.468 5333	0.468 5314	0.205 3213	0.203 0973
	22	0.856 2153	0.856 7564	0.482 1189	0.482 1169	0.211 1879	0.208 9863
	23	0.847 3534	0.847 9096	0.495 5624	0.495 5604	0.216 9922	0.214 8134
	24	0.838 2453	0.838 8163	0.508 8601	0.508 8580	0.222 7325	0.220 5773
	25	+0.828 8942	+0.829 4799	+0.522 0084	+0.522 0063	+0.228 4073	+0.226 2762
	26	0.819 3033	0.819 9035	0.535 0039	0.535 0017	0.234 0152	0.231 9089
	27	0.809 4758	0.810 0902	0.547 8431	0.547 8409	0.239 5547	0.237 4738
	28	0.799 4148	0.800 0434	0.560 5228	0.560 5206	0.245 0246	0.242 9696
	29	0.789 1235	0.789 7660	0.573 0397	0.573 0375	0.250 4233	0.248 3949
	30	0.778 6050	0.779 2612	0.585 3907	0.585 3884	0.255 7495	0.253 7483
May	1	+0.767 8623	+0.768 5321	+0.597 5726	+0.597 5702	+0.261 0020	+0.259 0285
	2	0.756 8987	0.757 5819	0.609 5822	0.609 5798	0.266 1794	0.264 2342
	3	0.745 7173	0.746 4137	0.621 4164	0.621 4140	0.271 2803	0.269 3640
	4	0.734 3212	0.735 0305	0.633 0721	0.633 0696	0.276 3034	0.274 4165
	5	0.722 7135	0.723 4356	0.644 5462	0.644 5437	0.281 2474	0.279 3905
	6	0.710 8975	0.711 6322	0.655 8355	0.655 8330	0.286 1109	0.284 2845
	7	+0.698 8765	+0.699 6235	+0.666 9371	+0.666 9345	+0.290 8926	+0.289 0972
	8	0.686 6537	0.687 4129	0.677 8477	0.677 8451	0.295 5912	0.293 8273
	9	0.674 2325	0.675 0036	0.688 5644	0.688 5618	0.300 2052	0.298 4734
	10	0.661 6164	0.662 3992	0.699 0841	0.699 0814	0.304 7335	0.303 0342
	11	0.648 8088	0.649 6031	0.709 4036	0.709 4010	0.309 1745	0.307 5083
	12	0.635 8134	0.636 6189	0.719 5200	0.719 5173	0.313 5270	0.311 8943
	13	+0.622 6337	+0.623 4503	+0.729 4302	+0.729 4275	+0.317 7896	+0.316 1909
	14	0.609 2737	0.610 1010	0.739 1311	0.739 1283	0.321 9609	0.320 3967
	15	0.595 7372	0.596 5751	0.748 6197	0.748 6169	0.326 0397	0.324 5104
	16	0.582 0284	0.582 8766	0.757 8931	0.757 8903	0.330 0246	0.328 5306
	17	+0.568 1515	+0.569 0098	+0.766 9483	+0.766 9455	+0.333 9143	+0.332 4561

SUN, 2026
EQUATORIAL RECTANGULAR CO-ORDINATES FOR 0^h TERRESTRIAL TIME
MEAN EQUATOR AND EQUINOX OF J 2026.5 AND J 2000.0

Date		X _{2026.5}	X _{2000.0}	Y _{2026.5}	Y _{2000.0}	Z _{2026.5}	Z _{2000.0}
May	17	+0.568 1515	+0.569 0098	+0.766 9483	+0.766 9455	+0.333 9143	+0.332 4561
	18	0.554 1111	0.554 9792	0.775 7826	0.775 7798	0.337 7077	0.336 2857
	19	0.539 9116	0.540 7893	0.784 3934	0.784 3906	0.341 4036	0.340 0182
	20	0.525 5577	0.526 4447	0.792 7784	0.792 7755	0.345 0010	0.343 6527
	21	0.511 0542	0.511 9502	0.800 9353	0.800 9324	0.348 4991	0.347 1881
	22	0.496 4055	0.497 3103	0.808 8621	0.808 8592	0.351 8969	0.350 6238
	23	+0.481 6164	+0.482 5298	+0.816 5570	+0.816 5540	+0.355 1938	+0.353 9587
	24	0.466 6913	0.467 6130	0.824 0180	0.824 0151	0.358 3890	0.357 1924
	25	0.451 6347	0.452 5644	0.831 2437	0.831 2407	0.361 4818	0.360 3240
	26	0.436 4511	0.437 3885	0.838 2323	0.838 2293	0.364 4715	0.363 3529
	27	0.421 1447	0.422 0896	0.844 9823	0.844 9793	0.367 3576	0.366 2784
	28	0.405 7199	0.406 6721	0.851 4922	0.851 4892	0.370 1394	0.369 1000
	29	+0.390 1811	+0.391 1402	+0.857 7606	+0.857 7575	+0.372 8163	+0.371 8170
	30	0.374 5324	0.375 4982	0.863 7859	0.863 7828	0.375 3878	0.374 4287
	31	0.358 7782	0.359 7504	0.869 5668	0.869 5637	0.377 8531	0.376 9347
June	1	0.342 9227	0.343 9010	0.875 1018	0.875 0988	0.380 2118	0.379 3342
	2	0.326 9702	0.327 9543	0.880 3897	0.880 3866	0.382 4632	0.381 6267
	3	0.310 9248	0.311 9146	0.885 4290	0.885 4260	0.384 6067	0.383 8116
	4	+0.294 7910	+0.295 7861	+0.890 2185	+0.890 2154	+0.386 6419	+0.385 8883
	5	0.278 5731	0.279 5731	0.894 7568	0.894 7537	0.388 5680	0.387 8562
	6	0.262 2753	0.263 2801	0.899 0426	0.899 0395	0.390 3846	0.389 7148
	7	0.245 9021	0.246 9113	0.903 0747	0.903 0716	0.392 0910	0.391 4634
	8	0.229 4578	0.230 4712	0.906 8518	0.906 8487	0.393 6867	0.393 1015
	9	0.212 9471	0.213 9644	0.910 3727	0.910 3696	0.395 1711	0.394 6284
	10	+0.196 3745	+0.197 3954	+0.913 6361	+0.913 6330	+0.396 5438	+0.396 0438
	11	0.179 7446	0.180 7688	0.916 6410	0.916 6378	0.397 8040	0.397 3469
	12	0.163 0623	0.164 0894	0.919 3860	0.919 3829	0.398 9515	0.398 5373
	13	0.146 3324	0.147 3623	0.921 8703	0.921 8672	0.399 9856	0.399 6145
	14	0.129 5600	0.130 5923	0.924 0928	0.924 0897	0.400 9059	0.400 5780
	15	0.112 7502	0.113 7847	0.926 0528	0.926 0497	0.401 7121	0.401 4276
	16	+0.095 9084	+0.096 9447	+0.927 7496	+0.927 7464	+0.402 4041	+0.402 1629
	17	0.079 0397	0.080 0775	0.929 1828	0.929 1797	0.402 9815	0.402 7838
	18	0.062 1494	0.063 1884	0.930 3522	0.930 3491	0.403 4445	0.403 2902
	19	0.045 2426	0.046 2826	0.931 2578	0.931 2547	0.403 7929	0.403 6822
	20	0.028 3244	0.029 3651	0.931 8996	0.931 8965	0.404 0270	0.403 9598
	21	+0.011 3998	+0.012 4409	0.932 2780	0.932 2749	0.404 1468	0.404 1232
	22	-0.005 5263	-0.004 4852	+0.932 3931	+0.932 3900	+0.404 1526	+0.404 1726
	23	0.022 4494	0.021 4085	0.932 2453	0.932 2422	0.404 0445	0.404 1081
	24	0.039 3645	0.038 3242	0.931 8350	0.931 8319	0.403 8227	0.403 9299
	25	0.056 2673	0.055 2277	0.931 1626	0.931 1596	0.403 4875	0.403 6382
	26	0.073 1529	0.072 1145	0.930 2287	0.930 2256	0.403 0391	0.403 2332
	27	0.090 0170	0.088 9800	0.929 0335	0.929 0305	0.402 4777	0.402 7152
July	28	-0.106 8551	-0.105 8197	+0.927 5778	+0.927 5748	+0.401 8035	+0.402 0844
	29	0.123 6627	0.122 6292	0.925 8620	0.925 8590	0.401 0168	0.401 3409
	30	0.140 4353	0.139 4041	0.923 8867	0.923 8837	0.400 1178	0.400 4851
	1	0.157 1686	0.156 1400	0.921 6524	0.921 6494	0.399 1068	0.399 5172
	2	-0.173 8581	-0.172 8323	+0.919 1598	+0.919 1568	+0.397 9840	+0.398 4373

SUN, 2026
EQUATORIAL RECTANGULAR CO-ORDINATES FOR 0^h TERRESTRIAL TIME
MEAN EQUATOR AND EQUINOX OF J 2026.5 AND J 2000.0

Date		X _{2026.5}	X _{2000.0}	Y _{2026.5}	Y _{2000.0}	Z _{2026.5}	Z _{2000.0}
July	1	-0.157 1686	-0.156 1400	+0.921 6524	+0.921 6494	+0.399 1068	+0.399 5172
	2	0.173 8581	0.172 8323	0.919 1598	0.919 1568	0.397 9840	0.398 4373
	3	0.190 4995	0.189 4768	0.916 4095	0.916 4065	0.396 7497	0.397 2459
	4	0.207 0883	0.206 0690	0.913 4020	0.913 3991	0.395 4041	0.395 9430
	5	0.223 6200	0.222 6045	0.910 1381	0.910 1352	0.393 9475	0.394 5289
	6	0.240 0903	0.239 0787	0.906 6185	0.906 6156	0.392 3802	0.393 0040
	7	-0.256 4945	-0.255 4872	+0.902 8438	+0.902 8409	+0.390 7024	+0.391 3684
	8	0.272 8282	0.271 8255	0.898 8147	0.898 8118	0.388 9145	0.389 6225
	9	0.289 0867	0.288 0888	0.894 5321	0.894 5293	0.387 0167	0.387 7666
	10	0.305 2652	0.304 2724	0.889 9967	0.889 9939	0.385 0094	0.385 8009
	11	0.321 3590	0.320 3716	0.885 2096	0.885 2069	0.382 8931	0.383 7260
	12	0.337 3633	0.336 3815	0.880 1718	0.880 1691	0.380 6681	0.381 5422
	13	-0.353 2729	-0.352 2972	+0.874 8845	+0.874 8818	+0.378 3350	+0.379 2501
	14	0.369 0831	0.368 1135	0.869 3491	0.869 3464	0.375 8945	0.376 8502
	15	0.384 7887	0.383 8257	0.863 5671	0.863 5645	0.373 3472	0.374 3433
	16	0.400 3850	0.399 4288	0.857 5404	0.857 5378	0.370 6941	0.371 7303
	17	0.415 8672	0.414 9180	0.851 2709	0.851 2683	0.367 9359	0.369 0120
	18	0.431 2306	0.430 2888	0.844 7606	0.844 7580	0.365 0737	0.366 1893
	19	-0.446 4708	-0.445 5366	+0.838 0117	+0.838 0092	+0.362 1084	+0.363 2632
	20	0.461 5835	0.460 6571	0.831 0265	0.831 0239	0.359 0410	0.360 2347
	21	0.476 5644	0.475 6461	0.823 8070	0.823 8045	0.355 8726	0.357 1048
	22	0.491 4095	0.490 4995	0.816 3557	0.816 3533	0.352 6041	0.353 8745
	23	0.506 1146	0.505 2133	0.808 6748	0.808 6724	0.349 2367	0.350 5449
	24	0.520 6759	0.519 7834	0.800 7667	0.800 7643	0.345 7712	0.347 1168
	25	-0.535 0894	-0.534 2061	+0.792 6336	+0.792 6313	+0.342 2087	+0.343 5914
	26	0.549 3514	0.548 4774	0.784 2780	0.784 2756	0.338 5503	0.339 9697
	27	0.563 4580	0.562 5937	0.775 7021	0.775 6998	0.334 7970	0.336 2527
	28	0.577 4055	0.576 5510	0.766 9083	0.766 9060	0.330 9498	0.332 4413
	29	0.591 1902	0.590 3459	0.757 8991	0.757 8969	0.327 0097	0.328 5366
	30	0.604 8086	0.603 9746	0.748 6768	0.748 6746	0.322 9777	0.324 5396
Aug.	31	-0.618 2569	-0.617 4335	+0.739 2438	+0.739 2416	+0.318 8549	+0.320 4514
	1	0.631 5316	0.630 7189	0.729 6025	0.729 6004	0.314 6422	0.316 2729
	2	0.644 6289	0.643 8273	0.719 7553	0.719 7532	0.310 3408	0.312 0051
	3	0.657 5454	0.656 7550	0.709 7046	0.709 7026	0.305 9515	0.307 6490
	4	0.670 2772	0.669 4984	0.699 4530	0.699 4510	0.301 4756	0.303 2058
	5	0.682 8208	0.682 0536	0.689 0028	0.689 0009	0.296 9139	0.298 6763
	6	-0.695 1723	-0.694 4171	+0.678 3567	+0.678 3548	+0.292 2676	+0.294 0618
	7	0.707 3280	0.706 5849	0.667 5172	0.667 5154	0.287 5379	0.289 3633
	8	0.719 2840	0.718 5533	0.656 4871	0.656 4853	0.282 7258	0.284 5820
	9	0.731 0366	0.730 3184	0.645 2692	0.645 2674	0.277 8327	0.279 7191
	10	0.742 5817	0.741 8763	0.633 8665	0.633 8648	0.272 8599	0.274 7759
	11	0.753 9156	0.753 2232	0.622 2822	0.622 2805	0.267 8087	0.269 7538
	12	-0.765 0345	-0.764 3553	+0.610 5195	+0.610 5178	+0.262 6806	+0.264 6543
	13	0.775 9348	0.775 2689	0.598 5819	0.598 5803	0.257 4773	0.259 4790
	14	0.786 6129	0.785 9606	0.586 4732	0.586 4716	0.252 2003	0.254 2294
	15	0.797 0654	0.796 4269	0.574 1968	0.574 1953	0.246 8513	0.248 9072
	16	-0.807 2894	-0.806 6648	+0.561 7568	+0.561 7553	+0.241 4319	+0.243 5141

SUN, 2026
EQUATORIAL RECTANGULAR CO-ORDINATES FOR 0^h TERRESTRIAL TIME
MEAN EQUATOR AND EQUINOX OF J 2026.5 AND J 2000.0

Date	X _{2026.5}	X _{2000.0}	Y _{2026.5}	Y _{2000.0}	Z _{2026.5}	Z _{2000.0}
Aug. 16	-0.807 2894	-0.806 6648	+0.561 7568	+0.561 7553	+0.241 4319	+0.243 5141
	17	0.817 2817	0.816 6712	0.549 1568	0.549 1553	0.235 9439
	18	0.827 0394	0.826 4432	0.536 4006	0.536 3992	0.230 3889
	19	0.836 5599	0.835 9782	0.523 4921	0.523 4908	0.224 7687
	20	0.845 8406	0.845 2734	0.510 4352	0.510 4339	0.219 0849
	21	0.854 8788	0.854 3264	0.497 2335	0.497 2323	0.213 3391
	22	-0.863 6722	-0.863 1347	+0.483 8910	+0.483 8899	+0.207 5330
	23	0.872 2184	0.871 6960	0.470 4115	0.470 4103	0.201 6683
	24	0.880 5151	0.880 0079	0.456 7986	0.456 7976	0.195 7466
	25	0.888 5600	0.888 0682	0.443 0563	0.443 0553	0.189 7696
	26	0.896 3510	0.895 8747	0.429 1883	0.429 1873	0.183 7388
	27	0.903 8860	0.903 4254	0.415 1984	0.415 1975	0.177 6558
	28	-0.911 1630	-0.910 7181	+0.401 0903	+0.401 0894	+0.171 5224
	29	0.918 1798	0.917 7508	0.386 8678	0.386 8669	0.165 3399
	30	0.924 9344	0.924 5215	0.372 5345	0.372 5337	0.159 1102
Sept. 31	1	0.931 4249	0.931 0281	0.358 0942	0.358 0935	0.152 8346
	2	0.937 6491	0.937 2686	0.343 5507	0.343 5501	0.146 5148
	3	0.943 6051	0.943 2409	0.328 9078	0.328 9071	0.140 1525
	4	-0.949 2905	-0.948 9428	+0.314 1691	+0.314 1685	+0.133 7492
	5	0.954 7035	0.954 3724	0.299 3387	0.299 3382	0.127 3067
	6	0.959 8418	0.959 5274	0.284 4206	0.284 4201	0.120 8267
	7	0.964 7033	0.964 4057	0.269 4188	0.269 4184	0.114 3110
	8	0.969 2861	0.969 0053	0.254 3376	0.254 3373	0.107 7614
	9	0.973 5881	0.973 3243	0.239 1815	0.239 1811	0.101 1799
	10	-0.977 6076	-0.977 3607	+0.223 9548	+0.223 9545	+0.094 5685
	11	0.981 3427	0.981 1129	0.208 6622	0.208 6620	0.087 9293
	12	0.984 7920	0.984 5794	0.193 3084	0.193 3083	0.081 2642
	13	0.987 9542	0.987 7588	0.177 8982	0.177 8981	0.074 5755
	14	0.990 8280	0.990 6499	0.162 4363	0.162 4363	0.067 8652
	15	0.993 4126	0.993 2518	0.146 9276	0.146 9276	0.061 1355
	16	-0.995 7071	-0.995 5637	+0.131 3768	+0.131 3769	+0.054 3884
	17	0.997 7108	0.997 5848	0.115 7886	0.115 7887	0.047 6259
	18	0.999 4231	0.999 3146	0.100 1678	0.100 1680	0.040 8503
	19	1.000 8436	1.000 7526	0.084 5190	0.084 5192	0.034 0634
	20	1.001 9720	1.001 8985	0.068 8468	0.068 8470	0.027 2672
	21	1.002 8080	1.002 7520	0.053 1558	0.053 1561	0.020 4639
	22	-1.003 3514	-1.003 3129	+0.037 4506	+0.037 4510	+0.013 6552
	23	1.003 6021	1.003 5811	0.021 7358	0.021 7362	0.006 8431
	24	1.003 5600	1.003 5566	+0.006 0157	+0.006 0162	+0.000 0297
	25	1.003 2253	1.003 2394	-0.009 7051	-0.009 7046	-0.006 7833
	26	1.002 5980	1.002 6296	0.025 4223	0.025 4217	0.013 5940
	27	1.001 6781	1.001 7274	0.041 1315	0.041 1309	0.020 4005
	28	-1.000 4660	-1.000 5327	-0.056 8285	-0.056 8278	-0.027 2010
	29	0.998 9616	0.999 0459	0.072 5089	0.072 5082	0.033 9937
	30	0.997 1652	0.997 2669	0.088 1685	0.088 1678	0.040 7768
Oct. 1	1	0.995 0768	0.995 1960	0.103 8031	0.103 8023	0.047 5484
	2	-0.992 6965	-0.992 8331	-0.119 4082	-0.119 4073	-0.054 3067

SUN, 2026
EQUATORIAL RECTANGULAR CO-ORDINATES FOR 0^h TERRESTRIAL TIME
MEAN EQUATOR AND EQUINOX OF J 2026.5 AND J 2000.0

Date		X _{2026.5}	X _{2000.0}	Y _{2026.5}	Y _{2000.0}	Z _{2026.5}	Z _{2000.0}
Oct.	1	-0.992 6965	-0.992 8331	-0.119 4082	-0.119 4073	-0.054 3067	-0.051 7513
	2	0.990 0244	0.990 1784	0.134 9796	0.134 9786	0.061 0497	0.058 5013
	3	0.987 0606	0.987 2319	0.150 5126	0.150 5116	0.067 7756	0.065 2349
	4	0.983 8054	0.983 9940	0.166 0028	0.166 0018	0.074 4823	0.071 9501
	5	0.980 2590	0.980 4648	0.181 4454	0.181 4443	0.081 1677	0.078 6448
	6	0.976 4218	0.976 6448	0.196 8358	0.196 8346	0.087 8298	0.085 3169
	7	-0.972 2943	-0.972 5345	-0.212 1690	-0.212 1678	-0.094 4665	-0.091 9642
	8	0.967 8774	0.968 1346	0.227 4402	0.227 4389	0.101 0755	0.098 5847
	9	0.963 1720	0.963 4461	0.242 6444	0.242 6432	0.107 6547	0.105 1761
	10	0.958 1791	0.958 4701	0.257 7769	0.257 7755	0.114 2020	0.111 7364
	11	0.952 8999	0.953 2078	0.272 8325	0.272 8312	0.120 7151	0.118 2632
	12	0.947 3361	0.947 6606	0.287 8066	0.287 8052	0.127 1921	0.124 7546
	13	-0.941 4891	-0.941 8302	-0.302 6943	-0.302 6929	-0.133 6307	-0.131 2084
	14	0.935 3608	0.935 7184	0.317 4909	0.317 4894	0.140 0290	0.137 6225
	15	0.928 9529	0.929 3269	0.332 1918	0.332 1902	0.146 3849	0.143 9950
	16	0.922 2675	0.922 6577	0.346 7923	0.346 7907	0.152 6964	0.150 3238
	17	0.915 3065	0.915 7130	0.361 2879	0.361 2863	0.158 9617	0.156 6071
	18	0.908 0722	0.908 4947	0.375 6743	0.375 6726	0.165 1787	0.162 8429
	19	-0.900 5668	-0.901 0052	-0.389 9471	-0.389 9453	-0.171 3457	-0.169 0293
	20	0.892 7926	0.893 2468	0.404 1019	0.404 1002	0.177 4609	0.175 1645
	21	0.884 7520	0.885 2218	0.418 1347	0.418 1329	0.183 5224	0.181 2468
	22	0.876 4473	0.876 9326	0.432 0412	0.432 0394	0.189 5285	0.187 2744
	23	0.867 8811	0.868 3818	0.445 8175	0.445 8156	0.195 4774	0.193 2455
	24	0.859 0559	0.859 5717	0.459 4596	0.459 4576	0.201 3676	0.199 1585
	25	-0.849 9741	-0.850 5050	-0.472 9636	-0.472 9616	-0.207 1974	-0.205 0117
	26	0.840 6383	0.841 1841	0.486 3256	0.486 3236	0.212 9651	0.210 8036
	27	0.831 0510	0.831 6115	0.499 5421	0.499 5400	0.218 6692	0.216 5324
	28	0.821 2145	0.821 7896	0.512 6090	0.512 6070	0.224 3081	0.222 1967
	29	0.811 1313	0.811 7208	0.525 5228	0.525 5207	0.229 8800	0.227 7947
	30	0.800 8039	0.801 4076	0.538 2795	0.538 2774	0.235 3835	0.233 3248
Nov.	31	-0.790 2346	-0.790 8523	-0.550 8753	-0.550 8731	-0.240 8166	-0.238 7853
	1	0.779 4260	0.780 0576	0.563 3061	0.563 3038	0.246 1778	0.244 1744
	2	0.768 3808	0.769 0261	0.575 5679	0.575 5656	0.251 4653	0.249 4903
	3	0.757 1019	0.757 7606	0.587 6566	0.587 6543	0.256 6771	0.254 7313
	4	0.745 5922	0.746 2642	0.599 5683	0.599 5659	0.261 8116	0.259 8955
	5	0.733 8549	0.734 5399	0.611 2987	0.611 2963	0.266 8669	0.264 9811
	6	-0.721 8932	-0.722 5911	-0.622 8439	-0.622 8415	-0.271 8413	-0.269 9863
	7	0.709 7108	0.710 4213	0.634 1999	0.634 1974	0.276 7330	0.274 9094
	8	0.697 3111	0.698 0341	0.645 3627	0.645 3603	0.281 5403	0.279 7488
	9	0.684 6981	0.685 4332	0.656 3287	0.656 3262	0.286 2615	0.284 5026
	10	0.671 8756	0.672 6227	0.667 0940	0.667 0915	0.290 8951	0.289 1693
	11	0.658 8476	0.659 6065	0.677 6551	0.677 6525	0.295 4395	0.293 7473
	12	-0.645 6182	-0.646 3886	-0.688 0084	-0.688 0058	-0.299 8932	-0.298 2351
	13	0.632 1917	0.632 9734	0.698 1507	0.698 1480	0.304 2548	0.302 6313
	14	0.618 5723	0.619 3650	0.708 0785	0.708 0759	0.308 5228	0.306 9344
	15	0.604 7643	0.605 5678	0.717 7888	0.717 7862	0.312 6960	0.311 1432
16	-0.590 7721	-0.591 5862	-0.727 2786	-0.727 2759	-0.316 7729	-0.315 2563	

SUN, 2026
EQUATORIAL RECTANGULAR CO-ORDINATES FOR 0^h TERRESTRIAL TIME
MEAN EQUATOR AND EQUINOX OF J 2026.5 AND J 2000.0

Date	X _{2026.5}	X _{2000.0}	Y _{2026.5}	Y _{2000.0}	Z _{2026.5}	Z _{2000.0}
Nov. 16	-0.590 7721	-0.591 5862	-0.727 2786	-0.727 2759	-0.316 7729	-0.315 2563
	17	0.576 6002	0.577 4245	0.736 5448	0.736 5421	0.320 7525
	18	0.562 2529	0.563 0873	0.745 5848	0.745 5820	0.324 6336
	19	0.547 7348	0.548 5790	0.754 3957	0.754 3929	0.328 4149
	20	0.533 0504	0.533 9042	0.762 9750	0.762 9722	0.332 0955
	21	0.518 2043	0.519 0672	0.771 3202	0.771 3174	0.335 6742
	22	-0.503 2008	-0.504 0727	-0.779 4290	-0.779 4262	-0.339 1502
	23	0.488 0444	0.488 9251	0.787 2991	0.787 2963	0.342 5225
	24	0.472 7395	0.473 6287	0.794 9283	0.794 9255	0.345 7901
	25	0.457 2904	0.458 1878	0.802 3145	0.802 3116	0.348 9522
	26	0.441 7013	0.442 6066	0.809 4554	0.809 4525	0.352 0078
	27	0.425 9766	0.426 8895	0.816 3488	0.816 3459	0.354 9560
Dec. 28	-0.410 1204	-0.411 0408	-0.822 9926	-0.822 9897	-0.357 7956	-0.356 7447
	29	0.394 1372	0.395 0646	0.829 3843	0.829 3814	0.360 5259
	30	0.378 0315	0.378 9657	0.835 5218	0.835 5188	0.363 1456
	1	0.361 8077	0.362 7485	0.841 4026	0.841 3996	0.365 6538
	2	0.345 4708	0.346 4178	0.847 0244	0.847 0215	0.368 0494
	3	0.329 0256	0.329 9785	0.852 3852	0.852 3822	0.370 3315
	4	-0.312 4772	-0.313 4357	-0.857 4827	-0.857 4797	-0.372 4991
	5	0.295 8307	0.296 7945	0.862 3150	0.862 3120	0.374 5514
	6	0.279 0913	0.280 0602	0.866 8802	0.866 8772	0.376 4875
	7	0.262 2645	0.263 2381	0.871 1765	0.871 1735	0.378 3067
	8	0.245 3556	0.246 3337	0.875 2022	0.875 1992	0.380 0082
	9	0.228 3701	0.229 3523	0.878 9560	0.878 9529	0.381 5915
	10	-0.211 3136	-0.212 2996	-0.882 4363	-0.882 4333	-0.383 0560
	11	0.194 1916	0.195 1811	0.885 6420	0.885 6390	0.384 4012
	12	0.177 0096	0.178 0024	0.888 5721	0.888 5691	0.385 6266
	13	0.159 7734	0.160 7691	0.891 2255	0.891 2225	0.386 7319
	14	0.142 4884	0.143 4867	0.893 6015	0.893 5985	0.387 7168
	15	0.125 1603	0.126 1609	0.895 6994	0.895 6963	0.388 5810
	16	-0.107 7946	-0.108 7972	-0.897 5186	-0.897 5156	-0.389 3243
	17	0.090 3970	0.091 4012	0.899 0587	0.899 0557	0.389 9466
	18	0.072 9728	0.073 9784	0.900 3196	0.900 3165	0.390 4479
	19	0.055 5276	0.056 5342	0.901 3009	0.901 2979	0.390 8280
	20	0.038 0668	0.039 0741	0.902 0027	0.901 9997	0.391 0871
	21	0.020 5956	0.021 6033	0.902 4250	0.902 4220	0.391 2252
	22	-0.003 1193	-0.004 1271	-0.902 5680	-0.902 5650	-0.391 2423
	23	+0.014 3571	+0.013 3495	0.902 4319	0.902 4289	0.391 1386
	24	0.031 8286	0.030 8215	0.902 0168	0.902 0138	0.390 9142
	25	0.049 2902	0.048 2840	0.901 3229	0.901 3200	0.390 5692
	26	0.066 7371	0.065 7319	0.900 3503	0.900 3474	0.390 1034
	27	0.084 1641	0.083 1604	0.899 0992	0.899 0962	0.389 5170
	28	+0.101 5663	+0.100 5644	-0.897 5695	-0.897 5665	-0.388 8100
	29	0.118 9385	0.117 9387	0.895 7613	0.895 7584	0.387 9823
	30	0.136 2753	0.135 2779	0.893 6749	0.893 6720	0.387 0340
	31	0.153 5715	0.152 5767	0.891 3105	0.891 3076	0.385 9652
	32	+0.170 8214	+0.169 8296	-0.888 6684	-0.888 6656	-0.384 7760
						-0.385 2214

SUN, 2026
EPHEMERIS FOR PHYSICAL OBSERVATIONS
FOR 0^h TERRESTRIAL TIME

Date	Position Angle of Axis <i>P</i>	Heliographic		Date	Position Angle of Axis <i>P</i>	Heliographic	
		Latitude <i>B</i> ₀	Longitude <i>L</i> ₀			Latitude <i>B</i> ₀	Longitude <i>L</i> ₀
	°	°	°		°	°	°
Jan. 0	+2.54	-2.88	312.29	Feb. 15	-17.36	-6.82	66.58
1	2.06	3.00	299.12	16	17.70	6.86	53.41
2	1.58	3.11	285.94	17	18.02	6.90	40.24
3	1.09	3.23	272.77	18	18.35	6.94	27.07
4	0.61	3.34	259.60	19	18.66	6.98	13.90
5	+0.12	3.46	246.43	20	18.97	7.01	0.73
6	-0.36	-3.57	233.26	21	-19.28	-7.04	347.57
7	0.84	3.68	220.09	22	19.57	7.07	334.40
8	1.32	3.79	206.92	23	19.87	7.10	321.23
9	1.80	3.90	193.76	24	20.15	7.13	308.06
10	2.28	4.01	180.59	25	20.43	7.15	294.89
11	2.76	4.12	167.42	26	20.71	7.17	281.71
12	-3.24	-4.22	154.25	27	-20.97	-7.19	268.54
13	3.71	4.33	141.08	28	21.24	7.20	255.37
14	4.18	4.43	127.91	Mar. 1	21.49	7.22	242.20
15	4.65	4.53	114.75	2	21.74	7.23	229.03
16	5.12	4.63	101.58	3	21.98	7.24	215.85
17	5.58	4.73	88.41	4	22.22	7.24	202.68
18	-6.04	-4.83	75.24	5	-22.45	-7.25	189.50
19	6.50	4.92	62.08	6	22.67	7.25	176.33
20	6.96	5.01	48.91	7	22.89	7.25	163.15
21	7.41	5.11	35.74	8	23.10	7.25	149.98
22	7.86	5.20	22.58	9	23.30	7.25	136.80
23	8.31	5.29	9.41	10	23.50	7.24	123.62
24	-8.75	-5.37	356.25	11	-23.69	-7.23	110.45
25	9.19	5.46	343.08	12	23.88	7.22	97.27
26	9.62	5.54	329.91	13	24.05	7.21	84.09
27	10.05	5.63	316.75	14	24.23	7.19	70.91
28	10.48	5.71	303.58	15	24.39	7.18	57.73
29	10.90	5.78	290.41	16	24.55	7.16	44.55
30	-11.32	-5.86	277.25	17	-24.70	-7.13	31.37
31	11.74	5.94	264.08	18	24.84	7.11	18.19
Feb. 1	12.15	6.01	250.91	19	24.98	7.09	5.01
2	12.55	6.08	237.75	20	25.11	7.06	351.83
3	12.95	6.15	224.58	21	25.23	7.03	338.64
4	13.35	6.22	211.41	22	25.35	6.99	325.46
5	-13.74	-6.28	198.25	23	-25.46	-6.96	312.27
6	14.12	6.34	185.08	24	25.56	6.92	299.09
7	14.50	6.41	171.91	25	25.66	6.89	285.90
8	14.88	6.47	158.75	26	25.75	6.85	272.71
9	15.25	6.52	145.58	27	25.83	6.80	259.53
10	15.62	6.58	132.41	28	25.90	6.76	246.34
11	-15.98	-6.63	119.24	29	-25.97	-6.71	233.15
12	16.33	6.68	106.08	30	26.03	6.66	219.96
13	16.68	6.73	92.91	31	26.08	6.61	206.77
14	17.03	6.78	79.74	Apr. 1	26.13	6.56	193.57
15	-17.36	-6.82	66.58	2	-26.17	-6.51	180.38

SUN, 2026
EPHEMERIS FOR PHYSICAL OBSERVATIONS
FOR 0^h TERRESTRIAL TIME

Date		Position Angle of Axis <i>P</i>	Heliographic		Date		Position Angle of Axis <i>P</i>	Heliographic	
			Latitude <i>B</i> ₀	Longitude <i>L</i> ₀				Latitude <i>B</i> ₀	Longitude <i>L</i> ₀
		°	°	°			°	°	°
Apr.	1	-26.13	-6.56	193.57	May	17	-20.40	-2.47	305.91
	2	26.17	6.51	180.38		18	20.11	2.36	292.68
	3	26.20	6.45	167.19		19	19.82	2.24	279.45
	4	26.22	6.39	153.99		20	19.52	2.13	266.22
	5	26.24	6.33	140.80		21	19.21	2.01	253.00
	6	26.25	6.27	127.60		22	18.89	1.89	239.77
	7	-26.25	-6.21	114.40		23	-18.57	-1.78	226.54
	8	26.25	6.14	101.21		24	18.25	1.66	213.31
	9	26.24	6.07	88.01		25	17.91	1.54	200.08
	10	26.22	6.00	74.81		26	17.58	1.42	186.85
	11	26.19	5.93	61.61		27	17.23	1.30	173.62
	12	26.16	5.86	48.41		28	16.88	1.18	160.38
	13	-26.12	-5.79	35.21	June	29	-16.53	-1.06	147.15
	14	26.07	5.71	22.01		30	16.17	0.94	133.92
	15	26.01	5.64	8.80		31	15.80	0.82	120.69
	16	25.95	5.56	355.60		1	15.44	0.70	107.45
	17	25.88	5.48	342.40		2	15.06	0.58	94.22
	18	25.80	5.39	329.19		3	14.68	0.46	80.98
	19	-25.72	-5.31	315.99		4	-14.30	-0.34	67.75
	20	25.62	5.23	302.78		5	13.91	0.22	54.52
	21	25.52	5.14	289.57		6	13.52	-0.10	41.28
	22	25.42	5.05	276.36		7	13.12	+0.02	28.05
	23	25.30	4.96	263.15		8	12.72	0.14	14.81
	24	25.18	4.87	249.94		9	12.31	0.26	1.57
	25	-25.05	-4.78	236.73		10	-11.90	+0.38	348.34
	26	24.92	4.69	223.52		11	11.49	0.51	335.10
	27	24.77	4.59	210.31		12	11.08	0.63	321.87
	28	24.62	4.49	197.09		13	10.66	0.75	308.63
	29	24.46	4.40	183.88		14	10.23	0.87	295.40
	30	24.30	4.30	170.66		15	9.81	0.99	282.16
May	1	-24.12	-4.20	157.45	July	16	-9.38	+1.10	268.92
	2	23.94	4.10	144.23		17	8.95	1.22	255.69
	3	23.76	4.00	131.01		18	8.51	1.34	242.45
	4	23.56	3.89	117.80		19	8.08	1.46	229.21
	5	23.36	3.79	104.58		20	7.64	1.58	215.98
	6	23.15	3.69	91.36		21	7.20	1.70	202.74
	7	-22.94	-3.58	78.14		22	-6.75	+1.81	189.50
	8	22.71	3.47	64.92		23	6.31	1.93	176.27
	9	22.48	3.36	51.70		24	5.86	2.05	163.03
	10	22.25	3.26	38.47		25	5.42	2.16	149.79
	11	22.00	3.15	25.25		26	4.97	2.28	136.56
	12	21.75	3.04	12.03		27	4.52	2.39	123.32
	13	-21.50	-2.93	358.81	28	-4.07	+2.50	110.08	
	14	21.23	2.81	345.58	29	3.61	2.62	96.85	
	15	20.96	2.70	332.36	30	3.16	2.73	83.61	
	16	20.69	2.59	319.13	1	2.71	2.84	70.37	
	17	-20.40	-2.47	305.91	2	-2.26	+2.95	57.14	

SUN, 2026
EPHEMERIS FOR PHYSICAL OBSERVATIONS
FOR 0^h TERRESTRIAL TIME

Date		Position	Heliographic		Date		Position	Heliographic	
		Angle of Axis <i>P</i>	Latitude <i>B</i> ₀	Longitude <i>L</i> ₀			Angle of Axis <i>P</i>	Latitude <i>B</i> ₀	Longitude <i>L</i> ₀
		°	°	°			°	°	°
July	1	-2.71	+2.84	70.37	Aug.	16	+16.30	+6.68	181.86
	2	2.26	2.95	57.14		17	16.63	6.72	168.64
	3	1.80	3.06	43.90		18	16.96	6.77	155.42
	4	1.35	3.17	30.66		19	17.28	6.81	142.21
	5	0.90	3.28	17.43		20	17.60	6.85	128.99
	6	-0.44	3.38	4.19		21	17.91	6.89	115.77
	7	+0.01	+3.49	350.96	22	+18.22	+6.93	102.56	
	8	0.46	3.59	337.72	23	18.53	6.96	89.34	
	9	0.91	3.70	324.49	24	18.82	7.00	76.13	
	10	1.36	3.80	311.25	25	19.12	7.03	62.92	
	11	1.81	3.90	298.02	26	19.41	7.06	49.70	
	12	2.26	4.00	284.79	27	19.69	7.08	36.49	
	13	+2.71	+4.10	271.55	28	+19.97	+7.11	23.28	
	14	3.15	4.20	258.32	29	20.24	7.13	10.07	
	15	3.60	4.30	245.09	30	20.51	7.15	356.85	
	16	4.04	4.40	231.86	31	20.77	7.17	343.64	
	17	4.48	4.49	218.62	Sept.	1	21.02	7.19	330.43
	18	4.92	4.59	205.39		2	21.28	7.20	317.22
	19	+5.35	+4.68	192.16	3	+21.52	+7.22	304.02	
	20	5.79	4.77	178.93	4	21.76	7.23	290.81	
	21	6.22	4.86	165.70	5	21.99	7.24	277.60	
	22	6.65	4.95	152.47	6	22.22	7.24	264.39	
	23	7.08	5.04	139.24	7	22.45	7.25	251.19	
	24	7.50	5.12	126.01	8	22.66	7.25	237.98	
25	+7.92	+5.21	112.78	9	+22.87	+7.25	224.77		
26	8.34	5.29	99.55	10	23.08	7.25	211.57		
27	8.75	5.37	86.32	11	23.28	7.25	198.37		
28	9.17	5.46	73.09	12	23.47	7.24	185.16		
29	9.57	5.53	59.87	13	23.66	7.23	171.96		
30	9.98	5.61	46.64	14	23.84	7.22	158.76		
Aug.	31	+10.38	+5.69	33.41	15	+24.01	+7.21	145.55	
	1	10.78	5.76	20.18	16	24.18	7.20	132.35	
	2	11.18	5.83	6.96	17	24.34	7.18	119.15	
	3	11.57	5.91	353.73	18	24.50	7.16	105.95	
	4	11.96	5.98	340.51	19	24.65	7.14	92.75	
	5	12.34	6.04	327.28	20	24.79	7.12	79.55	
	6	+12.72	+6.11	314.06	21	+24.93	+7.09	66.35	
	7	13.10	6.17	300.84	22	25.06	7.07	53.15	
	8	13.47	6.24	287.62	23	25.19	7.04	39.95	
	9	13.84	6.30	274.39	24	25.30	7.01	26.75	
	10	14.20	6.36	261.17	25	25.41	6.98	13.55	
	11	14.56	6.41	247.95	26	25.52	6.94	0.35	
	12	+14.92	+6.47	234.73	27	+25.62	+6.90	347.15	
	13	15.27	6.52	221.51	28	25.71	6.86	333.96	
	14	15.62	6.58	208.29	29	25.79	6.82	320.76	
	15	15.96	6.63	195.07	30	25.87	6.78	307.56	
16	+16.30	+6.68	181.86	Oct.	1	+25.94	+6.73	294.37	

SUN, 2026
EPHEMERIS FOR PHYSICAL OBSERVATIONS
FOR 0^h TERRESTRIAL TIME

Date		Position	Heliographic		Date		Position	Heliographic	
		Angle of Axis <i>P</i>	Latitude <i>B₀</i>	Longitude <i>L₀</i>			Angle of Axis <i>P</i>	Latitude <i>B₀</i>	Longitude <i>L₀</i>
		°	°	°			°	°	°
Oct.	1	+25.94	+6.73	294.37	Nov.	16	+21.12	+2.77	47.68
	2	26.00	6.69	281.17		17	20.83	2.65	34.50
	3	26.06	6.64	267.97		18	20.54	2.53	21.32
	4	26.11	6.59	254.78		19	20.24	2.41	8.14
	5	26.15	6.53	241.58		20	19.93	2.29	354.95
	6	26.18	6.48	228.39		21	19.62	2.17	341.77
	7	+26.21	+6.42	215.20	22	+19.30	+2.05	328.59	
	8	26.23	6.36	202.00	23	18.97	1.92	315.41	
	9	26.25	6.30	188.81	24	18.64	1.80	302.23	
	10	26.25	6.24	175.62	25	18.29	1.68	289.05	
	11	26.25	6.17	162.43	26	17.94	1.55	275.87	
	12	26.24	6.11	149.23	27	17.59	1.43	262.69	
	13	+26.23	+6.04	136.04	28	+17.23	+1.30	249.51	
	14	26.21	5.97	122.85	29	16.86	1.17	236.33	
	15	26.17	5.90	109.66	30	16.49	1.05	223.15	
	16	26.14	5.82	96.47	Dec.	1	16.11	0.92	209.97
	17	26.09	5.75	83.28		2	15.72	0.79	196.79
	18	26.04	5.67	70.09		3	15.33	0.67	183.61
	19	+25.98	+5.59	56.90	4	+14.93	+0.54	170.43	
	20	25.91	5.51	43.71	5	14.52	0.41	157.25	
	21	25.83	5.43	30.52	6	14.12	0.28	144.08	
	22	25.75	5.34	17.33	7	13.70	0.16	130.90	
	23	25.66	5.25	4.14	8	13.28	+0.03	117.72	
	24	25.56	5.17	350.95	9	12.86	-0.10	104.54	
	25	+25.45	+5.08	337.76	10	+12.43	-0.23	91.37	
	26	25.34	4.99	324.57	11	12.00	0.36	78.19	
	27	25.21	4.89	311.39	12	11.56	0.49	65.02	
	28	25.08	4.80	298.20	13	11.11	0.61	51.84	
	29	24.94	4.71	285.01	14	10.67	0.74	38.67	
	30	24.80	4.61	271.82	15	10.22	0.87	25.49	
Nov.	31	+24.64	+4.51	258.64	16	+9.77	-1.00	12.32	
	1	24.48	4.41	245.45	17	9.31	1.12	359.14	
	2	24.31	4.31	232.26	18	8.85	1.25	345.97	
	3	24.14	4.21	219.08	19	8.38	1.38	332.79	
	4	23.95	4.10	205.89	20	7.92	1.50	319.62	
	5	23.76	4.00	192.71	21	7.45	1.63	306.44	
	6	+23.56	+3.89	179.52	22	+6.98	-1.75	293.27	
	7	23.35	3.78	166.34	23	6.51	1.88	280.10	
	8	23.13	3.68	153.15	24	6.03	2.00	266.92	
	9	22.91	3.57	139.97	25	5.55	2.12	253.75	
	10	22.67	3.45	126.78	26	5.07	2.25	240.58	
	11	22.43	3.34	113.60	27	+4.59	2.37	227.40	
	12	+22.19	+3.23	100.42	28	+4.11	-2.49	214.23	
	13	21.93	3.11	87.23	29	3.63	2.61	201.06	
	14	21.67	3.00	74.05	30	3.15	2.73	187.89	
	15	21.40	2.88	60.87	31	2.66	2.85	174.72	
16	+21.12	+2.77	47.68	32	+2.18	-2.97	161.55		

MOON, 2026**UNIVERSAL TIME****PHASES OF THE MOON**

Lunation	New Moon			First Quarter			Full Moon			Last Quarter		
		d	h	m		d	h	m		d	h	m
1274	Dec.'25	20	01	43	Dec.'25	27	19	10	Jan.'26	3	10	03
1275	Jan.'26	18	19	52	Jan.'26	26	04	47	Feb.	1	22	09
1276	Feb.	17	12	01	Feb.	24	12	28	Mar.	3	11	38
1277	Mar.	19	01	23	Mar.	25	19	18	Apr.	2	02	12
1278	Apr.	17	11	52	Apr.	24	02	32	May	1	17	23
1279	May	16	20	01	May	23	11	11	May	31	08	45
1280	June	15	02	54	June	21	21	55	June	29	23	57
1281	July	14	09	44	July	21	11	06	July	29	14	36
1282	Aug.	12	17	37	Aug.	20	02	46	Aug.	28	04	18
1283	Sept.	11	03	27	Sept.	18	20	44	Sept.	26	16	49
1284	Oct.	10	15	50	Oct.	18	16	13	Oct.	26	04	12
1285	Nov.	9	07	02	Nov.	17	11	48	Nov.	24	14	53
1286	Dec.	9	00	52	Dec.	17	05	43	Dec.	24	01	28
									Dec.		30	18 59

MOON AT PERIGEE

	d	h		d	h		d	h
Dec.'25	4	11	Apr.	19	07	Sept.	6	21
Jan.'26	1	22	May	17	14	Oct.	1	21
Jan.	29	22	June	14	23	Oct.	28	18
Feb.	24	23	July	13	08	Nov.	25	21
Mar.	22	12	Aug.	10	11	Dec.'26	24	09

MOON AT APOGEE

	d	h		d	h		d	h
Dec.'25	17	06	May	4	22	Sept.	19	03
Jan.'26	13	21	June	1	05	Oct.	16	23
Feb.	10	17	June	28	07	Nov.	13	18
Mar.	10	14	July	25	17	Dec.'26	11	07
Apr.	7	09	Aug.	22	08	Jan.'27	07	08

MOON, 2026
MEAN EQUATOR, ORBIT, LONGITUDE AND ELONGATION

Date		Mean Equator			Orbit Perigee			Node			Mean Longitude			Mean Elongation
		<i>i</i>	Δ	Ω'	Γ'			Ω			ζ			D
		°	°	°	°	'	"	°	'	"	°	'	"	°
Jan.	1	21.974	161.004	1.264	61	17	45.9	+342	10	09.4	67	57	56.4	147.299
	11	21.979	160.441	1.300	62	24	36.4	341	38	23.0	199	43	46.6	269.207
	21	21.984	159.878	1.337	63	31	27.0	341	06	36.7	331	29	36.9	31.114
	31	21.989	159.315	1.373	64	38	17.5	340	34	50.4	103	15	27.2	153.022
Feb.	10	21.994	158.752	1.410	65	45	08.0	340	03	04.0	235	01	17.5	274.929
	20	21.999	158.189	1.446	66	51	58.5	339	31	17.7	6	47	07.7	36.837
Mar.	2	22.005	157.626	1.482	67	58	49.1	+338	59	31.4	138	32	58.0	158.744
	12	22.010	157.063	1.518	69	05	39.6	338	27	45.0	270	18	48.3	280.651
	22	22.016	156.501	1.554	70	12	30.1	337	55	58.7	42	04	38.5	42.559
Apr.	1	22.022	155.938	1.590	71	19	20.6	337	24	12.3	173	50	28.8	164.466
	11	22.028	155.375	1.626	72	26	11.1	336	52	26.0	305	36	19.1	286.374
	21	22.034	154.813	1.662	73	33	01.7	336	20	39.7	77	22	09.4	48.281
May	1	22.040	154.250	1.698	74	39	52.2	+335	48	53.3	209	07	59.6	170.189
	11	22.047	153.688	1.734	75	46	42.7	335	17	07.0	340	53	49.9	292.096
	21	22.053	153.125	1.770	76	53	33.2	334	45	20.7	112	39	40.2	54.004
	31	22.060	152.563	1.805	78	00	23.8	334	13	34.3	244	25	30.4	175.911
June	10	22.067	152.001	1.841	79	07	14.3	333	41	48.0	16	11	20.7	297.819
	20	22.073	151.438	1.877	80	14	04.8	333	10	01.7	147	57	11.0	59.726
July	30	22.081	150.876	1.912	81	20	55.3	+332	38	15.3	279	43	01.3	181.634
	10	22.088	150.314	1.947	82	27	45.8	332	06	29.0	51	28	51.5	303.541
	20	22.095	149.752	1.983	83	34	36.4	331	34	42.7	183	14	41.8	65.449
	30	22.103	149.190	2.018	84	41	26.9	331	02	56.3	315	00	32.1	187.356
Aug.	9	22.110	148.628	2.053	85	48	17.4	330	31	10.0	86	46	22.4	309.264
	19	22.118	148.066	2.089	86	55	07.9	329	59	23.7	218	32	12.6	71.171
Sept.	29	22.126	147.504	2.124	88	01	58.4	+329	27	37.3	350	18	02.9	193.079
	8	22.134	146.942	2.159	89	08	49.0	328	55	51.0	122	03	53.2	314.986
	18	22.142	146.380	2.194	90	15	39.5	328	24	04.7	253	49	43.4	76.894
Oct.	28	22.150	145.819	2.229	91	22	30.0	327	52	18.3	25	35	33.7	198.801
	8	22.159	145.257	2.264	92	29	20.5	327	20	32.0	157	21	24.0	320.709
	18	22.167	144.695	2.299	93	36	11.1	326	48	45.7	289	07	14.3	82.616
Nov.	28	22.176	144.134	2.333	94	43	01.6	+326	16	59.3	60	53	04.5	204.524
	7	22.185	143.572	2.368	95	49	52.1	325	45	13.0	192	38	54.8	326.431
	17	22.194	143.011	2.403	96	56	42.6	325	13	26.6	324	24	45.1	88.339
	27	22.203	142.450	2.437	98	03	33.1	324	41	40.3	96	10	35.3	210.246
Dec.	7	22.212	141.888	2.472	99	10	23.7	324	09	54.0	227	56	25.6	332.154
	17	22.222	141.327	2.506	100	17	14.2	323	38	07.6	359	42	15.9	94.061
	27	22.231	140.766	2.541	101	24	04.7	+323	06	21.3	131	28	06.2	215.969
	37	22.241	140.205	2.575	102	30	55.2	322	34	35.0	263	13	56.4	337.876
	47	22.251	139.644	2.609	103	37	45.8	+322	02	48.6	34	59	46.7	99.784

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Jan.	0.0	51	48	51.1	+4	46	57.6	2.4279	16	26.67
	0.5	59	13	54.0	4	57	26.5	2.4195	16	30.11
	1.0	66	42	13.1	5	02	56.5	2.4133	16	32.63
	1.5	74	12	47.7	5	03	15.7	2.4097	16	34.12
	2.0	81	44	29.0	4	58	20.0	2.4088	16	34.48
	2.5	89	16	03.1	4	48	13.8	2.4108	16	33.67
	3.0	96	46	14.5	+4	33	10.4	2.4156	16	31.67
	3.5	104	13	49.2	4	13	30.7	2.4233	16	28.53
	4.0	111	37	38.2	3	49	42.7	2.4337	16	24.30
	4.5	118	56	40.6	3	22	20.0	2.4466	16	19.12
	5.0	126	10	05.4	2	51	59.7	2.4617	16	13.11
	5.5	133	17	13.2	2	19	20.6	2.4787	16	06.44
	6.0	140	17	36.7	+1	45	01.9	2.4972	15	59.29
	6.5	147	11	00.9	1	09	41.5	2.5167	15	51.84
	7.0	153	57	21.8	+0	33	54.7	2.5370	15	44.25
	7.5	160	36	45.7	-0	01	46.0	2.5574	15	36.70
	8.0	167	09	27.7	0	36	51.5	2.5777	15	29.33
	8.5	173	35	50.3	1	10	56.4	2.5974	15	22.27
	9.0	179	56	21.7	-1	43	38.6	2.6163	15	15.63
	9.5	186	11	34.6	2	14	39.1	2.6339	15	09.50
	10.0	192	22	04.8	2	43	41.6	2.6501	15	03.95
	10.5	198	28	29.9	3	10	32.2	2.6645	14	59.04
	11.0	204	31	28.9	3	34	58.9	2.6771	14	54.81
	11.5	210	31	40.7	3	56	51.3	2.6878	14	51.27
	12.0	216	29	43.5	-4	16	00.5	2.6964	14	48.43
	12.5	222	26	14.5	4	32	18.3	2.7029	14	46.29
	13.0	228	21	49.4	4	45	37.7	2.7073	14	44.85
	13.5	234	17	01.5	4	55	52.4	2.7097	14	44.06
	14.0	240	12	21.8	5	02	57.0	2.7101	14	43.92
	14.5	246	08	18.7	5	06	46.9	2.7087	14	44.37
	15.0	252	05	17.5	-5	07	18.4	2.7056	14	45.39
	15.5	258	03	40.7	5	04	29.0	2.7010	14	46.91
	16.0	264	03	47.6	4	58	17.6	2.6950	14	48.89
	16.5	270	05	54.3	4	48	44.5	2.6877	14	51.29
	17.0	276	10	14.2	4	35	52.0	2.6795	14	54.04
	17.5	282	16	57.7	4	19	44.3	2.6703	14	57.09
	18.0	288	26	12.9	-4	00	28.1	2.6605	15	00.39
	18.5	294	38	05.5	3	38	12.2	2.6502	15	03.90
	19.0	300	52	39.7	3	13	08.3	2.6395	15	07.57
	19.5	307	09	58.2	2	45	30.5	2.6285	15	11.36
	20.0	313	30	03.1	2	15	35.9	2.6174	15	15.23
	20.5	319	52	55.9	1	43	43.7	2.6062	15	19.16
	21.0	326	18	38.6	-1	10	15.9	2.5950	15	23.12
	21.5	332	47	13.4	0	35	36.2	2.5839	15	27.11
	22.0	339	18	43.2	-0	00	10.8	2.5728	15	31.10
	22.5	345	53	12.1	+0	35	33.1	2.5618	15	35.09
	23.0	352	30	44.8	+1	11	06.6	2.5509	15	39.08

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Jan.	23.0	352	30	44.8	+1	11	06.6	2.5509	15	39.08
	23.5	359	11	27.0	1	46	00.1	2.5402	15	43.05
	24.0	5	55	24.8	2	19	43.5	2.5296	15	47.00
	24.5	12	42	44.0	2	51	46.3	2.5192	15	50.93
	25.0	19	33	30.1	3	21	38.4	2.5089	15	54.79
	25.5	26	27	46.6	3	48	50.4	2.4990	15	58.58
	26.0	33	25	35.0	+4	12	54.0	2.4895	16	02.25
	26.5	40	26	53.1	4	33	22.6	2.4805	16	05.75
	27.0	47	31	34.5	4	49	52.0	2.4721	16	09.03
	27.5	54	39	27.7	5	02	00.9	2.4645	16	12.00
	28.0	61	50	15.2	5	09	32.0	2.4580	16	14.59
	28.5	69	03	33.1	5	12	12.4	2.4526	16	16.72
	29.0	76	18	51.4	+5	09	54.9	2.4487	16	18.30
	29.5	83	35	33.9	5	02	37.9	2.4463	16	19.24
	30.0	90	52	58.8	4	50	26.6	2.4457	16	19.47
	30.5	98	10	20.5	4	33	32.8	2.4471	16	18.94
	31.0	105	26	50.4	4	12	14.8	2.4504	16	17.60
	31.5	112	41	39.0	3	46	57.1	2.4559	16	15.43
Feb.	1.0	119	53	57.7	+3	18	09.5	2.4634	16	12.45
	1.5	127	03	00.6	2	46	25.9	2.4730	16	08.69
	2.0	134	08	06.3	2	12	23.0	2.4844	16	04.22
	2.5	141	08	38.9	1	36	39.2	2.4976	15	59.12
	3.0	148	04	09.7	0	59	52.6	2.5124	15	53.50
	3.5	154	54	17.4	+0	22	40.6	2.5283	15	47.48
	4.0	161	38	48.3	-0	14	22.0	2.5452	15	41.20
	4.5	168	17	36.7	0	50	43.1	2.5627	15	34.78
	5.0	174	50	44.2	1	25	54.0	2.5804	15	28.37
	5.5	181	18	19.3	1	59	29.7	2.5980	15	22.08
	6.0	187	40	36.5	2	31	08.7	2.6151	15	16.04
	6.5	193	57	56.0	3	00	33.1	2.6314	15	10.35
	7.0	200	10	42.2	-3	27	27.9	2.6467	15	05.10
	7.5	206	19	23.5	3	51	41.0	2.6606	15	00.38
	8.0	212	24	31.0	4	13	02.5	2.6728	14	56.25
	8.5	218	26	38.4	4	31	24.5	2.6833	14	52.77
	9.0	224	26	20.6	4	46	40.7	2.6917	14	49.96
	9.5	230	24	13.6	4	58	46.0	2.6981	14	47.87
	10.0	236	20	53.7	-5	07	36.4	2.7023	14	46.49
	10.5	242	16	57.1	5	13	08.7	2.7042	14	45.84
	11.0	248	12	59.3	5	15	20.5	2.7040	14	45.90
	11.5	254	09	34.7	5	14	09.9	2.7017	14	46.67
	12.0	260	07	16.2	5	09	36.3	2.6974	14	48.10
	12.5	266	06	34.8	5	01	39.5	2.6911	14	50.17
	13.0	272	07	59.2	-4	50	20.9	2.6831	14	52.83
	13.5	278	11	55.4	4	35	42.8	2.6735	14	56.01
	14.0	284	18	46.4	4	17	49.6	2.6627	14	59.67
14.5	290	28	52.1	3	56	47.5	2.6507	15	03.73	
15.0	296	42	28.8	-3	32	45.1	2.6379	15	08.11	

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Feb.	15.0	296	42	28.8	-3	32	45.1	2.6379	15	08.11
	15.5	302	59	49.1	3	05	53.7	2.6245	15	12.74
	16.0	309	21	01.9	2	36	27.3	2.6108	15	17.53
	16.5	315	46	12.3	2	04	43.4	2.5971	15	22.39
	17.0	322	15	21.8	1	31	02.5	2.5835	15	27.26
	17.5	328	48	28.1	0	55	48.3	2.5702	15	32.04
	18.0	335	25	26.0	-0	19	27.6	2.5575	15	36.66
	18.5	342	06	06.9	+0	17	30.2	2.5455	15	41.07
	19.0	348	50	20.1	0	54	33.5	2.5344	15	45.20
	19.5	355	37	52.4	1	31	09.1	2.5242	15	49.03
	20.0	2	28	29.5	2	06	42.9	2.5150	15	52.51
	20.5	9	21	55.3	2	40	40.9	2.5068	15	55.63
	21.0	16	17	53.6	+3	12	29.7	2.4996	15	58.38
	21.5	23	16	07.2	3	41	37.4	2.4933	16	00.77
	22.0	30	16	19.4	4	07	34.6	2.4881	16	02.80
	22.5	37	18	13.0	4	29	54.4	2.4837	16	04.49
	23.0	44	21	31.5	4	48	14.0	2.4802	16	05.85
	23.5	51	25	58.1	5	02	14.1	2.4776	16	06.89
	24.0	58	31	16.4	+5	11	40.1	2.4757	16	07.63
	24.5	65	37	09.7	5	16	21.8	2.4745	16	08.07
	25.0	72	43	21.0	5	16	14.1	2.4742	16	08.20
	25.5	79	49	33.0	5	11	16.7	2.4747	16	08.03
	26.0	86	55	27.6	5	01	34.5	2.4759	16	07.52
	26.5	94	00	46.0	4	47	17.2	2.4781	16	06.68
	27.0	101	05	08.4	+4	28	39.5	2.4812	16	05.47
	27.5	108	08	14.3	4	06	00.7	2.4853	16	03.87
	28.0	115	09	42.7	3	39	44.4	2.4905	16	01.86
	28.5	122	09	12.2	3	10	17.7	2.4968	15	59.44
Mar.	1.0	129	06	21.1	2	38	11.1	2.5043	15	56.58
	1.5	136	00	48.6	2	03	57.1	2.5129	15	53.30
	2.0	142	52	14.6	+1	28	10.0	2.5226	15	49.62
	2.5	149	40	20.6	0	51	24.4	2.5335	15	45.55
	3.0	156	24	50.2	+0	14	14.9	2.5453	15	41.16
	3.5	163	05	29.5	-0	22	45.1	2.5580	15	36.49
	4.0	169	42	07.8	0	59	04.1	2.5714	15	31.61
	4.5	176	14	37.8	-1	34	13.1	2.5853	15	26.60
	5.0	182	42	56.1	-2	07	45.7	2.5995	15	21.54
	5.5	189	07	03.0	2	39	18.9	2.6137	15	16.52
	6.0	195	27	03.1	3	08	32.9	2.6277	15	11.64
	6.5	201	43	05.1	3	35	11.1	2.6413	15	06.97
	7.0	207	55	21.5	3	58	59.9	2.6540	15	02.60
	7.5	214	04	08.6	4	19	48.7	2.6658	14	58.61
	8.0	220	09	46.5	-4	37	29.2	2.6763	14	55.07
	8.5	226	12	38.4	4	51	55.3	2.6854	14	52.06
	9.0	232	13	10.3	5	03	03.0	2.6927	14	49.62
	9.5	238	11	51.0	5	10	49.3	2.6982	14	47.81
	10.0	244	09	11.4	-5	15	13.0	2.7017	14	46.66

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Mar.	10.0	244	09	11.4	-5	15	13.0	2.7017	14	46.66
	10.5	250	05	44.1	5	16	13.4	2.7031	14	46.21
	11.0	256	02	03.2	5	13	51.1	2.7023	14	46.46
	11.5	261	58	43.7	5	08	07.3	2.6994	14	47.44
	12.0	267	56	21.2	4	59	03.8	2.6942	14	49.13
	12.5	273	55	31.2	4	46	43.4	2.6870	14	51.53
	13.0	279	56	48.8	-4	31	09.9	2.6778	14	54.60
	13.5	286	00	48.1	4	12	28.2	2.6667	14	58.32
	14.0	292	08	01.8	3	50	44.6	2.6539	15	02.64
	14.5	298	19	00.1	3	26	07.1	2.6397	15	07.49
	15.0	304	34	10.8	2	58	46.3	2.6244	15	12.80
	15.5	310	53	57.9	2	28	54.9	2.6081	15	18.48
	16.0	317	18	41.4	-1	56	48.7	2.5913	15	24.44
	16.5	323	48	36.3	1	22	47.0	2.5743	15	30.56
	17.0	330	23	52.1	0	47	12.3	2.5574	15	36.72
	17.5	337	04	32.2	-0	10	30.9	2.5408	15	42.81
	18.0	343	50	33.4	+0	26	47.4	2.5251	15	48.69
	18.5	350	41	45.7	1	04	09.6	2.5104	15	54.25
	19.0	357	37	52.0	+1	41	00.2	2.4970	15	59.37
	19.5	4	38	28.8	2	16	41.7	2.4851	16	03.95
	20.0	11	43	06.2	2	50	36.1	2.4750	16	07.91
	20.5	18	51	09.1	3	22	06.0	2.4666	16	11.17
	21.0	26	01	58.1	3	50	35.6	2.4602	16	13.70
	21.5	33	14	50.8	4	15	32.4	2.4557	16	15.49
	22.0	40	29	03.6	+4	36	28.0	2.4531	16	16.53
	22.5	47	43	53.0	4	52	59.4	2.4523	16	16.85
	23.0	54	58	36.9	5	04	49.5	2.4532	16	16.51
	23.5	62	12	36.4	5	11	47.2	2.4555	16	15.56
	24.0	69	25	16.4	5	13	47.9	2.4593	16	14.07
	24.5	76	36	06.5	5	10	53.1	2.4643	16	12.10
	25.0	83	44	41.4	+5	03	09.9	2.4703	16	09.74
	25.5	90	50	41.2	4	50	50.4	2.4771	16	07.06
	26.0	97	53	50.7	4	34	11.3	2.4847	16	04.10
	26.5	104	53	59.4	4	13	33.2	2.4929	16	00.93
	27.0	111	51	00.6	3	49	19.7	2.5016	15	57.58
	27.5	118	44	50.9	3	21	56.8	2.5108	15	54.10
	28.0	125	35	29.2	+2	51	52.7	2.5203	15	50.50
	28.5	132	22	56.0	2	19	36.8	2.5301	15	46.81
	29.0	139	07	13.1	1	45	39.4	2.5402	15	43.03
	29.5	145	48	22.4	1	10	31.2	2.5506	15	39.18
	30.0	152	26	26.2	+0	34	43.0	2.5613	15	35.27
	30.5	159	01	26.2	-0	01	15.1	2.5722	15	31.30
Apr.	31.0	165	33	24.1	-0	36	53.8	2.5834	15	27.29
	31.5	172	02	20.9	1	11	45.3	2.5947	15	23.25
	1.0	178	28	17.5	1	45	23.4	2.6061	15	19.21
	1.5	184	51	14.9	2	17	24.0	2.6175	15	15.18
	2.0	191	11	14.3	-2	47	25.4	2.6289	15	11.22

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Apr.	1.0	178	28	17.5	-1	45	23.4	2.6061	15	19.21
	1.5	184	51	14.9	2	17	24.0	2.6175	15	15.18
	2.0	191	11	14.3	2	47	25.4	2.6289	15	11.22
	2.5	197	28	17.6	3	15	08.1	2.6401	15	07.35
	3.0	203	42	27.8	3	40	15.8	2.6510	15	03.62
	3.5	209	53	49.4	4	02	34.4	2.6615	15	00.07
	4.0	216	02	29.0	-4	21	52.7	2.6713	14	56.77
	4.5	222	08	35.0	4	38	02.0	2.6803	14	53.77
	5.0	228	12	18.6	4	50	55.9	2.6882	14	51.12
	5.5	234	13	53.6	5	00	30.3	2.6950	14	48.87
	6.0	240	13	36.7	5	06	42.9	2.7005	14	47.08
	6.5	246	11	47.5	5	09	33.0	2.7044	14	45.80
	7.0	252	08	48.3	-5	09	01.5	2.7066	14	45.07
	7.5	258	05	04.5	5	05	10.6	2.7070	14	44.94
	8.0	264	01	04.0	4	58	03.2	2.7054	14	45.45
	8.5	269	57	17.2	4	47	43.3	2.7019	14	46.61
	9.0	275	54	16.5	4	34	16.0	2.6963	14	48.45
	9.5	281	52	36.5	4	17	46.8	2.6886	14	50.99
	10.0	287	52	52.9	-3	58	22.5	2.6789	14	54.22
	10.5	293	55	42.5	3	36	10.7	2.6672	14	58.13
	11.0	300	01	42.7	3	11	20.3	2.6537	15	02.70
	11.5	306	11	30.4	2	44	01.9	2.6385	15	07.91
	12.0	312	25	41.5	2	14	27.9	2.6218	15	13.68
	12.5	318	44	50.2	1	42	52.9	2.6039	15	19.96
	13.0	325	09	27.4	-1	09	34.2	2.5851	15	26.66
	13.5	331	40	00.4	-0	34	52.1	2.5657	15	33.67
	14.0	338	16	50.8	+0	00	49.6	2.5461	15	40.88
	14.5	345	00	13.8	0	37	03.6	2.5265	15	48.14
	15.0	351	50	16.6	1	13	19.3	2.5076	15	55.31
	15.5	358	46	57.4	1	49	02.5	2.4896	16	02.21
	16.0	5	50	04.0	+2	23	36.4	2.4729	16	08.70
	16.5	12	59	13.8	2	56	22.3	2.4580	16	14.60
	17.0	20	13	52.9	3	26	40.8	2.4450	16	19.76
	17.5	27	33	17.2	3	53	53.6	2.4344	16	24.05
	18.0	34	56	32.9	4	17	24.8	2.4262	16	27.36
	18.5	42	22	39.0	4	36	42.8	2.4207	16	29.62
	19.0	49	50	29.0	+4	51	21.8	2.4178	16	30.79
	19.5	57	18	54.2	5	01	03.1	2.4176	16	30.88
	20.0	64	46	46.5	5	05	36.0	2.4199	16	29.92
	20.5	72	13	01.4	5	04	57.9	2.4247	16	27.98
	21.0	79	36	40.6	4	59	13.9	2.4316	16	25.16
	21.5	86	56	53.9	4	48	36.6	2.4405	16	21.59
	22.0	94	13	00.7	+4	33	24.5	2.4510	16	17.38
	22.5	101	24	30.4	4	14	01.4	2.4628	16	12.68
	23.0	108	31	02.3	3	50	54.3	2.4757	16	07.61
	23.5	115	32	25.4	3	24	33.2	2.4894	16	02.29
	24.0	122	28	36.8	+2	55	29.1	2.5036	15	56.84

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Apr.	24.0	122	28	36.8	+2	55	29.1	2.5036	15	56.84
	24.5	129	19	40.6	2	24	13.6	2.5180	15	51.35
	25.0	136	05	46.5	1	51	18.3	2.5326	15	45.89
	25.5	142	47	08.5	1	17	13.9	2.5470	15	40.53
	26.0	149	24	03.2	0	42	30.1	2.5612	15	35.31
	26.5	155	56	48.9	+0	07	35.4	2.5750	15	30.29
	27.0	162	25	44.4	-0	27	03.1	2.5885	15	25.46
	27.5	168	51	08.1	1	01	00.1	2.6014	15	20.86
	28.0	175	13	17.5	1	33	51.7	2.6138	15	16.49
	28.5	181	32	28.7	2	05	15.8	2.6257	15	12.36
May	29.0	187	48	56.2	2	34	52.3	2.6369	15	08.45
	29.5	194	02	52.7	3	02	22.6	2.6476	15	04.79
	30.0	200	14	29.1	-3	27	30.3	2.6577	15	01.36
	30.5	206	23	54.9	3	50	01.0	2.6671	14	58.18
	1.0	212	31	18.6	4	09	42.5	2.6758	14	55.24
	1.5	218	36	47.6	4	26	24.6	2.6839	14	52.57
	2.0	224	40	29.2	4	39	59.1	2.6911	14	50.18
	2.5	230	42	30.8	4	50	20.3	2.6974	14	48.08
	3.0	236	43	00.5	-4	57	24.3	2.7028	14	46.30
	3.5	242	42	07.5	5	01	09.2	2.7072	14	44.88
	4.0	248	40	02.6	5	01	34.9	2.7104	14	43.83
	4.5	254	36	58.7	4	58	43.2	2.7123	14	43.21
	5.0	260	33	10.9	4	52	37.2	2.7129	14	43.03
	5.5	266	28	56.8	4	43	21.4	2.7119	14	43.34
	6.0	272	24	37.1	-4	31	01.7	2.7094	14	44.16
	6.5	278	20	34.9	4	15	45.0	2.7051	14	45.55
	7.0	284	17	16.4	3	57	39.2	2.6992	14	47.51
	7.5	290	15	10.7	3	36	53.2	2.6914	14	50.08
	8.0	296	14	49.1	3	13	36.9	2.6817	14	53.28
	8.5	302	16	45.4	2	48	01.1	2.6703	14	57.11
	9.0	308	21	35.5	-2	20	18.1	2.6570	15	01.58
	9.5	314	29	56.4	1	50	41.3	2.6421	15	06.67
	10.0	320	42	25.9	1	19	25.9	2.6256	15	12.37
	10.5	326	59	41.9	0	46	48.8	2.6077	15	18.64
	11.0	333	22	21.0	-0	13	09.4	2.5886	15	25.41
	11.5	339	50	57.8	+0	21	10.7	2.5686	15	32.61
	12.0	346	26	03.0	+0	55	46.8	2.5480	15	40.14
	12.5	353	08	02.1	1	30	11.4	2.5272	15	47.89
	13.0	359	57	13.9	2	03	54.0	2.5065	15	55.71
	13.5	6	53	48.1	2	36	21.1	2.4864	16	03.44
	14.0	13	57	44.0	3	06	57.2	2.4673	16	10.91
	14.5	21	08	48.9	3	35	05.1	2.4496	16	17.92
	15.0	28	26	36.8	+4	00	07.5	2.4338	16	24.29
	15.5	35	50	27.9	4	21	28.4	2.4201	16	29.84
	16.0	43	19	29.0	4	38	34.8	2.4091	16	34.38
	16.5	50	52	34.8	4	50	58.7	2.4008	16	37.78
	17.0	58	28	30.0	+4	58	19.0	2.3957	16	39.94

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
May	17.0	58	28	30.0	+4	58	19.0	2.3957	16	39.94
	17.5	66	05	52.6	5	00	22.4	2.3936	16	40.80
	18.0	73	43	17.8	4	57	05.1	2.3947	16	40.33
	18.5	81	19	22.0	4	48	32.5	2.3989	16	38.59
	19.0	88	52	46.6	4	34	58.7	2.4060	16	35.65
	19.5	96	22	21.5	4	16	46.1	2.4158	16	31.62
	20.0	103	47	07.9	+3	54	23.0	2.4279	16	26.67
	20.5	111	06	19.4	3	28	22.6	2.4420	16	20.96
	21.0	118	19	23.1	2	59	20.9	2.4578	16	14.66
	21.5	125	25	58.6	2	27	55.0	2.4748	16	07.96
	22.0	132	25	57.8	1	54	41.7	2.4927	16	01.01
	22.5	139	19	23.0	1	20	16.9	2.5111	15	53.97
	23.0	146	06	24.8	+0	45	14.0	2.5297	15	46.98
	23.5	152	47	21.0	+0	10	04.5	2.5481	15	40.13
	24.0	159	22	34.1	-0	24	43.3	2.5661	15	33.53
	24.5	165	52	30.2	0	58	43.4	2.5835	15	27.24
	25.0	172	17	37.1	1	31	32.4	2.6001	15	21.33
	25.5	178	38	23.5	2	02	49.5	2.6157	15	15.81
	26.0	184	55	17.7	-2	32	16.0	2.6303	15	10.73
	26.5	191	08	46.8	2	59	35.2	2.6438	15	06.08
	27.0	197	19	16.4	3	24	32.7	2.6562	15	01.88
	27.5	203	27	10.0	3	46	55.3	2.6673	14	58.11
	28.0	209	32	48.8	4	06	32.1	2.6773	14	54.76
	28.5	215	36	31.7	4	23	13.6	2.6861	14	51.83
	29.0	221	38	35.4	-4	36	51.9	2.6937	14	49.29
	29.5	227	39	14.6	4	47	21.0	2.7003	14	47.15
	30.0	233	38	41.9	4	54	36.5	2.7057	14	45.37
	30.5	239	37	08.8	4	58	35.7	2.7100	14	43.97
	31.0	245	34	45.7	4	59	17.6	2.7132	14	42.92
	31.5	251	31	42.6	4	56	43.1	2.7153	14	42.23
June	1.0	257	28	09.2	-4	50	54.6	2.7163	14	41.91
	1.5	263	24	16.0	4	41	56.2	2.7162	14	41.95
	2.0	269	20	14.4	4	29	53.5	2.7149	14	42.38
	2.5	275	16	17.1	4	14	53.8	2.7123	14	43.20
	3.0	281	12	38.8	3	57	05.7	2.7085	14	44.44
	3.5	287	09	36.1	3	36	39.0	2.7034	14	46.12
	4.0	293	07	28.3	-3	13	44.8	2.6969	14	48.25
	4.5	299	06	37.1	2	48	35.4	2.6890	14	50.87
	5.0	305	07	26.8	2	21	24.3	2.6796	14	53.99
	5.5	311	10	24.4	1	52	25.9	2.6688	14	57.62
	6.0	317	15	59.3	1	21	56.0	2.6564	15	01.78
	6.5	323	24	43.0	0	50	11.7	2.6427	15	06.48
	7.0	329	37	08.7	-0	17	31.1	2.6275	15	11.71
	7.5	335	53	50.8	+0	15	45.6	2.6111	15	17.45
	8.0	342	15	23.9	0	49	16.9	2.5934	15	23.69
	8.5	348	42	22.1	1	22	39.3	2.5748	15	30.36
	9.0	355	15	17.3	+1	55	27.2	2.5555	15	37.42

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
June	9.0	355	15	17.3	+1	55	27.2	2.5555	15	37.42
	9.5	1	54	38.5	2	27	12.9	2.5356	15	44.77
	10.0	8	40	49.5	2	57	26.7	2.5155	15	52.31
	10.5	15	34	07.3	3	25	37.3	2.4956	15	59.92
	11.0	22	34	40.4	3	51	11.9	2.4762	16	07.43
	11.5	29	42	26.7	4	13	37.3	2.4577	16	14.69
	12.0	36	57	11.9	+4	32	20.9	2.4406	16	21.52
	12.5	44	18	28.6	4	46	52.1	2.4253	16	27.71
	13.0	51	45	35.1	4	56	43.9	2.4122	16	33.09
	13.5	59	17	36.4	5	01	34.7	2.4016	16	37.47
	14.0	66	53	25.1	5	01	09.8	2.3939	16	40.70
	14.5	74	31	43.8	4	55	23.2	2.3892	16	42.66
	15.0	82	11	08.6	+4	44	17.8	2.3877	16	43.27
	15.5	89	50	12.4	4	28	06.4	2.3895	16	42.51
	16.0	97	27	30.0	4	07	10.6	2.3946	16	40.40
	16.5	105	01	41.0	3	42	00.0	2.4027	16	37.01
	17.0	112	31	34.2	3	13	10.4	2.4137	16	32.46
	17.5	119	56	09.6	2	41	21.9	2.4273	16	26.91
	18.0	127	14	40.3	+2	07	16.5	2.4431	16	20.54
	18.5	134	26	32.6	1	31	36.4	2.4607	16	13.53
	19.0	141	31	26.6	0	55	02.7	2.4796	16	06.09
	19.5	148	29	14.1	+0	18	13.6	2.4995	15	58.39
	20.0	155	19	58.1	-0	18	16.0	2.5200	15	50.62
	20.5	162	03	50.7	0	53	55.2	2.5405	15	42.92
	21.0	168	41	11.0	-1	28	16.7	2.5609	15	35.43
	21.5	175	12	23.9	2	00	57.2	2.5807	15	28.26
	22.0	181	37	58.2	2	31	36.8	2.5996	15	21.50
	22.5	187	58	25.0	2	59	58.8	2.6174	15	15.21
	23.0	194	14	16.9	3	25	49.1	2.6340	15	09.45
	23.5	200	26	06.6	3	48	56.1	2.6492	15	04.24
	24.0	206	34	26.2	-4	09	10.2	2.6629	14	59.61
	24.5	212	39	46.8	4	26	23.4	2.6749	14	55.55
	25.0	218	42	37.5	4	40	29.5	2.6854	14	52.07
	25.5	224	43	25.7	4	51	23.6	2.6942	14	49.14
	26.0	230	42	36.4	4	59	02.2	2.7014	14	46.76
	26.5	236	40	32.5	5	03	23.1	2.7071	14	44.90
	27.0	242	37	34.3	-5	04	25.5	2.7113	14	43.53
	27.5	248	34	00.3	5	02	09.7	2.7141	14	42.63
	28.0	254	30	06.9	4	56	37.7	2.7155	14	42.17
	28.5	260	26	08.8	4	47	53.0	2.7156	14	42.13
	29.0	266	22	19.2	4	36	00.4	2.7145	14	42.48
	29.5	272	18	50.7	4	21	06.5	2.7123	14	43.21
July	30.0	278	15	54.9	-4	03	19.3	2.7089	14	44.30
	30.5	284	13	43.5	3	42	48.6	2.7046	14	45.74
	1.0	290	12	28.4	3	19	45.8	2.6991	14	47.52
	1.5	296	12	22.3	2	54	23.7	2.6927	14	49.64
	2.0	302	13	38.6	-2	26	56.6	2.6853	14	52.09

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
July	1.0	290	12	28.4	-3	19	45.8	2.6991	14	47.52
	1.5	296	12	22.3	2	54	23.7	2.6927	14	49.64
	2.0	302	13	38.6	2	26	56.6	2.6853	14	52.09
	2.5	308	16	32.6	1	57	40.3	2.6769	14	54.89
	3.0	314	21	20.8	1	26	52.0	2.6675	14	58.04
	3.5	320	28	21.6	0	54	50.0	2.6571	15	01.54
	4.0	326	37	55.4	-0	21	54.0	2.6458	15	05.41
	4.5	332	50	24.3	+0	11	35.2	2.6334	15	09.66
	5.0	339	06	12.0	0	45	15.7	2.6201	15	14.27
	5.5	345	25	43.4	1	18	44.4	2.6059	15	19.26
	6.0	351	49	24.4	1	51	37.1	2.5909	15	24.61
	6.5	358	17	40.9	2	23	28.3	2.5750	15	30.29
	7.0	4	50	57.9	+2	53	51.8	2.5585	15	36.29
	7.5	11	29	38.7	3	22	20.3	2.5416	15	42.53
	8.0	18	14	03.7	3	48	25.6	2.5243	15	48.97
	8.5	25	04	28.5	4	11	39.4	2.5070	15	55.52
	9.0	32	01	03.2	4	31	33.3	2.4900	16	02.07
	9.5	39	03	50.0	4	47	40.1	2.4734	16	08.50
	10.0	46	12	42.4	+4	59	34.0	2.4578	16	14.68
	10.5	53	27	23.8	5	06	52.3	2.4433	16	20.44
	11.0	60	47	26.4	5	09	16.6	2.4304	16	25.64
	11.5	68	12	11.4	5	06	33.7	2.4195	16	30.11
	12.0	75	40	48.8	4	58	37.6	2.4108	16	33.68
	12.5	83	12	19.2	4	45	29.9	2.4046	16	36.23
	13.0	90	45	35.2	+4	27	20.7	2.4012	16	37.65
	13.5	98	19	24.3	4	04	28.9	2.4007	16	37.85
	14.0	105	52	31.8	3	37	21.4	2.4032	16	36.81
	14.5	113	23	43.9	3	06	32.2	2.4087	16	34.52
	15.0	120	51	51.4	2	32	41.0	2.4171	16	31.06
	15.5	128	15	51.6	1	56	31.0	2.4283	16	26.51
	16.0	135	34	51.1	+1	18	47.1	2.4419	16	21.02
	16.5	142	48	06.9	0	40	13.7	2.4576	16	14.73
	17.0	149	55	07.5	+0	01	33.5	2.4752	16	07.83
	17.5	156	55	32.2	-0	36	34.4	2.4941	16	00.49
	18.0	163	49	11.5	1	13	34.8	2.5139	15	52.90
	18.5	170	36	05.2	1	48	57.4	2.5343	15	45.23
	19.0	177	16	22.1	-2	22	16.5	2.5549	15	37.63
	19.5	183	50	17.9	2	53	10.8	2.5751	15	30.26
	20.0	190	18	14.3	3	21	23.4	2.5948	15	23.21
	20.5	196	40	37.5	3	46	41.0	2.6135	15	16.61
	21.0	202	57	57.2	4	08	53.3	2.6310	15	10.51
	21.5	209	10	45.1	4	27	53.0	2.6470	15	04.99
	22.0	215	19	34.2	-4	43	34.6	2.6615	15	00.08
	22.5	221	24	58.2	4	55	54.7	2.6741	14	55.81
	23.0	227	27	30.5	5	04	51.2	2.6850	14	52.20
	23.5	233	27	43.7	5	10	23.3	2.6939	14	49.24
	24.0	239	26	09.2	-5	12	31.2	2.7009	14	46.94

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
July	24.0	239	26	09.2	-5	12	31.2	2.7009	14	46.94
	24.5	245	23	17.1	5	11	16.4	2.7060	14	45.26
	25.0	251	19	35.5	5	06	41.0	2.7093	14	44.19
	25.5	257	15	30.7	4	58	48.5	2.7108	14	43.70
	26.0	263	11	26.9	4	47	43.4	2.7106	14	43.75
	26.5	269	07	46.3	4	33	31.4	2.7089	14	44.31
	27.0	275	04	48.9	-4	16	19.6	2.7058	14	45.34
	27.5	281	02	52.8	3	56	16.6	2.7013	14	46.79
	28.0	287	02	14.4	3	33	32.6	2.6957	14	48.64
	28.5	293	03	08.4	3	08	19.5	2.6891	14	50.83
Aug.	29.0	299	05	47.9	2	40	51.0	2.6815	14	53.34
	29.5	305	10	25.2	2	11	22.7	2.6732	14	56.13
	30.0	311	17	11.5	-1	40	12.0	2.6642	14	59.17
	30.5	317	26	17.4	1	07	37.8	2.6545	15	02.44
	31.0	323	37	53.4	-0	34	01.0	2.6443	15	05.91
	31.5	329	52	09.8	+0	00	16.2	2.6337	15	09.56
	1.0	336	09	17.1	0	34	50.1	2.6227	15	13.40
	1.5	342	29	25.9	1	09	16.0	2.6112	15	17.39
	2.0	348	52	47.5	+1	43	08.3	2.5995	15	21.55
	2.5	355	19	33.3	2	16	00.6	2.5874	15	25.85
	3.0	1	49	55.0	2	47	26.2	2.5750	15	30.30
	3.5	8	24	04.0	3	16	58.2	2.5624	15	34.87
	4.0	15	02	11.4	3	44	09.9	2.5496	15	39.57
	4.5	21	44	27.4	4	08	35.0	2.5367	15	44.36
	5.0	28	31	00.2	+4	29	48.2	2.5237	15	49.21
	5.5	35	21	55.9	4	47	25.5	2.5108	15	54.08
	6.0	42	17	17.3	5	01	04.6	2.4981	15	58.92
	6.5	49	17	02.9	5	10	25.8	2.4859	16	03.66
	7.0	56	21	06.5	5	15	12.3	2.4742	16	08.22
	7.5	63	29	15.9	5	15	11.3	2.4633	16	12.50
	8.0	70	41	12.7	+5	10	14.8	2.4534	16	16.41
	8.5	77	56	31.9	5	00	20.1	2.4449	16	19.82
	9.0	85	14	41.4	4	45	30.6	2.4378	16	22.64
	9.5	92	35	03.0	4	25	56.5	2.4326	16	24.75
	10.0	99	56	52.6	4	01	54.8	2.4294	16	26.05
	10.5	107	19	21.4	3	33	49.5	2.4284	16	26.46
	11.0	114	41	37.8	+3	02	10.8	2.4297	16	25.93
	11.5	122	02	48.3	2	27	34.4	2.4335	16	24.42
	12.0	129	22	00.1	1	50	40.1	2.4396	16	21.93
	12.5	136	38	22.6	1	12	10.5	2.4481	16	18.51
	13.0	143	51	09.1	+0	32	49.3	2.4589	16	14.21
	13.5	150	59	38.5	-0	06	40.5	2.4718	16	09.15
	14.0	158	03	16.0	-0	45	38.0	2.4865	16	03.42
	14.5	165	01	34.6	1	23	25.5	2.5027	15	57.18
	15.0	171	54	14.7	1	59	29.4	2.5201	15	50.57
	15.5	178	41	05.0	2	33	21.0	2.5383	15	43.74
	16.0	185	22	01.6	-3	04	36.3	2.5570	15	36.84

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Aug.	16.0	185	22	01.6	-3	04	36.3	2.5570	15	36.84
	16.5	191	57	07.9	3	32	56.1	2.5758	15	30.01
	17.0	198	26	33.7	3	58	05.8	2.5943	15	23.38
	17.5	204	50	34.8	4	19	54.8	2.6122	15	17.06
	18.0	211	09	31.8	4	38	15.9	2.6291	15	11.16
	18.5	217	23	49.5	4	53	04.8	2.6448	15	05.76
	19.0	223	33	55.8	-5	04	19.5	2.6590	15	00.92
	19.5	229	40	21.5	5	12	00.1	2.6715	14	56.70
	20.0	235	43	38.8	5	16	08.1	2.6821	14	53.14
	20.5	241	44	21.3	5	16	46.2	2.6908	14	50.27
	21.0	247	43	03.1	5	13	57.8	2.6974	14	48.08
	21.5	253	40	18.5	5	07	47.5	2.7019	14	46.60
	22.0	259	36	41.2	-4	58	20.4	2.7044	14	45.80
	22.5	265	32	44.3	4	45	42.4	2.7048	14	45.67
	23.0	271	28	59.5	4	30	00.4	2.7032	14	46.18
	23.5	277	25	57.2	4	11	22.1	2.6998	14	47.30
	24.0	283	24	05.9	3	49	56.4	2.6947	14	48.99
	24.5	289	23	52.0	3	25	53.5	2.6880	14	51.20
	25.0	295	25	39.9	-2	59	25.3	2.6799	14	53.87
	25.5	301	29	51.1	2	30	45.3	2.6707	14	56.96
	26.0	307	36	44.9	2	00	09.0	2.6605	15	00.39
	26.5	313	46	37.6	1	27	53.7	2.6496	15	04.12
	27.0	319	59	42.8	0	54	19.3	2.6380	15	08.07
	27.5	326	16	11.2	-0	19	47.4	2.6261	15	12.19
	28.0	332	36	10.9	+0	15	18.1	2.6140	15	16.41
	28.5	338	59	46.8	0	50	31.6	2.6019	15	20.69
	29.0	345	27	01.8	1	25	25.9	2.5899	15	24.96
	29.5	351	57	55.7	1	59	32.5	2.5781	15	29.19
	30.0	358	32	26.6	2	32	22.3	2.5666	15	33.34
	30.5	5	10	30.4	3	03	26.1	2.5556	15	37.37
Sept.	31.0	11	52	01.1	+3	32	14.7	2.5450	15	41.27
	31.5	18	36	51.6	3	58	20.2	2.5349	15	45.01
	1.0	25	24	53.3	4	21	16.4	2.5254	15	48.59
	1.5	32	15	56.6	4	40	38.9	2.5163	15	51.99
	2.0	39	09	51.1	4	56	06.2	2.5079	15	55.20
	2.5	46	06	25.7	5	07	20.2	2.5000	15	58.22
	3.0	53	05	28.4	+5	14	06.2	2.4926	16	01.04
	3.5	60	06	46.7	5	16	13.7	2.4859	16	03.64
	4.0	67	10	06.9	5	13	36.6	2.4798	16	06.00
	4.5	74	15	14.5	5	06	13.5	2.4745	16	08.10
	5.0	81	21	53.6	4	54	07.8	2.4699	16	09.89
	5.5	88	29	46.9	4	37	28.3	2.4662	16	11.33
	6.0	95	38	35.3	+4	16	28.6	2.4636	16	12.39
	6.5	102	47	57.9	3	51	27.5	2.4620	16	13.00
	7.0	109	57	31.7	3	22	48.6	2.4617	16	13.12
	7.5	117	06	51.9	2	51	00.3	2.4628	16	12.69
	8.0	124	15	32.1	+2	16	34.5	2.4653	16	11.69

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Sept.	8.0	124	15	32.1	+2	16	34.5	2.4653	16	11.69
	8.5	131	23	04.0	1	40	06.7	2.4694	16	10.07
	9.0	138	28	58.6	1	02	14.5	2.4752	16	07.82
	9.5	145	32	46.6	+0	23	36.8	2.4826	16	04.94
	10.0	152	33	58.6	-0	15	07.3	2.4915	16	01.46
	10.5	159	32	06.7	0	53	19.8	2.5021	15	57.41
	11.0	166	26	44.7	-1	30	24.4	2.5140	15	52.86
	11.5	173	17	29.4	2	05	48.1	2.5273	15	47.87
	12.0	180	04	00.9	2	39	01.3	2.5416	15	42.53
	12.5	186	46	03.5	3	09	38.9	2.5567	15	36.95
	13.0	193	23	26.4	3	37	19.8	2.5724	15	31.23
	13.5	199	56	03.5	4	01	47.6	2.5884	15	25.49
	14.0	206	23	54.3	-4	22	50.1	2.6043	15	19.83
	14.5	212	47	03.2	4	40	19.0	2.6199	15	14.35
	15.0	219	05	39.9	4	54	09.6	2.6349	15	09.16
	15.5	225	19	58.8	5	04	20.1	2.6489	15	04.35
	16.0	231	30	18.8	5	10	51.2	2.6617	14	59.99
	16.5	237	37	02.8	5	13	45.7	2.6731	14	56.16
	17.0	243	40	37.3	-5	13	07.8	2.6828	14	52.92
	17.5	249	41	31.7	5	09	03.1	2.6907	14	50.31
	18.0	255	40	17.9	5	01	37.9	2.6966	14	48.37
	18.5	261	37	29.9	4	50	59.5	2.7003	14	47.12
	19.0	267	33	42.8	4	37	15.7	2.7020	14	46.58
	19.5	273	29	33.1	4	20	34.7	2.7014	14	46.76
	20.0	279	25	37.4	-4	01	05.5	2.6988	14	47.64
	20.5	285	22	32.2	3	38	57.9	2.6940	14	49.22
	21.0	291	20	53.8	3	14	22.2	2.6872	14	51.45
	21.5	297	21	17.0	2	47	30.4	2.6786	14	54.32
	22.0	303	24	15.3	2	18	35.3	2.6683	14	57.76
	22.5	309	30	19.8	1	47	51.6	2.6566	15	01.72
	23.0	315	39	59.2	-1	15	35.8	2.6437	15	06.13
	23.5	321	53	38.6	0	42	06.7	2.6298	15	10.92
	24.0	328	11	39.3	-0	07	45.0	2.6152	15	16.01
	24.5	334	34	18.0	+0	27	05.9	2.6002	15	21.29
	25.0	341	01	46.6	1	02	00.2	2.5851	15	26.68
	25.5	347	34	11.3	1	36	30.2	2.5701	15	32.07
	26.0	354	11	32.6	+2	10	06.1	2.5556	15	37.37
	26.5	0	53	44.9	2	42	16.8	2.5417	15	42.48
	27.0	7	40	36.6	3	12	30.7	2.5287	15	47.32
	27.5	14	31	50.4	3	40	16.1	2.5168	15	51.81
	28.0	21	27	03.6	4	05	02.6	2.5061	15	55.87
	28.5	28	25	49.0	4	26	21.9	2.4967	15	59.46
	29.0	35	27	35.8	+4	43	48.7	2.4887	16	02.55
	29.5	42	31	50.8	4	57	01.7	2.4821	16	05.11
	30.0	49	37	59.6	5	05	44.3	2.4769	16	07.13
	30.5	56	45	27.8	5	09	45.2	2.4731	16	08.64
Oct.	1.0	63	53	42.5	+5	08	58.7	2.4705	16	09.65

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Oct.	1.0	63	53	42.5	+5	08	58.7	2.4705	16	09.65
	1.5	71	02	12.7	5	03	24.7	2.4691	16	10.19
	2.0	78	10	30.7	4	53	08.6	2.4689	16	10.29
	2.5	85	18	12.4	4	38	21.2	2.4696	16	09.99
	3.0	92	24	57.2	4	19	18.1	2.4713	16	09.32
	3.5	99	30	28.6	3	56	19.3	2.4739	16	08.32
	4.0	106	34	33.1	+3	29	48.4	2.4772	16	07.01
	4.5	113	37	00.3	3	00	12.5	2.4814	16	05.41
	5.0	120	37	42.0	2	28	01.0	2.4862	16	03.53
	5.5	127	36	31.4	1	53	45.5	2.4917	16	01.38
	6.0	134	33	22.4	1	17	59.0	2.4980	15	58.97
	6.5	141	28	09.2	0	41	15.5	2.5050	15	56.28
	7.0	148	20	45.5	+0	04	08.9	2.5128	15	53.33
	7.5	155	11	04.1	-0	32	46.9	2.5213	15	50.11
	8.0	161	58	56.8	1	08	59.2	2.5306	15	46.62
	8.5	168	44	14.3	1	43	56.8	2.5406	15	42.89
	9.0	175	26	46.5	2	17	10.7	2.5514	15	38.92
	9.5	182	06	22.7	2	48	14.5	2.5628	15	34.75
	10.0	188	42	52.2	-3	16	45.0	2.5747	15	30.40
	10.5	195	16	04.7	3	42	22.4	2.5871	15	25.93
	11.0	201	45	51.3	4	04	50.4	2.5999	15	21.39
	11.5	208	12	04.8	4	23	56.6	2.6128	15	16.85
	12.0	214	34	40.6	4	39	32.2	2.6257	15	12.36
	12.5	220	53	37.1	4	51	31.6	2.6383	15	07.99
	13.0	227	08	56.3	-4	59	52.6	2.6504	15	03.83
	13.5	233	20	43.9	5	04	35.8	2.6619	14	59.93
	14.0	239	29	09.7	5	05	44.2	2.6725	14	56.38
	14.5	245	34	27.6	5	03	22.8	2.6819	14	53.23
	15.0	251	36	55.4	4	57	38.2	2.6899	14	50.56
	15.5	257	36	55.1	4	48	38.2	2.6964	14	48.42
	16.0	263	34	52.2	-4	36	31.9	2.7011	14	46.86
	16.5	269	31	15.4	4	21	28.9	2.7040	14	45.92
	17.0	275	26	36.7	4	03	39.3	2.7049	14	45.64
	17.5	281	21	30.5	3	43	13.9	2.7036	14	46.04
	18.0	287	16	33.5	3	20	23.8	2.7002	14	47.16
	18.5	293	12	24.0	2	55	20.8	2.6947	14	48.98
	19.0	299	09	41.4	-2	28	17.3	2.6870	14	51.52
	19.5	305	09	05.8	1	59	26.5	2.6773	14	54.75
	20.0	311	11	17.4	1	29	02.7	2.6657	14	58.66
	20.5	317	16	55.5	0	57	21.6	2.6523	15	03.20
	21.0	323	26	37.8	-0	24	40.5	2.6373	15	08.32
	21.5	329	40	59.6	+0	08	41.4	2.6211	15	13.95
	22.0	336	00	33.0	+0	42	22.6	2.6038	15	20.01
	22.5	342	25	45.3	1	15	59.5	2.5858	15	26.41
	23.0	348	56	58.4	1	49	05.8	2.5675	15	33.02
	23.5	355	34	27.1	2	21	13.1	2.5491	15	39.74
	24.0	2	18	18.4	+2	51	51.1	2.5312	15	46.41

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Oct.	24.0	2	18	18.4	+2	51	51.1	2.5312	15	46.41
	24.5	9	08	30.5	3	20	27.8	2.5139	15	52.91
	25.0	16	04	51.6	3	46	30.7	2.4977	15	59.08
	25.5	23	07	00.3	4	09	27.7	2.4830	16	04.78
	26.0	30	14	25.0	4	28	48.0	2.4699	16	09.89
	26.5	37	26	25.0	4	44	04.3	2.4588	16	14.28
	27.0	44	42	11.7	+4	54	53.3	2.4497	16	17.87
	27.5	52	00	50.2	5	00	57.4	2.4429	16	20.60
	28.0	59	21	22.1	5	02	05.4	2.4384	16	22.41
	28.5	66	42	47.7	4	58	13.5	2.4362	16	23.31
Nov.	29.0	74	04	08.5	4	49	25.3	2.4362	16	23.32
	29.5	81	24	30.0	4	35	51.3	2.4382	16	22.49
	30.0	88	43	03.4	+4	17	49.0	2.4422	16	20.89
	30.5	95	59	07.4	3	55	41.0	2.4479	16	18.62
	31.0	103	12	08.8	3	29	54.7	2.4550	16	15.76
	31.5	110	21	43.0	3	01	00.8	2.4634	16	12.43
	1.0	117	27	33.5	2	29	32.1	2.4729	16	08.72
	1.5	124	29	31.4	1	56	02.8	2.4831	16	04.72
	2.0	131	27	34.0	+1	21	07.2	2.4940	16	00.52
	2.5	138	21	43.9	0	45	19.1	2.5053	15	56.19
	3.0	145	12	07.6	+0	09	11.6	2.5169	15	51.79
	3.5	151	58	53.8	-0	26	43.8	2.5286	15	47.37
	4.0	158	42	12.8	1	01	57.0	2.5404	15	42.96
	4.5	165	22	15.2	1	36	00.1	2.5523	15	38.59
	5.0	171	59	10.8	-2	08	27.2	2.5640	15	34.28
	5.5	178	33	08.4	2	38	54.6	2.5757	15	30.04
	6.0	185	04	15.1	3	07	01.1	2.5873	15	25.88
	6.5	191	32	36.1	3	32	27.9	2.5988	15	21.79
	7.0	197	58	15.0	3	54	59.2	2.6101	15	17.80
	7.5	204	21	13.6	4	14	21.6	2.6212	15	13.90
	8.0	210	41	32.6	-4	30	24.9	2.6321	15	10.11
	8.5	216	59	11.8	4	43	01.5	2.6428	15	06.45
	9.0	223	14	11.1	4	52	06.8	2.6531	15	02.93
	9.5	229	26	30.7	4	57	38.9	2.6629	14	59.58
	10.0	235	36	11.8	4	59	38.6	2.6723	14	56.43
	10.5	241	43	17.4	4	58	09.0	2.6810	14	53.53
	11.0	247	47	52.6	-4	53	15.2	2.6889	14	50.91
	11.5	253	50	05.5	4	45	04.6	2.6958	14	48.61
	12.0	259	50	06.9	4	33	45.8	2.7017	14	46.68
	12.5	265	48	11.1	4	19	28.9	2.7063	14	45.16
	13.0	271	44	35.9	4	02	25.1	2.7095	14	44.11
	13.5	277	39	42.6	3	42	46.2	2.7112	14	43.57
	14.0	283	33	56.0	-3	20	44.9	2.7112	14	43.58
	14.5	289	27	44.2	2	56	34.3	2.7093	14	44.18
	15.0	295	21	38.6	2	30	27.9	2.7056	14	45.40
	15.5	301	16	13.5	2	02	39.7	2.6999	14	47.27
	16.0	307	12	05.8	-1	33	24.4	2.6921	14	49.82

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Nov.	16.0	307	12	05.8	-1	33	24.4	2.6921	14	49.82
	16.5	313	09	54.2	1	02	57.1	2.6824	14	53.06
	17.0	319	10	19.5	-0	31	33.8	2.6707	14	56.98
	17.5	325	14	03.2	+0	00	28.6	2.6570	15	01.58
	18.0	331	21	47.2	0	32	51.7	2.6416	15	06.84
	18.5	337	34	12.6	1	05	15.7	2.6246	15	12.71
	19.0	343	51	59.0	+1	37	19.2	2.6062	15	19.15
	19.5	350	15	42.9	2	08	38.5	2.5868	15	26.07
	20.0	356	45	56.9	2	38	48.2	2.5665	15	33.38
	20.5	3	23	07.2	3	07	20.8	2.5458	15	40.98
	21.0	10	07	33.0	3	33	47.0	2.5250	15	48.71
	21.5	16	59	24.1	3	57	36.3	2.5047	15	56.43
	22.0	23	58	39.3	+4	18	17.6	2.4851	16	03.96
	22.5	31	05	05.7	4	35	20.5	2.4667	16	11.13
	23.0	38	18	17.1	4	48	16.4	2.4500	16	17.75
	23.5	45	37	34.3	4	56	40.3	2.4354	16	23.64
	24.0	53	02	05.3	5	00	12.1	2.4231	16	28.62
	24.5	60	30	47.4	4	58	38.4	2.4135	16	32.56
	25.0	68	02	28.7	+4	51	53.6	2.4067	16	35.35
	25.5	75	35	52.2	4	40	00.8	2.4029	16	36.92
	26.0	83	09	38.7	4	23	12.0	2.4022	16	37.23
	26.5	90	42	30.9	4	01	47.5	2.4044	16	36.32
	27.0	98	13	16.7	3	36	15.1	2.4094	16	34.25
	27.5	105	40	52.2	3	07	08.5	2.4170	16	31.12
	28.0	113	04	23.8	+2	35	05.8	2.4269	16	27.06
	28.5	120	23	09.5	2	00	47.1	2.4389	16	22.22
	29.0	127	36	39.1	1	24	53.5	2.4525	16	16.77
	29.5	134	44	33.7	0	48	05.1	2.4674	16	10.86
	30.0	141	46	45.0	+0	11	00.1	2.4833	16	04.65
	30.5	148	43	13.6	-0	25	46.0	2.4998	15	58.29
Dec.	1.0	155	34	07.2	-1	01	40.8	2.5166	15	51.90
	1.5	162	19	39.5	1	36	15.3	2.5334	15	45.58
	2.0	169	00	08.1	2	09	04.0	2.5500	15	39.42
	2.5	175	35	53.1	2	39	44.6	2.5662	15	33.49
	3.0	182	07	15.8	3	07	58.0	2.5818	15	27.84
	3.5	188	34	37.7	3	33	27.7	2.5968	15	22.50
	4.0	194	58	19.8	-3	56	00.2	2.6109	15	17.50
	4.5	201	18	41.5	4	15	24.3	2.6243	15	12.84
	5.0	207	36	00.7	4	31	31.5	2.6367	15	08.53
	5.5	213	50	33.1	4	44	15.0	2.6483	15	04.56
	6.0	220	02	32.5	4	53	30.7	2.6590	15	00.92
	6.5	226	12	10.8	4	59	16.5	2.6688	14	57.61
	7.0	232	19	38.0	-5	01	32.1	2.6777	14	54.61
	7.5	238	25	03.0	5	00	19.7	2.6858	14	51.92
	8.0	244	28	33.6	4	55	43.2	2.6930	14	49.53
	8.5	250	30	17.1	4	47	48.3	2.6994	14	47.44
	9.0	256	30	20.9	-4	36	42.6	2.7048	14	45.65

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Longitude			Apparent Latitude			True Geocentric Distance (A. U.)	Semi Diameter	
		°	'	"	°	'	"	(X 10 ⁻³)	'	"
Dec.	9.0	256	30	20.9	-4	36	42.6	2.7048	14	45.65
	9.5	262	28	53.2	4	22	35.5	2.7093	14	44.19
	10.0	268	26	03.0	4	05	37.5	2.7128	14	43.04
	10.5	274	22	00.9	3	46	00.8	2.7152	14	42.25
	11.0	280	16	59.7	3	23	58.5	2.7165	14	41.83
	11.5	286	11	14.3	2	59	44.5	2.7166	14	41.80
	12.0	292	05	02.2	-2	33	33.9	2.7154	14	42.20
	12.5	297	58	43.9	2	05	42.1	2.7127	14	43.07
	13.0	303	52	42.6	1	36	25.1	2.7086	14	44.42
	13.5	309	47	24.5	1	05	59.5	2.7029	14	46.29
	14.0	315	43	18.7	0	34	42.2	2.6955	14	48.72
	14.5	321	40	57.0	-0	02	50.9	2.6864	14	51.73
	15.0	327	40	53.4	+0	29	16.5	2.6756	14	55.34
	15.5	333	43	44.3	1	01	21.3	2.6630	14	59.56
	16.0	339	50	07.5	1	33	03.7	2.6488	15	04.40
	16.5	346	00	41.7	2	04	03.4	2.6329	15	09.84
	17.0	352	16	05.7	2	33	58.6	2.6156	15	15.88
	17.5	358	36	57.5	3	02	26.2	2.5969	15	22.46
	18.0	5	03	52.8	+3	29	02.2	2.5771	15	29.54
	18.5	11	37	24.1	3	53	20.9	2.5565	15	37.03
	19.0	18	17	58.6	4	14	55.9	2.5354	15	44.84
	19.5	25	05	56.7	4	33	19.8	2.5141	15	52.85
	20.0	32	01	30.1	4	48	05.7	2.4930	16	00.89
	20.5	39	04	40.1	4	58	47.3	2.4726	16	08.81
	21.0	46	15	15.8	+5	05	00.5	2.4534	16	16.41
	21.5	53	32	53.2	5	06	25.0	2.4357	16	23.50
	22.0	60	56	54.4	5	02	45.5	2.4201	16	29.86
	22.5	68	26	27.9	4	53	53.5	2.4068	16	35.30
	23.0	76	00	29.6	4	39	48.7	2.3964	16	39.64
	23.5	83	37	45.6	4	20	39.6	2.3890	16	42.72
	24.0	91	16	54.2	+3	56	44.5	2.3849	16	44.45
	24.5	98	56	30.7	3	28	30.5	2.3842	16	44.75
	25.0	106	35	10.3	2	56	32.8	2.3869	16	43.63
	25.5	114	11	32.5	2	21	33.0	2.3928	16	41.14
	26.0	121	44	24.6	1	44	16.8	2.4018	16	37.38
	26.5	129	12	43.6	1	05	31.9	2.4137	16	32.49
	27.0	136	35	38.8	+0	26	05.7	2.4280	16	26.64
	27.5	143	52	31.8	-0	13	16.5	2.4443	16	20.04
	28.0	151	02	57.0	0	51	53.3	2.4623	16	12.88
	28.5	158	06	40.4	1	29	07.7	2.4815	16	05.35
	29.0	165	03	38.8	2	04	27.7	2.5015	15	57.65
	29.5	171	53	57.8	2	37	26.7	2.5218	15	49.93
								0.0000		
	30.0	178	37	50.7	-3	07	42.9	2.5421	15	42.35
	30.5	185	15	36.3	3	34	59.2	2.5620	15	35.01
	31.0	191	47	37.8	3	59	02.4	2.5813	15	28.03
	31.5	198	14	21.0	4	19	42.9	2.5997	15	21.46
	32.0	204	36	13.7	-4	36	54.0	2.6170	15	15.38

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Jan.	0.0	3	12	12.74	+22	49	59.75	60	22.33
	0.5	3	43	21.30	24	49	13.83	60	34.95
	1.0	4	15	37.73	26	24	05.49	60	44.21
	1.5	4	48	49.62	27	31	21.43	60	49.66
	2.0	5	22	38.47	28	08	34.77	60	50.99
	2.5	5	56	41.16	28	14	23.53	60	48.01
	3.0	6	30	32.55	+27	48	42.26	60	40.69
	3.5	7	03	48.67	26	52	43.34	60	29.13
	4.0	7	36	09.48	25	28	47.40	60	13.63
	4.5	8	07	20.74	23	40	05.73	59	54.59
	5.0	8	37	14.52	21	30	19.34	59	32.53
	5.5	9	05	48.66	19	03	19.22	59	08.05
	6.0	9	33	05.72	+16	22	50.70	58	41.80
	6.5	9	59	11.55	13	32	22.99	58	14.43
	7.0	10	24	14.18	10	35	03.56	57	46.58
	7.5	10	48	22.80	7	33	36.31	57	18.85
	8.0	11	11	47.13	4	30	22.43	56	51.79
	8.5	11	34	36.91	+1	27	22.84	56	25.86
	9.0	11	57	01.71	-1	33	38.58	56	01.48
	9.5	12	19	10.71	4	31	11.33	55	38.98
	10.0	12	41	12.67	7	23	54.80	55	18.62
	10.5	13	03	15.86	10	10	34.86	55	00.59
	11.0	13	25	28.01	12	50	00.88	54	45.04
	11.5	13	47	56.23	15	21	03.24	54	32.03
	12.0	14	10	46.92	-17	42	31.19	54	21.62
	12.5	14	34	05.60	19	53	11.55	54	13.78
	13.0	14	57	56.66	21	51	47.94	54	08.46
	13.5	15	22	23.17	23	37	00.98	54	05.59
	14.0	15	47	26.54	25	07	29.44	54	05.06
	14.5	16	13	06.27	26	21	52.43	54	06.73
	15.0	16	39	19.80	-27	18	52.55	54	10.45
	15.5	17	06	02.42	27	57	19.99	54	16.04
	16.0	17	33	07.47	28	16	16.90	54	23.32
	16.5	18	00	26.72	28	15	01.77	54	32.11
	17.0	18	27	51.01	27	53	12.97	54	42.21
	17.5	18	55	10.99	27	10	51.07	54	53.42
	18.0	19	22	17.91	-26	08	19.39	55	05.55
	18.5	19	49	04.37	24	46	22.92	55	18.43
	19.0	20	15	24.79	23	06	05.86	55	31.90
	19.5	20	41	15.75	21	08	48.18	55	45.80
	20.0	21	06	36.01	18	56	01.88	56	00.02
	20.5	21	31	26.46	16	29	27.47	56	14.45
	21.0	21	55	49.82	-13	50	50.95	56	29.00
	21.5	22	19	50.43	11	02	01.60	56	43.63
	22.0	22	43	33.95	8	04	50.61	56	58.28
	22.5	23	07	07.08	5	01	10.61	57	12.94
	23.0	23	30	37.40	-1	52	55.86	57	27.57

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Jan.	23.0	23	30	37.40	-1	52	55.86	57	27.57
	23.5	23	54	13.16	+1	17	56.75	57	42.16
	24.0	0	18	03.15	4	29	26.24	57	56.68
	24.5	0	42	16.49	7	39	25.57	58	11.08
	25.0	1	07	02.50	10	45	39.53	58	25.28
	25.5	1	32	30.35	13	45	42.62	58	39.19
	26.0	1	58	48.68	+16	36	57.34	58	52.67
	26.5	2	26	04.97	19	16	33.59	59	05.52
	27.0	2	54	24.81	21	41	29.72	59	17.54
	27.5	3	23	50.89	23	48	36.24	59	28.45
	28.0	3	54	21.97	25	34	42.88	59	37.97
	28.5	4	25	52.01	26	56	49.31	59	45.79
	29.0	4	58	09.72	+27	52	19.13	59	51.58
	29.5	5	30	58.91	28	19	15.15	59	55.04
	30.0	6	03	59.78	28	16	33.17	59	55.90
	30.5	6	36	51.01	27	44	10.92	59	53.94
	31.0	7	09	12.24	26	43	09.66	59	49.01
	31.5	7	40	46.29	25	15	28.07	59	41.06
Feb.	1.0	8	11	20.64	+23	23	49.99	59	30.11
	1.5	8	40	47.96	21	11	29.13	59	16.30
	2.0	9	09	05.80	18	41	53.70	58	59.88
	2.5	9	36	15.79	15	58	33.44	58	41.15
	3.0	10	02	22.62	13	04	49.92	58	20.52
	3.5	10	27	33.03	10	03	50.38	57	58.43
	4.0	10	51	55.00	+6	58	24.45	57	35.36
	4.5	11	15	37.17	3	51	03.31	57	11.81
	5.0	11	38	48.33	+0	44	00.36	56	48.25
	5.5	12	01	37.24	-2	20	47.04	56	25.17
	6.0	12	24	12.37	5	21	35.20	56	02.99
	6.5	12	46	41.84	8	16	51.48	55	42.10
	7.0	13	09	13.34	-11	05	11.63	55	22.84
	7.5	13	31	54.00	13	45	17.19	55	05.51
	8.0	13	54	50.37	16	15	53.27	54	50.35
	8.5	14	18	08.23	18	35	46.57	54	37.55
	9.0	14	41	52.46	20	43	44.10	54	27.25
	9.5	15	06	06.84	22	38	32.30	54	19.55
	10.0	15	30	53.77	-24	18	57.16	54	14.50
	10.5	15	56	14.09	25	43	44.99	54	12.11
	11.0	16	22	06.86	26	51	44.19	54	12.35
	11.5	16	48	29.24	27	41	47.79	54	15.16
	12.0	17	15	16.53	28	12	56.69	54	20.42
	12.5	17	42	22.37	28	24	23.20	54	28.02
	13.0	18	09	39.19	-28	15	34.38	54	37.77
	13.5	18	36	58.75	27	46	14.87	54	49.47
	14.0	19	04	12.83	26	56	28.69	55	02.90
	14.5	19	31	13.93	25	46	39.79	55	17.80
	15.0	19	57	55.82	-24	17	31.41	55	33.89

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Feb.	15.0	19	57	55.82	-24	17	31.41	55	33.89
	15.5	20	24	14.00	22	30	04.46	55	50.88
	16.0	20	50	05.91	20	25	35.24	56	08.46
	16.5	21	15	30.95	18	05	32.96	56	26.32
	17.0	21	40	30.42	15	31	37.38	56	44.17
	17.5	22	05	07.27	12	45	36.74	57	01.72
	18.0	22	29	25.91	-9	49	26.17	57	18.70
	18.5	22	53	31.93	6	45	06.64	57	34.88
	19.0	23	17	31.88	3	34	44.31	57	50.07
	19.5	23	41	33.06	-0	20	30.35	58	04.11
	20.0	0	05	43.33	+2	55	18.93	58	16.89
	20.5	0	30	10.95	6	10	21.67	58	28.35
	21.0	0	55	04.33	+9	22	09.92	58	38.46
	21.5	1	20	31.74	12	28	09.07	58	47.22
	22.0	1	46	41.01	15	25	37.62	58	54.68
	22.5	2	13	38.98	18	11	47.51	59	00.88
	23.0	2	41	30.87	20	43	45.56	59	05.87
	23.5	3	10	19.57	22	58	36.59	59	09.71
	24.0	3	40	04.77	+24	53	28.63	59	12.42
	24.5	4	10	42.27	26	25	40.57	59	14.02
	25.0	4	42	03.58	27	32	51.96	59	14.51
	25.5	5	13	56.06	28	13	13.76	59	13.86
	26.0	5	46	03.75	28	25	38.55	59	12.02
	26.5	6	18	08.83	28	09	47.73	59	08.92
Mar.	27.0	6	49	53.59	+27	26	14.08	59	04.48
	27.5	7	21	02.20	26	16	19.01	58	58.61
	28.0	7	51	22.23	24	42	04.97	58	51.24
	28.5	8	20	45.38	22	46	05.02	58	42.33
	1.0	8	49	07.58	20	31	11.54	58	31.84
	1.5	9	16	28.54	18	00	25.82	58	19.80
	2.0	9	42	51.04	+15	16	49.75	58	06.27
	2.5	10	08	20.07	12	23	19.73	57	51.36
	3.0	10	33	02.18	9	22	42.81	57	35.22
	3.5	10	57	04.78	6	17	34.67	57	18.07
	4.0	11	20	35.76	3	10	18.81	57	00.16
	4.5	11	43	43.10	+0	03	06.77	56	41.77
	5.0	12	06	34.70	-3	02	01.07	56	23.20
	5.5	12	29	18.22	6	03	14.34	56	04.78
	6.0	12	52	00.92	8	58	51.23	55	46.83
	6.5	13	14	49.63	11	47	17.05	55	29.68
	7.0	13	37	50.61	14	27	02.77	55	13.63
	7.5	14	01	09.46	16	56	43.72	54	58.99
	8.0	14	24	50.93	-19	14	58.56	54	46.02
	8.5	14	48	58.80	21	20	28.60	54	34.96
	9.0	15	13	35.64	23	11	57.65	54	26.01
	9.5	15	38	42.64	24	48	12.40	54	19.36
	10.0	16	04	19.42	-26	08	03.44	54	15.14

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Mar.	10.0	16	04	19.42	-26	08	03.44	54	15.14
	10.5	16	30	23.93	27	10	26.90	54	13.46
	11.0	16	56	52.50	27	54	26.54	54	14.40
	11.5	17	23	39.92	28	19	16.12	54	17.98
	12.0	17	50	39.81	28	24	21.77	54	24.19
	12.5	18	17	45.05	28	09	23.92	54	32.99
	13.0	18	44	48.36	-27	34	18.63	54	44.29
	13.5	19	11	42.89	26	39	18.12	54	57.95
	14.0	19	38	22.75	25	24	50.43	55	13.80
	14.5	20	04	43.44	23	51	38.45	55	31.61
	15.0	20	30	42.11	22	00	38.54	55	51.10
	15.5	20	56	17.70	19	52	59.07	56	11.96
	16.0	21	21	30.89	-17	29	59.17	56	33.82
	16.5	21	46	23.97	14	53	07.75	56	56.29
	17.0	22	11	00.69	12	04	03.10	57	18.92
	17.5	22	35	26.03	9	04	32.79	57	41.27
	18.0	22	59	45.98	5	56	33.96	58	02.88
	18.5	23	24	07.40	-2	42	13.86	58	23.29
	19.0	23	48	37.76	+0	36	09.68	58	42.10
	19.5	0	13	25.01	3	56	07.74	58	58.92
	20.0	0	38	37.32	7	15	00.14	59	13.44
	20.5	1	04	22.79	10	29	55.74	59	25.42
	21.0	1	30	49.08	13	37	53.28	59	34.71
	21.5	1	58	02.93	16	35	43.30	59	41.26
	22.0	2	26	09.47	+19	20	11.18	59	45.08
	22.5	2	55	11.48	21	48	01.89	59	46.28
	23.0	3	25	08.59	23	56	06.75	59	45.02
	23.5	3	55	56.53	25	41	32.07	59	41.52
	24.0	4	27	26.75	27	01	49.40	59	36.04
	24.5	4	59	26.58	27	55	06.13	59	28.83
	25.0	5	31	40.05	+28	20	14.70	59	20.17
	25.5	6	03	49.41	28	16	58.31	59	10.30
	26.0	6	35	37.01	27	45	51.80	58	59.45
	26.5	7	06	47.16	26	48	17.15	58	47.80
	27.0	7	37	07.54	25	26	14.72	58	35.52
	27.5	8	06	29.97	23	42	12.12	58	22.74
	28.0	8	34	50.49	+21	38	52.98	58	09.53
	28.5	9	02	08.90	19	19	07.07	57	55.97
	29.0	9	28	28.01	16	45	42.95	57	42.11
	29.5	9	53	52.89	14	01	23.07	57	27.97
	30.0	10	18	30.09	11	08	41.04	57	13.60
	30.5	10	42	27.06	8	10	00.67	56	59.03
	31.0	11	05	51.68	+5	07	36.03	56	44.30
	31.5	11	28	51.95	+2	03	32.22	56	29.47
Apr.	1.0	11	51	35.79	-1	00	13.55	56	14.62
	1.5	12	14	10.83	4	01	50.77	55	59.85
	2.0	12	36	44.37	-6	59	34.45	55	45.29

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Apr.	1.0	11	51	35.79	-1	00	13.55	56	14.62
	1.5	12	14	10.83	4	01	50.77	55	59.85
	2.0	12	36	44.37	6	59	34.45	55	45.29
	2.5	12	59	23.25	9	51	44.08	55	31.08
	3.0	13	22	13.74	12	36	42.80	55	17.38
	3.5	13	45	21.47	15	12	56.71	55	04.38
	4.0	14	08	51.23	-17	38	54.61	54	52.26
	4.5	14	32	46.85	19	53	07.90	54	41.23
	5.0	14	57	10.96	21	54	11.11	54	31.49
	5.5	15	22	04.86	23	40	42.73	54	23.24
	6.0	15	47	28.26	25	11	26.57	54	16.67
	6.5	16	13	19.27	26	25	13.60	54	11.97
	7.0	16	39	34.34	-27	21	04.06	54	09.30
	7.5	17	06	08.40	27	58	09.61	54	08.83
	8.0	17	32	55.20	28	15	55.33	54	10.67
	8.5	17	59	47.72	28	14	01.18	54	14.94
	9.0	18	26	38.75	27	52	22.71	54	21.70
	9.5	18	53	21.45	27	11	10.87	54	31.01
	10.0	19	19	49.86	-26	10	50.98	54	42.87
	10.5	19	45	59.41	24	52	01.13	54	57.23
	11.0	20	11	47.12	23	15	30.20	55	14.03
	11.5	20	37	11.78	21	22	16.01	55	33.13
	12.0	21	02	13.89	19	13	23.78	55	54.33
	12.5	21	26	55.60	16	50	05.18	56	17.39
	13.0	21	51	20.51	-14	13	38.19	56	41.98
	13.5	22	15	33.51	11	25	27.53	57	07.73
	14.0	22	39	40.55	8	27	05.92	57	34.20
	14.5	23	03	48.53	5	20	15.74	58	00.86
	15.0	23	28	05.09	-2	06	51.16	58	27.17
	15.5	23	52	38.46	+1	10	59.74	58	52.53
	16.0	0	17	37.29	+4	30	52.84	59	16.34
	16.5	0	43	10.42	7	50	06.43	59	37.99
	17.0	1	09	26.51	11	05	40.48	59	56.94
	17.5	1	36	33.58	14	14	17.19	60	12.69
	18.0	2	04	38.32	17	12	23.49	60	24.85
	18.5	2	33	45.26	19	56	15.89	60	33.15
	19.0	3	03	55.78	+22	22	08.38	60	37.46
	19.5	3	35	07.05	24	26	23.39	60	37.77
	20.0	4	07	11.29	26	05	45.58	60	34.24
	20.5	4	39	55.58	27	17	36.95	60	27.13
	21.0	5	13	02.50	28	00	10.98	60	16.79
	21.5	5	46	11.68	28	12	42.56	60	03.66
	22.0	6	19	02.08	+27	55	31.44	59	48.22
	22.5	6	51	14.43	27	09	57.75	59	30.95
	23.0	7	22	33.16	25	58	10.96	59	12.34
	23.5	7	52	47.63	24	22	54.86	58	52.82
	24.0	8	21	52.32	+22	27	11.99	58	32.80

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Apr.	24.0	8	21	52.32	+22	27	11.99	58	32.80
	24.5	8	49	46.31	20	14	10.13	58	12.62
	25.0	9	16	32.43	17	46	52.23	57	52.58
	25.5	9	42	16.17	15	08	10.26	57	32.90
	26.0	10	07	04.81	12	20	42.18	57	13.76
	26.5	10	31	06.61	9	26	51.42	56	55.30
	27.0	10	54	30.31	+6	28	47.83	56	37.59
	27.5	11	17	24.73	3	28	29.65	56	20.70
	28.0	11	39	58.52	+0	27	45.67	56	04.65
	28.5	12	02	20.01	-2	31	42.45	55	49.47
	29.0	12	24	37.14	5	28	18.08	55	35.14
	29.5	12	46	57.35	8	20	27.77	55	21.69
	30.0	13	09	27.51	-11	06	39.87	55	09.11
	30.5	13	32	13.82	13	45	23.47	54	57.41
May	1.0	13	55	21.67	16	15	07.83	54	46.64
	1.5	14	18	55.51	18	34	22.41	54	36.83
	2.0	14	42	58.58	20	41	37.38	54	28.03
	2.5	15	07	32.77	22	35	24.85	54	20.33
	3.0	15	32	38.37	-24	14	20.67	54	13.81
	3.5	15	58	13.89	25	37	06.79	54	08.58
	4.0	16	24	16.08	26	42	34.05	54	04.75
	4.5	16	50	39.94	27	29	45.13	54	02.44
	5.0	17	17	19.05	27	57	57.19	54	01.79
	5.5	17	44	05.96	28	06	44.03	54	02.92
	6.0	18	10	52.77	-27	55	57.12	54	05.96
	6.5	18	37	31.81	27	25	45.60	54	11.04
	7.0	19	03	56.22	26	36	34.96	54	18.25
	7.5	19	30	00.47	25	29	04.92	54	27.68
	8.0	19	55	40.73	24	04	06.58	54	39.42
	8.5	20	20	55.01	22	22	39.53	54	53.49
	9.0	20	45	43.21	-20	25	49.28	55	09.90
	9.5	21	10	06.97	18	14	45.24	55	28.61
	10.0	21	34	09.55	15	50	39.53	55	49.54
	10.5	21	57	55.56	13	14	46.75	56	12.53
	11.0	22	21	30.81	10	28	24.60	56	37.39
	11.5	22	45	02.11	7	32	55.32	57	03.83
	12.0	23	08	37.14	-4	29	47.91	57	31.49
	12.5	23	32	24.31	-1	20	40.94	57	59.93
	13.0	23	56	32.64	+1	52	34.30	58	28.64
	13.5	0	21	11.63	5	07	50.34	58	57.03
	14.0	0	46	31.01	8	22	40.32	59	24.45
	14.5	1	12	40.46	11	34	15.33	59	50.20
	15.0	1	39	49.04	+14	39	23.02	60	13.59
	15.5	2	08	04.49	17	34	28.33	60	33.94
	16.0	2	37	32.17	20	15	37.40	60	50.63
	16.5	3	08	13.85	22	38	45.51	61	03.13
	17.0	3	40	06.40	+24	39	50.00	61	11.05

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
May	17.0	3	40	06.40	+24	39	50.00	61	11.05
	17.5	4	13	00.77	26	15	07.70	61	14.19
	18.0	4	46	41.64	27	21	35.21	61	12.49
	18.5	5	20	48.25	27	57	08.63	61	06.08
	19.0	5	54	56.38	28	00	57.98	60	55.27
	19.5	6	28	41.32	27	33	32.39	60	40.50
	20.0	7	01	40.89	+26	36	34.25	60	22.33
	20.5	7	33	37.81	25	12	44.20	60	01.36
	21.0	8	04	20.97	23	25	20.95	59	38.24
	21.5	8	33	45.35	21	18	00.91	59	13.62
	22.0	9	01	51.22	18	54	21.18	58	48.12
	22.5	9	28	42.90	16	17	47.62	58	22.27
	23.0	9	54	27.41	+13	31	28.06	57	56.58
	23.5	10	19	13.46	10	38	09.62	57	31.44
	24.0	10	43	10.56	7	40	19.06	57	07.21
	24.5	11	06	28.48	4	40	04.81	56	44.13
	25.0	11	29	16.88	+1	39	20.00	56	22.40
	25.5	11	51	45.10	-1	20	14.25	56	02.17
	26.0	12	14	02.03	-4	17	05.58	55	43.50
	26.5	12	36	16.00	7	09	47.43	55	26.44
	27.0	12	58	34.80	9	56	56.55	55	11.00
	27.5	13	21	05.52	12	37	10.87	54	57.15
	28.0	13	43	54.50	15	09	08.09	54	44.87
	28.5	14	07	07.15	17	31	24.77	54	34.10
	29.0	14	30	47.80	-19	42	36.19	54	24.80
	29.5	14	54	59.44	21	41	16.95	54	16.91
	30.0	15	19	43.52	23	26	02.38	54	10.40
	30.5	15	44	59.71	24	55	30.77	54	05.23
	31.0	16	10	45.76	26	08	26.34	54	01.39
	31.5	16	36	57.49	27	03	42.67	53	58.86
June	1.0	17	03	28.94	-27	40	26.26	53	57.67
	1.5	17	30	12.71	27	57	59.69	53	57.84
	2.0	17	57	00.54	27	56	04.05	53	59.41
	2.5	18	23	43.92	27	34	39.97	54	02.43
	3.0	18	50	14.84	26	54	07.30	54	06.99
	3.5	19	16	26.40	25	55	03.35	54	13.14
	4.0	19	42	13.30	-24	38	20.06	54	20.98
	4.5	20	07	32.11	23	05	00.61	54	30.58
	5.0	20	32	21.43	21	16	15.93	54	42.02
	5.5	20	56	41.77	19	13	21.61	54	55.36
	6.0	21	20	35.40	16	57	35.51	55	10.64
	6.5	21	44	06.14	14	30	16.23	55	27.89
	7.0	22	07	19.12	-11	52	42.58	55	47.09
	7.5	22	30	20.59	9	06	13.87	56	08.18
	8.0	22	53	17.72	6	12	11.14	56	31.07
	8.5	23	16	18.49	3	11	59.10	56	55.58
	9.0	23	39	31.61	-0	07	08.73	57	21.48

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
June	9.0	23	39	31.61	-0	07	08.73	57	21.48
	9.5	0	03	06.38	+3	00	39.55	57	48.48
	10.0	0	27	12.61	6	09	32.32	58	16.17
	10.5	0	52	00.43	9	17	19.39	58	44.09
	11.0	1	17	40.03	12	21	30.29	59	11.68
	11.5	1	44	21.15	15	19	11.50	59	38.35
	12.0	2	12	12.42	+18	07	05.25	60	03.40
	12.5	2	41	20.30	20	41	31.21	60	26.14
	13.0	3	11	47.80	22	58	32.12	60	45.88
	13.5	3	43	33.09	24	54	04.81	61	01.97
	14.0	4	16	28.18	26	24	16.95	61	13.83
	14.5	4	50	18.34	27	25	48.39	61	21.03
	15.0	5	24	42.63	+27	56	13.96	61	23.27
	15.5	5	59	15.81	27	54	22.50	61	20.47
	16.0	6	33	31.39	27	20	26.93	61	12.71
	16.5	7	07	05.04	26	16	02.12	61	00.27
	17.0	7	39	37.36	24	43	51.29	60	43.58
	17.5	8	10	55.44	22	47	24.97	60	23.21
	18.0	8	40	53.05	+20	30	38.11	59	59.81
	18.5	9	09	29.77	17	57	29.86	59	34.09
	19.0	9	36	49.64	15	11	48.79	59	06.76
	19.5	10	02	59.79	12	17	03.75	58	38.50
	20.0	10	28	09.17	9	16	19.81	58	09.96
	20.5	10	52	27.63	6	12	17.81	57	41.69
	21.0	11	16	05.33	+3	07	16.24	57	14.20
	21.5	11	39	12.28	+0	03	14.41	56	47.87
	22.0	12	01	58.16	-2	58	03.84	56	23.05
	22.5	12	24	32.13	5	55	06.35	55	59.97
	23.0	12	47	02.78	8	46	29.21	55	38.81
	23.5	13	09	38.04	11	30	53.56	55	19.69
	24.0	13	32	25.12	-14	07	03.14	55	02.67
	24.5	13	55	30.39	16	33	42.23	54	47.78
	25.0	14	18	59.22	18	49	34.50	54	34.98
	25.5	14	42	55.80	20	53	22.45	54	24.25
	26.0	15	07	22.89	22	43	47.86	54	15.50
	26.5	15	32	21.62	24	19	33.06	54	08.66
	27.0	15	57	51.26	-25	39	23.16	54	03.64
	27.5	16	23	49.09	26	42	09.02	54	00.33
	28.0	16	50	10.47	27	26	50.82	53	58.64
	28.5	17	16	49.01	27	52	41.74	53	58.49
	29.0	17	43	36.97	27	59	11.24	53	59.79
	29.5	18	10	25.90	27	46	07.54	54	02.47
July	30.0	18	37	07.27	-27	13	38.68	54	06.47
	30.5	19	03	33.22	26	22	12.23	54	11.75
	1.0	19	29	37.12	25	12	33.43	54	18.28
	1.5	19	55	14.06	23	45	42.44	54	26.05
	2.0	20	20	21.04	-22	02	50.87	54	35.07

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
July	1.0	19	29	37.12	-25	12	33.43	54	18.28
	1.5	19	55	14.06	23	45	42.44	54	26.05
	2.0	20	20	21.04	22	02	50.87	54	35.07
	2.5	20	44	57.08	20	05	18.28	54	45.34
	3.0	21	09	03.05	17	54	29.05	54	56.90
	3.5	21	32	41.52	15	31	49.89	55	09.77
	4.0	21	55	56.54	-12	58	48.12	55	23.98
	4.5	22	18	53.35	10	16	50.85	55	39.56
	5.0	22	41	38.24	7	27	25.02	55	56.51
	5.5	23	04	18.34	4	31	58.09	56	14.82
	6.0	23	27	01.51	-1	31	59.56	56	34.45
	6.5	23	49	56.27	+1	30	57.03	56	55.33
	7.0	0	13	11.66	+4	35	11.49	57	17.33
	7.5	0	36	57.17	7	38	54.01	57	40.27
	8.0	1	01	22.60	10	40	01.95	58	03.91
	8.5	1	26	37.74	13	36	16.63	58	27.94
	9.0	1	52	51.99	16	25	00.67	58	51.99
	9.5	2	20	13.74	19	03	16.47	59	15.61
	10.0	2	48	49.40	+21	27	46.86	59	38.29
	10.5	3	18	42.29	23	34	59.08	59	59.46
	11.0	3	49	51.33	25	21	13.17	60	18.54
	11.5	4	22	09.87	26	42	55.63	60	34.93
	12.0	4	55	25.02	27	36	57.60	60	48.06
	12.5	5	29	18.01	28	00	55.39	60	57.43
	13.0	6	03	25.69	+27	53	29.09	61	02.63
	13.5	6	37	23.24	27	14	34.69	61	03.37
	14.0	7	10	47.18	26	05	25.93	60	59.53
	14.5	7	43	18.14	24	28	25.61	60	51.15
	15.0	8	14	42.53	22	26	48.74	60	38.44
	15.5	8	44	52.98	20	04	22.18	60	21.75
	16.0	9	13	47.79	+17	25	05.08	60	01.57
	16.5	9	41	29.78	14	32	53.05	59	38.48
	17.0	10	08	05.02	11	31	27.23	59	13.13
	17.5	10	33	41.59	8	24	08.02	58	46.19
	18.0	10	58	28.72	5	13	52.68	58	18.32
	18.5	11	22	36.06	+2	03	15.57	57	50.16
	19.0	11	46	13.27	-1	05	29.80	57	22.28
	19.5	12	09	29.74	4	10	27.78	56	55.19
	20.0	12	32	34.38	7	09	57.17	56	29.34
	20.5	12	55	35.57	10	02	27.83	56	05.08
	21.0	13	18	40.99	12	46	37.49	55	42.70
	21.5	13	41	57.58	15	21	09.03	55	22.42
	22.0	14	05	31.39	-17	44	48.25	55	04.40
	22.5	14	29	27.42	19	56	22.39	54	48.73
	23.0	14	53	49.43	21	54	39.42	54	35.47
	23.5	15	18	39.71	23	38	28.09	54	24.62
	24.0	15	43	58.91	-25	06	39.01	54	16.14

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
July	24.0	15	43	58.91	-25	06	39.01	54	16.14
	24.5	16	09	45.83	26	18	06.51	54	09.99
	25.0	16	35	57.42	27	11	51.30	54	06.06
	25.5	17	02	28.79	27	47	03.54	54	04.26
	26.0	17	29	13.54	28	03	06.10	54	04.45
	26.5	17	56	04.15	27	59	37.38	54	06.50
	27.0	18	22	52.60	-27	36	33.40	54	10.27
	27.5	18	49	30.99	26	54	08.66	54	15.62
	28.0	19	15	52.21	25	52	55.82	54	22.39
	28.5	19	41	50.45	24	33	44.09	54	30.44
	29.0	20	07	21.56	22	57	36.93	54	39.65
	29.5	20	32	23.22	21	05	49.07	54	49.89
	30.0	20	56	54.98	-18	59	43.64	55	01.06
	30.5	21	20	58.11	16	40	49.51	55	13.05
Aug.	31.0	21	44	35.43	14	10	39.12	55	25.79
	31.5	22	07	51.08	11	30	47.01	55	39.22
	1.0	22	30	50.30	8	42	48.93	55	53.29
	1.5	22	53	39.25	5	48	21.70	56	07.96
	2.0	23	16	24.86	-2	49	03.51	56	23.21
	2.5	23	39	14.67	+0	13	25.08	56	39.01
	3.0	0	02	16.78	3	17	19.81	56	55.33
	3.5	0	25	39.68	6	20	50.91	57	12.14
	4.0	0	49	32.19	9	22	01.03	57	29.38
	4.5	1	14	03.21	12	18	43.05	57	46.96
	5.0	1	39	21.50	+15	08	38.00	58	04.78
	5.5	2	05	35.17	17	49	13.50	58	22.67
	6.0	2	32	51.16	20	17	43.26	58	40.44
	6.5	3	01	14.35	22	31	08.45	58	57.84
	7.0	3	30	46.61	24	26	21.72	59	14.58
	7.5	4	01	25.83	26	00	14.71	59	30.30
	8.0	4	33	05.03	+27	09	49.23	59	44.64
	8.5	5	05	32.09	27	52	31.61	59	57.18
	9.0	5	38	30.22	28	06	28.21	60	07.52
	9.5	6	11	39.38	27	50	39.20	60	15.26
	10.0	6	44	38.45	27	05	07.24	60	20.04
	10.5	7	17	07.67	25	50	58.95	60	21.55
	11.0	7	48	50.75	+24	10	18.65	60	19.59
	11.5	8	19	36.16	22	05	56.31	60	14.04
	12.0	8	49	17.51	19	41	12.53	60	04.92
	12.5	9	17	53.18	16	59	43.54	59	52.35
	13.0	9	45	25.43	14	05	08.40	59	36.58
	13.5	10	11	59.39	11	00	59.28	59	17.98
	14.0	10	37	42.10	+7	50	35.06	58	56.97
	14.5	11	02	41.71	4	36	57.76	58	34.06
	15.0	11	27	06.89	+1	22	51.17	58	09.79
	15.5	11	51	06.39	-1	49	18.78	57	44.71
	16.0	12	14	48.77	-4	57	22.75	57	19.38

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Aug.	16.0	12	14	48.77	-4	57	22.75	57	19.38
	16.5	12	38	22.20	7	59	25.84	56	54.30
	17.0	13	01	54.34	10	53	45.36	56	29.95
	17.5	13	25	32.16	13	38	48.40	56	06.76
	18.0	13	49	21.84	16	13	09.63	55	45.09
	18.5	14	13	28.66	18	35	29.55	55	25.25
	19.0	14	37	56.75	-20	44	33.10	55	07.49
	19.5	15	02	48.99	22	39	09.06	54	52.00
	20.0	15	28	06.75	24	18	10.09	54	38.93
	20.5	15	53	49.80	25	40	33.53	54	28.36
	21.0	16	19	56.18	26	45	22.91	54	20.35
	21.5	16	46	22.26	27	31	50.00	54	14.89
	22.0	17	13	02.88	-27	59	17.08	54	11.96
	22.5	17	39	51.70	28	07	19.29	54	11.48
	23.0	18	06	41.67	27	55	46.37	54	13.36
	23.5	18	33	25.56	27	24	43.87	54	17.47
	24.0	18	59	56.57	26	34	33.30	54	23.67
	24.5	19	26	08.85	25	25	51.52	54	31.78
	25.0	19	51	57.88	-23	59	29.26	54	41.60
	25.5	20	17	20.74	22	16	29.23	54	52.93
	26.0	20	42	16.19	20	18	04.05	55	05.55
	26.5	21	06	44.65	18	05	34.25	55	19.23
	27.0	21	30	48.05	15	40	26.66	55	33.74
	27.5	21	54	29.68	13	04	13.13	55	48.86
	28.0	22	17	53.96	-10	18	29.77	56	04.37
	28.5	22	41	06.28	7	24	56.62	56	20.06
	29.0	23	04	12.80	4	25	17.69	56	35.75
	29.5	23	27	20.35	-1	21	21.36	56	51.28
	30.0	23	50	36.25	+1	44	58.94	57	06.50
	30.5	0	14	08.25	4	51	43.94	57	21.31
Sept.	31.0	0	38	04.35	+7	56	47.47	57	35.62
	31.5	1	02	32.61	10	57	55.48	57	49.36
	1.0	1	27	40.92	13	52	45.18	58	02.49
	1.5	1	53	36.64	16	38	44.57	58	14.97
	2.0	2	20	26.06	19	13	12.74	58	26.77
	2.5	2	48	13.81	21	33	21.47	58	37.87
	3.0	3	17	02.05	+23	36	18.56	58	48.22
	3.5	3	46	49.70	25	19	13.58	58	57.77
	4.0	4	17	31.74	26	39	26.01	59	06.44
	4.5	4	48	58.91	27	34	35.57	59	14.13
	5.0	5	20	57.91	28	02	53.61	59	20.70
	5.5	5	53	12.40	28	03	13.49	59	26.01
	6.0	6	25	24.51	+27	35	18.05	59	29.88
	6.5	6	57	16.77	26	39	42.17	59	32.12
	7.0	7	28	33.93	25	17	49.94	59	32.55
	7.5	7	59	04.28	23	31	47.28	59	31.00
	8.0	8	28	40.33	+21	24	11.65	59	27.30

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Sept.	8.0	8	28	40.33	+21	24	11.65	59	27.30
	8.5	8	57	18.75	18	58	01.01	59	21.36
	9.0	9	24	59.92	16	16	23.73	59	13.10
	9.5	9	51	47.15	13	22	30.30	59	02.55
	10.0	10	17	45.86	10	19	27.30	58	49.77
	10.5	10	43	02.89	7	10	13.34	58	34.90
	11.0	11	07	45.87	+3	57	36.70	58	18.17
	11.5	11	32	02.76	+0	44	14.12	57	59.85
	12.0	11	56	01.57	-2	27	29.37	57	40.26
	12.5	12	19	50.05	5	35	20.17	57	19.77
	13.0	12	43	35.55	8	37	15.34	56	58.78
	13.5	13	07	24.88	11	31	21.65	56	37.69
	14.0	13	31	24.10	-14	15	54.61	56	16.90
	14.5	13	55	38.43	16	49	17.52	55	56.80
	15.0	14	20	12.05	19	10	00.79	55	37.74
	15.5	14	45	07.92	21	16	41.57	55	20.07
	16.0	15	10	27.61	23	08	03.89	55	04.07
	16.5	15	36	11.16	24	42	59.22	54	50.01
	17.0	16	02	16.98	-26	00	27.52	54	38.10
	17.5	16	28	41.88	26	59	38.65	54	28.51
	18.0	16	55	21.21	27	39	53.99	54	21.39
	18.5	17	22	09.16	28	00	47.93	54	16.81
	19.0	17	48	59.16	28	02	08.94	54	14.84
	19.5	18	15	44.43	27	44	00.14	54	15.49
	20.0	18	42	18.48	-27	06	39.03	54	18.73
	20.5	19	08	35.63	26	10	36.63	54	24.51
	21.0	19	34	31.41	24	56	35.92	54	32.72
	21.5	20	00	02.81	23	25	30.10	54	43.23
	22.0	20	25	08.41	21	38	20.77	54	55.87
	22.5	20	49	48.37	19	36	16.40	55	10.41
	23.0	21	14	04.36	-17	20	31.14	55	26.62
	23.5	21	37	59.34	14	52	24.22	55	44.21
	24.0	22	01	37.44	12	13	19.83	56	02.87
	24.5	22	25	03.76	9	24	47.51	56	22.27
	25.0	22	48	24.22	6	28	22.86	56	42.05
	25.5	23	11	45.39	3	25	48.59	57	01.85
	26.0	23	35	14.42	-0	18	55.65	57	21.31
	26.5	23	58	58.85	+2	50	15.54	57	40.09
	27.0	0	23	06.51	5	59	34.07	57	57.85
	27.5	0	47	45.29	9	06	37.71	58	14.31
	28.0	1	13	02.95	12	08	52.58	58	29.23
	28.5	1	39	06.68	15	03	33.43	58	42.42
	29.0	2	06	02.64	+17	47	45.10	58	53.75
	29.5	2	33	55.31	20	18	25.21	59	03.15
	30.0	3	02	46.75	22	32	28.78	59	10.59
Oct.	30.5	3	32	35.82	24	26	54.98	59	16.13
	1.0	4	03	17.47	+25	58	56.01	59	19.83

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Oct.	1.0	4	03	17.47	+25	58	56.01	59	19.83
	1.5	4	34	42.53	27	06	07.62	59	21.80
	2.0	5	06	37.84	27	46	39.99	59	22.17
	2.5	5	38	47.29	27	59	27.17	59	21.07
	3.0	6	10	53.28	27	44	12.99	59	18.63
	3.5	6	42	38.60	27	01	32.13	59	14.95
	4.0	7	13	48.23	+25	52	45.82	59	10.14
	4.5	7	44	10.64	24	19	53.60	59	04.27
	5.0	8	13	38.39	22	25	22.66	58	57.37
	5.5	8	42	08.21	20	11	57.10	58	49.48
	6.0	9	09	40.44	17	42	28.66	58	40.61
	6.5	9	36	18.34	14	59	49.59	58	30.75
	7.0	10	02	07.29	+12	06	47.96	58	19.91
	7.5	10	27	14.09	9	06	04.95	58	08.08
	8.0	10	51	46.35	6	00	13.73	57	55.29
	8.5	11	15	52.08	+2	51	39.32	57	41.57
	9.0	11	39	39.31	-0	17	21.00	57	27.00
	9.5	12	03	15.93	3	24	36.98	57	11.67
	10.0	12	26	49.42	-6	28	04.63	56	55.72
	10.5	12	50	26.77	9	25	45.63	56	39.32
	11.0	13	14	14.29	12	15	46.84	56	22.66
	11.5	13	38	17.46	14	56	20.10	56	05.96
	12.0	14	02	40.76	17	25	42.43	55	49.47
	12.5	14	27	27.44	19	42	16.45	55	33.44
	13.0	14	52	39.39	-21	44	31.41	55	18.15
	13.5	15	18	16.87	23	31	04.50	55	03.85
	14.0	15	44	18.48	25	00	42.57	54	50.80
	14.5	16	10	41.10	26	12	24.14	54	39.26
	15.0	16	37	20.01	27	05	21.29	54	29.45
	15.5	17	04	09.19	27	39	01.44	54	21.58
	16.0	17	31	01.74	-27	53	08.35	54	15.85
	16.5	17	57	50.41	27	47	42.49	54	12.40
	17.0	18	24	28.20	27	23	00.26	54	11.37
	17.5	18	50	48.90	26	39	32.50	54	12.87
	18.0	19	16	47.54	25	38	02.18	54	16.95
	18.5	19	42	20.69	24	19	21.87	54	23.65
	19.0	20	07	26.60	-22	44	31.10	54	32.96
	19.5	20	32	05.18	20	54	34.22	54	44.83
	20.0	20	56	17.95	18	50	38.70	54	59.17
	20.5	21	20	07.80	16	33	54.30	55	15.84
	21.0	21	43	38.87	14	05	32.86	55	34.63
	21.5	22	06	56.33	11	26	48.91	55	55.31
	22.0	22	30	06.21	-8	39	00.88	56	17.58
	22.5	22	53	15.29	5	43	32.80	56	41.06
	23.0	23	16	30.94	-2	41	56.50	57	05.36
	23.5	23	40	01.07	+0	24	06.07	57	30.01
	24.0	0	03	53.96	+3	32	40.30	57	54.51

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Oct.	24.0	0	03	53.96	+3	32	40.30	57	54.51
	24.5	0	28	18.16	6	41	36.69	58	18.36
	25.0	0	53	22.23	9	48	28.90	58	41.01
	25.5	1	19	14.43	12	50	32.67	59	01.95
	26.0	1	46	02.22	15	44	46.07	59	20.70
	26.5	2	13	51.60	18	27	51.45	59	36.84
	27.0	2	42	46.25	+20	56	20.06	59	50.02
	27.5	3	12	46.56	23	06	39.59	60	00.01
	28.0	3	43	48.70	24	55	25.02	60	06.67
	28.5	4	15	43.96	26	19	32.28	60	09.98
Nov.	29.0	4	48	18.71	27	16	33.22	60	10.01
	29.5	5	21	15.22	27	44	49.52	60	06.97
	30.0	5	54	13.27	+27	43	42.31	60	01.11
	30.5	6	26	52.45	27	13	35.33	59	52.76
	31.0	6	58	54.43	26	15	50.51	59	42.28
	31.5	7	30	04.79	24	52	37.20	59	30.04
	1.0	8	00	13.95	23	06	37.94	59	16.40
	1.5	8	29	17.31	21	00	53.62	59	01.72
	2.0	8	57	14.69	+18	38	30.85	58	46.29
	2.5	9	24	09.39	16	02	32.49	58	30.40
	3.0	9	50	07.26	13	15	51.86	58	14.24
	3.5	10	15	15.78	10	21	09.96	57	58.01
	4.0	10	39	43.34	7	20	54.93	57	41.83
	4.5	11	03	38.76	4	17	23.00	57	25.80
	5.0	11	27	10.90	+1	12	40.21	57	09.97
	5.5	11	50	28.40	-1	51	15.49	56	54.40
	6.0	12	13	39.53	4	52	32.21	56	39.11
	6.5	12	36	52.05	7	49	22.33	56	24.12
	7.0	13	00	13.06	10	40	01.07	56	09.45
	7.5	13	23	48.88	13	22	45.59	55	55.14
	8.0	13	47	44.89	-15	55	54.61	55	41.23
	8.5	14	12	05.29	18	17	48.72	55	27.77
	9.0	14	36	52.93	20	26	51.37	55	14.85
	9.5	15	02	09.02	22	21	30.50	55	02.56
	10.0	15	27	53.01	24	00	20.91	54	51.01
	10.5	15	54	02.44	25	22	07.03	54	40.35
	11.0	16	20	32.98	-26	25	45.96	54	30.72
	11.5	16	47	18.63	27	10	30.39	54	22.27
	12.0	17	14	12.11	27	35	50.91	54	15.19
	12.5	17	41	05.39	27	41	37.28	54	09.63
	13.0	18	07	50.40	27	27	58.56	54	05.77
	13.5	18	34	19.60	26	55	21.77	54	03.78
	14.0	19	00	26.65	-26	04	29.45	54	03.81
	14.5	19	26	06.79	24	56	16.44	54	06.01
	15.0	19	51	17.04	23	31	46.33	54	10.50
	15.5	20	15	56.34	21	52	08.12	54	17.38
	16.0	20	40	05.41	-19	58	33.32	54	26.74

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Nov.	16.0	20	40	05.41	-19	58	33.32	54	26.74
	16.5	21	03	46.58	17	52	13.98	54	38.62
	17.0	21	27	03.60	15	34	21.49	54	53.02
	17.5	21	50	01.39	13	06	06.32	55	09.91
	18.0	22	12	45.86	10	28	38.60	55	29.21
	18.5	22	35	23.75	7	43	09.43	55	50.78
	19.0	22	58	02.50	-4	50	52.89	56	14.41
	19.5	23	20	50.19	-1	53	08.54	56	39.82
	20.0	23	43	55.42	+1	08	35.53	57	06.67
	20.5	0	07	27.27	4	12	39.41	57	34.55
	21.0	0	31	35.15	7	17	07.81	58	02.94
	21.5	0	56	28.61	10	19	46.75	58	31.28
	22.0	1	22	17.01	+13	18	00.72	58	58.95
	22.5	1	49	08.96	16	08	51.10	59	25.27
	23.0	2	17	11.61	18	48	56.57	59	49.57
	23.5	2	46	29.56	21	14	36.69	60	11.18
	24.0	3	17	03.68	23	21	59.67	60	29.49
	24.5	3	48	49.86	25	07	15.04	60	43.96
	25.0	4	21	38.08	+26	26	50.93	60	54.20
	25.5	4	55	12.29	27	17	54.26	60	59.94
	26.0	5	29	11.35	27	38	30.17	61	01.10
	26.5	6	03	11.19	27	27	56.21	60	57.76
	27.0	6	36	47.70	26	46	47.21	60	50.15
	27.5	7	09	39.67	25	36	49.48	60	38.65
	28.0	7	41	30.95	+24	00	46.08	60	23.74
	28.5	8	12	11.43	22	01	57.30	60	05.98
	29.0	8	41	36.99	19	44	00.96	59	45.96
	29.5	9	09	48.54	17	10	35.95	59	24.27
	30.0	9	36	50.78	14	25	10.69	59	01.49
	30.5	10	02	51.03	11	30	56.48	58	38.13
Dec.	1.0	10	27	58.11	+8	30	44.79	58	14.65
	1.5	10	52	21.61	5	27	07.59	57	51.44
	2.0	11	16	11.34	+2	22	19.23	57	28.83
	2.5	11	39	36.94	-0	41	40.58	57	07.06
	3.0	12	02	47.70	3	43	03.59	56	46.32
	3.5	12	25	52.38	6	40	09.87	56	26.73
	4.0	12	48	59.11	-9	31	25.00	56	08.36
	4.5	13	12	15.30	12	15	17.77	55	51.26
	5.0	13	35	47.43	14	50	18.50	55	35.42
	5.5	13	59	40.98	17	14	58.08	55	20.84
	6.0	14	24	00.14	19	27	47.84	55	07.49
	6.5	14	48	47.63	21	27	20.24	54	55.32
	7.0	15	14	04.45	-23	12	10.52	54	44.31
	7.5	15	39	49.67	24	40	59.21	54	34.43
	8.0	16	06	00.37	25	52	35.26	54	25.65
	8.5	16	32	31.66	26	45	59.59	54	17.98
	9.0	16	59	16.94	-27	20	28.54	54	11.44

MOON, 2026
FOR 0^h AND 12^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			Horizontal Parallax	
		h	m	s	°	'	"	'	"
Dec.	9.0	16	59	16.94	-27	20	28.54	54	11.44
	9.5	17	26	08.33	27	35	36.71	54	06.04
	10.0	17	52	57.31	27	31	18.67	54	01.85
	10.5	18	19	35.39	27	07	49.27	53	58.94
	11.0	18	45	54.80	26	25	42.40	53	57.39
	11.5	19	11	49.13	25	25	48.36	53	57.29
	12.0	19	37	13.66	-24	09	10.43	53	58.77
	12.5	20	02	05.62	22	37	00.95	54	01.93
	13.0	20	26	24.18	20	50	37.60	54	06.90
	13.5	20	50	10.34	18	51	20.20	54	13.78
	14.0	21	13	26.70	16	40	28.32	54	22.70
	14.5	21	36	17.25	14	19	19.71	54	33.75
	15.0	21	58	47.13	-11	49	09.76	54	46.99
	15.5	22	21	02.41	9	11	11.69	55	02.49
	16.0	22	43	09.98	6	26	37.50	55	20.25
	16.5	23	05	17.39	3	36	39.61	55	40.24
	17.0	23	27	32.80	-0	42	33.08	56	02.40
	17.5	23	50	04.93	+2	14	21.61	56	26.57
	18.0	0	13	03.01	+5	12	35.44	56	52.56
	18.5	0	36	36.65	8	10	27.19	57	20.08
	19.0	1	00	55.77	11	05	59.77	57	48.75
	19.5	1	26	10.25	13	56	56.58	58	18.13
	20.0	1	52	29.48	16	40	38.55	58	47.67
	20.5	2	20	01.70	19	14	02.71	59	16.74
	21.0	2	48	52.96	+21	33	43.26	59	44.66
	21.5	3	19	05.89	23	35	56.59	60	10.67
	22.0	3	50	38.29	25	16	51.48	60	34.03
	22.5	4	23	21.97	26	32	45.04	60	54.01
	23.0	4	57	02.22	27	20	23.46	61	09.94
	23.5	5	31	18.34	27	37	24.50	61	21.26
	24.0	6	05	45.60	+27	22	36.88	61	27.59
	24.5	6	39	58.16	26	36	11.31	61	28.71
	25.0	7	13	32.37	25	19	39.86	61	24.59
	25.5	7	46	09.41	23	35	43.94	61	15.44
	26.0	8	17	36.80	21	27	54.55	61	01.63
	26.5	8	47	48.53	19	00	10.05	60	43.67
	27.0	9	16	44.25	+16	16	36.05	60	22.22
	27.5	9	44	28.00	13	21	09.98	59	57.97
	28.0	10	11	06.81	10	17	31.26	59	31.68
	28.5	10	36	49.53	7	08	56.34	59	04.05
	29.0	11	01	45.93	3	58	17.54	58	35.76
	29.5	11	26	06.05	+0	48	04.45	58	07.43
	30.0	11	49	59.78	-2	19	33.27	57	39.58
	30.5	12	13	36.62	5	22	42.31	57	12.65
	31.0	12	37	05.51	8	19	42.07	56	47.00
	31.5	13	00	34.66	11	09	01.20	56	22.91
	32.0	13	24	11.47	-13	49	14.64	56	00.56

MOON, 2026
AT EPHEMERIS TRANSIT

Date	Age (at 0 ^h)			Ephemeris Transit			Geocentric Declination			Date	Age (at 0 ^h)			Ephemeris Transit			Geocentric Declination		
	d			d	h	m	°	'		d			d	h	m	°	'		
Jan.	1	11.93	L	1	09	59.0	+27	22.1	Jan.	24	5.17	L	24	04	12.6	+05	36.7		
	1		U	1	22	32.2	28	05.7		24		U	24	16	35.8	08	51.7		
	2	12.93	L	2	11	05.7	28	15.0		25	6.17	L	25	04	59.6	12	01.8		
	2		U	2	23	39.1	27	49.8		25		U	25	17	24.2	15	04.4		
	3	13.93	L	3	12	11.8	26	51.5		26	7.17	L	26	05	49.9	17	56.4		
	4	14.93	U	4	00	43.5	25	22.7		26		U	26	18	16.7	20	34.6		
	4		L	4	13	13.8	+23	27.6		27	8.17	L	27	06	44.7	+22	55.5		
	5	15.93	U	5	01	42.7	21	10.1		27		U	27	19	13.9	24	55.4		
	5		L	5	14	10.1	18	35.0		28	9.17	L	28	07	44.3	26	30.6		
	6	16.93	U	6	02	36.1	15	46.3		28		U	28	20	15.6	27	38.0		
6		L	6	15	00.8	12	48.1	29	10.17	L	29	08	47.7	28	14.9				
7	17.93	U	7	03	24.4	09	43.5	29		U	29	21	20.1	28	19.7				
7		L	7	15	47.0	+06	35.6	30	11.17	L	30	09	52.4	+27	52.0				
8	18.93	U	8	04	08.9	03	26.7	30		U	30	22	24.3	26	52.7				
8		L	8	16	30.2	+00	18.8	31	12.17	L	31	10	55.2	25	24.3				
9	19.93	U	9	04	51.1	-02	46.2	31		U	31	23	25.2	23	29.5				
9		L	9	17	11.8	05	47.0	Feb.	1	13.17	L	1	11	53.7	21	12.6			
10	20.93	U	10	05	32.4	08	42.0		2	14.17	U	2	00	21.1	18	37.0			
10		L	10	17	53.1	-11	30.0		2		L	2	12	47.1	+15	47.2			
11	21.93	U	11	06	14.1	14	09.9		3	15.17	U	3	01	12.0	12	46.7			
11		L	11	18	35.4	16	40.3		3		L	3	13	35.9	09	39.0			
12	22.93	U	12	06	57.1	18	59.8		4	16.17	U	4	01	58.9	06	27.2			
12		L	12	19	19.5	21	07.3		4		L	4	14	21.2	03	13.9			
13	23.93	U	13	07	42.4	23	01.2		5	17.17	U	5	02	43.0	+00	01.6			
13		L	13	20	06.0	-24	39.9		5		L	5	15	04.4	-03	07.9			
14	24.93	U	14	08	30.3	26	02.1		6	18.17	U	6	03	25.5	06	12.6			
14		L	14	20	55.3	27	06.1	6		L	6	15	46.7	09	11.0				
15	25.93	U	15	09	20.7	27	50.5	7	19.17	U	7	04	07.9	12	01.6				
15		L	15	21	46.7	28	14.3	7		L	7	16	29.3	14	43.1				
16	26.93	U	16	10	12.9	28	16.5	8	20.17	U	8	04	51.0	17	14.0				
16		L	16	22	39.2	-27	56.6	8		L	8	17	13.2	-19	33.2				
17	27.93	U	17	11	05.5	27	14.7	9	21.17	U	9	05	35.8	21	39.2				
17		L	17	23	31.6	26	11.0	9		L	9	17	59.1	23	30.7				
18	28.93	U	18	11	57.3	24	46.6	10	22.17	U	10	06	23.0	25	06.2				
19	0.17	L	19	00	22.5	23	02.5	10		L	10	18	47.4	26	24.5				
19		U	19	12	47.2	21	00.3	11	23.17	U	11	07	12.4	27	24.1				
20	1.17	L	20	01	11.4	-18	41.8	11		L	11	19	38.0	-28	03.9				
20		U	20	13	34.9	16	08.9	12	24.17	U	12	08	03.9	28	22.8				
21	2.17	L	21	01	58.0	13	23.5	12		L	12	20	30.1	28	20.2				
21		U	21	14	20.7	10	27.7	13	25.17	U	13	08	56.4	27	55.6				
22	3.17	L	22	02	43.1	07	23.4	13		L	13	21	22.6	27	09.0				
22		U	22	15	05.3	04	12.7	14	26.17	U	14	09	48.6	26	00.7				
23	4.17	L	23	03	27.6	-00	57.8	14		L	14	22	14.2	-24	31.6				
23		U	23	15	49.9	+02	19.5	15	27.17	U	15	10	39.5	22	42.8				
24	5.17	L	24	04	12.6	05	36.7	15		L	15	23	04.3	20	35.6				
24		U	24	16	35.8	+08	51.7	16	28.17	U	16	11	28.6	-18	11.7				

MOON, 2026
AT EPHEMERIS TRANSIT

Date	Age (at 0 ^h)	Ephemeris Transit			Geocentric Declination		Date	Age (at 0 ^h)	Ephemeris Transit			Geocentric Declination	
	d	d	h	m	°	'		d	d	h	m	°	'
Feb. 16	28.17 U	16	11	28.6	-18	11.7	Mar. 11	21.50 U	11	05	54.4	-28	09.1
16	L	16	23	52.4	15	33.0	11	L	11	18	20.2	28	24.4
17	29.17 U	17	12	15.8	12	41.6	12	22.50 U	12	06	46.2	28	18.4
18	0.50 L	18	00	38.8	09	39.4	12	L	12	19	12.2	27	50.7
18	U	18	13	01.6	06	28.7	13	23.50 U	13	07	38.1	27	01.5
19	1.50 L	19	01	24.4	-03	11.8	13	L	13	20	03.8	25	51.2
19	U	19	13	47.1	+00	08.9	14	24.50 U	14	08	29.2	-24	20.7
20	2.50 L	20	02	10.1	03	31.0	14	L	14	20	54.1	22	30.7
20	U	20	14	33.4	06	51.9	15	25.50 U	15	09	18.6	20	22.8
21	3.50 L	21	02	57.2	10	08.9	15	L	15	21	42.7	17	58.1
21	U	21	15	21.7	13	19.1	16	26.50 U	16	10	06.5	15	18.4
22	4.50 L	22	03	46.9	16	19.6	16	L	16	22	29.9	12	25.5
22	U	22	16	13.1	+19	07.2	17	27.50 U	17	10	53.1	-09	21.3
23	5.50 L	23	04	40.4	21	38.7	17	L	17	23	16.2	06	07.9
23	U	23	17	08.6	23	50.6	18	28.50 U	18	11	39.3	-02	47.5
24	6.50 L	24	05	37.9	25	39.9	19	29.50 L	19	00	02.6	+00	37.2
24	U	24	18	08.1	27	03.4	19	U	19	12	26.2	04	03.7
25	7.50 L	25	06	39.1	27	58.7	20	0.94 L	20	00	50.2	07	29.1
25	U	25	19	10.5	+28	24.0	20	U	20	13	14.9	+10	50.2
26	8.50 L	26	07	41.9	28	18.7	21	1.94 L	21	01	40.3	14	03.7
26	U	26	20	13.1	27	42.8	21	U	21	14	06.6	17	06.0
27	9.50 L	27	08	43.8	26	37.8	22	2.94 L	22	02	33.9	19	53.6
27	U	27	21	13.6	25	05.7	22	U	22	15	02.2	22	22.6
28	10.50 L	28	09	42.3	23	09.7	23	3.94 L	23	03	31.6	24	29.7
28	U	28	22	09.9	+20	52.7	23	U	23	16	01.8	+26	11.5
Mar. 1	11.50 L	1	10	36.4	18	18.4	24	4.94 L	24	04	32.8	27	25.3
1	U	1	23	01.8	15	30.2	24	U	24	17	04.2	28	09.2
2	12.50 L	2	11	26.1	12	31.4	25	5.94 L	25	05	35.8	28	22.2
2	U	2	23	49.6	09	25.0	25	U	25	18	07.2	28	04.5
3	13.50 L	3	12	12.4	06	14.0	26	6.94 L	26	06	37.9	27	17.1
4	14.50 U	4	00	34.6	+03	01.0	26	U	26	19	07.9	+26	02.2
4	L	4	12	56.3	-00	11.8	27	7.94 L	27	07	36.8	24	22.5
5	15.50 U	5	01	17.8	03	22.2	27	U	27	20	04.6	22	21.0
5	L	5	13	39.2	06	28.1	28	8.94 L	28	08	31.2	20	00.9
6	16.50 U	6	02	00.6	09	27.9	28	U	28	20	56.8	17	25.6
6	L	6	14	22.1	12	19.8	29	9.94 L	29	09	21.2	14	38.2
7	17.50 U	7	02	43.8	-15	02.3	29	U	29	21	44.8	+11	41.3
7	L	7	15	05.9	17	33.8	30	10.94 L	30	10	07.5	08	37.9
8	18.50 U	8	03	28.4	19	52.9	30	U	30	22	29.7	05	30.3
8	L	8	15	51.4	21	58.1	31	11.94 L	31	10	51.4	+02	20.8
9	19.50 U	9	04	15.0	23	48.0	31	U	31	23	12.8	-00	48.5
9	L	9	16	39.1	25	21.3	Apr. 1	12.94 L	1	11	34.0	03	55.7
10	20.50 U	10	05	03.7	-26	36.7	1	U	1	23	55.2	-06	58.7
10	L	10	17	28.9	27	32.9	2	13.94 L	2	12	16.5	09	55.9
11	21.50 U	11	05	54.4	28	09.1	3	14.94 U	3	00	38.0	12	45.5
11	L	11	18	20.2	-28	24.4	3	L	3	12	59.8	-15	25.8

MOON, 2026
AT EPHEMERIS TRANSIT

Date	Age (at 0 ^h)	Ephemeris Transit	Geocentric Declination			Date	Age (at 0 ^h)	Ephemeris Transit	Geocentric Declination						
	d		d	h	m	°	'		d	h	m	°	'		
Apr. 1	12.94	L	1	11	34.0	-03	55.7	Apr. 24							
1		U	1	23	55.2	06	58.7	25	7.51	L	24	18	54.1	+18	50.8
2	13.94	L	2	12	16.5	09	55.9	25		U	25	07	19.1	16	11.0
3	14.94	U	3	00	38.0	12	45.5	26	8.51	L	25	19	43.1	13	21.0
3		L	3	12	59.8	15	25.8	26		U	26	08	06.1	10	23.6
4	15.94	U	4	01	22.1	17	55.1	26		L	26	20	28.4	07	21.1
								27	9.51	L	27	08	50.0	04	15.8
4		L	4	13	44.8	-20	11.8	27		U	27	21	11.3	+01	09.7
5	16.94	U	5	02	08.0	22	14.4	28	10.51	L	27	21	11.3	+01	09.7
5		L	5	14	31.8	24	01.4	28		U	28	09	32.3	-01	55.4
6	17.94	U	6	02	56.1	25	31.2	28		L	28	21	53.2	04	57.8
6		L	6	15	20.9	26	42.7	29	11.51	L	29	10	14.2	07	55.8
7	18.94	U	7	03	46.2	27	34.8	29		U	29	22	35.3	10	47.8
								30	12.51	L	29	22	35.3	10	47.8
7		L	7	16	11.7	-28	06.6	30		L	30	10	56.7	13	32.0
8	19.94	U	8	04	37.4	28	17.5	30		U	30	23	18.4	-16	07.0
8		L	8	17	03.2	28	07.3	May 1	13.51	L	30	23	18.4	-16	07.0
9	20.94	U	9	05	29.0	27	35.9	2	14.51	U	1	11	40.7	18	31.0
9		L	9	17	54.5	26	43.7	2		L	2	00	03.4	20	42.4
10	21.94	U	10	06	19.7	25	31.4	3	15.51	U	2	12	26.8	22	39.5
								3		L	3	00	50.7	24	20.9
10		L	10	18	44.5	-23	59.8	3		L	3	13	15.2	25	44.9
11	22.94	U	11	07	08.9	22	09.8	4	16.51	U	4	01	40.1	-26	50.3
11		L	11	19	32.9	20	02.7	4		L	4	14	05.4	27	36.1
12	23.94	U	12	07	56.5	17	39.8	5	17.51	U	4	14	05.4	27	36.1
12		L	12	20	19.8	15	02.5	5		L	5	02	31.0	28	01.4
13	24.94	U	13	08	42.8	12	12.3	6	18.51	U	5	14	56.7	28	05.9
								6		L	6	03	22.4	27	49.4
13		L	13	21	05.7	-09	10.8	6		L	6	15	47.9	27	12.2
14	25.94	U	14	09	28.5	05	59.8	7	19.51	U	7	04	13.1	-26	14.8
14		L	14	21	51.5	-02	41.4	7		L	7	16	37.8	24	58.2
15	26.94	U	15	10	14.8	+00	42.3	8	20.51	U	8	05	02.2	23	23.3
15		L	15	22	38.5	04	08.6	8		L	8	17	26.0	21	31.4
16	27.94	U	16	11	02.8	07	34.7	9	21.51	U	9	05	49.4	19	23.7
								9		L	9	18	12.3	17	01.5
16		L	16	23	27.9	+10	57.4	10	22.51	U	10	06	35.0	-14	26.2
17	28.94	U	17	11	53.9	14	13.0	10		L	10	18	57.3	11	39.2
18	0.51	L	18	00	21.0	17	17.7	11	23.51	U	11	07	19.6	08	41.9
18		U	18	12	49.3	20	07.1	11		L	11	19	41.8	05	35.9
19	1.51	L	19	01	18.7	22	37.1	12	24.51	U	12	08	04.2	-02	22.8
19		U	19	13	49.2	24	43.2	12		L	12	20	27.0	+00	55.4
20	2.51	L	20	02	20.8	+26	22.2	13	25.51	U	13	08	50.2	+04	16.7
20		U	20	14	53.0	27	30.6	13		L	13	21	14.2	07	38.3
21	3.51	L	21	03	25.5	28	06.9	14	26.51	U	14	09	39.0	10	57.5
21		U	21	15	58.0	28	10.3	14		L	14	22	04.9	14	10.7
22	4.51	L	22	04	30.1	27	41.6	15	27.51	U	15	10	32.0	17	14.0
22		U	22	17	01.3	26	42.9	15		L	15	23	00.4	20	03.2
23	5.51	L	23	05	31.4	+25	17.0	16	28.51	U	16	11	30.2	+22	33.4
23		U	23	18	00.3	23	27.2	17	0.17	L	17	00	01.4	24	40.2
24	6.51	L	24	06	27.8	21	17.3	17		U	17	12	33.6	26	18.9
24		U	24	18	54.1	+18	50.8	18	1.17	L	18	01	06.8	+27	26.3

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Date	Age (at 0 ^h)	Ephemeris Transit	Geocentric Declination	Date	Age (at 0 ^h)	Ephemeris Transit	Geocentric Declination
	d	d h m	° '		d	d h m	° '
May 17	0.17 L	17 00 01.4	+24 40.2	June 9	23.17 U	9 06 42.1	+01 37.8
17	U	17 12 33.6	26 18.9	9	L	9 19 04.7	04 52.4
18	1.17 L	18 01 06.8	27 26.3	10	24.17 U	10 07 28.0	08 07.0
18	U	18 13 40.4	27 59.6	10	L	10 19 52.1	11 19.0
19	2.17 L	19 02 14.0	27 58.2	11	25.17 U	11 08 17.3	14 25.4
19	U	19 14 47.1	27 22.9	11	L	11 20 43.8	17 22.8
20	3.17 L	20 03 19.3	+26 15.8	12	26.17 U	12 09 11.7	+20 07.0
20	U	20 15 50.3	24 40.7	12	L	12 21 41.0	22 33.8
21	4.17 L	21 04 19.7	22 41.3	13	27.17 U	13 10 11.8	24 38.3
21	U	21 16 47.8	20 22.2	13	L	13 22 43.9	26 16.2
22	5.17 L	22 05 14.4	17 47.1	14	28.17 U	14 11 17.1	27 23.0
22	U	22 17 39.6	15 00.1	14	L	14 23 51.0	27 56.1
23	6.17 L	23 06 03.7	+12 04.3	15	29.17 U	15 12 25.1	+27 53.7
23	U	23 18 26.8	09 02.7	16	0.88 L	16 00 58.8	27 16.2
24	7.17 L	24 06 49.0	05 57.8	16	U	16 13 31.8	26 05.7
24	U	24 19 10.7	+02 51.6	17	1.88 L	17 02 03.5	24 25.3
25	8.17 L	25 07 31.9	-00 13.9	17	U	17 14 34.0	22 19.6
25	U	25 19 52.8	03 17.1	18	2.88 L	18 03 02.7	19 52.9
26	9.17 L	26 08 13.7	-06 16.4	18	U	18 15 30.1	+17 10.1
26	U	26 20 34.6	09 10.2	19	3.88 L	19 03 56.0	14 15.1
27	10.17 L	27 08 55.6	11 57.2	19	U	19 16 20.7	11 11.9
27	U	27 21 17.0	14 35.8	20	4.88 L	20 04 44.3	08 03.6
28	11.17 L	28 09 38.8	17 04.6	20	U	20 17 07.0	04 53.1
28	U	28 22 01.1	19 22.0	21	5.88 L	21 05 29.1	+01 42.6
29	12.17 L	29 10 23.9	-21 26.4	21	U	21 17 50.7	-01 25.8
29	U	29 22 47.4	23 16.3	22	6.88 L	22 06 12.0	04 30.5
30	13.17 L	30 11 11.4	24 50.1	22	U	22 18 33.1	07 29.8
30	U	30 23 36.0	26 06.4	23	7.88 L	23 06 54.3	10 22.3
31	14.17 L	31 12 01.0	27 03.8	23	U	23 19 15.6	13 06.7
June 1	15.17 U	1 00 26.5	27 41.5	24	8.88 L	24 07 37.2	15 41.6
1	L	1 12 52.1	-27 58.5	24	U	24 19 59.2	-18 05.7
2	16.17 U	2 01 17.8	27 54.7	25	9.88 L	25 08 21.7	20 17.4
2	L	2 13 43.4	27 30.0	25	U	25 20 44.7	22 15.4
3	17.17 U	3 02 08.8	26 44.8	26	10.88 L	26 09 08.4	23 58.3
3	L	3 14 33.7	25 40.0	26	U	26 21 32.6	25 24.5
4	18.17 U	4 02 58.3	24 16.6	27	11.88 L	27 09 57.3	26 32.8
4	L	4 15 22.2	-22 35.8	27	U	27 22 22.5	-27 21.9
5	19.17 U	5 03 45.7	20 39.0	28	12.88 L	28 10 48.0	27 51.0
5	L	5 16 08.6	18 27.6	28	U	28 23 13.7	27 59.4
6	20.17 U	6 04 31.1	16 03.2	29	13.88 L	29 11 39.4	27 46.7
6	L	6 16 53.2	13 27.0	30	14.88 U	30 00 05.0	27 13.3
7	21.17 U	7 05 15.0	10 40.6	30	L	30 12 30.3	26 19.5
7	L	7 17 36.6	-07 45.4	July 1	15.88 U	1 00 55.2	-25 06.4
8	22.17 U	8 05 58.3	04 42.9	1	L	1 13 19.6	23 34.9
8	L	8 18 20.0	-01 34.6	2	16.88 U	2 01 43.5	21 46.6
9	23.17 U	9 06 42.1	+01 37.8	2	L	2 14 06.7	-19 43.0

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Date	Age (at 0 ^h)	Ephemeris Transit	Geocentric Declination			Date	Age (at 0 ^h)	Ephemeris Transit	Geocentric Declination						
	d		d	h	m	°	'		d	h	m	°	'		
July	1	15.88 U	1	00	55.2	-25	06.4	July	24	9.59 L	24	07	52.7	-25	55.6
	1	L	1	13	19.6	23	34.9		24	U	24	20	17.6	26	57.3
	2	16.88 U	2	01	43.5	21	46.6		25	10.59 L	25	08	42.9	27	39.3
	2	L	2	14	06.7	19	43.0		25	U	25	21	08.5	28	01.1
	3	17.88 U	3	02	29.5	17	25.5		26	11.59 L	26	09	34.3	28	01.9
	3	L	3	14	51.7	14	56.0		26	U	26	21	60.0	27	41.7
	4	18.88 U	4	03	13.6	-12	15.8		27	12.59 L	27	10	25.6	-27	00.7
	4	L	4	15	35.1	09	26.6		27	U	27	22	50.9	25	59.5
	5	19.88 U	5	03	56.5	06	30.1		28	13.59 L	28	11	15.7	24	39.0
	5	L	5	16	17.8	03	27.6		28	U	28	23	40.1	23	00.3
	6	20.88 U	6	04	39.2	-00	21.0		29	14.59 L	29	12	03.9	21	05.0
	6	L	6	17	00.9	+02	48.2		30	15.59 U	30	00	27.2	18	54.5
	7	21.88 U	7	05	23.1	+05	58.1		30	L	30	12	50.0	-16	30.5
	7	L	7	17	45.9	09	06.7		31	16.59 U	31	01	12.2	13	54.7
	8	22.88 U	8	06	09.5	12	11.6		31	L	31	13	34.1	11	09.0
	8	L	8	18	34.1	15	10.0	Aug.	1	17.59 U	1	01	55.8	08	14.9
	9	23.88 U	9	06	59.8	17	59.0		1	L	1	14	17.2	05	14.2
	9	L	9	19	27.0	20	35.1		2	18.59 U	2	02	38.6	-02	08.7
	10	24.88 U	10	07	55.4	+22	54.1		2	L	2	15	00.2	+00	59.7
	10	L	10	20	25.4	24	52.1		3	19.59 U	3	03	21.9	04	09.3
	11	25.88 U	11	08	56.7	26	24.7		3	L	3	15	44.2	07	17.9
	11	L	11	21	29.2	27	28.1		4	20.59 U	4	04	07.0	10	23.6
	12	26.88 U	12	10	02.4	27	59.1		4	L	4	16	30.5	13	23.8
	12	L	12	22	36.0	27	55.9		5	21.59 U	5	04	55.0	16	16.0
	13	27.88 U	13	11	09.5	+27	18.3		5	L	5	17	20.6	+18	57.3
	13	L	13	23	42.3	26	07.3		6	22.59 U	6	05	47.3	21	24.4
	14	28.88 U	14	12	14.3	24	26.2		6	L	6	18	15.4	23	33.9
	15	0.59 L	15	00	45.0	22	18.3		7	23.59 U	7	06	44.7	25	22.1
	15	U	15	13	14.3	19	48.5		7	L	7	19	15.2	26	45.4
	16	1.59 L	16	01	42.1	17	01.1		8	24.59 U	8	07	46.7	27	40.7
	16	U	16	14	08.7	+14	00.8		8	L	8	20	18.9	+28	05.3
	17	2.59 L	17	02	34.0	10	51.5		9	25.59 U	9	08	51.4	27	57.6
	17	U	17	14	58.2	07	36.9		9	L	9	21	23.9	27	17.4
	18	3.59 L	18	03	21.6	04	20.1		10	26.59 U	10	09	55.9	26	05.6
	18	U	18	15	44.2	+01	03.8		10	L	10	22	27.0	24	24.5
	19	4.59 L	19	04	06.4	-02	09.7		11	27.59 U	11	10	57.2	22	17.5
	19	U	19	16	28.3	-05	18.4		11	L	11	23	26.1	+19	48.2
	20	5.59 L	20	04	50.0	08	20.7		12	28.59 U	12	11	53.9	17	00.9
	20	U	20	17	11.7	11	14.9		13	0.27 L	13	00	20.4	13	59.7
	21	6.59 L	21	05	33.5	13	59.8		13	U	13	12	45.8	10	48.7
	21	U	21	17	55.6	16	33.8		14	1.27 L	14	01	10.3	07	31.4
	22	7.59 L	22	06	18.0	18	55.7		14	U	14	13	34.1	04	11.2
	22	U	22	18	40.9	-21	04.2		15	2.27 L	15	01	57.2	+00	51.1
	23	8.59 L	23	07	04.3	22	57.8		15	U	15	14	19.8	-02	26.6
	23	U	23	19	28.2	24	35.4		16	3.27 L	16	02	42.2	05	39.3
	24	9.59 L	24	07	52.7	-25	55.6		16	U	16	15	04.4	-08	45.2

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Date	Age (at 0 ^h)		Ephemeris Transit			Geocentric Declination		Date	Age (at 0 ^h)		Ephemeris Transit			Geocentric Declination	
	d		d	h	m	°	'		d		d	h	m	°	'
Aug.	16	U	16	15	04.4	-08	45.2	Sept.	8	L	8	22	08.9	+16	41.9
	17	4.27 L	17	03	26.7	11	42.4		9	27.27 U	9	10	34.7	13	43.3
	17	U	17	15	49.0	14	29.4		9	L	9	22	59.7	10	34.7
	18	5.27 L	18	04	11.7	17	04.6		10	28.27 U	10	11	23.8	07	19.5
	18	U	18	16	34.6	19	26.6		10	L	10	23	47.3	04	00.7
	19	6.27 L	19	04	58.0	21	34.0		11	29.27 U	11	12	10.4	+00	41.1
	19	U	19	17	21.8	-23	25.6		12	0.86 L	12	00	33.1	-02	36.6
	20	7.27 L	20	05	46.1	25	00.1		12	U	12	12	55.6	05	49.9
	20	U	20	18	10.9	26	16.3		13	1.86 L	13	01	18.0	08	56.9
	21	8.27 L	21	06	36.1	27	13.3		13	U	13	13	40.6	11	55.3
	21	U	21	19	01.5	27	50.3		14	2.86 L	14	02	03.3	14	43.3
	22	9.27 L	22	07	27.2	28	06.6		14	U	14	14	26.4	17	19.2
	22	U	22	19	53.0	-28	01.9		15	3.86 L	15	02	49.8	-19	41.4
	23	10.27 L	23	08	18.6	27	36.3		15	U	15	15	13.6	21	48.4
	23	U	23	20	44.1	26	50.0		16	4.86 L	16	03	37.8	23	38.7
	24	11.27 L	24	09	09.3	25	43.7		16	U	16	16	02.5	25	11.2
	24	U	24	21	34.1	24	18.2		17	5.86 L	17	04	27.6	26	24.7
	25	12.27 L	25	09	58.4	22	34.8		17	U	17	16	53.0	27	18.4
	25	U	25	22	22.2	-20	34.8		18	6.86 L	18	05	18.6	-27	51.6
	26	13.27 L	26	10	45.4	18	19.7		18	U	18	17	44.3	28	03.9
	26	U	26	23	08.3	15	51.0		19	7.86 L	19	06	10.1	27	55.2
	27	14.27 L	27	11	30.7	13	10.5		19	U	19	18	35.6	27	25.8
	27	U	27	23	52.8	10	19.9		20	8.86 L	20	07	00.9	26	36.0
	28	15.27 L	28	12	14.7	07	21.0		20	U	20	19	25.9	25	26.7
29	16.27 U	29	00	36.5	-04	15.7	21	9.86 L	21	07	50.4	-23	58.8		
29	L	29	12	58.3	-01	06.0	21	U	21	20	14.5	22	13.4		
30	17.27 U	30	01	20.2	+02	06.1	22	10.86 L	22	08	38.0	20	11.7		
30	L	30	13	42.5	05	18.6	22	U	22	21	01.2	17	55.2		
31	18.27 U	31	02	05.2	08	29.0	23	11.86 L	23	09	23.9	15	25.2		
31	L	31	14	28.6	11	34.9	23	U	23	21	46.3	12	43.3		
Sept.	1	19.27 U	1	02	52.7	+14	33.8	24	12.86 L	24	10	08.4	-09	51.2	
	1	L	1	15	17.8	17	22.7	24	U	24	22	30.5	06	50.4	
	2	20.27 U	2	03	43.8	19	58.7	25	13.86 L	25	10	52.5	03	42.8	
	2	L	2	16	10.9	22	18.5	25	U	25	23	14.7	-00	30.5	
	3	21.27 U	3	04	39.2	24	18.9	26	14.86 L	26	11	37.1	+02	44.6	
	3	L	3	17	08.5	25	56.6	26	U	26	23	59.9	05	59.9	
	4	22.27 U	4	05	38.8	+27	08.7	27	15.86 L	27	12	23.4	+09	13.0	
	4	L	4	18	09.8	27	52.6	28	16.86 U	28	00	47.5	12	21.0	
	5	23.27 U	5	06	41.3	28	06.5	28	L	28	13	12.5	15	20.9	
	5	L	5	19	12.9	27	49.7	29	17.86 U	29	01	38.5	18	09.5	
	6	24.27 U	6	07	44.3	27	02.5	29	L	29	14	05.6	20	43.3	
	6	L	6	20	15.1	25	46.0	30	18.86 U	30	02	33.7	22	58.8	
	7	25.27 U	7	08	45.1	+24	02.6	Oct.	30	L	30	15	02.9	+24	52.6
	7	L	7	21	14.1	21	55.2		1	19.86 U	1	03	33.0	26	21.6
	8	26.27 U	8	09	42.0	19	27.1		1	L	1	16	03.9	27	22.9
	8	L	8	22	08.9	+16	41.9		2	20.86 U	2	04	35.2	+27	54.9

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Date	Age (at 0 ^h)	Ephemeris Transit			Geocentric Declination		Date	Age (at 0 ^h)	Ephemeris Transit			Geocentric Declination					
	d	d	h	m	°	'		d	d	h	m	°	'				
Oct.	1	19.86	U	1	03	33.0	+26	21.6	Oct.	24	13.34	L	24	10	13.4	+06	14.0
	1		L	1	16	03.9	27	22.9		24		U	24	22	37.1	09	27.5
	2	20.86	U	2	04	35.2	27	54.9		25	14.34	L	25	11	01.8	12	36.4
	2		L	2	17	06.7	27	56.3		25		U	25	23	27.4	15	37.4
	3	21.86	U	3	05	38.0	27	27.5		26	15.34	L	26	11	54.2	18	26.8
	3		L	3	18	08.8	26	29.4		27	16.34	U	27	00	22.2	21	00.9
	4	22.86	U	4	06	38.8	+25	04.0		27		L	27	12	51.4	+23	15.3
	4		L	4	19	07.8	23	14.1		28	17.34	U	28	01	21.8	25	06.4
	5	23.86	U	5	07	35.8	21	02.7		28		L	28	13	53.2	26	30.4
	5		L	5	20	02.7	18	33.1		29	18.34	U	29	02	25.2	27	24.7
	6	24.86	U	6	08	28.6	15	48.5		29		L	29	14	57.6	27	47.3
	6		L	6	20	53.5	12	52.2		30	19.34	U	30	03	29.9	27	37.9
	7	25.86	U	7	09	17.5	+09	47.1		30		L	30	16	01.7	+26	57.1
	7		L	7	21	41.0	06	36.1		31	20.34	U	31	04	32.8	25	47.1
	8	26.86	U	8	10	03.9	03	21.8		31		L	31	17	02.8	24	10.5
	8		L	8	22	26.4	+00	06.8	Nov.	1	21.34	U	1	05	31.7	22	10.8
	9	27.86	U	9	10	48.7	-03	06.5		1		L	1	17	59.2	19	51.5
	9		L	9	23	11.0	06	16.1		2	22.34	U	2	06	25.6	17	16.2
	10	28.86	U	10	11	33.3	-09	19.6		2		L	2	18	50.9	+14	28.3
	10		L	10	23	55.8	12	15.1		3	23.34	U	3	07	15.2	11	30.8
	11	0.34	U	11	12	18.6	15	00.6		3		L	3	19	38.7	08	26.5
	12	1.34	L	12	00	41.7	17	34.2		4	24.34	U	4	08	01.5	05	18.1
	12		U	12	13	05.3	19	54.2		4		L	4	20	23.9	+02	07.8
	13	2.34	L	13	01	29.3	21	58.8		5	25.34	U	5	08	45.9	-01	02.2
	13		U	13	13	53.8	-23	46.6		5		L	5	21	07.8	-04	09.8
	14	3.34	L	14	02	18.8	25	16.1		6	26.34	U	6	09	29.6	07	13.2
	14		U	14	14	44.1	26	26.2		6		L	6	21	51.6	10	10.4
	15	4.34	L	15	03	09.7	27	16.2		7	27.34	U	7	10	13.9	12	59.6
	15		U	15	15	35.5	27	45.3		7		L	7	22	36.5	15	39.0
	16	5.34	L	16	04	01.2	27	53.5		8	28.34	U	8	10	59.5	18	06.6
	16		U	16	16	26.9	-27	40.7		8		L	8	23	23.0	-20	20.8
	17	6.34	L	17	04	52.3	27	07.5		9	29.34	U	9	11	47.1	22	19.8
	17		U	17	17	17.4	26	14.5		10	0.71	L	10	00	11.6	24	02.0
	18	7.34	L	18	05	42.0	25	02.6		10		U	10	12	36.6	25	25.9
	18		U	18	18	06.2	23	32.9		11	1.71	L	11	01	02.1	26	30.5
	19	8.34	L	19	06	29.9	21	46.6		11		U	11	13	27.7	27	14.7
	19		U	19	18	53.0	-19	44.9		12	2.71	L	12	01	53.6	-27	38.1
	20	9.34	L	20	07	15.7	17	29.1		12		U	12	14	19.3	27	40.5
	20		U	20	19	38.1	15	00.5		13	3.71	L	13	02	44.9	27	22.1
	21	10.34	L	21	08	00.1	12	20.5		13		U	13	15	10.3	26	43.6
	21		U	21	20	22.0	09	30.4		14	4.71	L	14	03	35.1	25	45.8
	22	11.34	L	22	08	43.8	06	31.7		14		U	14	15	59.5	24	29.8
	22		U	22	21	05.7	-03	26.1		15	5.71	L	15	04	23.3	-22	56.9
	23	12.34	L	23	09	27.8	-00	15.2		15		U	15	16	46.5	21	08.4
	23		U	23	21	50.3	+02	59.0		16	6.71	L	16	05	09.2	19	05.6
	24	13.34	L	24	10	13.4	+06	14.0		16		U	16	17	31.4	-16	49.9

MOON, 2026
AT EPHEMERIS TRANSIT

Date	Age (at 0 ^h)	Ephemeris Transit			Geocentric Declination		Date	Age (at 0 ^h)	Ephemeris Transit			Geocentric Declination		
	d	U	d	h	m	°		d	U	d	h	m	°	
Nov. 16		U	16	17	31.4	-16	49.9	Dec. 10	0.96	L	10	00	39.3	-27
17	7.71	L	17	05	53.2	14	22.6	10		U	10	13	04.8	27
17		U	17	18	14.7	11	45.0	11	1.96	L	11	01	30.0	26
18	8.71	L	18	06	36.0	08	58.2	11		U	11	13	54.7	25
18		U	18	18	57.3	06	03.7	12	2.96	L	12	02	18.8	23
19	9.71	L	19	07	18.6	-03	02.8	12		U	12	14	42.4	22
19		U	19	19	40.2	+00	03.0	13	3.96	L	13	03	05.3	-20
20	10.71	L	20	08	02.3	03	12.1	13		U	13	15	27.7	18
20		U	20	20	24.9	06	22.4	14	4.96	L	14	03	49.5	15
21	11.71	L	21	08	48.4	09	31.8	14		U	14	16	10.8	13
21		U	21	21	12.8	12	37.5	15	5.96	L	15	04	31.9	10
22	12.71	L	22	09	38.3	15	36.2	15		U	15	16	52.7	08
22		U	22	22	05.1	+18	24.5	16	6.96	L	16	05	13.4	-05
23	13.71	L	23	10	33.3	20	58.1	16		U	16	17	34.2	-02
23		U	23	23	02.9	23	12.9	17	7.96	L	17	05	55.2	+00
24	14.71	L	24	11	34.0	25	03.9	17		U	17	18	16.6	03
25	15.71	U	25	00	06.1	26	27.5	18	8.96	L	18	06	38.5	06
25		L	25	12	39.2	27	19.8	18		U	18	19	01.2	09
26	16.71	U	26	01	12.7	+27	38.9	19	9.96	L	19	07	24.9	+12
26		L	26	13	46.1	27	23.7	19		U	19	19	49.6	15
27	17.71	U	27	02	19.1	26	35.4	20	10.96	L	20	08	15.7	18
27		L	27	14	51.2	25	16.2	20		U	20	20	43.2	20
28	18.71	U	28	03	22.1	23	29.4	21	11.96	L	21	09	12.2	23
28		L	28	15	51.5	21	19.4	21		U	21	21	42.7	24
29	19.71	U	29	04	19.7	+18	50.0	22	12.96	L	22	10	14.6	+26
29		L	29	16	46.4	16	05.8	22		U	22	22	47.6	27
30	20.71	U	30	05	11.9	13	10.3	23	13.96	L	23	11	21.4	27
30		L	30	17	36.3	10	07.0	23		U	23	23	55.5	27
Dec. 1	21.71	U	1	05	59.9	06	58.9	24	14.96	L	24	12	29.1	26
1		L	1	18	22.7	03	48.6	25	15.96	U	25	01	02.2	25
2	22.71	U	2	06	45.0	+00	38.3	25		L	25	13	34.0	+23
2		L	2	19	06.9	-02	30.0	26	16.96	U	26	02	04.6	21
3	23.71	U	3	07	28.7	05	34.4	26		L	26	14	33.7	18
3		L	3	19	50.4	08	33.1	27	17.96	U	27	03	01.4	15
4	24.71	U	4	08	12.3	11	24.7	27		L	27	15	27.8	12
4		L	4	20	34.4	14	07.3	28	18.96	U	28	03	53.0	09
5	25.71	U	5	08	56.9	-16	39.5	28		L	28	16	17.3	+06
5		L	5	21	19.9	18	59.6	29	19.96	U	29	04	40.8	+02
6	26.71	U	6	09	43.3	21	05.9	29		L	29	17	03.6	-00
6		L	6	22	07.3	22	57.0	30	20.96	U	30	05	26.1	03
7	27.71	U	7	10	31.8	24	31.1	30		L	30	17	48.3	06
7		L	7	22	56.8	25	47.1	31	21.96	U	31	06	10.5	09
8	28.71	U	8	11	22.2	-26	43.7	31		L	31	18	32.7	-12
8		L	8	23	47.8	27	20.1	32	22.96	U	32	06	55.1	15
9	29.71	U	9	12	13.6	27	35.7	32		L	32	19	17.9	17
10	0.96	L	10	00	39.3	-27	30.5	33	23.96	U	33	07	41.1	-19

MOON, 2026
EPHEMERIS FOR PHYSICAL OBSERVATIONS
FOR 0^h TERRESTRIAL TIME

Date 0 ^h TT	The Earth's Selenographic		The Sun's Selenographic		Position Angle of Axis Bright		Fraction Illuminated
	Long. °	Lat. °	Colong. °	Lat. °		Limb °	
Jan. 0	-3.030	-6.174	45.34	-1.34	345	259	0.836
1	-1.280	6.531	57.47	1.32	350	267	0.914
2	+0.623	6.440	69.60	1.31	356	280	0.969
3	2.509	5.901	81.72	1.29	2	311	0.996
4	4.207	4.963	93.84	1.27	8	74	0.994
5	5.568	3.715	105.97	1.25	13	97	0.965
6	+6.496	-2.265	118.09	-1.24	17	106	0.912
7	6.949	-0.723	130.23	1.22	20	111	0.840
8	6.938	+0.812	142.36	1.21	21	113	0.755
9	6.510	2.263	154.51	1.20	22	114	0.662
10	5.740	3.570	166.65	1.19	22	113	0.565
11	4.710	4.688	178.81	1.18	21	112	0.469
12	+3.509	+5.585	190.97	-1.18	19	108	0.375
13	2.217	6.235	203.14	1.17	16	104	0.286
14	+0.909	6.620	215.32	1.16	12	99	0.205
15	-0.355	6.722	227.49	1.15	8	92	0.135
16	1.525	6.535	239.68	1.14	3	85	0.077
17	2.570	6.056	251.86	1.13	358	75	0.034
18	-3.466	+5.296	264.05	-1.11	353	59	0.008
19	4.201	4.276	276.24	1.09	348	316	0.001
20	4.769	3.035	288.43	1.07	345	262	0.014
21	5.163	1.624	300.62	1.04	342	253	0.049
22	5.373	+0.109	312.81	1.01	339	248	0.103
23	5.385	-1.434	324.99	0.98	338	246	0.176
24	-5.180	-2.922	337.16	-0.95	338	245	0.266
25	4.738	4.267	349.33	0.92	339	247	0.368
26	4.044	5.383	1.50	0.89	341	250	0.479
27	3.101	6.192	13.65	0.86	344	254	0.592
28	1.931	6.628	25.80	0.82	348	260	0.702
29	-0.590	6.646	37.95	0.79	354	268	0.802
30	+0.839	-6.234	50.08	-0.76	360	276	0.887
Feb. 1	2.250	5.416	62.22	0.72	6	285	0.950
2	3.529	4.253	74.35	0.69	11	297	0.988
3	4.572	2.837	86.47	0.66	16	41	1.000
4	5.299	-1.274	98.60	0.63	19	106	0.985
5	5.663	+0.327	110.74	0.60	21	113	0.948
6	+5.650	+1.872	122.87	-0.58	22	115	0.891
7	5.278	3.283	135.01	0.55	22	115	0.819
8	4.589	4.503	147.16	0.53	21	114	0.736
9	3.644	5.492	159.31	0.52	20	112	0.645
10	2.513	6.224	171.47	0.50	17	108	0.552
11	+1.271	6.682	183.63	0.49	14	104	0.457
12	-0.006	+6.854	195.80	-0.47	9	98	0.364
13	1.246	6.736	207.98	0.46	5	92	0.276
14	2.383	6.324	220.16	0.44	360	85	0.195
15	3.362	5.626	232.35	0.42	355	79	0.124
16	-4.139	+4.657	244.54	-0.40	350	72	0.066

MOON, 2026
EPHEMERIS FOR PHYSICAL OBSERVATIONS
FOR 0^h TERRESTRIAL TIME

Date 0 ^h TT	The Earth's Selenographic		The Sun's Selenographic		Position Angle of		Fraction Illuminated
	Long. °	Lat. °	Colong. °	Lat. °	Axis °	Bright Limb °	
Feb. 15	-4.139	+4.657	244.54	-0.40	350	72	0.066
16	4.684	3.445	256.74	0.38	346	66	0.025
17	4.980	2.037	268.94	0.36	342	57	0.003
18	5.024	+0.495	281.14	0.33	340	252	0.003
19	4.823	-1.100	293.34	0.30	338	244	0.026
20	4.395	2.655	305.53	0.27	338	243	0.073
21	-3.767	-4.075	317.73	-0.24	338	244	0.141
22	2.971	5.266	329.92	0.20	340	246	0.229
23	2.043	6.146	342.10	0.17	343	251	0.331
24	-1.024	6.654	354.28	0.13	347	256	0.442
25	+0.042	6.755	6.45	0.09	352	263	0.556
26	1.105	6.441	18.61	0.05	358	270	0.668
27	+2.116	-5.732	30.77	-0.01	4	278	0.770
28	3.024	4.678	42.92	+0.03	10	284	0.858
Mar. 1	3.781	3.351	55.06	0.07	14	290	0.927
2	4.343	1.843	67.21	0.11	18	294	0.974
3	4.674	-0.251	79.35	0.15	20	294	0.997
4	4.749	+1.328	91.50	0.18	22	122	0.997
5	+4.555	+2.808	103.64	+0.21	22	120	0.975
6	4.096	4.118	115.79	0.24	22	118	0.933
7	3.388	5.206	127.94	0.27	20	116	0.874
8	2.463	6.036	140.09	0.29	18	112	0.803
9	1.366	6.587	152.26	0.31	15	108	0.721
10	+0.154	6.848	164.42	0.32	11	103	0.632
11	-1.109	+6.817	176.60	+0.34	6	97	0.539
12	2.351	6.496	188.78	0.35	1	90	0.445
13	3.499	5.891	200.96	0.36	356	84	0.351
14	4.480	5.016	213.16	0.38	352	78	0.261
15	5.227	3.893	225.35	0.39	347	73	0.179
16	5.682	2.555	237.56	0.41	344	70	0.107
17	-5.804	+1.053	249.76	+0.43	341	68	0.051
18	5.573	-0.542	261.98	0.45	339	69	0.014
19	4.996	2.142	274.19	0.47	338	132	0.000
20	4.108	3.642	286.40	0.50	338	234	0.012
21	2.976	4.934	298.62	0.53	339	240	0.051
22	1.687	5.921	310.83	0.56	342	246	0.114
23	-0.339	-6.529	323.03	+0.59	346	252	0.198
24	+0.969	6.717	335.23	0.62	351	259	0.299
25	2.155	6.481	347.43	0.66	357	266	0.410
26	3.160	5.848	359.61	0.70	3	274	0.523
27	3.948	4.873	11.80	0.73	8	281	0.635
28	4.506	3.627	23.97	0.77	13	286	0.737
29	+4.835	-2.193	36.14	+0.81	17	290	0.827
30	4.946	-0.660	48.31	0.85	20	292	0.900
31	4.849	+0.888	60.47	0.88	21	291	0.954
Apr. 1	4.555	2.366	72.63	0.92	22	286	0.987
2	+4.074	+3.705	84.79	+0.95	22	224	0.999

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EPHEMERIS FOR PHYSICAL OBSERVATIONS
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Date 0 ^h TT	The Earth's Selenographic		The Sun's Selenographic		Position Angle of		Fraction Illuminated	
	Long. °	Lat. °	Colong. °	Lat. °	Axis °	Bright Limb °		
Apr.	1	+4.555	+2.366	72.63	+0.92	22	286	0.987
	2	4.074	3.705	84.79	0.95	22	224	0.999
	3	3.411	4.844	96.95	0.97	21	131	0.991
	4	2.575	5.741	109.12	1.00	19	120	0.963
	5	1.583	6.365	121.28	1.01	16	114	0.918
	6	+0.457	6.701	133.45	1.03	12	108	0.859
	7	-0.767	+6.745	145.63	+1.04	8	101	0.787
	8	2.043	6.501	157.81	1.05	3	95	0.705
	9	3.310	5.979	169.99	1.06	358	88	0.615
	10	4.498	5.195	182.18	1.06	353	82	0.521
	11	5.529	4.171	194.38	1.07	349	77	0.424
	12	6.322	2.935	206.59	1.08	345	73	0.328
	13	-6.797	+1.527	218.80	+1.08	342	70	0.235
	14	6.886	+0.001	231.01	1.09	340	68	0.152
	15	6.540	-1.569	243.23	1.10	338	69	0.082
	16	5.748	3.090	255.46	1.11	338	73	0.031
	17	4.539	4.453	267.69	1.13	339	95	0.004
	18	2.995	5.549	279.92	1.14	341	219	0.005
	19	-1.245	-6.279	292.15	+1.16	344	241	0.035
	20	+0.556	6.581	304.37	1.18	349	252	0.092
	21	2.252	6.434	316.60	1.20	355	261	0.172
	22	3.713	5.865	328.82	1.23	1	270	0.270
	23	4.852	4.935	341.03	1.25	7	277	0.378
	24	5.631	3.726	353.24	1.28	12	283	0.489
	25	+6.053	-2.328	5.44	+1.31	16	288	0.599
	26	6.150	-0.832	17.63	1.34	19	291	0.701
	27	5.966	+0.678	29.82	1.37	21	292	0.792
	28	5.551	2.129	42.00	1.39	22	292	0.869
	29	4.946	3.452	54.19	1.42	22	289	0.929
	30	4.186	4.594	66.36	1.44	21	283	0.971
May	1	+3.296	+5.508	78.54	+1.46	20	263	0.994
	2	2.290	6.164	90.72	1.48	17	164	0.998
	3	+1.183	6.539	102.90	1.49	14	123	0.983
	4	-0.011	6.626	115.08	1.50	9	110	0.951
	5	1.272	6.426	127.26	1.50	5	101	0.903
	6	2.568	5.952	139.45	1.50	360	93	0.841
	7	-3.854	+5.222	151.64	+1.50	355	86	0.767
	8	5.071	4.260	163.83	1.49	350	80	0.682
	9	6.148	3.098	176.04	1.49	346	75	0.588
	10	7.002	1.772	188.25	1.48	343	71	0.490
	11	7.546	+0.329	200.46	1.47	340	69	0.388
	12	7.696	-1.172	212.68	1.46	339	68	0.289
	13	-7.381	-2.654	224.91	+1.46	338	68	0.195
	14	6.566	4.026	237.14	1.46	338	71	0.114
	15	5.259	5.184	249.38	1.45	340	77	0.051
	16	3.532	6.021	261.62	1.46	343	93	0.012
	17	-1.521	-6.450	273.87	+1.46	347	192	0.002

MOON, 2026
EPHEMERIS FOR PHYSICAL OBSERVATIONS
FOR 0^h TERRESTRIAL TIME

Date 0 ^h TT	The Earth's Selenographic		The Sun's Selenographic		Position Angle of		Fraction Illuminated
	Long.	Lat.	Colong.	Lat.	Axis	Bright Limb	
	°	°	°	°	°	°	
May 17	-1.521	-6.450	273.87	+1.46	347	192	0.002
18	+0.592	6.422	286.11	1.46	353	247	0.023
19	2.609	5.939	298.35	1.47	359	262	0.072
20	4.358	5.052	310.59	1.48	5	272	0.146
21	5.719	3.851	322.82	1.49	11	280	0.239
22	6.633	2.442	335.05	1.50	15	286	0.343
23	+7.100	-0.929	347.27	+1.52	18	290	0.451
24	7.158	+0.595	359.49	1.53	21	292	0.558
25	6.868	2.050	11.70	1.55	22	293	0.660
26	6.297	3.374	23.90	1.57	22	292	0.752
27	5.510	4.515	36.10	1.58	22	290	0.832
28	4.563	5.432	48.30	1.59	20	286	0.898
29	+3.500	+6.095	60.49	+1.60	18	279	0.948
30	2.352	6.485	72.68	1.61	15	267	0.981
31	+1.141	6.589	84.87	1.61	11	229	0.997
June 1	-0.115	6.409	97.06	1.61	6	130	0.995
2	1.400	5.953	109.25	1.60	1	104	0.975
3	2.689	5.241	121.45	1.59	356	92	0.938
4	-3.951	+4.298	133.64	+1.57	351	84	0.885
5	5.140	3.160	145.84	1.56	347	78	0.817
6	6.198	1.866	158.04	1.54	344	73	0.736
7	7.053	+0.465	170.25	1.52	341	70	0.645
8	7.626	-0.990	182.47	1.50	339	68	0.545
9	7.834	2.432	194.69	1.48	338	67	0.440
10	-7.604	-3.784	206.92	+1.46	338	68	0.334
11	6.886	4.960	219.15	1.44	339	70	0.233
12	5.670	5.863	231.39	1.42	341	75	0.143
13	4.007	6.401	243.64	1.41	345	83	0.070
14	-2.011	6.506	255.89	1.39	350	97	0.022
15	+0.147	6.146	268.14	1.38	356	156	0.002
16	+2.270	-5.345	280.39	+1.37	2	255	0.013
17	4.167	4.175	292.64	1.37	9	273	0.054
18	5.694	2.746	304.89	1.36	14	282	0.120
19	6.767	-1.178	317.13	1.36	17	288	0.205
20	7.364	+0.415	329.37	1.36	20	292	0.303
21	7.507	1.938	341.60	1.36	22	293	0.406
22	+7.253	+3.318	353.83	+1.36	22	293	0.510
23	6.671	4.501	6.05	1.36	22	292	0.611
24	5.834	5.449	18.26	1.36	21	290	0.704
25	4.810	6.138	30.47	1.36	19	286	0.788
26	3.660	6.549	42.68	1.36	16	281	0.861
27	2.431	6.674	54.88	1.36	12	274	0.919
28	+1.161	+6.512	67.08	+1.35	7	265	0.963
29	-0.120	6.071	79.27	1.34	2	249	0.989
30	1.388	5.367	91.47	1.32	357	176	0.999
July 1	2.619	4.427	103.66	1.30	352	98	0.990
2	-3.788	+3.286	115.86	+1.28	348	83	0.963

MOON, 2026
EPHEMERIS FOR PHYSICAL OBSERVATIONS
FOR 0^h TERRESTRIAL TIME

Date 0 ^h TT	The Earth's Selenographic		The Sun's Selenographic		Position Angle of		Fraction Illuminated	
	Long.	Lat.	Colong.	Lat.	Axis	Bright Limb		
		°	°	°	°	°		
July	1	-2.619	+4.427	103.66	+1.30	352	98	0.990
	2	3.788	3.286	115.86	1.28	348	83	0.963
	3	4.859	1.986	128.06	1.26	344	75	0.918
	4	5.791	+0.579	140.26	1.23	342	70	0.857
	5	6.530	-0.877	152.46	1.20	340	67	0.780
	6	7.018	2.317	164.67	1.17	338	66	0.689
	7	-7.189	-3.671	176.89	+1.13	338	66	0.589
	8	6.987	4.860	189.11	1.10	338	68	0.481
	9	6.368	5.804	201.34	1.07	340	71	0.371
	10	5.321	6.422	213.58	1.04	343	75	0.264
	11	3.879	6.644	225.82	1.01	348	82	0.167
	12	2.124	6.423	238.06	0.99	353	91	0.087
	13	-0.189	-5.755	250.31	+0.96	360	102	0.031
	14	+1.763	4.681	262.57	0.94	6	129	0.004
	15	3.567	3.287	274.82	0.92	11	266	0.006
	16	5.080	1.693	287.07	0.90	16	284	0.037
	17	6.205	-0.024	299.32	0.88	19	291	0.093
	18	6.894	+1.601	311.57	0.87	21	294	0.169
	19	+7.142	+3.089	323.81	+0.86	22	295	0.258
	20	6.983	4.373	336.05	0.85	22	294	0.355
	21	6.469	5.406	348.27	0.84	21	292	0.455
	22	5.669	6.164	0.50	0.83	19	289	0.554
	23	4.651	6.632	12.72	0.82	16	285	0.649
	24	3.484	6.805	24.93	0.81	13	280	0.737
	25	+2.230	+6.686	37.13	+0.80	9	274	0.816
	26	+0.945	6.282	49.34	0.78	4	267	0.883
	27	-0.324	5.609	61.53	0.77	359	260	0.937
	28	1.539	4.689	73.73	0.74	354	252	0.975
	29	2.665	3.554	85.92	0.72	349	237	0.996
	30	3.674	2.248	98.11	0.69	345	95	0.998
Aug.	31	-4.537	+0.821	110.31	+0.66	342	73	0.981
	1	5.226	-0.664	122.50	0.63	340	67	0.944
	2	5.710	2.139	134.70	0.59	338	65	0.888
	3	5.957	3.529	146.90	0.56	338	64	0.814
	4	5.938	4.757	159.10	0.52	338	65	0.725
	5	5.625	5.747	171.31	0.48	340	68	0.623
	6	-5.004	-6.428	183.52	+0.44	342	72	0.512
	7	4.079	6.739	195.75	0.41	346	77	0.399
	8	2.879	6.637	207.97	0.37	351	84	0.289
	9	-1.463	6.108	220.21	0.34	357	92	0.189
	10	+0.083	5.171	232.45	0.31	3	100	0.105
	11	1.650	3.886	244.69	0.27	9	107	0.043
	12	+3.125	-2.346	256.94	+0.24	14	116	0.008
	13	4.400	-0.670	269.19	0.22	18	281	0.001
	14	5.387	+1.020	281.43	0.19	20	294	0.022
	15	6.028	2.611	293.68	0.17	22	297	0.066
16	+6.295	+4.016	305.92	+0.15	22	297	0.131	

MOON, 2026
EPHEMERIS FOR PHYSICAL OBSERVATIONS
FOR 0^h TERRESTRIAL TIME

Date 0 ^h TT	The Earth's Selenographic		The Sun's Selenographic		Position Angle of		Fraction Illuminated
	Long. °	Lat. °	Colong. °	Lat. °	Axis °	Bright Limb °	
Aug. 16	+6.295	+4.016	305.92	+0.15	22	297	0.131
17	6.191	5.171	318.16	0.13	22	295	0.210
18	5.743	6.039	330.39	0.11	20	293	0.299
19	4.998	6.603	342.61	0.10	18	289	0.394
20	4.016	6.860	354.83	0.08	14	284	0.490
21	2.863	6.814	7.05	0.07	10	279	0.586
22	+1.610	+6.477	19.25	+0.05	5	273	0.677
23	+0.325	5.866	31.45	0.04	0	267	0.762
24	-0.925	5.001	43.65	+0.02	355	261	0.838
25	2.081	3.912	55.84	-0.01	351	255	0.902
26	3.093	2.634	68.03	0.03	346	251	0.952
27	3.916	+1.216	80.21	0.06	343	248	0.986
28	-4.521	-0.284	92.40	-0.09	341	256	1.000
29	4.884	1.795	104.58	0.12	339	59	0.993
30	4.996	3.236	116.76	0.15	338	60	0.964
31	4.858	4.526	128.94	0.19	338	62	0.913
Sept. 1	4.481	5.582	141.13	0.22	339	64	0.842
2	3.885	6.332	153.32	0.26	341	68	0.753
3	-3.099	-6.718	165.51	-0.30	345	73	0.650
4	2.157	6.704	177.72	0.33	350	80	0.539
5	-1.101	6.279	189.92	0.37	356	87	0.424
6	+0.023	5.462	202.14	0.40	2	94	0.313
7	1.165	4.301	214.36	0.44	7	101	0.211
8	2.273	2.870	226.59	0.47	13	107	0.124
9	+3.290	-1.266	238.82	-0.50	17	110	0.058
10	4.158	+0.402	251.05	0.53	20	110	0.017
11	4.826	2.024	263.29	0.56	21	74	0.000
12	5.246	3.502	275.52	0.59	22	307	0.009
13	5.385	4.757	287.75	0.61	22	301	0.041
14	5.224	5.736	299.99	0.63	21	298	0.093
15	+4.765	+6.408	312.21	-0.65	19	294	0.160
16	4.030	6.763	324.43	0.67	15	289	0.240
17	3.059	6.806	336.65	0.68	11	283	0.327
18	1.908	6.552	348.86	0.69	7	277	0.420
19	+0.645	6.019	1.06	0.71	2	271	0.514
20	-0.655	5.232	13.26	0.72	357	265	0.608
21	-1.913	+4.217	25.45	-0.74	352	259	0.699
22	3.050	3.008	37.64	0.75	348	255	0.783
23	3.991	1.645	49.81	0.77	344	251	0.858
24	4.674	+0.178	61.99	0.79	341	250	0.921
25	5.051	-1.328	74.16	0.81	339	250	0.967
26	5.093	2.798	86.32	0.84	338	261	0.994
27	-4.801	-4.143	98.49	-0.86	338	26	0.998
28	4.202	5.274	110.65	0.89	339	54	0.978
29	3.350	6.106	122.82	0.92	341	62	0.934
30	2.319	6.573	134.99	0.94	344	68	0.866
Oct. 1	-1.193	-6.634	147.16	-0.97	349	75	0.779

MOON, 2026
EPHEMERIS FOR PHYSICAL OBSERVATIONS
FOR 0^h TERRESTRIAL TIME

Date 0 ^h TT	The Earth's Selenographic		The Sun's Selenographic		Position Angle of		Fraction Illuminated	
	Long.	Lat.	Colong.	Lat.	Axis	Bright Limb		
		°	°	°	°	°		
Oct.	1	-1.193	-6.634	147.16	-0.97	349	75	0.779
	2	-0.053	6.282	159.34	1.00	354	83	0.677
	3	+1.036	5.539	171.52	1.03	0	91	0.565
	4	2.025	4.459	183.71	1.06	6	98	0.451
	5	2.889	3.115	195.91	1.08	11	104	0.340
	6	3.612	1.595	208.11	1.11	16	108	0.238
	7	+4.189	+0.005	220.32	-1.14	19	110	0.150
	8	4.614	1.588	232.53	1.16	21	111	0.080
	9	4.874	3.063	244.75	1.19	22	107	0.032
	10	4.953	4.350	256.97	1.21	22	91	0.006
	11	4.829	5.387	269.19	1.23	21	337	0.003
	12	4.484	6.134	281.41	1.25	19	306	0.021
	13	+3.907	+6.568	293.62	-1.26	17	296	0.058
	14	3.100	6.688	305.83	1.28	13	289	0.113
	15	2.085	6.504	318.04	1.29	9	282	0.180
	16	+0.898	6.039	330.25	1.29	4	275	0.259
	17	-0.403	5.318	342.44	1.30	359	269	0.345
	18	1.747	4.373	354.64	1.31	354	263	0.437
	19	-3.051	+3.237	6.82	-1.31	349	258	0.532
	20	4.225	1.948	19.00	1.32	345	254	0.627
	21	5.178	0.549	31.17	1.33	342	251	0.719
	22	5.824	0.907	43.33	1.33	340	249	0.805
	23	6.091	2.355	55.49	1.34	338	249	0.880
	24	5.932	3.716	67.65	1.35	338	252	0.940
	25	-5.336	-4.901	79.80	-1.36	338	261	0.981
	26	4.338	5.816	91.94	1.37	340	311	0.998
	27	3.021	6.378	104.09	1.39	343	49	0.989
	28	-1.504	6.528	116.24	1.40	347	66	0.952
	29	+0.071	6.245	128.38	1.41	352	77	0.890
	30	1.569	5.551	140.54	1.42	359	86	0.807
Nov.	31	+2.886	-4.502	152.69	-1.44	5	94	0.707
	1	3.956	3.184	164.86	1.45	10	101	0.598
	2	4.753	1.693	177.03	1.46	15	106	0.485
	3	5.285	-0.127	189.21	1.48	18	110	0.375
	4	5.574	+1.421	201.39	1.50	20	111	0.273
	5	5.653	2.867	213.58	1.51	22	111	0.184
	6	+5.546	+4.141	225.78	-1.53	22	110	0.110
	7	5.270	5.184	237.98	1.54	22	105	0.054
	8	4.830	5.954	250.18	1.55	20	94	0.018
	9	4.223	6.425	262.38	1.56	18	53	0.003
	10	3.445	6.587	274.58	1.57	14	316	0.007
	11	2.495	6.446	286.79	1.57	10	293	0.030
	12	+1.380	+6.019	298.99	-1.57	5	282	0.070
	13	+0.126	5.335	311.18	1.57	0	274	0.125
	14	-1.226	4.426	323.37	1.57	355	267	0.193
	15	2.619	3.330	335.56	1.56	351	261	0.272
16	-3.977	+2.087	347.74	-1.56	347	256	0.360	

MOON, 2026
EPHEMERIS FOR PHYSICAL OBSERVATIONS
FOR 0^h TERRESTRIAL TIME

Date 0 ^h TT	The Earth's Selenographic		The Sun's Selenographic		Position Angle of		Fraction Illuminated
	Long.	Lat.	Colong.	Lat.	Axis	Bright Limb	
	°	°	°	°	°	°	
Nov. 16	-3.977	+2.087	347.74	-1.56	347	256	0.360
17	5.214	+0.740	359.91	1.55	343	252	0.454
18	6.234	-0.663	12.08	1.54	341	249	0.551
19	6.938	2.067	24.24	1.54	339	248	0.649
20	7.238	3.407	36.39	1.53	338	248	0.744
21	7.063	4.606	48.54	1.52	338	250	0.831
22	-6.379	-5.579	60.68	-1.51	339	254	0.905
23	5.202	6.235	72.82	1.51	341	262	0.961
24	3.610	6.499	84.95	1.50	345	285	0.992
25	-1.740	6.321	97.08	1.49	350	38	0.996
26	+0.235	5.698	109.21	1.49	356	75	0.970
27	2.132	4.678	121.34	1.48	3	88	0.917
28	+3.800	-3.348	133.48	-1.47	9	97	0.839
29	5.136	1.821	145.62	1.47	13	104	0.744
30	6.092	-0.214	157.77	1.47	17	109	0.639
Dec. 1	6.669	+1.369	169.93	1.47	20	112	0.529
2	6.897	2.837	182.09	1.47	22	113	0.421
3	6.824	4.122	194.26	1.47	22	112	0.320
4	+6.497	+5.172	206.43	-1.47	22	110	0.228
5	5.963	5.951	218.61	1.47	21	107	0.150
6	5.253	6.435	230.80	1.47	18	102	0.087
7	4.393	6.616	242.99	1.47	15	93	0.040
8	3.396	6.495	255.18	1.46	11	78	0.012
9	2.275	6.087	267.37	1.46	7	11	0.002
10	+1.043	+5.416	279.56	-1.45	2	292	0.010
11	-0.282	4.515	291.75	1.44	357	274	0.035
12	1.668	3.423	303.94	1.43	352	265	0.077
13	3.072	2.184	316.12	1.41	348	258	0.135
14	4.436	+0.846	328.30	1.40	344	253	0.205
15	5.687	-0.543	340.48	1.38	341	250	0.287
16	-6.742	-1.929	352.65	-1.36	339	248	0.379
17	7.510	3.255	4.81	1.33	338	247	0.477
18	7.902	4.456	16.96	1.31	338	247	0.579
19	7.840	5.460	29.11	1.29	338	249	0.682
20	7.269	6.190	41.25	1.27	340	253	0.779
21	6.182	6.568	53.39	1.24	343	258	0.866
22	-4.623	-6.530	65.52	-1.22	347	267	0.935
23	2.704	6.043	77.64	1.19	353	281	0.981
24	-0.587	5.118	89.77	1.17	360	348	0.999
25	+1.540	3.820	101.89	1.14	6	85	0.986
26	3.496	2.259	114.01	1.12	12	100	0.943
27	5.138	0.568	126.14	1.10	16	107	0.876
28	+6.378	+1.121	138.27	-1.08	19	111	0.789
29	7.181	2.695	150.41	1.06	21	114	0.690
30	7.556	4.070	162.56	1.04	22	114	0.585
31	7.540	5.189	174.71	1.03	22	113	0.480
32	+7.186	+6.017	186.87	-1.02	21	111	0.378

MERCURY, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude				Heliocentric Latitude				Radius Vector	Date	Heliocentric Longitude				Heliocentric Latitude				Radius Vector
	°	'	"		°	'	"				°	'	"		°	'	"		
Jan.	0	239	49	39.7	-1	21	56.9		0.460 8935	Feb.	15	50	00	36.5	+0	10	05.7		0.313 6929
	1	242	37	24.3	1	42	02.9		0.462 5476		16	56	06	46.7	0	54	55.8		0.311 2593
	2	245	24	06.6	2	01	46.7		0.463 9271		17	62	18	10.8	1	39	44.9		0.309 4086
	3	248	09	59.5	2	21	07.0		0.465 0304		18	68	33	35.5	2	23	50.1		0.308 1697
	4	250	55	15.6	2	40	03.0		0.465 8563		19	74	51	39.6	3	06	27.4		0.307 5626
	5	253	40	07.6	2	58	33.6		0.466 4038		20	81	10	55.7	3	46	54.0		0.307 5971
	6	256	24	47.8	-3	16	37.7		0.466 6723		21	87	29	53.4	+4	24	30.2		0.308 2725
	7	259	09	28.4	3	34	14.3		0.466 6614		22	93	47	01.7	4	58	41.7		0.309 5781
	8	261	54	21.6	3	51	22.0		0.466 3713		23	100	00	52.2	5	29	00.6		0.311 4928
	9	264	39	39.6	4	07	59.7		0.465 8022		24	106	10	02.1	5	55	06.7		0.313 9868
	10	267	25	34.7	4	24	05.9		0.464 9547		25	112	13	16.4	6	16	47.8		0.317 0228
11	270	12	19.2	4	39	39.3		0.463 8299	26	118	09	29.9	6	33	59.5		0.320 5572		
12	273	00	05.6	-4	54	38.1		0.462 4290	27	123	57	48.6	+6	46	44.3		0.324 5421		
13	275	49	06.7	5	09	00.5		0.460 7538	28	129	37	29.7	6	55	11.0		0.328 9267		
14	278	39	35.4	5	22	44.7		0.458 8062	Mar.	1	135	08	02.3	6	59	32.8		0.333 6589	
15	281	31	45.0	5	35	48.3		0.456 5889		2	140	29	06.2	7	00	06.6		0.338 6865	
16	284	25	49.0	5	48	09.0		0.454 1047		3	145	40	31.2	6	57	11.6		0.343 9584	
17	287	22	01.7	5	59	44.2		0.451 3570		4	150	42	15.7	6	51	08.0		0.349 4252	
18	290	20	37.4	-6	10	30.8		0.448 3500	5	155	34	25.6	+6	42	16.4		0.355 0399		
19	293	21	51.0	6	20	25.7		0.445 0882	6	160	17	12.7	6	30	57.0		0.360 7587		
20	296	25	58.3	6	29	25.4		0.441 5769	7	164	50	53.6	6	17	29.1		0.366 5406		
21	299	33	15.2	6	37	25.8		0.437 8222	8	169	15	48.5	6	02	10.6		0.372 3479		
22	302	43	58.6	6	44	22.8		0.433 8310	9	173	32	20.1	5	45	18.2		0.378 1463		
23	305	58	25.8	6	50	11.6		0.429 6113	10	177	40	52.9	5	27	07.0		0.383 9043		
24	309	16	54.9	-6	54	47.1		0.425 1719	11	181	41	52.2	+5	07	50.3		0.389 5936		
25	312	39	44.9	6	58	03.7		0.420 5230	12	185	35	44.1	4	47	40.4		0.395 1888		
26	316	07	15.2	6	59	55.4		0.415 6762	13	189	22	54.4	4	26	47.7		0.400 6668		
27	319	39	46.1	7	00	15.5		0.410 6443	14	193	03	48.7	4	05	21.6		0.406 0074		
28	323	17	38.4	6	58	57.2		0.405 4420	15	196	38	52.0	3	43	30.1		0.411 1922		
29	327	01	13.8	6	55	52.8		0.400 0858	16	200	08	28.6	3	21	20.4		0.416 2048		
30	330	50	54.1	-6	50	54.7		0.394 5941	17	203	33	02.0	+2	58	58.5		0.421 0310		
Feb.	31	334	47	01.8	6	43	54.4		0.388 9877	18	206	52	54.6	2	36	29.7		0.425 6579	
	1	338	49	59.4	6	34	43.5		0.383 2897	19	210	08	28.0	2	13	58.6		0.430 0741	
	2	343	00	09.3	6	23	13.3		0.377 5260	20	213	20	02.7	1	51	29.1		0.434 2697	
	3	347	17	53.6	6	09	15.4		0.371 7252	21	216	27	58.7	1	29	04.5		0.438 2358	
4	351	43	33.4	5	52	41.7		0.365 9189	22	219	32	34.5	1	06	47.7		0.441 9646		
5	356	17	28.6	-5	33	24.6		0.360 1419	23	222	34	08.2	+0	44	41.3		0.445 4493		
6	0	59	56.9	5	11	18.0		0.354 4323	24	225	32	57.0	0	22	47.5		0.448 6840		
7	5	51	13.3	4	46	17.0		0.348 8313	25	228	29	17.3	+0	01	08.1		0.451 6633		
8	10	51	29.4	4	18	19.3		0.343 3832	26	231	23	24.8	-0	20	15.2		0.454 3827		
9	16	00	52.0	3	47	25.5		0.338 1351	27	234	15	34.7	0	41	21.0		0.456 8383		
10	21	19	22.3	3	13	39.6		0.333 1367	28	237	06	01.6	1	02	07.7		0.459 0268		
11	26	46	54.7	-2	37	10.2		0.328 4392	29	239	54	59.6	-1	22	34.4		0.460 9451		
12	32	23	15.7	1	58	11.0		0.324 0950	30	242	42	42.3	1	42	39.8		0.462 5908		
13	38	08	03.0	1	17	01.0		0.320 1560	31	245	29	23.0	2	02	22.8		0.463 9620		
14	44	00	44.1	-0	34	05.2		0.316 6728	Apr.	1	248	15	14.7	2	21	42.5		0.465 0570	
15	50	00	36.5	+0	10	05.7		0.313 6929		2	251	00	30.1	-2	40	37.7		0.465 8745	

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MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector	Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector		
	°	'	"	°	'	"			°	'	"	°	'	"			
Apr.	1	248	15	14.7	-2	21	42.5	0.465 0570	May	17	68	45	19.5	+2	25	10.1	0.308 1413
	2	251	00	30.1	2	40	37.7	0.465 8745		18	75	03	27.1	3	07	44.0	0.307 5536
	3	253	45	21.7	2	59	07.5	0.466 4136		19	81	22	44.1	3	48	05.9	0.307 6077
	4	256	30	01.8	3	17	10.8	0.466 6737		20	87	41	39.8	4	25	36.4	0.308 3026
	5	259	14	42.7	3	34	46.4	0.466 6545		21	93	58	43.4	4	59	41.1	0.309 6270
	6	261	59	36.6	3	51	53.3	0.466 3559		22	100	12	26.6	5	29	52.5	0.311 5599
	7	264	44	55.7	-4	08	30.0	0.465 7784		23	106	21	26.9	+5	55	50.6	0.314 0711
	8	267	30	52.1	4	24	35.3	0.464 9226		24	112	24	29.3	6	17	23.5	0.317 1230
	9	270	17	38.5	4	40	07.6	0.463 7895		25	118	20	29.2	6	34	27.0	0.320 6718
	10	273	05	27.1	4	55	05.3	0.462 3804		26	124	08	32.6	6	47	03.7	0.324 6697
	11	275	54	30.7	5	09	26.6	0.460 6969		27	129	47	57.5	6	55	22.6	0.329 0658
	12	278	45	02.3	5	23	09.5	0.458 7412		28	135	18	13.0	6	59	37.2	0.333 8078
13	281	37	15.2	-5	36	11.9	0.456 5158	29	140	38	59.4	+7	00	04.3	0.338 8437		
14	284	31	23.1	5	48	31.2	0.454 0236	30	145	50	06.7	6	57	03.2	0.344 1223		
15	287	27	40.0	6	00	04.9	0.451 2682	31	150	51	33.6	6	50	54.1	0.349 5943		
16	290	26	20.2	6	10	50.0	0.448 2534	June	1	155	43	26.2	6	41	57.7	0.355 2129	
17	293	27	39.0	6	20	43.3	0.444 9840		2	160	25	56.3	6	30	34.0	0.360 9342	
18	296	31	51.8	6	29	41.2	0.441 4653		3	164	59	20.9	6	17	02.4	0.366 7175	
19	299	39	14.8	-6	37	39.8	0.437 7034		4	169	24	00.1	+6	01	40.8	0.372 5251	
20	302	50	04.7	6	44	34.7	0.433 7052		5	173	40	16.7	5	44	45.8	0.378 3227	
21	306	04	39.1	6	50	21.3	0.429 4787		6	177	48	35.2	5	26	32.3	0.384 0791	
22	309	23	15.9	6	54	54.5	0.425 0329		7	181	49	21.1	5	07	13.8	0.389 7660	
23	312	46	14.1	6	58	08.5	0.420 3778		8	185	43	00.3	4	47	02.4	0.395 3580	
24	316	13	53.3	6	59	57.5	0.415 5252		9	189	29	58.7	4	26	08.5	0.400 8322	
25	319	46	33.7	-7	00	14.7	0.410 4879		10	193	10	41.9	+4	04	41.5	0.406 1683	
26	323	24	36.1	6	58	53.2	0.405 2807		11	196	45	34.9	3	42	49.4	0.411 3481	
27	327	08	22.3	6	55	45.5	0.399 9201		12	200	15	01.8	3	20	39.2	0.416 3554	
28	330	58	14.1	6	50	43.7	0.394 4246	13	203	39	26.3	2	58	17.0	0.421 1757		
29	334	54	33.9	6	43	39.5	0.388 8151	14	206	59	10.6	2	35	48.1	0.425 7963		
30	338	57	44.3	6	34	24.4	0.383 1148	15	210	14	36.3	2	13	17.0	0.430 2060		
May	1	343	08	07.8	-6	22	49.9	0.377 3495	16	213	26	04.1	+1	50	47.5	0.434 3947	
	2	347	26	06.3	6	08	47.3	0.371 5480	17	216	33	53.6	1	28	23.1	0.438 3537	
	3	351	52	00.9	5	52	08.7	0.365 7420	18	219	38	23.6	1	06	06.6	0.442 0752	
	4	356	26	11.4	5	32	46.5	0.359 9665	19	222	39	52.0	0	44	00.6	0.445 5524	
	5	1	08	55.6	5	10	34.5	0.354 2596	20	225	38	35.9	0	22	07.2	0.448 7793	
	6	6	00	28.4	4	45	28.2	0.348 6625	21	228	34	51.9	+0	00	28.2	0.451 7508	
	7	11	01	01.1	-4	17	25.1	0.343 2197	22	231	28	55.5	-0	20	54.6	0.454 4622	
	8	16	10	40.4	3	46	25.9	0.337 9785	23	234	21	02.0	0	41	59.7	0.456 9097	
	9	21	29	27.3	3	12	34.8	0.332 9884	24	237	11	25.9	1	02	45.9	0.459 0899	
	10	26	57	16.1	2	36	00.7	0.328 3009	25	240	00	21.4	1	23	11.9	0.460 9999	
	11	32	33	53.0	1	56	57.1	0.323 9682	26	242	48	02.0	1	43	16.7	0.462 6373	
	12	38	18	55.3	1	15	43.5	0.320 0424	27	245	34	41.0	2	02	59.0	0.464 0001	
13	44	11	50.3	-0	32	44.9	0.316 5738	28	248	20	31.3	-2	22	17.9	0.465 0866		
14	50	11	55.1	+0	11	27.8	0.313 6099	29	251	05	45.8	2	41	12.4	0.465 8956		
15	56	18	15.9	0	56	18.5	0.311 1936	30	253	50	36.8	2	59	41.4	0.466 4261		
16	62	29	48.5	1	41	06.9	0.309 3611	July	1	256	35	16.7	3	17	43.8	0.466 6776	
17	68	45	19.5	+2	25	10.1	0.308 1413		2	259	19	57.8	-3	35	18.6	0.466 6498	

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MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude				Heliocentric Latitude				Radius Vector	Date	Heliocentric Longitude				Heliocentric Latitude				Radius Vector
	°	'	"		°	'	"				°	'	"		°	'	"		
July	1	256	35	16.7	-3	17	43.8	0.466 6776	Aug.	16	87	53	31.8	+4	26	42.9	0.308 3324		
	2	259	19	57.8	3	35	18.6	0.466 6498		17	94	10	30.8	5	00	40.8	0.309 6760		
	3	262	04	52.3	3	52	24.5	0.466 3427		18	100	24	06.7	5	30	44.7	0.311 6273		
	4	264	50	12.3	4	09	00.3	0.465 7566		19	106	32	57.1	5	56	34.7	0.314 1558		
	5	267	36	10.1	4	25	04.6	0.464 8922		20	112	35	47.6	6	17	59.3	0.317 2238		
	6	270	22	58.1	4	40	35.9	0.463 7506		21	118	31	33.7	6	34	54.4	0.320 7874		
	7	273	10	48.7	-4	55	32.5	0.462 3330		22	124	19	21.8	+6	47	23.0	0.324 7985		
	8	275	59	54.9	5	09	52.6	0.460 6411		23	129	58	30.2	6	55	34.1	0.329 2061		
	9	278	50	29.4	5	23	34.3	0.458 6770		24	135	28	28.6	6	59	41.4	0.333 9581		
	10	281	42	45.6	5	36	35.3	0.456 4434		25	140	48	57.3	7	00	01.7	0.339 0023		
	11	284	36	57.2	5	48	53.3	0.453 9430		26	145	59	46.7	6	56	54.4	0.344 2877		
	12	287	33	18.2	6	00	25.6	0.451 1794		27	151	00	55.8	6	50	39.9	0.349 7650		
	13	290	32	03.1	-6	11	09.1	0.448 1567	Sept.	28	155	52	30.8	+6	41	38.6	0.355 3876		
	14	293	33	27.0	6	21	00.7	0.444 8795		29	160	34	43.9	6	30	10.7	0.361 1115		
	15	296	37	45.4	6	29	56.9	0.441 3532		30	165	07	51.9	6	16	35.4	0.366 8962		
	16	299	45	14.5	6	37	53.6	0.437 5839		31	169	32	15.2	6	01	10.6	0.372 7041		
	17	302	56	11.0	6	44	46.5	0.433 5785		1	173	48	16.7	5	44	12.9	0.378 5009		
	18	306	10	52.5	6	50	30.9	0.429 3451		2	177	56	20.8	5	25	57.2	0.384 2556		
	19	309	29	37.1	-6	55	01.7	0.424 8926		3	181	56	53.1	+5	06	36.9	0.389 9400		
	20	312	52	43.7	6	58	13.2	0.420 2312		4	185	50	19.6	4	46	24.0	0.395 5287		
	21	316	20	31.8	6	59	59.4	0.415 3726		5	189	37	06.0	4	25	29.0	0.400 9990		
	22	319	53	21.8	7	00	13.7	0.410 3298		6	193	17	38.0	4	04	01.0	0.406 3306		
	23	323	31	34.5	6	58	49.1	0.405 1176		7	196	52	20.5	3	42	08.2	0.411 5053		
	24	327	15	31.5	6	55	38.0	0.399 7525		8	200	21	37.8	3	19	57.6	0.416 5070		
	25	331	05	35.0	-6	50	32.5	0.394 2531		9	203	45	53.2	+2	57	35.1	0.421 3214		
	26	335	02	07.1	6	43	24.4	0.388 6403		10	207	05	29.2	2	35	06.0	0.425 9357		
	27	339	05	30.6	6	34	05.2	0.382 9375		11	210	20	47.3	2	12	34.9	0.430 3387		
	28	343	16	07.7	6	22	26.2	0.377 1705		12	213	32	08.0	1	50	05.6	0.434 5204		
	29	347	34	20.6	6	08	19.0	0.371 3683		13	216	39	51.1	1	27	41.4	0.438 4722		
	30	352	00	30.3	5	51	35.4	0.365 5626		14	219	44	15.2	1	05	25.2	0.442 1862		
	31	356	34	56.4	-5	32	08.0	0.359 7886		15	222	45	38.2	+0	43	19.5	0.445 6558		
	1	1	17	56.7	5	09	50.7	0.354 0843		16	225	44	17.4	+0	21	26.5	0.448 8749		
	2	6	09	46.1	4	44	38.9	0.348 4912		17	228	40	29.0	-0	00	12.0	0.451 8383		
	3	11	10	35.6	4	16	30.4	0.343 0538		18	231	34	28.8	0	21	34.3	0.454 5417		
	4	16	20	31.9	3	45	25.8	0.337 8194		19	234	26	31.9	0	42	38.8	0.456 9809		
	5	21	39	35.8	3	11	29.5	0.332 8378		20	237	16	52.9	1	03	24.4	0.459 1528		
Aug.	6	27	07	41.3	-2	34	50.5	0.328 1604		21	240	05	45.8	-1	23	49.8	0.461 0544		
	7	32	44	34.2	1	55	42.6	0.323 8394		22	242	53	24.3	1	43	53.8	0.462 6833		
	8	38	29	51.8	1	14	25.3	0.319 9268		23	245	40	01.6	2	03	35.5	0.464 0375		
	9	44	23	01.0	-0	31	23.9	0.316 4730		24	248	25	50.7	2	22	53.6	0.465 1155		
	10	50	23	18.5	+0	12	50.6	0.313 5253		25	251	11	04.2	2	41	47.3	0.465 9158		
	11	56	29	50.1	0	57	41.8	0.311 1264		26	253	55	54.7	3	00	15.5	0.466 4377		
	12	62	41	31.4	+1	42	29.6	0.309 3124		27	256	40	34.5	-3	18	17.1	0.466 6805		
	13	68	57	08.7	2	26	30.6	0.308 1118		28	259	25	15.8	3	35	51.0	0.466 6440		
	14	75	15	20.0	3	09	01.1	0.307 5439		29	262	10	10.9	3	52	56.0	0.466 3282		
	15	81	34	37.9	3	49	18.3	0.307 6178		30	264	55	31.9	4	09	30.9	0.465 7335		
	16	87	53	31.8	+4	26	42.9	0.308 3324		Oct. 1	267	41	31.0	-4	25	34.1	0.464 8605		

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MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector	Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector		
	°	'	"	°	'	"			°	'	"	°	'	"			
Oct.	1	267	41	31.0	-4	25	34.1	0.464 8605	Nov.	16	112	47	11.7	+6	18	35.2	0.317 3283
	2	270	28	20.8	4	41	04.3	0.463 7102		17	118	42	43.5	6	35	21.9	0.320 9067
	3	273	16	13.6	4	55	59.8	0.462 2841		18	124	30	15.9	6	47	42.3	0.324 9310
	4	276	05	22.3	5	10	18.8	0.460 5837		19	130	09	07.5	6	55	45.5	0.329 3503
	5	278	55	59.8	5	23	59.3	0.458 6112		20	135	38	48.1	6	59	45.4	0.334 1122
	6	281	48	19.4	5	36	59.0	0.456 3692		21	140	58	58.7	6	59	59.0	0.339 1648
	7	284	42	34.8	-5	49	15.6	0.453 8606		22	146	09	29.9	+6	56	45.5	0.344 4570
	8	287	39	00.1	6	00	46.4	0.451 0888		23	151	10	20.8	6	50	25.5	0.349 9395
	9	290	37	49.7	6	11	28.4	0.448 0581		24	156	01	38.0	6	41	19.3	0.355 5659
	10	293	39	18.8	6	21	18.4	0.444 7731		25	160	43	33.7	6	29	47.1	0.361 2923
	11	296	43	42.9	6	30	12.7	0.441 2390		26	165	16	24.9	6	16	08.2	0.367 0783
	12	299	51	18.2	6	38	07.4	0.437 4622		27	169	40	32.1	6	00	40.3	0.372 8863
13	303	02	21.5	-6	44	58.3	0.433 4496	28	173	56	18.2	+5	43	39.9	0.378 6823		
14	306	17	10.3	6	50	40.5	0.429 2091	29	178	04	07.8	5	25	22.0	0.384 4351		
15	309	36	02.8	6	55	08.9	0.424 7499	30	182	04	26.3	5	05	59.9	0.390 1169		
16	312	59	17.8	6	58	17.9	0.420 0822	Dec.	1	185	57	39.8	4	45	45.6	0.395 7022	
17	316	27	15.1	7	00	01.4	0.415 2176		2	189	44	14.1	4	24	49.3	0.401 1684	
18	320	00	14.8	7	00	12.7	0.410 1692		3	193	24	34.8	4	03	20.5	0.406 4953	
19	323	38	37.9	-6	58	44.8	0.404 9519	4	196	59	06.8	+3	41	27.1	0.411 6648		
20	327	22	46.1	6	55	30.3	0.399 5822	5	200	28	14.3	3	19	16.0	0.416 6608		
21	331	13	01.4	6	50	21.1	0.394 0789	6	203	52	20.6	2	56	53.2	0.421 4690		
22	335	09	46.0	6	43	09.1	0.388 4629	7	207	11	48.2	2	34	24.0	0.426 0768		
23	339	13	22.7	6	33	45.6	0.382 7576	8	210	26	58.6	2	11	52.9	0.430 4730		
24	343	24	13.9	6	22	02.1	0.376 9890	9	213	38	12.2	1	49	23.7	0.434 6476		
25	347	42	41.4	-6	07	50.1	0.371 1862	10	216	45	48.7	+1	26	59.7	0.438 5920		
26	352	09	06.3	5	51	01.6	0.365 3809	11	219	50	06.9	1	04	43.8	0.442 2985		
27	356	43	48.3	5	31	29.0	0.359 6084	12	222	51	24.6	0	42	38.5	0.445 7602		
28	1	27	05.0	5	09	06.3	0.353 9068	13	225	49	58.8	+0	20	45.9	0.448 9713		
29	6	19	11.2	4	43	49.0	0.348 3179	14	228	46	06.1	-0	00	52.1	0.451 9267		
30	11	20	17.8	4	15	34.9	0.342 8861	15	231	40	02.1	0	22	13.8	0.454 6218		
Nov.	31	16	30	31.3	-3	44	24.9	0.337 6588	16	234	32	01.8	-0	43	17.9	0.457 0527	
	1	21	49	52.3	3	10	23.4	0.332 6859	17	237	22	19.9	1	04	02.8	0.459 2161	
	2	27	18	14.6	2	33	39.4	0.328 0188	18	240	11	10.2	1	24	27.6	0.461 1092	
	3	32	55	23.9	1	54	27.1	0.323 7098	19	242	58	46.6	1	44	30.9	0.462 7295	
	4	38	40	56.9	1	13	06.2	0.319 8108	20	245	45	22.3	2	04	11.8	0.464 0751	
	5	44	34	20.3	-0	30	02.0	0.316 3722	21	248	31	10.1	2	23	29.3	0.465 1443	
	6	50	34	50.4	+0	14	14.2	0.313 4412	22	251	16	22.7	-2	42	22.2	0.465 9360	
	7	56	41	32.8	0	59	06.0	0.311 0601	23	254	01	12.7	3	00	49.6	0.466 4492	
	8	62	53	22.8	1	43	53.0	0.309 2650	24	256	45	52.4	3	18	50.3	0.466 6832	
	9	69	09	06.2	2	27	51.9	0.308 0840	25	259	30	34.0	3	36	23.3	0.466 6380	
	10	75	27	21.0	3	10	18.9	0.307 5361	26	262	15	29.7	3	53	27.4	0.466 3135	
	11	81	46	39.6	3	50	31.2	0.307 6302	27	265	00	51.8	4	10	01.3	0.465 7101	
12	88	05	31.3	+4	27	49.9	0.308 3649	28	267	46	52.4	-4	26	03.6	0.464 8284		
13	94	22	25.2	5	01	40.9	0.309 7280	29	270	33	43.9	4	41	32.7	0.463 6695		
14	100	35	53.3	5	31	37.1	0.311 6979	30	273	21	39.0	4	56	27.2	0.462 2348		
15	106	44	33.5	5	57	19.0	0.314 2440	31	276	10	50.3	5	10	45.0	0.460 5259		
16	112	47	11.7	+6	18	35.2	0.317 3283	32	279	01	30.8	-5	24	24.2	0.458 5450		

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Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date	Apparent Geocentric Longitude			Apparent Geocentric Latitude			
		°	'	"	°	'	"		°	'	"	°	'	"	
Jan.	0	267	07	40.6	-0	27	30.6	Feb.	15	343	15	48.7	+0	02	52.6
	1	268	39	01.5	0	34	11.9		16	344	41	03.7	0	16	19.2
	2	270	10	43.6	0	40	43.6		17	346	01	21.1	0	30	19.5
	3	271	42	47.0	0	47	05.2		18	347	16	00.1	0	44	48.8
	4	273	15	11.8	0	53	16.0		19	348	24	18.9	0	59	41.7
	5	274	47	58.2	0	59	15.7		20	349	25	36.6	1	14	51.6
	6	276	21	06.6	-1	05	03.8		21	350	19	13.5	+1	30	10.8
	7	277	54	37.6	1	10	39.5		22	351	04	32.8	1	45	30.7
	8	279	28	31.9	1	16	02.6		23	351	41	01.7	2	00	41.5
	9	281	02	50.0	1	21	12.4		24	352	08	13.1	2	15	32.4
	10	282	37	32.7	1	26	08.4		25	352	25	46.9	2	29	51.9
	11	284	12	40.9	1	30	49.9		26	352	33	31.3	2	43	27.3
12	285	48	15.4	-1	35	16.6		27	352	31	24.4	+2	56	05.9	
13	287	24	17.0	1	39	27.7	Mar.	28	352	19	35.2	3	07	34.4	
14	289	00	46.7	1	43	22.6		1	351	58	25.1	3	17	39.8	
15	290	37	45.3	1	47	00.8		2	351	28	27.6	3	26	09.7	
16	292	15	13.7	1	50	21.5		3	350	50	29.2	3	32	53.1	
17	293	53	12.7	1	53	24.1		4	350	05	28.5	3	37	40.6	
18	295	31	43.1	-1	56	07.7			5	349	14	34.6	+3	40	25.2
19	297	10	45.7	1	58	31.8			6	348	19	05.3	3	41	02.9
20	298	50	21.0	2	00	35.4			7	347	20	24.4	3	39	32.8
21	300	30	29.9	2	02	17.7			8	346	19	58.1	3	35	57.4
22	302	11	12.5	2	03	37.9			9	345	19	12.1	3	30	22.1
23	303	52	29.4	2	04	35.1			10	344	19	27.8	3	22	55.5
24	305	34	20.6	-2	05	08.1			11	343	22	00.3	+3	13	48.2
25	307	16	46.1	2	05	16.2		12	342	27	55.3	3	03	12.7	
26	308	59	45.5	2	04	58.2		13	341	38	08.3	2	51	22.2	
27	310	43	18.0	2	04	12.9		14	340	53	23.9	2	38	30.4	
28	312	27	22.7	2	02	59.3		15	340	14	15.8	2	24	50.5	
29	314	11	57.8	2	01	16.1		16	339	41	07.4	2	10	35.2	
30	315	57	01.2	-1	59	02.1		17	339	14	13.0	+1	55	56.0	
31	317	42	30.0	1	56	16.0		18	338	53	38.9	1	41	03.4	
Feb.	1	319	28	20.5	1	52	56.4		19	338	39	25.1	1	26	06.3
	2	321	14	28.0	1	49	02.0		20	338	31	26.2	1	11	12.5
	3	323	00	46.8	1	44	31.5		21	338	29	32.8	0	56	28.6
	4	324	47	09.9	1	39	23.5		22	338	33	32.8	0	41	59.9
	5	326	33	28.8	-1	33	36.6		23	338	43	12.0	+0	27	50.9
	6	328	19	33.1	1	27	09.7		24	338	58	15.1	0	14	05.2
	7	330	05	10.7	1	20	01.5		25	339	18	26.0	+0	00	45.4
	8	331	50	07.1	1	12	11.1		26	339	43	28.8	-0	12	06.1
	9	333	34	05.4	1	03	37.5		27	340	13	07.5	0	24	27.8
	10	335	16	46.1	-0	54	20.3		28	340	47	06.8	0	36	18.3
	11	336	57	46.5	-0	44	19.3		29	341	25	12.0	-0	47	36.8
	12	338	36	41.1	0	33	34.5	Apr.	30	342	07	09.1	0	58	22.6
13	340	13	01.4	0	22	06.6	31		342	52	45.2	1	08	35.3	
14	341	46	15.5	-0	09	57.0	1		343	41	48.0	1	18	14.5	
15	343	15	48.7	+0	02	52.6	2		344	34	06.3	-1	27	20.3	

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		°	'	"	°	'	"			°	'	"	°	'	"
Apr.	1	343	41	48.0	-1	18	14.5	May	17	59	02	52.8	+0	33	58.6
	2	344	34	06.3	1	27	20.3		18	61	13	51.3	0	44	05.0
	3	345	29	29.4	1	35	52.5		19	63	24	20.9	0	53	53.9
	4	346	27	47.9	1	43	51.2		20	65	34	04.5	1	03	20.8
	5	347	28	52.9	1	51	16.4		21	67	42	45.5	1	12	21.8
	6	348	32	36.3	1	58	08.3		22	69	50	07.8	1	20	53.0
	7	349	38	50.7	-2	04	27.0		23	71	55	56.7	+1	28	50.9
	8	350	47	29.6	2	10	12.6		24	73	59	58.6	1	36	12.5
	9	351	58	26.7	2	15	25.4		25	76	02	01.4	1	42	55.0
	10	353	11	36.8	2	20	05.4		26	78	01	54.6	1	48	56.2
	11	354	26	55.0	2	24	12.8		27	79	59	29.1	1	54	14.3
	12	355	44	16.8	2	27	47.7		28	81	54	37.5	1	58	47.8
	13	357	03	38.6	-2	30	50.4	June	29	83	47	13.3	+2	02	35.6
	14	358	24	56.8	2	33	20.8		30	85	37	11.6	2	05	36.8
	15	359	48	08.6	2	35	19.1		31	87	24	28.3	2	07	51.0
	16	1	13	11.4	2	36	45.5		1	89	09	00.1	2	09	17.8
	17	2	40	03.2	2	37	39.9		2	90	50	44.3	2	09	57.0
	18	4	08	42.0	2	38	02.5		3	92	29	38.7	2	09	48.8
	19	5	39	06.5	-2	37	53.3		4	94	05	41.6	+2	08	53.3
	20	7	11	15.5	2	37	12.4		5	95	38	51.2	2	07	10.7
	21	8	45	08.1	2	35	59.9		6	97	09	05.9	2	04	41.4
	22	10	20	43.7	2	34	15.9		7	98	36	24.1	2	01	25.8
	23	11	58	01.8	2	32	00.3		8	100	00	43.9	1	57	24.3
	24	13	37	02.4	2	29	13.5		9	101	22	03.4	1	52	37.4
	25	15	17	45.6	-2	25	55.4		10	102	40	20.3	+1	47	05.6
	26	17	00	11.4	2	22	06.2		11	103	55	32.1	1	40	49.6
	27	18	44	20.4	2	17	46.1		12	105	07	35.7	1	33	49.9
	28	20	30	12.9	2	12	55.4		13	106	16	27.7	1	26	07.2
	29	22	17	49.5	2	07	34.4		14	107	22	04.5	1	17	42.1
	30	24	07	10.5	2	01	43.5		15	108	24	21.6	1	08	35.6
May	1	25	58	16.3	-1	55	23.2		16	109	23	14.3	+0	58	48.3
	2	27	51	07.0	1	48	34.1		17	110	18	37.4	0	48	21.4
	3	29	45	42.5	1	41	16.9		18	111	10	25.3	0	37	15.8
	4	31	42	02.2	1	33	32.6		19	111	58	32.2	0	25	32.8
	5	33	40	05.1	1	25	22.2		20	112	42	51.8	0	13	13.8
	6	35	39	49.5	1	16	47.1		21	113	23	17.9	+0	00	20.5
	7	37	41	13.0	-1	07	48.8		22	113	59	43.7	-0	13	05.4
	8	39	44	12.1	0	58	29.1		23	114	32	03.0	0	27	01.6
	9	41	48	42.3	0	48	50.1		24	115	00	09.1	0	41	25.7
	10	43	54	38.0	0	38	54.2		25	115	23	56.1	0	56	14.8
	11	46	01	52.0	0	28	44.2		26	115	43	18.3	1	11	25.7
	12	48	10	15.7	0	18	23.1		27	115	58	10.7	1	26	54.5
	13	50	19	39.0	-0	07	54.3	July	28	116	08	29.4	-1	42	36.9
	14	52	29	50.1	+0	02	38.3		29	116	14	11.8	1	58	28.1
	15	54	40	36.3	0	13	11.0		30	116	15	16.7	2	14	22.7
	16	56	51	42.2	0	23	39.1		1	116	11	45.2	2	30	14.5
	17	59	02	52.8	+0	33	58.6		2	116	03	40.5	-2	45	56.8

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		°	'	"	°	'	"			°	'	"	°	'	"
July	1	116	11	45.2	-2	30	14.5	Aug.	16	131	09	11.1	+1	07	35.0
	2	116	03	40.5	2	45	56.8		17	133	05	14.6	1	15	18.3
	3	115	51	08.7	3	01	22.4		18	135	02	57.7	1	22	07.9
	4	115	34	19.0	3	16	23.4		19	137	01	57.7	1	28	03.7
	5	115	13	23.8	3	30	51.5		20	139	01	52.9	1	33	06.2
	6	114	48	39.6	3	44	38.2		21	141	02	23.3	1	37	16.3
	7	114	20	26.3	-3	57	34.6		22	143	03	10.7	+1	40	35.4
	8	113	49	08.1	4	09	32.1		23	145	03	58.7	1	43	05.2
	9	113	15	12.5	4	20	22.1		24	147	04	33.0	1	44	47.6
	10	112	39	11.2	4	29	56.7		25	149	04	41.2	1	45	44.8
	11	112	01	38.3	4	38	08.7		26	151	04	12.6	1	45	58.9
	12	111	23	11.0	4	44	51.8		27	153	02	58.6	1	45	32.4
	13	110	44	28.1	-4	50	01.1	Sept.	28	155	00	51.8	+1	44	27.6
	14	110	06	09.5	4	53	32.7		29	156	57	46.6	1	42	46.7
	15	109	28	55.3	4	55	24.5		30	158	53	38.2	1	40	32.2
	16	108	53	25.2	4	55	35.7		31	160	48	23.3	1	37	46.3
	17	108	20	17.4	4	54	07.2		1	162	41	59.4	1	34	31.2
	18	107	50	08.1	4	51	01.2		2	164	34	24.7	1	30	48.9
	19	107	23	30.7	-4	46	21.0		3	166	25	38.2	+1	26	41.5
	20	107	00	55.6	4	40	11.2		4	168	15	39.2	1	22	10.9
	21	106	42	49.5	4	32	37.5		5	170	04	27.5	1	17	18.7
	22	106	29	35.8	4	23	45.9		6	171	52	03.3	1	12	06.8
	23	106	21	33.9	4	13	43.1		7	173	38	27.0	1	06	36.8
	24	106	18	59.8	4	02	36.3		8	175	23	39.1	1	00	50.2
	25	106	22	06.4	-3	50	32.5		9	177	07	40.5	+0	54	48.5
	26	106	31	03.2	3	37	38.9		10	178	50	31.9	0	48	32.9
	27	106	45	57.2	3	24	02.6		11	180	32	14.4	0	42	04.9
	28	107	06	52.7	3	09	50.5		12	182	12	48.8	0	35	25.6
	29	107	33	52.2	2	55	09.4		13	183	52	16.1	0	28	36.1
	30	108	06	56.1	2	40	05.5		14	185	30	37.4	0	21	37.7
Aug.	31	108	46	03.2	-2	24	45.2		15	187	07	53.4	+0	14	31.4
	1	109	31	10.9	2	09	14.4		16	188	44	05.1	+0	07	18.1
	2	110	22	15.3	1	53	38.7		17	190	19	13.0	-0	00	01.1
	3	111	19	11.2	1	38	03.6		18	191	53	17.9	0	07	25.3
	4	112	21	52.2	1	22	34.4		19	193	26	20.3	0	14	53.7
	5	113	30	10.5	1	07	16.3		20	194	58	20.5	0	22	25.4
	6	114	43	56.9	-0	52	14.3		21	196	29	18.7	-0	29	59.4
	7	116	03	00.8	0	37	33.0		22	197	59	14.9	0	37	35.1
	8	117	27	09.8	0	23	17.3		23	199	28	09.2	0	45	11.4
	9	118	56	09.9	-0	09	31.5		24	200	56	01.1	0	52	47.8
	10	120	29	45.2	+0	03	40.1		25	202	22	50.2	1	00	23.2
	11	122	07	37.8	0	16	13.5		26	203	48	35.6	1	07	57.0
	12	123	49	28.4	+0	28	05.1	Oct.	27	205	13	16.4	-1	15	28.3
	13	125	34	55.8	0	39	11.6		28	206	36	51.2	1	22	56.2
	14	127	23	37.7	0	49	30.2		29	207	59	18.5	1	30	20.0
	15	129	15	10.8	0	58	58.6		30	209	20	36.2	1	37	38.7
	16	131	09	11.1	+1	07	35.0		1	210	40	41.9	-1	44	51.3

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		°	'	"	°	'	"			°	'	"	°	'	"
Oct.	1	210	40	41.9	-1	44	51.3	Nov.	16	215	31	06.6	+2	17	38.0
	2	211	59	32.8	1	51	57.0		17	215	59	54.1	2	21	07.1
	3	213	17	05.5	1	58	54.8		18	216	37	14.3	2	23	09.5
	4	214	33	15.9	2	05	43.5		19	217	22	13.2	2	23	53.6
	5	215	47	59.5	2	12	21.9		20	218	13	58.8	2	23	27.9
	6	217	01	11.0	2	18	49.0		21	219	11	41.5	2	22	00.3
	7	218	12	44.3	-2	25	03.3		22	220	14	35.8	+2	19	38.1
	8	219	22	32.5	2	31	03.4		23	221	22	00.2	2	16	28.2
	9	220	30	27.7	2	36	47.7		24	222	33	17.5	2	12	36.6
	10	221	36	20.9	2	42	14.5		25	223	47	54.9	2	08	08.9
	11	222	40	01.9	2	47	21.9		26	225	05	23.5	2	03	10.1
	12	223	41	19.0	2	52	07.8		27	226	25	17.8	1	57	44.4
	13	224	39	59.4	-2	56	29.9	Dec.	28	227	47	16.0	+1	51	55.9
	14	225	35	48.1	3	00	25.6		29	229	10	59.3	1	45	48.0
	15	226	28	28.8	3	03	52.0		30	230	36	11.2	1	39	23.8
	16	227	17	42.8	3	06	46.1		1	232	02	38.0	1	32	46.0
	17	228	03	09.6	3	09	04.1		2	233	30	07.8	1	25	57.2
	18	228	44	26.2	3	10	42.2		3	234	58	30.6	1	18	59.4
	19	229	21	07.3	-3	11	35.9		4	236	27	37.9	+1	11	54.6
	20	229	52	45.5	3	11	40.4		5	237	57	22.5	1	04	44.5
	21	230	18	50.7	3	10	50.3		6	239	27	38.4	0	57	30.6
	22	230	38	51.1	3	08	59.8		7	240	58	20.6	0	50	14.4
	23	230	52	13.2	3	06	02.6		8	242	29	25.0	0	42	57.1
	24	230	58	22.9	3	01	52.0		9	244	00	48.1	0	35	39.7
	25	230	56	46.3	-2	56	21.2		10	245	32	27.1	+0	28	23.5
	26	230	46	51.7	2	49	23.3		11	247	04	19.9	0	21	09.1
	27	230	28	12.0	2	40	52.0		12	248	36	24.6	0	13	57.7
	28	230	00	27.3	2	30	41.8		13	250	08	40.0	+0	06	49.9
	29	229	23	28.4	2	18	48.8		14	251	41	05.0	-0	00	13.5
	30	228	37	21.2	2	05	11.7		15	253	13	39.0	0	07	11.8
Nov.	31	227	42	30.7	-1	49	52.4		16	254	46	21.5	-0	14	04.3
	1	226	39	44.2	1	32	57.0		17	256	19	12.5	0	20	50.5
	2	225	30	14.6	1	14	36.5		18	257	52	11.9	0	27	29.6
	3	224	15	40.0	0	55	07.0		19	259	25	20.0	0	34	01.2
	4	222	58	01.8	0	34	49.4		20	260	58	37.2	0	40	24.6
	5	221	39	39.0	-0	14	08.8		21	262	32	03.9	0	46	39.3
	6	220	23	00.0	+0	06	27.8		22	264	05	40.8	-0	52	44.7
	7	219	10	32.6	0	26	32.9		23	265	39	28.6	0	58	40.4
	8	218	04	33.8	0	45	40.9		24	267	13	27.9	1	04	25.7
	9	217	07	01.0	1	03	29.7		25	268	47	39.6	1	10	00.1
	10	216	19	25.6	1	19	42.1		26	270	22	04.5	1	15	23.0
	11	215	42	50.2	1	34	06.2		27	271	56	43.4	1	20	33.8
	12	215	17	48.9	+1	46	35.5		28	273	31	37.5	-1	25	32.1
	13	215	04	29.6	1	57	08.0		29	275	06	47.4	1	30	17.1
	14	215	02	38.4	2	05	45.8		30	276	42	14.3	1	34	48.2
	15	215	11	44.8	2	12	33.5		31	278	17	59.1	1	39	04.9
	16	215	31	06.6	+2	17	38.0		32	279	54	02.5	-1	43	06.4

MERCURY, 2026
 RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit			
		h	m	s	°	'	"		"		h	m	s
Jan.	0	17	47	26.23	-23	51	55.2	1.369 800	6.42	2.45	11	10	00
	1	17	54	05.45	24	00	04.3	1.377 642	6.38	2.44	11	12	44
	2	18	00	47.01	24	07	00.4	1.384 925	6.35	2.43	11	15	30
	3	18	07	30.76	24	12	42.2	1.391 656	6.32	2.41	11	18	18
	4	18	14	16.58	24	17	08.3	1.397 841	6.29	2.40	11	21	09
	5	18	21	04.35	24	20	17.3	1.403 484	6.27	2.39	11	24	01
	6	18	27	53.95	-24	22	08.1	1.408 589	6.24	2.39	11	26	55
	7	18	34	45.27	24	22	39.3	1.413 159	6.22	2.38	11	29	51
	8	18	41	38.20	24	21	49.9	1.417 194	6.21	2.37	11	32	49
	9	18	48	32.62	24	19	38.9	1.420 697	6.19	2.37	11	35	48
	10	18	55	28.44	24	16	05.1	1.423 666	6.18	2.36	11	38	48
	11	19	02	25.55	24	11	07.7	1.426 099	6.17	2.36	11	41	49
	12	19	09	23.83	-24	04	45.6	1.427 995	6.16	2.35	11	44	52
	13	19	16	23.18	23	56	58.1	1.429 350	6.15	2.35	11	47	56
	14	19	23	23.51	23	47	44.2	1.430 157	6.15	2.35	11	51	00
	15	19	30	24.69	23	37	03.3	1.430 413	6.15	2.35	11	54	06
	16	19	37	26.62	23	24	54.6	1.430 108	6.15	2.35	11	57	12
	17	19	44	29.20	23	11	17.4	1.429 233	6.15	2.35	12	00	19
	18	19	51	32.32	-22	56	11.0	1.427 780	6.16	2.35	12	03	26
	19	19	58	35.86	22	39	34.9	1.425 736	6.17	2.36	12	06	33
	20	20	05	39.71	22	21	28.6	1.423 088	6.18	2.36	12	09	41
	21	20	12	43.77	22	01	51.6	1.419 821	6.19	2.37	12	12	49
	22	20	19	47.90	21	40	43.5	1.415 920	6.21	2.37	12	15	57
	23	20	26	51.99	21	18	04.0	1.411 365	6.23	2.38	12	19	05
	24	20	33	55.91	-20	53	53.0	1.406 137	6.25	2.39	12	22	13
	25	20	40	59.52	20	28	10.4	1.400 216	6.28	2.40	12	25	20
	26	20	48	02.67	20	00	56.3	1.393 577	6.31	2.41	12	28	27
	27	20	55	05.19	19	32	10.9	1.386 195	6.34	2.42	12	31	32
	28	21	02	06.92	19	01	54.6	1.378 045	6.38	2.44	12	34	38
	29	21	09	07.64	18	30	08.2	1.369 097	6.42	2.45	12	37	41
30	21	16	07.13	-17	56	52.4	1.359 323	6.47	2.47	12	40	44	
31	21	23	05.11	17	22	08.7	1.348 689	6.52	2.49	12	43	45	
Feb.	1	21	30	01.30	16	45	58.5	1.337 165	6.58	2.51	12	46	44
	2	21	36	55.33	16	08	24.0	1.324 717	6.64	2.54	12	49	40
	3	21	43	46.81	15	29	27.8	1.311 312	6.71	2.56	12	52	34
	4	21	50	35.26	14	49	13.0	1.296 918	6.78	2.59	12	55	24
	5	21	57	20.15	-14	07	43.7	1.281 503	6.86	2.62	12	58	11
	6	22	04	00.85	13	25	04.5	1.265 040	6.95	2.66	13	00	53
	7	22	10	36.62	12	41	21.4	1.247 505	7.05	2.69	13	03	29
	8	22	17	06.61	11	56	41.2	1.228 878	7.16	2.73	13	05	59
	9	22	23	29.85	11	11	12.0	1.209 150	7.27	2.78	13	08	22
	10	22	29	45.21	10	25	03.5	1.188 321	7.40	2.83	13	10	36
	11	22	35	51.43	-9	38	26.7	1.166 400	7.54	2.88	13	12	40
	12	22	41	47.08	8	51	34.5	1.143 414	7.69	2.94	13	14	33
	13	22	47	30.55	8	04	41.3	1.119 407	7.86	3.00	13	16	13
	14	22	53	00.09	7	18	03.4	1.094 441	8.04	3.07	13	17	37
	15	22	58	13.80	-6	31	58.9	1.068 599	8.23	3.14	13	18	45

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Feb.	15	22	58	13.80	-6	31	58.9	1.068 599	8.23	3.14	13	18	45
	16	23	03	09.61	5	46	47.5	1.041 987	8.44	3.22	13	19	33
	17	23	07	45.38	5	02	50.4	1.014 735	8.67	3.31	13	20	00
	18	23	11	58.88	4	20	30.2	0.986 995	8.91	3.40	13	20	04
	19	23	15	47.86	3	40	10.5	0.958 938	9.17	3.50	13	19	42
	20	23	19	10.10	3	02	15.3	0.930 757	9.45	3.61	13	18	52
	21	23	22	03.52	-2	27	09.0	0.902 657	9.74	3.72	13	17	32
	22	23	24	26.17	1	55	15.3	0.874 854	10.05	3.84	13	15	40
	23	23	26	16.42	1	26	57.2	0.847 572	10.38	3.96	13	13	16
	24	23	27	32.94	1	02	36.1	0.821 032	10.71	4.09	13	10	17
Mar.	25	23	28	14.86	0	42	31.2	0.795 454	11.06	4.22	13	06	44
	26	23	28	21.85	0	26	58.9	0.771 047	11.41	4.36	13	02	36
	27	23	27	54.13	-0	16	11.8	0.748 007	11.76	4.49	12	57	55
	28	23	26	52.65	0	10	18.3	0.726 513	12.10	4.62	12	52	40
	1	23	25	19.04	0	09	21.7	0.706 724	12.44	4.75	12	46	55
	2	23	23	15.69	0	13	19.2	0.688 772	12.77	4.88	12	40	42
	3	23	20	45.71	0	22	02.1	0.672 767	13.07	4.99	12	34	05
	4	23	17	52.90	0	35	15.0	0.658 788	13.35	5.10	12	27	08
	5	23	14	41.61	-0	52	36.2	0.646 887	13.59	5.19	12	19	54
	6	23	11	16.66	1	13	38.0	0.637 085	13.80	5.27	12	12	30
	7	23	07	43.13	1	37	47.6	0.629 374	13.97	5.34	12	05	00
	8	23	04	06.16	2	04	28.6	0.623 720	14.10	5.39	11	57	29
	9	23	00	30.81	2	33	02.4	0.620 062	14.18	5.42	11	50	02
	10	22	57	01.81	3	02	49.8	0.618 319	14.22	5.43	11	42	43
	11	22	53	43.45	-3	33	12.5	0.618 390	14.22	5.43	11	35	37
	12	22	50	39.48	4	03	34.7	0.620 162	14.18	5.42	11	28	47
	13	22	47	52.99	4	33	24.1	0.623 512	14.10	5.39	11	22	15
	14	22	45	26.43	5	02	12.2	0.628 309	14.00	5.35	11	16	03
	15	22	43	21.63	5	29	35.4	0.634 425	13.86	5.30	11	10	14
	16	22	41	39.78	5	55	14.2	0.641 731	13.70	5.24	11	04	47
	17	22	40	21.56	-6	18	53.8	0.650 100	13.53	5.17	10	59	45
	18	22	39	27.20	6	40	22.8	0.659 415	13.34	5.10	10	55	05
	19	22	38	56.53	6	59	33.8	0.669 565	13.13	5.02	10	50	50
	20	22	38	49.10	7	16	21.6	0.680 445	12.92	4.94	10	46	57
	21	22	39	04.20	7	30	44.0	0.691 963	12.71	4.86	10	43	25
	22	22	39	40.99	7	42	40.2	0.704 032	12.49	4.77	10	40	15
	23	22	40	38.50	-7	52	11.0	0.716 576	12.27	4.69	10	37	26
	24	22	41	55.67	7	59	18.4	0.729 524	12.05	4.61	10	34	55
	25	22	43	31.45	8	04	05.1	0.742 818	11.84	4.52	10	32	42
	26	22	45	24.76	8	06	34.4	0.756 401	11.63	4.44	10	30	46
	27	22	47	34.52	8	06	49.8	0.770 226	11.42	4.36	10	29	07
	28	22	49	59.73	8	04	55.1	0.784 251	11.21	4.28	10	27	42
	29	22	52	39.40	-8	00	54.2	0.798 440	11.01	4.21	10	26	31
	30	22	55	32.60	7	54	51.0	0.812 760	10.82	4.13	10	25	33
	31	22	58	38.45	7	46	49.4	0.827 182	10.63	4.06	10	24	48
	Apr. 1	23	01	56.15	7	36	53.2	0.841 683	10.45	3.99	10	24	14
	2	23	05	24.94	-7	25	05.9	0.856 241	10.27	3.92	10	23	51

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 RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Apr.	1	23	01	56.15	-7	36	53.2	0.841 683	10.45	3.99	10	24	14
	2	23	05	24.94	7	25	05.9	0.856 241	10.27	3.92	10	23	51
	3	23	09	04.12	7	11	31.2	0.870 837	10.10	3.86	10	23	38
	4	23	12	53.05	6	56	12.3	0.885 455	9.93	3.79	10	23	34
	5	23	16	51.15	6	39	12.6	0.900 081	9.77	3.73	10	23	39
	6	23	20	57.90	6	20	35.2	0.914 702	9.61	3.67	10	23	53
	7	23	25	12.80	-6	00	23.0	0.929 308	9.46	3.62	10	24	15
	8	23	29	35.44	5	38	39.0	0.943 888	9.32	3.56	10	24	44
	9	23	34	05.43	5	15	25.7	0.958 434	9.18	3.51	10	25	21
	10	23	38	42.43	4	50	45.9	0.972 937	9.04	3.45	10	26	04
	11	23	43	26.16	4	24	42.1	0.987 391	8.91	3.40	10	26	54
	12	23	48	16.35	3	57	16.5	1.001 787	8.78	3.35	10	27	51
	13	23	53	12.79	-3	28	31.6	1.016 119	8.65	3.31	10	28	53
	14	23	58	15.31	2	58	29.6	1.030 379	8.53	3.26	10	30	02
	15	0	03	23.76	2	27	12.7	1.044 560	8.42	3.22	10	31	16
	16	0	08	38.04	1	54	42.9	1.058 653	8.31	3.17	10	32	37
	17	0	13	58.07	1	21	02.4	1.072 650	8.20	3.13	10	34	03
	18	0	19	23.82	0	46	13.1	1.086 542	8.09	3.09	10	35	35
	19	0	24	55.26	-0	10	17.2	1.100 318	7.99	3.05	10	37	12
	20	0	30	32.41	+0	26	43.5	1.113 967	7.89	3.02	10	38	55
	21	0	36	15.32	1	04	46.7	1.127 474	7.80	2.98	10	40	44
	22	0	42	04.06	1	43	50.5	1.140 826	7.71	2.95	10	42	39
	23	0	47	58.72	2	23	52.7	1.154 005	7.62	2.91	10	44	40
	24	0	53	59.42	3	04	51.1	1.166 991	7.54	2.88	10	46	47
	25	1	00	06.32	+3	46	43.5	1.179 762	7.45	2.85	10	49	01
	26	1	06	19.59	4	29	27.3	1.192 294	7.38	2.82	10	51	21
	27	1	12	39.40	5	12	60.0	1.204 557	7.30	2.79	10	53	47
	28	1	19	05.99	5	57	18.8	1.216 519	7.23	2.76	10	56	21
	29	1	25	39.58	6	42	20.6	1.228 145	7.16	2.74	10	59	01
	30	1	32	20.40	7	28	02.1	1.239 394	7.10	2.71	11	01	49
May	1	1	39	08.71	+8	14	19.7	1.250 220	7.03	2.69	11	04	45
	2	1	46	04.75	9	01	09.1	1.260 575	6.98	2.67	11	07	49
	3	1	53	08.78	9	48	25.9	1.270 402	6.92	2.64	11	11	00
	4	2	00	21.03	10	36	04.9	1.279 643	6.87	2.63	11	14	20
	5	2	07	41.72	11	24	00.5	1.288 231	6.83	2.61	11	17	49
	6	2	15	11.04	12	12	06.4	1.296 099	6.79	2.59	11	21	26
	7	2	22	49.14	+13	00	15.4	1.303 171	6.75	2.58	11	25	13
	8	2	30	36.12	13	48	19.7	1.309 370	6.72	2.57	11	29	08
	9	2	38	31.99	14	36	10.9	1.314 617	6.69	2.56	11	33	12
	10	2	46	36.70	15	23	39.3	1.318 830	6.67	2.55	11	37	25
	11	2	54	50.09	16	10	34.9	1.321 930	6.65	2.54	11	41	47
	12	3	03	11.87	16	56	46.6	1.323 840	6.64	2.54	11	46	17
	13	3	11	41.64	+17	42	03.0	1.324 488	6.64	2.54	11	50	55
	14	3	20	18.84	18	26	11.9	1.323 812	6.64	2.54	11	55	40
	15	3	29	02.82	19	09	01.3	1.321 761	6.65	2.54	12	00	31
	16	3	37	52.67	19	50	18.3	1.318 296	6.67	2.55	12	05	28
	17	3	46	47.43	+20	29	51.3	1.313 397	6.70	2.56	12	10	30

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

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	h	m	s	°	'	"		"	"	h	m	s	
May	17	3	46	47.43	+20	29	51.3	1.313 397	6.70	2.56	12	10	30
	18	3	55	46.00	21	07	28.5	1.307 060	6.73	2.57	12	15	34
	19	4	04	47.13	21	42	59.5	1.299 301	6.77	2.59	12	20	41
	20	4	13	49.52	22	16	14.5	1.290 154	6.82	2.60	12	25	48
	21	4	22	51.83	22	47	05.5	1.279 672	6.87	2.63	12	30	54
	22	4	31	52.66	23	15	25.9	1.267 924	6.94	2.65	12	35	58
	23	4	40	50.67	+23	41	10.6	1.254 993	7.01	2.68	12	40	58
	24	4	49	44.52	24	04	16.4	1.240 971	7.09	2.71	12	45	54
June	25	4	58	32.97	24	24	41.9	1.225 960	7.17	2.74	12	50	44
	26	5	07	14.83	24	42	26.8	1.210 065	7.27	2.78	12	55	26
	27	5	15	49.02	24	57	32.8	1.193 392	7.37	2.82	13	00	00
	28	5	24	14.56	25	10	02.4	1.176 047	7.48	2.86	13	04	24
	29	5	32	30.56	+25	19	59.3	1.158 132	7.59	2.90	13	08	39
	30	5	40	36.25	25	27	28.4	1.139 745	7.72	2.95	13	12	43
	31	5	48	30.92	25	32	34.8	1.120 977	7.85	3.00	13	16	35
	1	5	56	13.98	25	35	24.5	1.101 914	7.98	3.05	13	20	16
	2	6	03	44.89	25	36	03.9	1.082 632	8.12	3.10	13	23	44
	3	6	11	03.19	25	34	39.4	1.063 204	8.27	3.16	13	26	59
	4	6	18	08.48	+25	31	18.1	1.043 693	8.43	3.22	13	30	00
	5	6	25	00.41	25	26	06.6	1.024 157	8.59	3.28	13	32	48
	6	6	31	38.66	25	19	12.0	1.004 647	8.75	3.34	13	35	22
	7	6	38	02.94	25	10	41.2	0.985 209	8.93	3.41	13	37	42
	8	6	44	13.00	25	00	41.0	0.965 886	9.10	3.48	13	39	48
	9	6	50	08.58	24	49	18.3	0.946 712	9.29	3.55	13	41	39
	10	6	55	49.46	+24	36	39.9	0.927 721	9.48	3.62	13	43	15
	11	7	01	15.40	24	22	52.3	0.908 944	9.68	3.70	13	44	35
12	7	06	26.17	24	08	02.1	0.890 406	9.88	3.77	13	45	41	
13	7	11	21.54	23	52	15.9	0.872 132	10.08	3.85	13	46	31	
14	7	16	01.25	23	35	39.9	0.854 145	10.30	3.93	13	47	05	
15	7	20	25.05	23	18	20.7	0.836 467	10.51	4.02	13	47	23	
16	7	24	32.67	+23	00	24.3	0.819 118	10.74	4.10	13	47	24	
17	7	28	23.81	22	41	57.2	0.802 119	10.96	4.19	13	47	09	
18	7	31	58.18	22	23	05.5	0.785 490	11.20	4.28	13	46	37	
19	7	35	15.46	22	03	55.3	0.769 252	11.43	4.37	13	45	48	
20	7	38	15.36	21	44	32.8	0.753 426	11.67	4.46	13	44	41	
21	7	40	57.54	21	25	04.1	0.738 034	11.92	4.55	13	43	17	
22	7	43	21.70	+21	05	35.3	0.723 099	12.16	4.65	13	41	34	
23	7	45	27.53	20	46	12.6	0.708 645	12.41	4.74	13	39	33	
24	7	47	14.75	20	27	02.0	0.694 699	12.66	4.84	13	37	13	
25	7	48	43.09	20	08	09.9	0.681 288	12.91	4.93	13	34	35	
26	7	49	52.33	19	49	42.1	0.668 441	13.16	5.03	13	31	37	
27	7	50	42.31	19	31	44.9	0.656 191	13.40	5.12	13	28	20	
28	7	51	12.92	+19	14	24.1	0.644 569	13.64	5.21	13	24	43	
29	7	51	24.18	18	57	45.9	0.633 613	13.88	5.30	13	20	48	
30	7	51	16.17	18	41	55.9	0.623 360	14.11	5.39	13	16	34	
July	1	7	50	49.15	18	26	59.8	0.613 849	14.33	5.47	13	12	01
	2	7	50	03.52	+18	13	03.1	0.605 121	14.53	5.55	13	07	09

MERCURY, 2026
 RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit			
	h	m	s	°	'	"		"	"	h	m	s	
July	1	7	50	49.15	+18	26	59.8	0.613 849	14.33	5.47	13	12	01
	2	7	50	03.52	18	13	03.1	0.605 121	14.53	5.55	13	07	09
	3	7	48	59.86	18	00	10.7	0.597 220	14.73	5.63	13	02	01
	4	7	47	38.95	17	48	27.5	0.590 188	14.90	5.69	12	56	36
	5	7	46	01.79	17	37	57.9	0.584 070	15.06	5.75	12	50	55
	6	7	44	09.65	17	28	45.5	0.578 910	15.19	5.80	12	45	00
	7	7	42	03.99	+17	20	53.8	0.574 753	15.30	5.85	12	38	53
	8	7	39	46.56	17	14	25.2	0.571 640	15.38	5.88	12	32	36
	9	7	37	19.33	17	09	21.7	0.569 611	15.44	5.90	12	26	09
	10	7	34	44.48	17	05	44.4	0.568 704	15.46	5.91	12	19	37
	11	7	32	04.41	17	03	33.8	0.568 954	15.46	5.91	12	13	00
	12	7	29	21.64	17	02	49.3	0.570 390	15.42	5.89	12	06	22
	13	7	26	38.81	+17	03	29.6	0.573 037	15.35	5.86	11	59	46
	14	7	23	58.63	17	05	32.8	0.576 915	15.24	5.82	11	53	13
	15	7	21	23.80	17	08	55.9	0.582 039	15.11	5.77	11	46	47
	16	7	18	56.99	17	13	35.2	0.588 419	14.95	5.71	11	40	30
	17	7	16	40.77	17	19	26.3	0.596 057	14.75	5.64	11	34	25
	18	7	14	37.58	17	26	24.1	0.604 951	14.54	5.55	11	28	34
19	7	12	49.67	+17	34	23.0	0.615 095	14.30	5.46	11	22	59	
20	7	11	19.10	17	43	16.6	0.626 474	14.04	5.36	11	17	42	
21	7	10	07.71	17	52	58.2	0.639 072	13.76	5.26	11	12	44	
22	7	09	17.10	18	03	20.5	0.652 864	13.47	5.15	11	08	08	
23	7	08	48.63	18	14	15.8	0.667 825	13.17	5.03	11	03	54	
24	7	08	43.44	18	25	36.1	0.683 922	12.86	4.91	11	00	04	
25	7	09	02.44	+18	37	12.9	0.701 121	12.54	4.79	10	56	38	
26	7	09	46.35	18	48	57.3	0.719 381	12.22	4.67	10	53	38	
27	7	10	55.70	19	00	40.2	0.738 659	11.91	4.55	10	51	02	
28	7	12	30.84	19	12	12.2	0.758 906	11.59	4.43	10	48	53	
29	7	14	31.99	19	23	23.3	0.780 068	11.27	4.31	10	47	09	
30	7	16	59.19	19	34	03.5	0.802 086	10.96	4.19	10	45	52	
Aug.	31	7	19	52.40	+19	44	02.3	0.824 896	10.66	4.07	10	45	00
	1	7	23	11.41	19	53	09.1	0.848 425	10.37	3.96	10	44	34
	2	7	26	55.92	20	01	13.0	0.872 593	10.08	3.85	10	44	33
	3	7	31	05.50	20	08	02.8	0.897 313	9.80	3.74	10	44	57
	4	7	35	39.60	20	13	27.6	0.922 488	9.53	3.64	10	45	46
	5	7	40	37.54	20	17	16.2	0.948 013	9.28	3.54	10	46	57
	6	7	45	58.49	+20	19	17.6	0.973 772	9.03	3.45	10	48	32
	7	7	51	41.49	20	19	21.4	0.999 642	8.80	3.36	10	50	28
	8	7	57	45.39	20	17	17.5	1.025 490	8.58	3.28	10	52	45
	9	8	04	08.92	20	12	57.0	1.051 177	8.37	3.20	10	55	20
	10	8	10	50.61	20	06	11.5	1.076 561	8.17	3.12	10	58	14
	11	8	17	48.87	19	56	54.5	1.101 494	7.98	3.05	11	01	23
	12	8	25	01.94	+19	45	00.7	1.125 834	7.81	2.98	11	04	46
	13	8	32	27.99	19	30	26.5	1.149 440	7.65	2.92	11	08	21
	14	8	40	05.06	19	13	10.5	1.172 181	7.50	2.87	11	12	07
	15	8	47	51.17	18	53	13.0	1.193 937	7.37	2.81	11	16	01
16	8	55	44.36	+18	30	36.3	1.214 603	7.24	2.77	11	20	01	

MERCURY, 2026
 RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit			
	h	m	s	°	'	"		"	"	h	m	s	
Aug.	16	8	55	44.36	+18	30	36.3	1.214 603	7.24	2.77	11	20	01
	17	9	03	42.67	18	05	24.8	1.234 093	7.13	2.72	11	24	05
	18	9	11	44.24	17	37	44.4	1.252 337	7.02	2.68	11	28	12
	19	9	19	47.35	17	07	42.4	1.269 287	6.93	2.65	11	32	19
	20	9	27	50.39	16	35	27.5	1.284 913	6.84	2.61	11	36	26
	21	9	35	51.95	16	01	09.0	1.299 204	6.77	2.59	11	40	30
	22	9	43	50.80	+15	24	57.0	1.312 165	6.70	2.56	11	44	31
23	9	51	45.87	14	47	01.8	1.323 815	6.64	2.54	11	48	28	
24	9	59	36.30	14	07	33.8	1.334 184	6.59	2.52	11	52	20	
25	10	07	21.39	13	26	43.0	1.343 313	6.55	2.50	11	56	07	
26	10	15	00.61	12	44	39.4	1.351 248	6.51	2.49	11	59	47	
27	10	22	33.57	12	01	32.3	1.358 041	6.48	2.47	12	03	20	
Sept.	28	10	29	60.00	+11	17	30.6	1.363 746	6.45	2.46	12	06	47
	29	10	37	19.73	10	32	42.5	1.368 418	6.43	2.46	12	10	08
	30	10	44	32.71	9	47	15.8	1.372 112	6.41	2.45	12	13	21
	31	10	51	38.94	9	01	17.4	1.374 883	6.40	2.44	12	16	28
	1	10	58	38.50	8	14	53.8	1.376 782	6.39	2.44	12	19	28
	2	11	05	31.50	7	28	11.0	1.377 859	6.38	2.44	12	22	21
	3	11	12	18.10	+6	41	14.3	1.378 160	6.38	2.44	12	25	08
	4	11	18	58.49	5	54	08.6	1.377 729	6.38	2.44	12	27	49
	5	11	25	32.86	5	06	58.4	1.376 606	6.39	2.44	12	30	24
	6	11	32	01.44	4	19	47.8	1.374 827	6.40	2.44	12	32	54
7	11	38	24.45	3	32	40.5	1.372 428	6.41	2.45	12	35	18	
8	11	44	42.11	2	45	39.8	1.369 438	6.42	2.45	12	37	36	
9	11	50	54.65	+1	58	48.8	1.365 886	6.44	2.46	12	39	50	
10	11	57	02.29	1	12	10.4	1.361 797	6.46	2.47	12	41	59	
11	12	03	05.27	+0	25	47.2	1.357 193	6.48	2.48	12	44	03	
12	12	09	03.79	-0	20	18.6	1.352 096	6.50	2.49	12	46	03	
13	12	14	58.05	1	06	04.5	1.346 522	6.53	2.50	12	47	58	
14	12	20	48.26	1	51	28.7	1.340 488	6.56	2.51	12	49	50	
15	12	26	34.60	-2	36	29.1	1.334 009	6.59	2.52	12	51	38	
16	12	32	17.25	3	21	04.0	1.327 095	6.63	2.53	12	53	22	
17	12	37	56.35	4	05	11.6	1.319 759	6.66	2.55	12	55	03	
18	12	43	32.06	4	48	50.3	1.312 009	6.70	2.56	12	56	41	
19	12	49	04.51	5	31	58.4	1.303 854	6.74	2.58	12	58	15	
20	12	54	33.81	6	14	34.5	1.295 298	6.79	2.59	12	59	46	
21	13	00	00.06	-6	56	37.0	1.286 348	6.84	2.61	13	01	14	
22	13	05	23.35	7	38	04.5	1.277 009	6.89	2.63	13	02	40	
23	13	10	43.74	8	18	55.4	1.267 283	6.94	2.65	13	04	02	
24	13	16	01.28	8	59	08.4	1.257 172	7.00	2.67	13	05	21	
25	13	21	16.00	9	38	41.8	1.246 680	7.05	2.70	13	06	38	
26	13	26	27.90	10	17	34.2	1.235 805	7.12	2.72	13	07	52	
27	13	31	36.96	-10	55	44.0	1.224 550	7.18	2.74	13	09	03	
28	13	36	43.15	11	33	09.7	1.212 915	7.25	2.77	13	10	11	
29	13	41	46.40	12	09	49.6	1.200 897	7.32	2.80	13	11	16	
30	13	46	46.61	12	45	42.1	1.188 498	7.40	2.83	13	12	18	
Oct. 1	13	51	43.65	-13	20	45.1	1.175 716	7.48	2.86	13	13	17	

MERCURY, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Oct.	1	13	51	43.65	-13	20	45.1	1.175 716	7.48	2.86	13	13	17
	2	13	56	37.36	13	54	57.0	1.162 550	7.56	2.89	13	14	12
	3	14	01	27.51	14	28	15.5	1.148 999	7.65	2.92	13	15	04
	4	14	06	13.85	15	00	38.5	1.135 062	7.75	2.96	13	15	51
	5	14	10	56.09	15	32	03.7	1.120 739	7.85	3.00	13	16	34
	6	14	15	33.87	16	02	28.5	1.106 031	7.95	3.04	13	17	13
	7	14	20	06.76	-16	31	50.1	1.090 939	8.06	3.08	13	17	47
	8	14	24	34.29	17	00	05.5	1.075 465	8.18	3.12	13	18	14
	9	14	28	55.90	17	27	11.6	1.059 614	8.30	3.17	13	18	36
	10	14	33	10.95	17	53	04.8	1.043 391	8.43	3.22	13	18	50
	11	14	37	18.72	18	17	41.3	1.026 804	8.56	3.27	13	18	57
	12	14	41	18.38	18	40	56.7	1.009 866	8.71	3.33	13	18	55
	13	14	45	08.98	-19	02	46.4	0.992 591	8.86	3.39	13	18	44
	14	14	48	49.48	19	23	05.2	0.974 997	9.02	3.45	13	18	22
	15	14	52	18.67	19	41	47.4	0.957 109	9.19	3.51	13	17	48
	16	14	55	35.25	19	58	46.4	0.938 955	9.37	3.58	13	17	00
	17	14	58	37.72	20	13	55.2	0.920 573	9.55	3.65	13	15	57
	18	15	01	24.45	20	27	05.8	0.902 008	9.75	3.73	13	14	38
	19	15	03	53.67	-20	38	09.3	0.883 314	9.96	3.80	13	13	01
	20	15	06	03.43	20	46	55.8	0.864 557	10.17	3.89	13	11	02
	21	15	07	51.64	20	53	14.3	0.845 815	10.40	3.97	13	08	41
	22	15	09	16.12	20	56	52.8	0.827 183	10.63	4.06	13	05	56
	23	15	10	14.59	20	57	37.9	0.808 771	10.87	4.15	13	02	43
	24	15	10	44.78	20	55	15.6	0.790 710	11.12	4.25	12	59	01
	25	15	10	44.47	-20	49	31.0	0.773 150	11.37	4.35	12	54	48
	26	15	10	11.70	20	40	09.0	0.756 264	11.63	4.44	12	50	01
	27	15	09	04.82	20	26	55.1	0.740 251	11.88	4.54	12	44	40
	28	15	07	22.81	20	09	36.6	0.725 329	12.12	4.63	12	38	45
	29	15	05	05.40	19	48	04.0	0.711 741	12.36	4.72	12	32	14
	30	15	02	13.40	19	22	13.1	0.699 744	12.57	4.80	12	25	10
Nov.	31	14	58	48.90	-18	52	07.3	0.689 609	12.75	4.87	12	17	36
	1	14	54	55.47	18	18	00.4	0.681 606	12.90	4.93	12	09	36
	2	14	50	38.24	17	40	18.1	0.675 994	13.01	4.97	12	01	16
	3	14	46	03.83	16	59	39.9	0.673 006	13.07	4.99	11	52	42
	4	14	41	20.19	16	16	58.8	0.672 835	13.07	4.99	11	44	04
	5	14	36	36.10	15	33	19.3	0.675 614	13.02	4.97	11	35	30
	6	14	32	00.71	-14	49	53.9	0.681 409	12.91	4.93	11	27	08
	7	14	27	42.88	14	07	57.9	0.690 207	12.74	4.87	11	19	07
	8	14	23	50.63	13	28	43.6	0.701 919	12.53	4.79	11	11	35
	9	14	20	30.65	12	53	14.8	0.716 379	12.28	4.69	11	04	37
	10	14	17	48.02	12	22	23.0	0.733 359	11.99	4.58	10	58	18
	11	14	15	46.08	11	56	44.8	0.752 584	11.69	4.46	10	52	40
	12	14	14	26.52	-11	36	41.3	0.773 741	11.37	4.34	10	47	44
	13	14	13	49.52	11	22	19.5	0.796 504	11.04	4.22	10	43	30
	14	14	13	54.08	11	13	34.2	0.820 546	10.72	4.09	10	39	57
	15	14	14	38.28	11	10	10.7	0.845 547	10.40	3.97	10	37	01
16	14	15	59.57	-11	11	47.2	0.871 210	10.09	3.86	10	34	42	

MERCURY, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit			
	h	m	s	°	'	"		"	"	h	m	s	
Nov.	16	14	15	59.57	-11	11	47.2	0.871 210	10.09	3.86	10	34	42
	17	14	17	55.04	11	17	57.7	0.897 263	9.80	3.74	10	32	55
	18	14	20	21.61	11	28	13.9	0.923 465	9.52	3.64	10	31	38
	19	14	23	16.18	11	42	06.6	0.949 607	9.26	3.54	10	30	47
	20	14	26	35.78	11	59	07.3	0.975 511	9.01	3.44	10	30	20
	21	14	30	17.61	12	18	48.8	1.001 029	8.79	3.36	10	30	14
	22	14	34	19.11	-12	40	45.5	1.026 041	8.57	3.27	10	30	27
23	14	38	37.95	13	04	34.1	1.050 450	8.37	3.20	10	30	56	
24	14	43	12.06	13	29	53.6	1.074 183	8.19	3.13	10	31	40	
25	14	47	59.61	13	56	24.9	1.097 182	8.02	3.06	10	32	36	
26	14	52	59.00	14	23	51.1	1.119 409	7.86	3.00	10	33	44	
27	14	58	08.83	14	51	57.4	1.140 834	7.71	2.95	10	35	02	
Dec.	28	15	03	27.89	-15	20	30.3	1.161 442	7.57	2.89	10	36	28
	29	15	08	55.14	15	49	18.3	1.181 223	7.44	2.84	10	38	02
	30	15	14	29.68	16	18	11.0	1.200 176	7.33	2.80	10	39	43
	1	15	20	10.76	16	46	59.5	1.218 305	7.22	2.76	10	41	31
	2	15	25	57.71	17	15	35.9	1.235 617	7.12	2.72	10	43	24
	3	15	31	49.98	17	43	53.1	1.252 123	7.02	2.68	10	45	22
	4	15	37	47.09	-18	11	45.0	1.267 837	6.94	2.65	10	47	24
	5	15	43	48.65	18	39	06.1	1.282 773	6.86	2.62	10	49	32
	6	15	49	54.29	19	05	51.7	1.296 946	6.78	2.59	10	51	43
	7	15	56	03.73	19	31	57.4	1.310 374	6.71	2.56	10	53	57
	8	16	02	16.71	19	57	19.4	1.323 071	6.65	2.54	10	56	15
	9	16	08	33.02	20	21	54.2	1.335 056	6.59	2.52	10	58	37
	10	16	14	52.46	-20	45	38.6	1.346 342	6.53	2.50	11	01	01
	11	16	21	14.88	21	08	30.0	1.356 947	6.48	2.48	11	03	29
	12	16	27	40.13	21	30	25.6	1.366 885	6.43	2.46	11	05	59
13	16	34	08.08	21	51	23.1	1.376 170	6.39	2.44	11	08	32	
14	16	40	38.63	22	11	20.2	1.384 815	6.35	2.43	11	11	07	
15	16	47	11.68	22	30	14.9	1.392 832	6.31	2.41	11	13	45	
16	16	53	47.13	-22	48	05.4	1.400 234	6.28	2.40	11	16	26	
17	17	00	24.90	23	04	49.7	1.407 031	6.25	2.39	11	19	08	
18	17	07	04.92	23	20	26.2	1.413 232	6.22	2.38	11	21	53	
19	17	13	47.11	23	34	53.2	1.418 846	6.20	2.37	11	24	40	
20	17	20	31.40	23	48	09.3	1.423 881	6.18	2.36	11	27	29	
21	17	27	17.72	24	00	13.0	1.428 343	6.16	2.35	11	30	20	
22	17	34	05.99	-24	11	02.8	1.432 238	6.14	2.35	11	33	13	
23	17	40	56.15	24	20	37.3	1.435 571	6.13	2.34	11	36	08	
24	17	47	48.12	24	28	55.4	1.438 344	6.11	2.34	11	39	04	
25	17	54	41.82	24	35	55.5	1.440 560	6.10	2.33	11	42	03	
26	18	01	37.16	24	41	36.6	1.442 220	6.10	2.33	11	45	03	
27	18	08	34.07	24	45	57.3	1.443 324	6.09	2.33	11	48	04	
28	18	15	32.45	-24	48	56.5	1.443 871	6.09	2.33	11	51	07	
29	18	22	32.21	24	50	32.9	1.443 858	6.09	2.33	11	54	11	
30	18	29	33.27	24	50	45.5	1.443 281	6.09	2.33	11	57	17	
31	18	36	35.50	24	49	33.1	1.442 136	6.10	2.33	12	00	23	
32	18	43	38.81	-24	46	54.8	1.440 417	6.11	2.33	12	03	31	

VENUS, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector	Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector		
	°	'	"	°	'	"			°	'	"	°	'	"			
Jan.	1	277	22	59.8	-1	11	18.4	0.727 3695	Apr.	3	63	40	32.7	-0	46	42.3	0.721 4804
	3	280	32	50.7	1	21	44.3	0.727 5183		5	66	53	32.7	0	35	29.7	0.721 2283
	5	283	42	38.8	1	31	55.0	0.727 6541		7	70	06	39.9	0	24	09.9	0.720 9827
	7	286	52	24.7	1	41	48.7	0.727 7765		9	73	19	54.4	0	12	45.0	0.720 7443
	9	290	02	08.8	1	51	23.6	0.727 8853		11	76	33	16.1	-0	01	17.3	0.720 5141
	11	293	11	51.8	2	00	38.0	0.727 9799		13	79	46	45.1	+0	10	11.1	0.720 2926
	13	296	21	34.1	-2	09	30.3	0.728 0603	15	83	00	21.2	+0	21	37.9	0.720 0807	
	15	299	31	16.3	2	17	58.9	0.728 1260	17	86	14	04.6	0	33	01.1	0.719 8790	
	17	302	40	59.0	2	26	02.1	0.728 1770	19	89	27	55.0	0	44	18.3	0.719 6881	
	19	305	50	42.4	2	33	38.7	0.728 2130	21	92	41	52.4	0	55	27.4	0.719 5087	
	21	309	00	27.1	2	40	47.2	0.728 2340	23	95	55	56.6	1	06	26.3	0.719 3413	
	23	312	10	13.6	2	47	26.4	0.728 2399	25	99	10	07.5	1	17	12.7	0.719 1865	
25	315	20	02.1	-2	53	35.0	0.728 2306	27	102	24	24.8	+1	27	44.6	0.719 0448		
27	318	29	53.2	2	59	11.9	0.728 2063	29	105	38	48.2	1	37	59.9	0.718 9167		
29	321	39	47.1	3	04	16.1	0.728 1669	May	1	108	53	17.5	1	47	56.6	0.718 8025	
31	324	49	44.1	3	08	46.6	0.728 1126		3	112	07	52.5	1	57	32.8	0.718 7027	
Feb.	2	327	59	44.7	3	12	42.8		0.728 0436	5	115	22	32.6	2	06	46.6	0.718 6175
	4	331	09	48.9	3	16	03.7		0.727 9600	7	118	37	17.5	2	15	36.1	0.718 5473
	6	334	19	57.2	-3	18	48.7		0.727 8621	9	121	52	06.7	+2	23	59.6	0.718 4922
	8	337	30	09.7	3	20	57.4		0.727 7503	11	125	06	59.8	2	31	55.5	0.718 4525
	10	340	40	26.6	3	22	29.3	0.727 6247	13	128	21	56.3	2	39	22.1	0.718 4282	
	12	343	50	48.2	3	23	24.1	0.727 4859	15	131	36	55.5	2	46	18.1	0.718 4195	
14	347	01	14.5	3	23	41.5	0.727 3342	17	134	51	57.1	2	52	42.0	0.718 4264		
16	350	11	45.8	3	23	21.6	0.727 1701	19	138	07	00.2	2	58	32.6	0.718 4489		
18	353	22	22.2	-3	22	24.2	0.726 9941	21	141	22	04.3	+3	03	48.8	0.718 4868		
20	356	33	03.9	3	20	49.5	0.726 8067	23	144	37	08.6	3	08	29.5	0.718 5401		
22	359	43	50.8	3	18	37.8	0.726 6085	25	147	52	12.7	3	12	33.8	0.718 6085		
24	2	54	43.2	3	15	49.3	0.726 4001	27	151	07	15.7	3	16	01.0	0.718 6920		
26	6	05	41.1	3	12	24.6	0.726 1820	29	154	22	17.0	3	18	50.3	0.718 7901		
28	9	16	44.7	3	08	24.2	0.725 9551	31	157	37	15.8	3	21	01.4	0.718 9025		
Mar.	2	12	27	54.0	-3	03	48.8	0.725 7199	June	2	160	52	11.5	+3	22	33.6	0.719 0290
	4	15	39	09.1	2	58	39.2	0.725 4773		4	164	07	03.3	3	23	27.0	0.719 1690
	6	18	50	30.2	2	52	56.2	0.725 2278		6	167	21	50.6	3	23	41.2	0.719 3222
	8	22	01	57.2	2	46	40.9	0.724 9724		8	170	36	32.7	3	23	16.2	0.719 4880
	10	25	13	30.2	2	39	54.2	0.724 7117		10	173	51	08.9	3	22	12.3	0.719 6659
	12	28	25	09.4	2	32	37.6	0.724 4467		12	177	05	38.5	3	20	29.7	0.719 8553
	14	31	36	54.9	-2	24	52.2	0.724 1780	14	180	20	01.1	+3	18	08.8	0.720 0556	
	16	34	48	46.7	2	16	39.4	0.723 9066	16	183	34	15.9	3	15	10.1	0.720 2661	
	18	38	00	44.9	2	08	00.7	0.723 6333	18	186	48	22.5	3	11	34.2	0.720 4863	
	20	41	12	49.6	1	58	57.6	0.723 3589	20	190	02	20.4	3	07	22.0	0.720 7153	
	22	44	25	01.0	1	49	31.9	0.723 0843	22	193	16	09.1	3	02	34.2	0.720 9524	
	24	47	37	19.0	1	39	45.2	0.722 8104	24	196	29	48.2	2	57	11.9	0.721 1970	
26	50	49	43.8	-1	29	39.4	0.722 5379	26	199	43	17.3	+2	51	16.2	0.721 4481		
28	54	02	15.6	1	19	16.2	0.722 2679	28	202	56	36.2	2	44	48.3	0.721 7050		
30	57	14	54.2	1	08	37.6	0.722 0011	30	206	09	44.5	2	37	49.5	0.721 9670		
Apr.	1	60	27	39.9	0	57	45.7	0.721 7383	July	2	209	22	42.2	2	30	21.3	0.722 2330
	3	63	40	32.7	-0	46	42.3	0.721 4804		4	212	35	29.0	+2	22	25.0	0.722 5024

VENUS, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude				Heliocentric Latitude				Radius Vector		Date	Heliocentric Longitude				Heliocentric Latitude				Radius Vector	
	°	'	"		°	'	"				°	'	"		°	'	"				
July	2	209	22	42.2	+2	30	21.3		0.722 2330	Oct.	2	355	26	55.2	-3	21	26.6		0.726 8702		
	4	212	35	29.0	2	22	25.0		0.722 5024		4	358	37	40.5	3	19	27.8		0.726 6763		
	6	215	48	04.9	2	14	02.3		0.722 7743		6	1	48	31.1	3	16	52.1		0.726 4722		
	8	219	00	29.8	2	05	14.8		0.723 0478		8	4	59	27.2	3	13	40.0		0.726 2582		
	10	222	12	43.7	1	56	04.2		0.723 3220		10	8	10	29.0	3	09	51.9		0.726 0352		
	12	225	24	46.8	1	46	32.3		0.723 5962		12	11	21	36.3	3	05	28.6		0.725 8038		
	14	228	36	39.2	+1	36	40.9		0.723 8693		14	14	32	49.5	-3	00	30.8		0.725 5647		
	16	231	48	21.0	1	26	31.9		0.724 1407		16	17	44	08.5	2	54	59.3		0.725 3186		
	18	234	59	52.6	1	16	07.3		0.724 4094		18	20	55	33.4	2	48	55.1		0.725 0664		
	20	238	11	14.1	1	05	29.0		0.724 6746		20	24	07	04.3	2	42	19.3		0.724 8087		
	22	241	22	25.9	0	54	39.0		0.724 9356		22	27	18	41.3	2	35	12.9		0.724 5464		
	24	244	33	28.3	0	43	39.3		0.725 1914		24	30	30	24.4	2	27	37.4		0.724 2804		
Aug.	26	247	44	21.9	+0	32	32.1		0.725 4413	26	33	42	13.8	-2	19	34.0		0.724 0113			
	28	250	55	07.0	0	21	19.2		0.725 6846	28	36	54	09.6	2	11	04.1		0.723 7401			
	30	254	05	44.0	+0	10	02.9		0.725 9205	30	40	06	11.7	2	02	09.4		0.723 4675			
	1	257	16	13.5	-0	01	14.9		0.726 1482	Nov.	1	43	18	20.5	1	52	51.4		0.723 1946		
	3	260	26	36.1	0	12	32.0		0.726 3671		3	46	30	35.8	1	43	11.8		0.722 9220		
	5	263	36	52.1	0	23	46.4		0.726 5765		5	49	42	57.8	1	33	12.4		0.722 6506		
	7	266	47	02.3	0	34	56.0		0.726 7758		7	52	55	26.6	-1	22	55.0		0.722 3813		
	9	269	57	07.1	0	45	58.9		0.726 9644		9	56	08	02.3	1	12	21.6		0.722 1150		
	11	273	07	07.2	0	56	53.1		0.727 1417		11	59	20	44.9	1	01	34.1		0.721 8524		
	13	276	17	03.0	1	07	36.5		0.727 3071		13	62	33	34.6	0	50	34.5		0.721 5944		
	15	279	26	55.3	1	18	07.3		0.727 4602		15	65	46	31.3	0	39	24.9		0.721 3418		
	17	282	36	44.5	1	28	23.5		0.727 6006		17	68	59	35.2	0	28	07.4		0.721 0955		
19	285	46	31.3	-1	38	23.3		0.727 7277	19		72	12	46.2	-0	16	44.1		0.720 8561			
21	288	56	16.2	1	48	05.0		0.727 8412	21		75	26	04.5	-0	05	17.2		0.720 6244			
23	292	05	59.7	1	57	26.8		0.727 9407	23		78	39	30.0	+0	06	11.2		0.720 4012			
25	295	15	42.5	2	06	27.0		0.728 0261	25	81	53	02.6	0	17	38.8		0.720 1872				
27	298	25	24.9	2	15	04.0		0.728 0969	27	85	06	42.4	0	29	03.4		0.719 9831				
29	301	35	07.5	2	23	16.3		0.728 1530	29	88	20	29.2	0	40	22.9		0.719 7895				
Sept.	31	304	44	50.8	-2	31	02.3		0.728 1943	Dec.	1	91	34	23.0	+0	51	35.1		0.719 6071		
	2	307	54	35.3	2	38	20.8		0.728 2206		3	94	48	23.7	1	02	37.7		0.719 4364		
	4	311	04	21.3	2	45	10.3		0.728 2318		5	98	02	31.1	1	13	28.6		0.719 2780		
	6	314	14	09.4	2	51	29.7		0.728 2279		7	101	16	44.8	1	24	05.8		0.719 1324		
	8	317	23	59.7	2	57	17.8		0.728 2090		9	104	31	04.9	1	34	27.1		0.719 0000		
	10	320	33	52.9	3	02	33.6		0.728 1750		11	107	45	30.9	1	44	30.5		0.718 8814		
	12	323	43	49.0	-3	07	16.0		0.728 1260		13	111	00	02.6	+1	54	14.0		0.718 7768		
	14	326	53	48.5	3	11	24.2		0.728 0623		15	114	14	39.6	2	03	35.8		0.718 6866		
	16	330	03	51.7	3	14	57.5		0.727 9840		17	117	29	21.6	2	12	34.0		0.718 6112		
	18	333	13	58.8	3	17	55.1		0.727 8914		19	120	44	08.0	2	21	06.7		0.718 5507		
	20	336	24	10.0	3	20	16.6		0.727 7847		21	123	58	58.5	2	29	12.4		0.718 5054		
	22	339	34	25.6	3	22	01.3		0.727 6643		23	127	13	52.5	2	36	49.4		0.718 4754		
Oct.	24	342	44	45.8	-3	23	09.1		0.727 5305	25	130	28	49.6	+2	43	56.2		0.718 4608			
	26	345	55	10.7	3	23	39.6		0.727 3837	27	133	43	49.1	2	50	31.5		0.718 4616			
	28	349	05	40.4	3	23	32.6		0.727 2244	29	136	58	50.4	2	56	33.9		0.718 4779			
	30	352	16	15.2	3	22	48.3		0.727 0530	31	140	13	53.0	3	02	02.2		0.718 5095			
	2	355	26	55.2	-3	21	26.6		0.726 8702	33	143	28	56.2	+3	06	55.4		0.718 5565			

VENUS, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date				Apparent Geocentric Longitude				Apparent Geocentric Latitude				Date				Apparent Geocentric Longitude				Apparent Geocentric Latitude			
				°	'	"		°	'	"						°	'	"		°	'	"	
Jan.	0	277	56	49.7	-0	28	03.0	Feb.	15	335	43	20.8	-1	27	57.7	Mar.	27	350	43	09.7	-1	23	13.0
	1	279	12	19.7	0	30	18.2		16	336	58	26.4	1	27	55.6		28	351	57	59.9	1	22	24.0
	2	280	27	49.6	0	32	32.0		17	338	13	31.1	1	27	49.5		1	353	12	48.4	1	21	31.3
	3	281	43	19.2	0	34	44.3		18	339	28	34.6	1	27	39.4		2	354	27	35.3	1	20	34.7
	4	282	58	48.7	0	36	55.1		19	340	43	37.0	1	27	25.5		3	355	42	20.7	1	19	34.4
	5	284	14	17.9	0	39	04.2		20	341	58	38.1	1	27	07.6		4	356	57	04.5	1	18	30.4
	6	285	29	47.0	-0	41	11.6		21	343	13	38.1	-1	26	45.7		5	358	11	46.7	-1	17	22.6
	7	286	45	16.0	0	43	17.1		22	344	28	36.8	1	26	20.0		6	359	26	27.5	1	16	11.2
	8	288	00	44.7	0	45	20.6		23	345	43	34.2	1	25	50.3		7	0	41	06.8	1	14	56.1
	9	289	16	13.3	0	47	22.0		24	346	58	30.2	1	25	16.8		8	1	55	44.7	1	13	37.4
	10	290	31	41.7	0	49	21.4		25	348	13	24.8	1	24	39.4		9	3	10	21.1	1	12	15.2
	11	291	47	10.0	0	51	18.5		26	349	28	18.0	1	23	58.1		10	4	24	56.1	1	10	49.4
	12	293	02	38.2	-0	53	13.4		27	350	43	09.7	-1	23	13.0		11	5	39	29.6	-1	09	20.2
	13	294	18	06.3	0	55	05.9		28	351	57	59.9	1	22	24.0		12	6	54	01.6	1	07	47.5
	14	295	33	34.2	0	56	56.0		1	353	12	48.4	1	21	31.3		13	8	08	32.0	1	06	11.5
	15	296	49	01.9	0	58	43.6		2	354	27	35.3	1	20	34.7		14	9	23	00.9	1	04	32.2
	16	298	04	29.3	1	00	28.5		3	355	42	20.7	1	19	34.4		15	10	37	28.2	1	02	49.6
	17	299	19	56.5	1	02	10.8		4	356	57	04.5	1	18	30.4		16	11	51	53.9	1	01	03.8
	18	300	35	23.3	-1	03	50.3		5	358	11	46.7	-1	17	22.6		17	13	06	17.9	-0	59	14.9
	19	301	50	49.7	1	05	27.1		6	359	26	27.5	1	16	11.2		18	14	20	40.1	0	57	22.9
	20	303	06	15.6	1	07	00.9		7	0	41	06.8	1	14	56.1		19	15	35	00.6	0	55	28.0
	21	304	21	40.9	1	08	31.8		8	1	55	44.7	1	13	37.4		20	16	49	19.3	0	53	30.1
	22	305	37	05.7	1	09	59.7		9	3	10	21.1	1	12	15.2		21	18	03	36.2	0	51	29.4
	23	306	52	29.9	1	11	24.5		10	4	24	56.1	1	10	49.4		22	19	17	51.2	0	49	25.9
Feb.	24	308	07	53.4	-1	12	46.3	Apr.	23	20	32	04.3	-0	47	19.7		23	20	32	04.3	-0	47	19.7
	25	309	23	16.2	1	14	04.8		24	21	46	15.4	0	45	10.9		24	21	46	15.4	0	45	10.9
	26	310	38	38.3	1	15	20.1		25	23	00	24.5	0	42	59.6		25	23	00	24.5	0	42	59.6
	27	311	53	59.7	1	16	32.2		26	24	14	31.4	0	40	45.8		26	24	14	31.4	0	40	45.8
	28	313	09	20.5	1	17	40.9		27	25	28	36.1	0	38	29.6		27	25	28	36.1	0	38	29.6
	29	314	24	40.4	1	18	46.2		28	26	42	38.5	0	36	11.1		28	26	42	38.5	0	36	11.1
	30	315	39	59.6	-1	19	48.1		29	27	56	38.7	-0	33	50.4		29	27	56	38.7	-0	33	50.4
	31	316	55	18.0	1	20	46.5		30	29	10	36.5	0	31	27.5		30	29	10	36.5	0	31	27.5
	1	318	10	35.6	1	21	41.4		31	30	24	32.0	0	29	02.6		31	30	24	32.0	0	29	02.6
	2	319	25	52.3	1	22	32.7		1	31	38	25.3	0	26	35.7		1	31	38	25.3	0	26	35.7
	3	320	41	08.2	1	23	20.3		2	32	52	16.4	-0	24	06.9		2	32	52	16.4	-0	24	06.9
	4	321	56	23.3	1	24	04.4																
	5	323	11	37.7	-1	24	44.7																
	6	324	26	51.3	1	25	21.3																
	7	325	42	04.2	1	25	54.1																
	8	326	57	16.4	1	26	23.1																
	9	328	12	27.9	1	26	48.3																
	10	329	27	38.7	1	27	09.6																
	11	330	42	48.8	-1	27	27.0																
	12	331	57	58.1	1	27	40.6																
	13	333	13	06.5	1	27	50.2																
	14	334	28	14.1	1	27	55.9																
	15	335	43	20.8	-1	27	57.7																

VENUS, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Apr.	1	31	38	25.3	-0	26	35.7	May	17	87	33	07.5	+1	31	52.9
	2	32	52	16.4	0	24	06.9		18	88	44	56.1	1	33	53.2
	3	34	06	05.2	0	21	36.3		19	89	56	41.4	1	35	50.3
	4	35	19	51.9	0	19	04.0		20	91	08	23.3	1	37	44.0
	5	36	33	36.4	0	16	30.1		21	92	20	01.5	1	39	34.2
	6	37	47	18.8	0	13	54.7		22	93	31	35.9	1	41	20.8
	7	39	00	59.0	-0	11	17.8		23	94	43	06.4	+1	43	03.8
	8	40	14	37.0	0	08	39.6		24	95	54	33.1	1	44	42.9
	9	41	28	12.9	0	06	00.2		25	97	05	55.7	1	46	18.3
	10	42	41	46.6	0	03	19.7		26	98	17	14.4	1	47	49.6
	11	43	55	18.1	-0	00	38.1		27	99	28	29.0	1	49	16.9
	12	45	08	47.4	+0	02	04.3		28	100	39	39.4	1	50	40.1
	13	46	22	14.4	+0	04	47.6	June	29	101	50	45.8	+1	51	59.0
	14	47	35	39.2	0	07	31.5		30	103	01	47.9	1	53	13.5
	15	48	49	01.7	0	10	16.1		31	104	12	45.8	1	54	23.7
	16	50	02	21.9	0	13	01.0		1	105	23	39.5	1	55	29.3
	17	51	15	39.8	0	15	46.4		2	106	34	28.8	1	56	30.3
	18	52	28	55.4	0	18	32.0		3	107	45	13.7	1	57	26.5
	19	53	42	08.7	+0	21	17.7		4	108	55	54.2	+1	58	18.0
	20	54	55	19.5	0	24	03.4		5	110	06	30.3	1	59	04.6
	21	56	08	27.8	0	26	49.0		6	111	17	01.7	1	59	46.2
	22	57	21	33.4	0	29	34.4		7	112	27	28.6	2	00	22.8
	23	58	34	36.3	0	32	19.4		8	113	37	51.0	2	00	54.2
	24	59	47	36.4	0	35	04.1		9	114	48	08.6	2	01	20.4
	25	61	00	33.5	+0	37	48.2		10	115	58	21.6	+2	01	41.3
	26	62	13	27.8	0	40	31.6		11	117	08	29.9	2	01	56.8
	27	63	26	19.1	0	43	14.3		12	118	18	33.5	2	02	06.9
	28	64	39	07.5	0	45	56.1		13	119	28	32.3	2	02	11.4
	29	65	51	52.9	0	48	36.9		14	120	38	26.2	2	02	10.3
	30	67	04	35.4	0	51	16.6		15	121	48	15.1	2	02	03.6
May	1	68	17	15.0	+0	53	55.1		16	122	57	58.7	+2	01	51.1
	2	69	29	51.7	0	56	32.3		17	124	07	36.9	2	01	32.8
	3	70	42	25.5	0	59	08.1		18	125	17	09.5	2	01	08.7
	4	71	54	56.4	1	01	42.3		19	126	26	36.3	2	00	38.7
	5	73	07	24.4	1	04	14.8		20	127	35	57.1	2	00	02.8
	6	74	19	49.4	1	06	45.5		21	128	45	11.8	1	59	20.8
	7	75	32	11.5	+1	09	14.4		22	129	54	20.2	+1	58	32.9
	8	76	44	30.6	1	11	41.2		23	131	03	22.2	1	57	38.8
	9	77	56	46.8	1	14	05.9		24	132	12	17.7	1	56	38.7
	10	79	09	00.0	1	16	28.4		25	133	21	06.5	1	55	32.3
	11	80	21	10.1	1	18	48.5		26	134	29	48.6	1	54	19.8
	12	81	33	17.3	1	21	06.1		27	135	38	23.7	1	53	00.9
	13	82	45	21.4	+1	23	21.1	July	28	136	46	51.7	+1	51	35.9
	14	83	57	22.5	1	25	33.4		29	137	55	12.4	1	50	04.4
	15	85	09	20.6	1	27	42.9		30	139	03	25.8	1	48	26.7
	16	86	21	15.6	1	29	49.4		1	140	11	31.7	1	46	42.5
	17	87	33	07.5	+1	31	52.9		2	141	19	29.9	+1	44	51.9

VENUS, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
July	1	140	11	31.7	+1	46	42.5	Aug.	16	189	02	30.8	-1	29	04.3
	2	141	19	29.9	1	44	51.9		17	189	59	29.7	1	35	39.8
	3	142	27	20.4	1	42	54.8		18	190	56	01.9	1	42	20.3
	4	143	35	02.9	1	40	51.3		19	191	52	06.4	1	49	05.6
	5	144	42	37.3	1	38	41.2		20	192	47	42.1	1	55	55.6
	6	145	50	03.5	1	36	24.6		21	193	42	48.0	2	02	50.2
	7	146	57	21.5	+1	34	01.4		22	194	37	22.9	-2	09	49.3
	8	148	04	31.1	1	31	31.7		23	195	31	25.7	2	16	52.8
	9	149	11	32.2	1	28	55.3		24	196	24	55.3	2	24	00.5
	10	150	18	24.6	1	26	12.4		25	197	17	50.3	2	31	12.4
	11	151	25	08.2	1	23	22.8		26	198	10	09.5	2	38	28.2
	12	152	31	42.8	1	20	26.6		27	199	01	51.5	2	45	47.9
	13	153	38	08.1	+1	17	23.8	Sept.	28	199	52	55.1	-2	53	11.2
	14	154	44	23.9	1	14	14.3		29	200	43	18.8	3	00	38.1
	15	155	50	29.8	1	10	58.3		30	201	33	01.1	3	08	08.3
	16	156	56	25.5	1	07	35.6		31	202	22	00.8	3	15	41.7
	17	158	02	10.6	1	04	06.4		1	203	10	16.2	3	23	18.1
	18	159	07	44.9	1	00	30.5		2	203	57	45.8	3	30	57.3
	19	160	13	08.0	+0	56	48.2		3	204	44	27.9	-3	38	39.0
	20	161	18	19.6	0	52	59.3		4	205	30	20.9	3	46	23.1
	21	162	23	19.3	0	49	04.0		5	206	15	22.8	3	54	09.3
	22	163	28	06.9	0	45	02.1		6	206	59	31.9	4	01	57.3
	23	164	32	41.9	0	40	53.8		7	207	42	45.9	4	09	46.9
	24	165	37	04.0	0	36	39.1		8	208	25	02.8	4	17	37.7
	25	166	41	12.9	+0	32	18.0		9	209	06	20.3	-4	25	29.4
	26	167	45	08.1	0	27	50.5		10	209	46	35.9	4	33	21.8
	27	168	48	49.2	0	23	16.7		11	210	25	47.1	4	41	14.3
	28	169	52	16.0	0	18	36.6		12	211	03	51.3	4	49	06.5
	29	170	55	27.9	0	13	50.2		13	211	40	45.7	4	56	58.2
	30	171	58	24.5	0	08	57.6		14	212	16	27.4	5	04	48.6
	31	173	01	05.6	+0	03	58.7		15	212	50	53.3	-5	12	37.5
Aug.	1	174	03	30.6	-0	01	06.2		16	213	24	00.3	5	20	24.2
	2	175	05	39.2	0	06	17.3		17	213	55	45.1	5	28	08.0
	3	176	07	31.0	0	11	34.5		18	214	26	04.4	5	35	48.5
	4	177	09	05.5	0	16	57.7		19	214	54	54.8	5	43	24.9
	5	178	10	22.5	0	22	26.9		20	215	22	12.7	5	50	56.3
	6	179	11	21.4	-0	28	02.0		21	215	47	54.4	-5	58	22.2
	7	180	12	01.7	0	33	43.0		22	216	11	56.5	6	05	41.4
	8	181	12	23.1	0	39	29.8		23	216	34	15.0	6	12	53.2
	9	182	12	24.9	0	45	22.3		24	216	54	46.4	6	19	56.5
	10	183	12	06.4	0	51	20.5		25	217	13	26.9	6	26	50.1
	11	184	11	27.1	0	57	24.3		26	217	30	12.8	6	33	32.9
	12	185	10	26.2	-1	03	33.7	Oct.	27	217	45	00.6	-6	40	03.7
	13	186	09	03.0	1	09	48.4		28	217	57	46.7	6	46	21.0
	14	187	07	16.5	1	16	08.5		29	218	08	27.9	6	52	23.5
	15	188	05	06.1	1	22	33.8		30	218	17	00.9	6	58	09.4
	16	189	02	30.8	-1	29	04.3		1	218	23	22.7	-7	03	37.3

VENUS, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Oct.	1	218	23	22.7	-7	03	37.3	Nov.	16	202	56	30.2	-1	12	37.2
	2	218	27	30.5	7	08	45.3		17	203	02	22.2	0	59	30.7
	3	218	29	21.7	7	13	31.6		18	203	10	31.7	0	46	44.0
	4	218	28	54.2	7	17	54.4		19	203	20	55.7	0	34	17.9
	5	218	26	06.1	7	21	51.5		20	203	33	31.0	0	22	12.8
	6	218	20	55.8	7	25	20.9		21	203	48	14.4	-0	10	29.1
	7	218	13	22.5	-7	28	20.4		22	204	05	02.4	+0	00	53.0
	8	218	03	25.8	7	30	48.0		23	204	23	51.6	0	11	53.4
	9	217	51	06.0	7	32	41.3		24	204	44	38.4	0	22	31.9
	10	217	36	24.2	7	33	58.1		25	205	07	19.3	0	32	48.7
	11	217	19	22.1	7	34	36.3		26	205	31	50.7	0	42	43.8
	12	217	00	02.6	7	34	33.7		27	205	58	08.8	0	52	17.3
	13	216	38	29.3	-7	33	48.3		28	206	26	10.0	+1	01	29.6
	14	216	14	47.2	7	32	18.2		29	206	55	50.7	1	10	20.8
	15	215	49	02.2	7	30	01.7		30	207	27	07.0	1	18	51.3
	16	215	21	21.4	7	26	57.3	Dec.	1	207	59	55.5	1	27	01.4
	17	214	51	53.0	7	23	03.7		2	208	34	12.6	1	34	51.4
	18	214	20	46.5	7	18	20.1		3	209	09	54.9	1	42	21.7
	19	213	48	12.5	-7	12	45.9		4	209	46	59.0	+1	49	32.7
	20	213	14	22.5	7	06	20.9		5	210	25	21.7	1	56	24.6
	21	212	39	29.2	6	59	05.4		6	211	04	59.9	2	02	58.0
	22	212	03	46.1	6	51	00.0		7	211	45	50.6	2	09	13.0
	23	211	27	27.3	6	42	06.0		8	212	27	50.8	2	15	10.2
	24	210	50	47.6	6	32	25.0		9	213	10	57.7	2	20	49.9
	25	210	14	02.1	-6	21	58.8		10	213	55	08.7	+2	26	12.4
	26	209	37	26.2	6	10	50.1		11	214	40	21.2	2	31	18.0
	27	209	01	14.9	5	59	01.6		12	215	26	32.9	2	36	07.2
	28	208	25	43.4	5	46	36.5		13	216	13	41.2	2	40	40.2
	29	207	51	06.0	5	33	38.1		14	217	01	44.2	2	44	57.5
	30	207	17	36.4	5	20	10.2		15	217	50	39.5	2	48	59.2
Nov.	31	206	45	27.4	-5	06	16.5		16	218	40	25.4	+2	52	45.8
	1	206	14	50.9	4	52	00.8		17	219	30	59.7	2	56	17.5
	2	205	45	57.5	4	37	27.1		18	220	22	20.9	2	59	34.7
	3	205	18	56.6	4	22	39.1		19	221	14	27.1	3	02	37.7
	4	204	53	56.6	4	07	40.7		20	222	07	16.9	3	05	26.8
	5	204	31	04.6	3	52	35.3		21	223	00	48.6	3	08	02.2
	6	204	10	26.5	-3	37	26.4		22	223	55	00.8	+3	10	24.3
	7	203	52	07.1	3	22	17.2		23	224	49	52.2	3	12	33.3
	8	203	36	10.1	3	07	10.7		24	225	45	21.4	3	14	29.6
	9	203	22	38.2	2	52	09.7		25	226	41	27.1	3	16	13.5
	10	203	11	33.2	2	37	16.7		26	227	38	07.9	3	17	45.3
	11	203	02	55.9	2	22	34.0		27	228	35	22.5	3	19	05.2
	12	202	56	46.6	-2	08	03.6		28	229	33	09.8	+3	20	13.6
	13	202	53	04.7	1	53	47.2		29	230	31	28.6	3	21	10.7
	14	202	51	49.2	1	39	46.5		30	231	30	17.5	3	21	56.8
	15	202	52	58.4	1	26	02.8		31	232	29	35.6	3	22	32.3
	16	202	56	30.2	-1	12	37.2		32	233	29	21.7	+3	22	57.3

VENUS, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit			
	h	m	s	°	'	"		"	"	h	m	s	
Jan.	0	18	34	43.68	-23	39	59.3	1.709 665	5.14	4.88	11	56	48
	1	18	40	13.29	23	37	20.8	1.709 959	5.14	4.88	11	58	21
	2	18	45	42.63	23	33	58.4	1.710 215	5.14	4.88	11	59	53
	3	18	51	11.64	23	29	52.2	1.710 433	5.14	4.88	12	01	26
	4	18	56	40.25	23	25	02.4	1.710 614	5.14	4.88	12	02	58
	5	19	02	08.41	23	19	29.2	1.710 756	5.14	4.88	12	04	29
	6	19	07	36.07	-23	13	12.7	1.710 861	5.14	4.87	12	06	00
	7	19	13	03.16	23	06	13.2	1.710 928	5.14	4.87	12	07	30
	8	19	18	29.63	22	58	30.9	1.710 957	5.14	4.87	12	09	00
	9	19	23	55.42	22	50	06.2	1.710 947	5.14	4.87	12	10	29
	10	19	29	20.50	22	40	59.5	1.710 899	5.14	4.87	12	11	57
	11	19	34	44.80	22	31	11.2	1.710 811	5.14	4.87	12	13	25
	12	19	40	08.29	-22	20	41.5	1.710 685	5.14	4.88	12	14	51
	13	19	45	30.92	22	09	31.1	1.710 519	5.14	4.88	12	16	17
	14	19	50	52.64	21	57	40.3	1.710 313	5.14	4.88	12	17	42
Feb.	15	19	56	13.41	21	45	09.7	1.710 068	5.14	4.88	12	19	05
	16	20	01	33.20	21	31	59.7	1.709 783	5.14	4.88	12	20	28
	17	20	06	51.95	21	18	11.0	1.709 457	5.14	4.88	12	21	50
	18	20	12	09.64	-21	03	44.1	1.709 092	5.15	4.88	12	23	11
	19	20	17	26.23	20	48	39.5	1.708 686	5.15	4.88	12	24	30
	20	20	22	41.69	20	32	58.0	1.708 239	5.15	4.88	12	25	49
	21	20	27	56.00	20	16	40.0	1.707 752	5.15	4.88	12	27	06
	22	20	33	09.12	19	59	46.4	1.707 225	5.15	4.89	12	28	22
	23	20	38	21.04	19	42	17.6	1.706 657	5.15	4.89	12	29	37
	24	20	43	31.73	-19	24	14.4	1.706 048	5.15	4.89	12	30	50
	25	20	48	41.19	19	05	37.5	1.705 399	5.16	4.89	12	32	02
	26	20	53	49.41	18	46	27.5	1.704 711	5.16	4.89	12	33	13
	27	20	58	56.36	18	26	45.3	1.703 982	5.16	4.89	12	34	23
	28	21	04	02.06	18	06	31.4	1.703 214	5.16	4.90	12	35	32
	29	21	09	06.49	17	45	46.8	1.702 407	5.17	4.90	12	36	39
30	21	14	09.65	-17	24	32.0	1.701 560	5.17	4.90	12	37	45	
31	21	19	11.54	17	02	47.9	1.700 675	5.17	4.90	12	38	50	
1	21	24	12.17	16	40	35.1	1.699 750	5.17	4.91	12	39	53	
2	21	29	11.54	16	17	54.5	1.698 787	5.18	4.91	12	40	55	
3	21	34	09.66	15	54	46.8	1.697 786	5.18	4.91	12	41	56	
4	21	39	06.54	15	31	12.7	1.696 745	5.18	4.92	12	42	56	
5	21	44	02.20	-15	07	12.9	1.695 665	5.19	4.92	12	43	55	
6	21	48	56.67	14	42	48.2	1.694 545	5.19	4.92	12	44	52	
7	21	53	49.94	14	17	59.3	1.693 386	5.19	4.93	12	45	48	
8	21	58	42.06	13	52	47.1	1.692 186	5.20	4.93	12	46	43	
9	22	03	33.03	13	27	12.3	1.690 946	5.20	4.93	12	47	37	
10	22	08	22.87	13	01	15.6	1.689 665	5.20	4.94	12	48	30	
11	22	13	11.62	-12	34	57.8	1.688 343	5.21	4.94	12	49	21	
12	22	17	59.30	12	08	19.8	1.686 980	5.21	4.94	12	50	12	
13	22	22	45.93	11	41	22.3	1.685 574	5.22	4.95	12	51	01	
14	22	27	31.53	11	14	06.1	1.684 126	5.22	4.95	12	51	50	
15	22	32	16.13	-10	46	32.0	1.682 636	5.23	4.96	12	52	37	

VENUS, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Feb.	15	22	32	16.13	-10	46	32.0	1.682 636	5.23	4.96	12	52	37
	16	22	36	59.77	10	18	40.8	1.681 102	5.23	4.96	12	53	24
	17	22	41	42.46	9	50	33.2	1.679 525	5.24	4.97	12	54	10
	18	22	46	24.25	9	22	10.1	1.677 905	5.24	4.97	12	54	55
	19	22	51	05.15	8	53	32.2	1.676 240	5.25	4.98	12	55	38
	20	22	55	45.22	8	24	40.3	1.674 532	5.25	4.98	12	56	22
	21	23	00	24.47	-7	55	35.2	1.672 779	5.26	4.99	12	57	04
	22	23	05	02.95	7	26	17.6	1.670 982	5.26	4.99	12	57	45
	23	23	09	40.69	6	56	48.4	1.669 140	5.27	5.00	12	58	26
	24	23	14	17.73	6	27	08.3	1.667 255	5.27	5.00	12	59	06
Mar.	25	23	18	54.11	5	57	18.0	1.665 325	5.28	5.01	12	59	46
	26	23	23	29.86	5	27	18.4	1.663 351	5.29	5.01	13	00	25
	27	23	28	05.03	-4	57	10.2	1.661 334	5.29	5.02	13	01	03
	28	23	32	39.64	4	26	54.1	1.659 272	5.30	5.03	13	01	41
	1	23	37	13.75	3	56	31.0	1.657 167	5.31	5.03	13	02	18
	2	23	41	47.39	3	26	01.5	1.655 019	5.31	5.04	13	02	55
	3	23	46	20.60	2	55	26.4	1.652 827	5.32	5.05	13	03	31
	4	23	50	53.43	2	24	46.4	1.650 591	5.33	5.05	13	04	08
	5	23	55	25.93	-1	54	02.1	1.648 311	5.34	5.06	13	04	43
	6	23	59	58.14	1	23	14.4	1.645 987	5.34	5.07	13	05	19
	7	0	04	30.11	0	52	24.0	1.643 619	5.35	5.07	13	05	54
	8	0	09	01.88	-0	21	31.4	1.641 206	5.36	5.08	13	06	29
	9	0	13	33.50	+0	09	22.4	1.638 747	5.37	5.09	13	07	04
	10	0	18	05.01	0	40	16.8	1.636 244	5.37	5.10	13	07	39
	11	0	22	36.45	+1	11	11.1	1.633 694	5.38	5.10	13	08	14
	12	0	27	07.86	1	42	04.5	1.631 099	5.39	5.11	13	08	49
	13	0	31	39.29	2	12	56.3	1.628 456	5.40	5.12	13	09	24
	14	0	36	10.79	2	43	45.7	1.625 767	5.41	5.13	13	09	59
	15	0	40	42.38	3	14	32.0	1.623 030	5.42	5.14	13	10	34
	16	0	45	14.12	3	45	14.5	1.620 245	5.43	5.15	13	11	09
	17	0	49	46.03	+4	15	52.4	1.617 412	5.44	5.16	13	11	45
	18	0	54	18.18	4	46	25.0	1.614 530	5.45	5.17	13	12	21
	19	0	58	50.58	5	16	51.5	1.611 599	5.46	5.17	13	12	57
	20	1	03	23.29	5	47	11.1	1.608 618	5.47	5.18	13	13	33
	21	1	07	56.35	6	17	23.2	1.605 587	5.48	5.19	13	14	10
	22	1	12	29.79	6	47	26.9	1.602 507	5.49	5.20	13	14	47
	23	1	17	03.65	+7	17	21.6	1.599 376	5.50	5.21	13	15	24
	24	1	21	37.97	7	47	06.4	1.596 195	5.51	5.22	13	16	03
	25	1	26	12.77	8	16	40.6	1.592 965	5.52	5.24	13	16	41
	26	1	30	48.11	8	46	03.5	1.589 684	5.53	5.25	13	17	20
	27	1	35	24.00	9	15	14.3	1.586 353	5.54	5.26	13	18	00
	28	1	40	00.48	9	44	12.3	1.582 973	5.56	5.27	13	18	40
	29	1	44	37.59	+10	12	56.6	1.579 544	5.57	5.28	13	19	21
	30	1	49	15.37	10	41	26.7	1.576 065	5.58	5.29	13	20	03
	31	1	53	53.84	11	09	41.6	1.572 536	5.59	5.30	13	20	45
	1	1	58	33.04	11	37	40.8	1.568 959	5.61	5.32	13	21	28
	2	2	03	13.00	+12	05	23.5	1.565 332	5.62	5.33	13	22	12

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Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit			
	h	m	s	°	'	"		"	"	h	m	s	
Apr.	1	1	58	33.04	+11	37	40.8	1.568 959	5.61	5.32	13	21	28
	2	2	03	13.00	12	05	23.5	1.565 332	5.62	5.33	13	22	12
	3	2	07	53.77	12	32	48.9	1.561 657	5.63	5.34	13	22	57
	4	2	12	35.36	12	59	56.3	1.557 932	5.64	5.35	13	23	42
	5	2	17	17.82	13	26	45.1	1.554 157	5.66	5.37	13	24	29
	6	2	22	01.16	13	53	14.4	1.550 334	5.67	5.38	13	25	16
	7	2	26	45.41	+14	19	23.5	1.546 460	5.69	5.39	13	26	04
	8	2	31	30.61	14	45	11.8	1.542 537	5.70	5.41	13	26	53
	9	2	36	16.76	15	10	38.4	1.538 563	5.72	5.42	13	27	44
	10	2	41	03.89	15	35	42.6	1.534 539	5.73	5.43	13	28	35
	11	2	45	52.02	16	00	23.6	1.530 465	5.75	5.45	13	29	27
	12	2	50	41.16	16	24	40.8	1.526 340	5.76	5.46	13	30	20
	13	2	55	31.33	+16	48	33.3	1.522 164	5.78	5.48	13	31	14
	14	3	00	22.54	17	12	00.4	1.517 936	5.79	5.49	13	32	10
	15	3	05	14.80	17	35	01.4	1.513 657	5.81	5.51	13	33	06
	16	3	10	08.13	17	57	35.6	1.509 325	5.83	5.53	13	34	03
	17	3	15	02.52	18	19	42.1	1.504 942	5.84	5.54	13	35	02
	18	3	19	57.99	18	41	20.3	1.500 505	5.86	5.56	13	36	01
	19	3	24	54.53	+19	02	29.5	1.496 016	5.88	5.57	13	37	02
	20	3	29	52.13	19	23	09.0	1.491 474	5.90	5.59	13	38	04
	21	3	34	50.79	19	43	18.0	1.486 880	5.91	5.61	13	39	07
	22	3	39	50.50	20	02	56.0	1.482 233	5.93	5.63	13	40	10
	23	3	44	51.24	20	22	02.0	1.477 533	5.95	5.64	13	41	15
	24	3	49	53.00	20	40	35.7	1.472 781	5.97	5.66	13	42	21
	25	3	54	55.76	+20	58	36.1	1.467 978	5.99	5.68	13	43	28
	26	3	59	59.51	21	16	02.8	1.463 123	6.01	5.70	13	44	36
	27	4	05	04.22	21	32	55.0	1.458 218	6.03	5.72	13	45	44
	28	4	10	09.87	21	49	12.2	1.453 261	6.05	5.74	13	46	54
	29	4	15	16.45	22	04	53.8	1.448 255	6.07	5.76	13	48	05
	30	4	20	23.93	22	19	59.3	1.443 198	6.09	5.78	13	49	16
May	1	4	25	32.28	+22	34	28.1	1.438 092	6.12	5.80	13	50	28
	2	4	30	41.47	22	48	19.6	1.432 937	6.14	5.82	13	51	42
	3	4	35	51.47	23	01	33.3	1.427 733	6.16	5.84	13	52	56
	4	4	41	02.25	23	14	08.9	1.422 479	6.18	5.86	13	54	10
	5	4	46	13.76	23	26	05.8	1.417 177	6.21	5.88	13	55	26
	6	4	51	25.97	23	37	23.5	1.411 827	6.23	5.91	13	56	42
	7	4	56	38.82	+23	48	01.6	1.406 428	6.25	5.93	13	57	59
	8	5	01	52.29	23	57	59.7	1.400 982	6.28	5.95	13	59	16
	9	5	07	06.31	24	07	17.5	1.395 487	6.30	5.98	14	00	34
	10	5	12	20.84	24	15	54.5	1.389 944	6.33	6.00	14	01	52
	11	5	17	35.82	24	23	50.4	1.384 353	6.35	6.02	14	03	11
	12	5	22	51.21	24	31	04.9	1.378 714	6.38	6.05	14	04	30
	13	5	28	06.95	+24	37	37.7	1.373 027	6.40	6.07	14	05	49
	14	5	33	22.98	24	43	28.5	1.367 292	6.43	6.10	14	07	09
	15	5	38	39.24	24	48	37.2	1.361 509	6.46	6.13	14	08	29
	16	5	43	55.68	24	53	03.6	1.355 678	6.49	6.15	14	09	49
	17	5	49	12.23	+24	56	47.4	1.349 799	6.52	6.18	14	11	09

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
May	17	5	49	12.23	+24	56	47.4	1.349 799	6.52	6.18	14	11	09
	18	5	54	28.83	24	59	48.6	1.343 872	6.54	6.21	14	12	29
	19	5	59	45.40	25	02	07.2	1.337 898	6.57	6.23	14	13	49
	20	6	05	01.87	25	03	43.0	1.331 875	6.60	6.26	14	15	09
	21	6	10	18.16	25	04	36.0	1.325 806	6.63	6.29	14	16	29
	22	6	15	34.22	25	04	46.3	1.319 689	6.66	6.32	14	17	48
	23	6	20	49.96	+25	04	13.9	1.313 527	6.70	6.35	14	19	07
	24	6	26	05.33	25	02	58.8	1.307 319	6.73	6.38	14	20	26
June	25	6	31	20.25	25	01	01.1	1.301 066	6.76	6.41	14	21	44
	26	6	36	34.67	24	58	21.1	1.294 770	6.79	6.44	14	23	02
	27	6	41	48.52	24	54	58.8	1.288 429	6.83	6.47	14	24	19
	28	6	47	01.73	24	50	54.5	1.282 046	6.86	6.51	14	25	35
	29	6	52	14.26	+24	46	08.4	1.275 621	6.89	6.54	14	26	50
	30	6	57	26.03	24	40	40.8	1.269 154	6.93	6.57	14	28	05
	31	7	02	36.99	24	34	32.0	1.262 646	6.96	6.61	14	29	19
	1	7	07	47.09	24	27	42.3	1.256 097	7.00	6.64	14	30	32
	2	7	12	56.26	24	20	12.0	1.249 509	7.04	6.67	14	31	44
	3	7	18	04.46	24	12	01.5	1.242 882	7.08	6.71	14	32	55
	4	7	23	11.63	+24	03	11.3	1.236 216	7.11	6.75	14	34	05
	5	7	28	17.72	23	53	41.7	1.229 511	7.15	6.78	14	35	14
	6	7	33	22.69	23	43	33.1	1.222 769	7.19	6.82	14	36	22
	7	7	38	26.48	23	32	45.9	1.215 990	7.23	6.86	14	37	29
	8	7	43	29.06	23	21	20.8	1.209 173	7.27	6.90	14	38	34
	9	7	48	30.39	23	09	18.1	1.202 320	7.31	6.94	14	39	38
July	10	7	53	30.44	+22	56	38.3	1.195 431	7.36	6.98	14	40	41
	11	7	58	29.15	22	43	22.0	1.188 505	7.40	7.02	14	41	42
	12	8	03	26.51	22	29	29.7	1.181 544	7.44	7.06	14	42	42
	13	8	08	22.49	22	15	02.0	1.174 547	7.49	7.10	14	43	41
	14	8	13	17.04	21	59	59.5	1.167 515	7.53	7.14	14	44	38
	15	8	18	10.14	21	44	22.9	1.160 447	7.58	7.19	14	45	33
	16	8	23	01.76	+21	28	12.7	1.153 344	7.62	7.23	14	46	28
	17	8	27	51.86	21	11	29.7	1.146 207	7.67	7.28	14	47	20
	18	8	32	40.41	20	54	14.4	1.139 036	7.72	7.32	14	48	11
	19	8	37	27.40	20	36	27.7	1.131 830	7.77	7.37	14	49	01
	20	8	42	12.79	20	18	10.1	1.124 592	7.82	7.42	14	49	49
	21	8	46	56.57	19	59	22.3	1.117 322	7.87	7.46	14	50	35
	22	8	51	38.73	+19	40	05.1	1.110 020	7.92	7.51	14	51	20
	23	8	56	19.26	19	20	19.2	1.102 687	7.98	7.56	14	52	03
	24	9	00	58.14	19	00	05.1	1.095 325	8.03	7.61	14	52	44
	25	9	05	35.37	18	39	23.8	1.087 933	8.08	7.67	14	53	24
26	9	10	10.94	18	18	15.8	1.080 513	8.14	7.72	14	54	02	
27	9	14	44.85	17	56	41.9	1.073 066	8.20	7.77	14	54	38	
July	28	9	19	17.10	+17	34	42.9	1.065 593	8.25	7.83	14	55	13
	29	9	23	47.69	17	12	19.3	1.058 094	8.31	7.88	14	55	46
	30	9	28	16.62	16	49	32.1	1.050 569	8.37	7.94	14	56	17
	1	9	32	43.90	16	26	21.8	1.043 021	8.43	8.00	14	56	47
	2	9	37	09.52	+16	02	49.1	1.035 449	8.49	8.05	14	57	15

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit			
	h	m	s	°	'	"		"	"	h	m	s	
July	1	9	32	43.90	+16	26	21.8	1.043 021	8.43	8.00	14	56	47
	2	9	37	09.52	16	02	49.1	1.035 449	8.49	8.05	14	57	15
	3	9	41	33.50	15	38	54.8	1.027 855	8.56	8.11	14	57	41
	4	9	45	55.84	15	14	39.6	1.020 239	8.62	8.17	14	58	06
	5	9	50	16.56	14	50	04.1	1.012 601	8.68	8.24	14	58	29
	6	9	54	35.67	14	25	09.1	1.004 943	8.75	8.30	14	58	51
	7	9	58	53.18	+13	59	55.2	0.997 264	8.82	8.36	14	59	11
	8	10	03	09.11	13	34	23.1	0.989 566	8.89	8.43	14	59	29
	9	10	07	23.48	13	08	33.4	0.981 849	8.96	8.49	14	59	46
	10	10	11	36.30	12	42	26.9	0.974 113	9.03	8.56	15	00	01
	11	10	15	47.58	12	16	04.2	0.966 359	9.10	8.63	15	00	15
	12	10	19	57.34	11	49	26.0	0.958 586	9.17	8.70	15	00	27
	13	10	24	05.60	+11	22	33.1	0.950 796	9.25	8.77	15	00	38
	14	10	28	12.36	10	55	26.1	0.942 988	9.33	8.84	15	00	47
	15	10	32	17.63	10	28	05.8	0.935 163	9.40	8.92	15	00	55
	16	10	36	21.42	10	00	32.8	0.927 321	9.48	8.99	15	01	01
	17	10	40	23.74	9	32	48.0	0.919 463	9.56	9.07	15	01	06
	18	10	44	24.60	9	04	51.9	0.911 589	9.65	9.15	15	01	09
	19	10	48	24.01	+8	36	45.4	0.903 700	9.73	9.23	15	01	11
	20	10	52	21.98	8	08	29.0	0.895 796	9.82	9.31	15	01	12
	21	10	56	18.53	7	40	03.5	0.887 879	9.90	9.39	15	01	11
	22	11	00	13.66	7	11	29.7	0.879 950	9.99	9.48	15	01	09
	23	11	04	07.38	6	42	48.0	0.872 009	10.08	9.56	15	01	05
	24	11	07	59.71	6	13	59.3	0.864 057	10.18	9.65	15	01	00
	25	11	11	50.66	+5	45	04.2	0.856 095	10.27	9.74	15	00	53
	26	11	15	40.23	5	16	03.4	0.848 124	10.37	9.83	15	00	46
	27	11	19	28.43	4	46	57.4	0.840 145	10.47	9.93	15	00	36
	28	11	23	15.27	4	17	47.1	0.832 159	10.57	10.02	15	00	26
	29	11	27	00.77	3	48	33.0	0.824 167	10.67	10.12	15	00	14
	30	11	30	44.91	3	19	15.7	0.816 169	10.77	10.22	15	00	01
Aug.	31	11	34	27.72	+2	49	55.9	0.808 167	10.88	10.32	14	59	46
	1	11	38	09.20	2	20	34.1	0.800 161	10.99	10.42	14	59	30
	2	11	41	49.36	1	51	11.1	0.792 153	11.10	10.53	14	59	13
	3	11	45	28.20	1	21	47.3	0.784 143	11.21	10.64	14	58	54
	4	11	49	05.73	0	52	23.4	0.776 132	11.33	10.75	14	58	35
	5	11	52	41.96	+0	23	00.0	0.768 121	11.45	10.86	14	58	13
	6	11	56	16.88	-0	06	22.4	0.760 110	11.57	10.97	14	57	51
	7	11	59	50.50	0	35	43.2	0.752 100	11.69	11.09	14	57	27
	8	12	03	22.82	1	05	01.7	0.744 091	11.82	11.21	14	57	02
	9	12	06	53.83	1	34	17.4	0.736 085	11.95	11.33	14	56	36
	10	12	10	23.51	2	03	29.7	0.728 081	12.08	11.45	14	56	08
	11	12	13	51.87	2	32	37.9	0.720 081	12.21	11.58	14	55	39
	12	12	17	18.87	-3	01	41.3	0.712 083	12.35	11.71	14	55	09
	13	12	20	44.49	3	30	39.3	0.704 090	12.49	11.85	14	54	37
	14	12	24	08.72	3	59	31.2	0.696 101	12.63	11.98	14	54	04
	15	12	27	31.52	4	28	16.5	0.688 118	12.78	12.12	14	53	29
16	12	30	52.87	-4	56	54.3	0.680 141	12.93	12.26	14	52	53	

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Aug.	16	12	30	52.87	-4	56	54.3	0.680 141	12.93	12.26	14	52	53
	17	12	34	12.73	5	25	24.0	0.672 171	13.08	12.41	14	52	15
	18	12	37	31.06	5	53	45.0	0.664 209	13.24	12.56	14	51	36
	19	12	40	47.83	6	21	56.6	0.656 256	13.40	12.71	14	50	55
	20	12	44	02.98	6	49	58.0	0.648 314	13.56	12.86	14	50	13
	21	12	47	16.47	7	17	48.7	0.640 384	13.73	13.02	14	49	29
	22	12	50	28.25	-7	45	27.9	0.632 466	13.90	13.19	14	48	43
	23	12	53	38.27	8	12	55.0	0.624 563	14.08	13.35	14	47	56
	24	12	56	46.45	8	40	09.2	0.616 676	14.26	13.52	14	47	06
	25	12	59	52.74	9	07	10.0	0.608 805	14.44	13.70	14	46	15
	26	13	02	57.07	9	33	56.5	0.600 954	14.63	13.88	14	45	21
	27	13	05	59.37	10	00	28.1	0.593 122	14.83	14.06	14	44	26
	28	13	08	59.57	-10	26	44.1	0.585 312	15.02	14.25	14	43	28
	29	13	11	57.58	10	52	43.8	0.577 526	15.23	14.44	14	42	28
Sept.	30	13	14	53.32	11	18	26.5	0.569 765	15.43	14.64	14	41	26
	31	13	17	46.70	11	43	51.5	0.562 031	15.65	14.84	14	40	21
	1	13	20	37.65	12	08	58.2	0.554 325	15.86	15.05	14	39	14
	2	13	23	26.05	12	33	45.8	0.546 649	16.09	15.26	14	38	05
	3	13	26	11.81	-12	58	13.5	0.539 005	16.32	15.47	14	36	52
	4	13	28	54.81	13	22	20.8	0.531 395	16.55	15.69	14	35	37
	5	13	31	34.95	13	46	06.7	0.523 820	16.79	15.92	14	34	19
	6	13	34	12.09	14	09	30.5	0.516 282	17.03	16.15	14	32	58
	7	13	36	46.09	14	32	31.2	0.508 783	17.28	16.39	14	31	33
	8	13	39	16.82	14	55	08.2	0.501 324	17.54	16.64	14	30	05
	9	13	41	44.12	-15	17	20.3	0.493 907	17.81	16.89	14	28	34
	10	13	44	07.83	15	39	06.6	0.486 534	18.08	17.14	14	26	59
	11	13	46	27.77	16	00	26.1	0.479 208	18.35	17.40	14	25	20
	12	13	48	43.77	16	21	17.7	0.471 931	18.63	17.67	14	23	37
13	13	50	55.63	16	41	40.3	0.464 705	18.92	17.95	14	21	50	
14	13	53	03.15	17	01	32.7	0.457 533	19.22	18.23	14	19	59	
15	13	55	06.13	-17	20	53.7	0.450 418	19.52	18.52	14	18	02	
16	13	57	04.33	17	39	42.1	0.443 363	19.84	18.81	14	16	01	
17	13	58	57.54	17	57	56.4	0.436 372	20.15	19.11	14	13	55	
18	14	00	45.52	18	15	35.3	0.429 448	20.48	19.42	14	11	43	
19	14	02	28.04	18	32	37.3	0.422 596	20.81	19.74	14	09	26	
20	14	04	04.83	18	49	00.8	0.415 818	21.15	20.06	14	07	03	
21	14	05	35.66	-19	04	44.3	0.409 120	21.50	20.39	14	04	34	
22	14	07	00.27	19	19	45.9	0.402 506	21.85	20.72	14	01	59	
23	14	08	18.40	19	34	04.0	0.395 981	22.21	21.06	13	59	17	
24	14	09	29.80	19	47	36.7	0.389 550	22.58	21.41	13	56	28	
25	14	10	34.22	20	00	21.9	0.383 218	22.95	21.76	13	53	32	
26	14	11	31.40	20	12	17.7	0.376 991	23.33	22.12	13	50	29	
27	14	12	21.12	-20	23	22.0	0.370 874	23.71	22.49	13	47	18	
28	14	13	03.13	20	33	32.5	0.364 874	24.10	22.86	13	43	59	
29	14	13	37.23	20	42	47.0	0.358 997	24.50	23.23	13	40	33	
30	14	14	03.20	20	51	03.3	0.353 249	24.90	23.61	13	36	58	
Oct.	1	14	14	20.88	-20	58	18.9	0.347 636	25.30	23.99	13	33	15

VENUS, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit			
	h	m	s	°	'	"		"	"	h	m	s	
Oct.	1	14	14	20.88	-20	58	18.9	0.347 636	25.30	23.99	13	33	15
	2	14	14	30.09	21	04	31.3	0.342 166	25.70	24.37	13	29	23
	3	14	14	30.70	21	09	38.0	0.336 846	26.11	24.76	13	25	23
	4	14	14	22.59	21	13	36.6	0.331 681	26.51	25.14	13	21	14
	5	14	14	05.67	21	16	24.3	0.326 680	26.92	25.53	13	16	57
	6	14	13	39.92	21	17	58.7	0.321 850	27.32	25.91	13	12	30
	7	14	13	05.31	-21	18	17.3	0.317 199	27.72	26.29	13	07	55
	8	14	12	21.89	21	17	17.7	0.312 733	28.12	26.67	13	03	11
	9	14	11	29.75	21	14	57.5	0.308 461	28.51	27.04	12	58	19
	10	14	10	29.05	21	11	14.8	0.304 391	28.89	27.40	12	53	18
	11	14	09	19.98	21	06	07.8	0.300 531	29.26	27.75	12	48	09
	12	14	08	02.82	20	59	34.9	0.296 890	29.62	28.09	12	42	53
	13	14	06	37.91	-20	51	35.2	0.293 475	29.97	28.42	12	37	28
	14	14	05	05.65	20	42	08.0	0.290 295	30.29	28.73	12	31	57
	15	14	03	26.54	20	31	13.4	0.287 357	30.60	29.02	12	26	20
	16	14	01	41.13	20	18	51.9	0.284 670	30.89	29.30	12	20	36
	17	13	59	50.04	20	05	04.9	0.282 241	31.16	29.55	12	14	47
	18	13	57	53.97	19	49	54.2	0.280 077	31.40	29.78	12	08	54
	19	13	55	53.68	-19	33	22.8	0.278 184	31.61	29.98	12	02	57
	20	13	53	49.97	19	15	34.3	0.276 568	31.80	30.16	11	56	56
	21	13	51	43.70	18	56	33.1	0.275 234	31.95	30.30	11	50	54
	22	13	49	35.77	18	36	24.4	0.274 188	32.07	30.42	11	44	51
	23	13	47	27.10	18	15	14.2	0.273 431	32.16	30.50	11	38	47
	24	13	45	18.62	17	53	09.3	0.272 968	32.22	30.55	11	32	44
	25	13	43	11.28	-17	30	16.9	0.272 799	32.24	30.57	11	26	42
	26	13	41	06.00	17	06	45.2	0.272 926	32.22	30.56	11	20	43
	27	13	39	03.68	16	42	42.2	0.273 347	32.17	30.51	11	14	48
	28	13	37	05.20	16	18	16.7	0.274 061	32.09	30.43	11	08	56
	29	13	35	11.38	15	53	37.4	0.275 066	31.97	30.32	11	03	10
	30	13	33	22.96	15	28	53.0	0.276 357	31.82	30.18	10	57	29
Nov.	31	13	31	40.65	-15	04	12.0	0.277 931	31.64	30.01	10	51	54
	1	13	30	05.06	14	39	42.7	0.279 781	31.43	29.81	10	46	26
	2	13	28	36.73	14	15	32.9	0.281 902	31.20	29.58	10	41	06
	3	13	27	16.14	13	51	50.2	0.284 286	30.93	29.34	10	35	54
	4	13	26	03.67	13	28	41.2	0.286 927	30.65	29.07	10	30	49
	5	13	24	59.65	13	06	12.4	0.289 816	30.34	28.78	10	25	54
	6	13	24	04.31	-12	44	29.3	0.292 946	30.02	28.47	10	21	06
	7	13	23	17.86	12	23	36.9	0.296 308	29.68	28.15	10	16	28
	8	13	22	40.42	12	03	39.8	0.299 895	29.32	27.81	10	11	59
	9	13	22	12.04	11	44	41.4	0.303 697	28.96	27.46	10	07	39
	10	13	21	52.77	11	26	45.1	0.307 707	28.58	27.10	10	03	27
	11	13	21	42.56	11	09	53.3	0.311 915	28.19	26.74	9	59	25
	12	13	21	41.36	-10	54	08.0	0.316 315	27.80	26.37	9	55	32
	13	13	21	49.07	10	39	30.7	0.320 897	27.40	25.99	9	51	47
	14	13	22	05.57	10	26	02.4	0.325 654	27.00	25.61	9	48	11
	15	13	22	30.71	10	13	43.7	0.330 577	26.60	25.23	9	44	44
16	13	23	04.33	-10	02	34.8	0.335 660	26.20	24.85	9	41	24	

VENUS, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit			
	h	m	s	°	'	"		"	"	h	m	s	
Nov.	16	13	23	04.33	-10	02	34.8	0.335 660	26.20	24.85	9	41	24
	17	13	23	46.24	9	52	35.6	0.340 895	25.80	24.47	9	38	14
	18	13	24	36.24	9	43	45.5	0.346 275	25.40	24.08	9	35	11
	19	13	25	34.13	9	36	03.8	0.351 792	25.00	23.71	9	32	15
	20	13	26	39.71	9	29	29.6	0.357 441	24.60	23.33	9	29	28
	21	13	27	52.75	9	24	01.8	0.363 214	24.21	22.96	9	26	47
	22	13	29	13.05	-9	19	39.0	0.369 106	23.83	22.60	9	24	14
23	13	30	40.38	9	16	19.8	0.375 110	23.44	22.23	9	21	48	
24	13	32	14.55	9	14	02.6	0.381 220	23.07	21.88	9	19	28	
25	13	33	55.33	9	12	45.8	0.387 431	22.70	21.53	9	17	15	
26	13	35	42.51	9	12	27.4	0.393 737	22.34	21.18	9	15	08	
27	13	37	35.87	9	13	05.7	0.400 133	21.98	20.84	9	13	08	
Dec.	28	13	39	35.22	-9	14	38.5	0.406 614	21.63	20.51	9	11	13
	29	13	41	40.33	9	17	04.0	0.413 173	21.28	20.19	9	09	24
	30	13	43	51.00	9	20	20.0	0.419 807	20.95	19.87	9	07	40
	1	13	46	07.03	9	24	24.5	0.426 511	20.62	19.55	9	06	02
	2	13	48	28.23	9	29	15.3	0.433 281	20.30	19.25	9	04	28
	3	13	50	54.41	9	34	50.4	0.440 112	19.98	18.95	9	03	00
	4	13	53	25.39	-9	41	07.6	0.447 001	19.67	18.66	9	01	36
	5	13	56	01.00	9	48	05.1	0.453 944	19.37	18.37	9	00	17
	6	13	58	41.07	9	55	40.8	0.460 939	19.08	18.09	8	59	02
	7	14	01	25.45	10	03	52.7	0.467 981	18.79	17.82	8	57	52
	8	14	04	13.98	10	12	38.9	0.475 068	18.51	17.56	8	56	45
	9	14	07	06.52	10	21	57.5	0.482 198	18.24	17.30	8	55	43
	10	14	10	02.94	-10	31	46.7	0.489 368	17.97	17.04	8	54	44
	11	14	13	03.11	10	42	04.6	0.496 576	17.71	16.80	8	53	49
	12	14	16	06.91	10	52	49.5	0.503 818	17.45	16.55	8	52	57
13	14	19	14.22	11	03	59.7	0.511 094	17.21	16.32	8	52	10	
14	14	22	24.94	11	15	33.4	0.518 402	16.96	16.09	8	51	25	
15	14	25	38.97	11	27	29.0	0.525 739	16.73	15.86	8	50	44	
16	14	28	56.23	-11	39	44.9	0.533 103	16.50	15.64	8	50	06	
17	14	32	16.61	11	52	19.6	0.540 494	16.27	15.43	8	49	31	
18	14	35	40.06	12	05	11.4	0.547 909	16.05	15.22	8	48	59	
19	14	39	06.48	12	18	18.9	0.555 346	15.84	15.02	8	48	29	
20	14	42	35.82	12	31	40.6	0.562 806	15.63	14.82	8	48	03	
21	14	46	08.01	12	45	15.1	0.570 285	15.42	14.62	8	47	40	
22	14	49	43.00	-12	59	00.9	0.577 782	15.22	14.43	8	47	19	
23	14	53	20.72	13	12	56.7	0.585 297	15.03	14.25	8	47	02	
24	14	57	01.13	13	27	01.1	0.592 826	14.83	14.07	8	46	46	
25	15	00	44.16	13	41	12.7	0.600 370	14.65	13.89	8	46	34	
26	15	04	29.78	13	55	30.1	0.607 926	14.47	13.72	8	46	24	
27	15	08	17.92	14	09	51.9	0.615 492	14.29	13.55	8	46	16	
28	15	12	08.54	-14	24	16.9	0.623 067	14.11	13.39	8	46	11	
29	15	16	01.59	14	38	43.5	0.630 650	13.94	13.22	8	46	09	
30	15	19	57.02	14	53	10.6	0.638 238	13.78	13.07	8	46	08	
31	15	23	54.79	15	07	36.8	0.645 832	13.62	12.91	8	46	10	
32	15	27	54.85	-15	22	00.9	0.653 429	13.46	12.76	8	46	15	

MARS, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude				Heliocentric Latitude			Radius Vector	Date	Heliocentric Longitude				Heliocentric Latitude			Radius Vector		
	°	'	"		°	'	"			°	'	"		°	'	"			
Jan.	1	284	09	33.6	-1	30	14.3		1.428 6949	Apr.	3	341	22	04.7	-1	43	10.6		1.381 6872
	3	285	20	53.5	1	31	33.5		1.426 6411		5	342	38	14.2	1	42	14.8		1.381 9391
	5	286	32	25.7	1	32	50.5		1.424 6214		7	343	54	21.7	1	41	16.0		1.382 2485
	7	287	44	10.1	1	34	05.4		1.422 6369		9	345	10	27.0	1	40	14.3		1.382 6154
	9	288	56	06.5	1	35	18.0		1.420 6884		11	346	26	29.5	1	39	09.7		1.383 0395
	11	290	08	14.7	1	36	28.3		1.418 7770	13	347	42	29.0	1	38	02.1		1.383 5205	
	13	291	20	34.5	-1	37	36.2		1.416 9035	15	348	58	25.0	-1	36	51.8		1.384 0582	
	15	292	33	05.8	1	38	41.7		1.415 0689	17	350	14	17.2	1	35	38.7		1.384 6523	
	17	293	45	48.4	1	39	44.8		1.413 2742	19	351	30	05.3	1	34	22.9		1.385 3025	
	19	294	58	42.0	1	40	45.3		1.411 5201	21	352	45	48.7	1	33	04.4		1.386 0083	
Feb.	21	296	11	46.4	1	41	43.2		1.409 8077	23	354	01	27.3	1	31	43.4		1.386 7694	
	23	297	25	01.4	1	42	38.5		1.408 1378	25	355	17	00.6	1	30	19.7		1.387 5853	
	25	298	38	26.8	-1	43	31.1		1.406 5112	27	356	32	28.4	-1	28	53.5		1.388 4556	
	27	299	52	02.3	1	44	21.0		1.404 9288	29	357	47	50.1	1	27	24.9		1.389 3798	
	29	301	05	47.7	1	45	08.1		1.403 3914	May	1	359	03	05.6	1	25	53.8		1.390 3574
	31	302	19	42.8	1	45	52.5		1.401 8998		3	360	18	14.5	1	24	20.5		1.391 3878
	2	303	33	47.2	1	46	33.9		1.400 4549		5	1	33	16.4	1	22	44.8		1.392 4705
	4	304	48	00.6	1	47	12.5		1.399 0573		7	2	48	11.0	1	21	07.0		1.393 6048
	6	306	02	22.9	-1	47	48.2		1.397 7078		9	4	02	58.1	-1	19	27.0		1.394 7902
	8	307	16	53.6	1	48	20.9		1.396 4072	11	5	17	37.3	1	17	45.0		1.396 0260	
10	308	31	32.7	1	48	50.5		1.395 1562	13	6	32	08.3	1	16	00.9		1.397 3115		
12	309	46	19.5	1	49	17.2		1.393 9553	15	7	46	30.8	1	14	14.9		1.398 6461		
Mar.	14	311	01	14.1	1	49	40.8		1.392 8054	17	9	00	44.6	1	12	27.1		1.400 0289	
	16	312	16	15.9	1	50	01.3		1.391 7069	19	10	14	49.3	1	10	37.4		1.401 4594	
	18	313	31	24.7	-1	50	18.7		1.390 6606	21	11	28	44.7	-1	08	46.0		1.402 9366	
	20	314	46	40.1	1	50	32.9		1.389 6670	23	12	42	30.5	1	06	52.9		1.404 4598	
	22	316	02	01.8	1	50	44.0		1.388 7266	25	13	56	06.5	1	04	58.2		1.406 0283	
	24	317	17	29.5	1	50	51.9		1.387 8400	27	15	09	32.4	1	03	02.0		1.407 6412	
	26	318	33	02.8	1	50	56.6		1.387 0076	29	16	22	48.0	1	01	04.4		1.409 2977	
	28	319	48	41.4	1	50	58.1		1.386 2300	31	17	35	53.1	0	59	05.4		1.410 9969	
	2	321	04	24.9	-1	50	56.3		1.385 5075	June	2	18	48	47.4	-0	57	05.1		1.412 7379
	4	322	20	12.9	1	50	51.3		1.384 8406		4	20	01	30.7	0	55	03.5		1.414 5199
6	323	36	05.1	1	50	43.1		1.384 2297	6		21	14	02.9	0	53	00.8		1.416 3419	
8	324	52	01.2	1	50	31.7		1.383 6751	8		22	26	23.6	0	50	57.0		1.418 2031	
10	326	08	00.6	1	50	17.0		1.383 1771	10		23	38	32.8	0	48	52.2		1.420 1025	
12	327	24	03.2	1	49	59.0		1.382 7359	12	24	50	30.2	0	46	46.4		1.422 0392		
14	328	40	08.5	-1	49	37.8		1.382 3520	14	26	02	15.7	-0	44	39.7		1.424 0122		
16	329	56	16.1	1	49	13.4		1.382 0254	16	27	13	49.1	0	42	32.3		1.426 0205		
18	331	12	25.6	1	48	45.8		1.381 7563	18	28	25	10.2	0	40	24.0		1.428 0633		
20	332	28	36.6	1	48	14.9		1.381 5450	20	29	36	19.0	0	38	15.2		1.430 1395		
22	333	44	48.8	1	47	40.9		1.381 3914	22	30	47	15.3	0	36	05.7		1.432 2481		
24	335	01	01.8	1	47	03.6		1.381 2958	24	31	57	58.8	0	33	55.7		1.434 3882		
26	336	17	15.1	-1	46	23.2		1.381 2582	26	33	08	29.6	-0	31	45.2		1.436 5587		
28	337	33	28.5	1	45	39.7		1.381 2785	28	34	18	47.5	0	29	34.4		1.438 7587		
30	338	49	41.5	1	44	53.1		1.381 3569	30	35	28	52.4	0	27	23.1		1.440 9870		
Apr.	1	340	05	53.7	1	44	03.3		1.381 4931	July	2	36	38	44.1	0	25	11.6		1.443 2428
	3	341	22	04.7	-1	43	10.6		1.381 6872		4	37	48	22.7	-0	22	59.9		1.445 5250

MARS, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector		Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector	
	°	'	"	°	'	"				°	'	"	°	'	"		
July	2	36	38	44.1	-0	25	11.6	1.443 2428	Oct.	2	86	11	12.5	+1	05	53.9	1.559 4980
	4	37	48	22.7	0	22	59.9	1.445 5250		4	87	10	52.6	1	07	26.3	1.561 9522
	6	38	57	48.0	0	20	48.1	1.447 8326		6	88	10	21.6	1	08	57.2	1.564 3903
	8	40	06	59.9	0	18	36.2	1.450 1645		8	89	09	39.6	1	10	26.5	1.566 8118
	10	41	15	58.4	0	16	24.2	1.452 5198		10	90	08	46.6	1	11	54.4	1.569 2159
	12	42	24	43.4	0	14	12.3	1.454 8973		12	91	07	43.0	1	13	20.7	1.571 6020
	14	43	33	14.9	-0	12	00.5	1.457 2962		14	92	06	28.7	+1	14	45.4	1.573 9694
	16	44	41	32.8	0	09	48.8	1.459 7153		16	93	05	04.0	1	16	08.6	1.576 3175
	18	45	49	37.1	0	07	37.3	1.462 1537		18	94	03	28.9	1	17	30.3	1.578 6457
	20	46	57	27.7	0	05	26.1	1.464 6103		20	95	01	43.6	1	18	50.3	1.580 9534
	22	48	05	04.6	0	03	15.2	1.467 0841		22	95	59	48.3	1	20	08.8	1.583 2399
	24	49	12	27.8	-0	01	04.7	1.469 5741		24	96	57	43.0	1	21	25.7	1.585 5047
Aug.	26	50	19	37.2	+0	01	05.4	1.472 0792	Nov.	26	97	55	27.9	+1	22	41.0	1.587 7473
	28	51	26	33.0	0	03	15.0	1.474 5986		28	98	53	03.1	1	23	54.6	1.589 9669
	30	52	33	15.1	0	05	24.1	1.477 1311		30	99	50	28.8	1	25	06.7	1.592 1632
	1	53	39	43.4	0	07	32.7	1.479 6758		1	100	47	45.2	1	26	17.2	1.594 3355
	3	54	45	57.9	0	09	40.7	1.482 2317		3	101	44	52.3	1	27	26.0	1.596 4832
	5	55	51	58.9	0	11	48.0	1.484 7978		5	102	41	50.3	1	28	33.2	1.598 6060
	7	56	57	46.1	+0	13	54.5	1.487 3730		7	103	38	39.4	+1	29	38.8	1.600 7032
	9	58	03	19.7	0	16	00.4	1.489 9566		9	104	35	19.6	1	30	42.8	1.602 7744
	11	59	08	39.6	0	18	05.5	1.492 5474		11	105	31	51.2	1	31	45.0	1.604 8190
	13	60	13	46.0	0	20	09.7	1.495 1445		13	106	28	14.3	1	32	45.7	1.606 8367
	15	61	18	38.9	0	22	13.1	1.497 7470		15	107	24	29.0	1	33	44.7	1.608 8268
	17	62	23	18.3	0	24	15.6	1.500 3539		17	108	20	35.5	1	34	42.1	1.610 7890
Sept.	19	63	27	44.2	+0	26	17.1	1.502 9643	Dec.	19	109	16	33.9	+1	35	37.9	1.612 7227
	21	64	31	56.8	0	28	17.7	1.505 5772		21	110	12	24.4	1	36	32.0	1.614 6277
	23	65	35	56.1	0	30	17.2	1.508 1918		23	111	08	07.1	1	37	24.4	1.616 5033
	25	66	39	42.1	0	32	15.7	1.510 8071		25	112	03	42.1	1	38	15.2	1.618 3493
	27	67	43	14.9	0	34	13.2	1.513 4222		27	112	59	09.7	1	39	04.3	1.620 1651
	29	68	46	34.7	0	36	09.6	1.516 0363		29	113	54	30.0	1	39	51.8	1.621 9504
	31	69	49	41.3	+0	38	04.8	1.518 6484		1	114	49	43.0	+1	40	37.7	1.623 7049
	2	70	52	35.1	0	39	58.8	1.521 2577		3	115	44	49.0	1	41	21.9	1.625 4280
	4	71	55	16.0	0	41	51.7	1.523 8634		5	116	39	48.1	1	42	04.4	1.627 1194
	6	72	57	44.1	0	43	43.3	1.526 4644		7	117	34	40.5	1	42	45.3	1.628 7789
	8	73	59	59.6	0	45	33.8	1.529 0602		9	118	29	26.2	1	43	24.6	1.630 4059
	10	75	02	02.4	0	47	22.9	1.531 6497		11	119	24	05.5	1	44	02.1	1.632 0002
Oct.	12	76	03	52.7	+0	49	10.7	1.534 2322		13	120	18	38.6	+1	44	38.1	1.633 5615
	14	77	05	30.7	0	50	57.3	1.536 8068		15	121	13	05.5	1	45	12.4	1.635 0893
	16	78	06	56.4	0	52	42.5	1.539 3729		17	122	07	26.4	1	45	45.1	1.636 5834
	18	79	08	09.8	0	54	26.3	1.541 9295		19	123	01	41.4	1	46	16.1	1.638 0436
	20	80	09	11.2	0	56	08.8	1.544 4759		21	123	55	50.7	1	46	45.5	1.639 4693
	22	81	10	00.7	0	57	49.9	1.547 0113		23	124	49	54.5	1	47	13.3	1.640 8605
	24	82	10	38.3	+0	59	29.6	1.549 5350		25	125	43	52.9	+1	47	39.4	1.642 2168
	26	83	11	04.1	1	01	07.9	1.552 0463		27	126	37	46.0	1	48	03.9	1.643 5379
	28	84	11	18.4	1	02	44.7	1.554 5444		29	127	31	34.1	1	48	26.8	1.644 8235
	30	85	11	21.1	1	04	20.0	1.557 0285		31	128	25	17.2	1	48	48.1	1.646 0734
	2	86	11	12.5	+1	05	53.9	1.559 4980		33	129	18	55.5	+1	49	07.7	1.647 2874

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		°	'	"	°	'	"			°	'	"	°	'	"
Jan.	0	281	55	17.5	-0	53	05.3	Feb.	15	317	42	58.0	-1	04	46.9
	1	282	41	15.2	0	53	28.0		16	318	30	11.0	1	04	53.4
	2	283	27	15.3	0	53	50.4		17	319	17	24.6	1	04	59.4
	3	284	13	17.8	0	54	12.5		18	320	04	38.8	1	05	05.1
	4	284	59	22.6	0	54	34.3		19	320	51	53.4	1	05	10.3
	5	285	45	29.8	0	54	55.9		20	321	39	08.5	1	05	15.2
	6	286	31	39.2	-0	55	17.1		21	322	26	23.9	-1	05	19.6
	7	287	17	50.9	0	55	38.1		22	323	13	39.6	1	05	23.6
	8	288	04	04.9	0	55	58.8		23	324	00	55.7	1	05	27.2
	9	288	50	21.2	0	56	19.2		24	324	48	12.0	1	05	30.4
	10	289	36	39.8	0	56	39.2		25	325	35	28.5	1	05	33.2
	11	290	23	00.7	0	56	58.8		26	326	22	45.2	1	05	35.5
	12	291	09	23.8	-0	57	18.1	Mar.	27	327	10	01.9	-1	05	37.5
	13	291	55	49.2	0	57	37.1		28	327	57	18.6	1	05	39.1
	14	292	42	16.9	0	57	55.8		1	328	44	35.3	1	05	40.2
	15	293	28	46.6	0	58	14.1		2	329	31	51.9	1	05	40.9
	16	294	15	18.4	0	58	32.1		3	330	19	08.4	1	05	41.2
	17	295	01	52.3	0	58	49.8		4	331	06	24.9	1	05	41.0
	18	295	48	28.0	-0	59	07.2		5	331	53	41.3	-1	05	40.4
	19	296	35	05.6	0	59	24.1		6	332	40	57.6	1	05	39.4
	20	297	21	45.0	0	59	40.8		7	333	28	13.8	1	05	37.9
	21	298	08	26.1	0	59	57.1		8	334	15	30.0	1	05	36.0
	22	298	55	08.8	1	00	13.1		9	335	02	46.0	1	05	33.6
	23	299	41	53.1	1	00	28.7		10	335	50	01.9	1	05	30.8
	24	300	28	38.9	-1	00	44.0		11	336	37	17.5	-1	05	27.5
	25	301	15	26.3	1	00	58.9		12	337	24	32.9	1	05	23.8
	26	302	02	15.2	1	01	13.5		13	338	11	47.9	1	05	19.7
	27	302	49	05.5	1	01	27.7		14	338	59	02.5	1	05	15.1
	28	303	35	57.3	1	01	41.6		15	339	46	16.6	1	05	10.0
	29	304	22	50.4	1	01	55.1		16	340	33	30.2	1	05	04.5
	30	305	09	44.9	-1	02	08.3		17	341	20	43.1	-1	04	58.6
	31	305	56	40.7	1	02	21.1		18	342	07	55.3	1	04	52.2
Feb.	1	306	43	37.8	1	02	33.5		19	342	55	06.8	1	04	45.4
	2	307	30	36.0	1	02	45.6		20	343	42	17.4	1	04	38.1
	3	308	17	35.5	1	02	57.3		21	344	29	27.2	1	04	30.5
	4	309	04	36.1	1	03	08.6		22	345	16	36.1	1	04	22.4
	5	309	51	38.0	-1	03	19.6		23	346	03	44.0	-1	04	13.8
	6	310	38	41.1	1	03	30.1		24	346	50	51.0	1	04	04.9
	7	311	25	45.3	1	03	40.3		25	347	37	56.8	1	03	55.5
	8	312	12	50.8	1	03	50.0		26	348	25	01.4	1	03	45.8
	9	312	59	57.3	1	03	59.4		27	349	12	04.8	1	03	35.5
	10	313	47	05.0	1	04	08.3		28	349	59	06.9	1	03	24.9
	11	314	34	13.8	-1	04	16.9	Apr.	29	350	46	07.7	-1	03	13.8
	12	315	21	23.5	1	04	25.0		30	351	33	07.2	1	03	02.3
	13	316	08	34.2	1	04	32.7		31	352	20	05.3	1	02	50.4
	14	316	55	45.7	1	04	40.0		1	353	07	02.0	1	02	38.1
	15	317	42	58.0	-1	04	46.9		2	353	53	57.4	-1	02	25.3

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		°	'	"	°	'	"			°	'	"	°	'	"
Apr.	1	353	07	02.0	-1	02	38.1	May	17	28	32	29.4	-0	45	46.9
	2	353	53	57.4	1	02	25.3		18	29	17	44.1	0	45	16.2
	3	354	40	51.5	1	02	12.0		19	30	02	55.8	0	44	45.2
	4	355	27	44.3	1	01	58.3		20	30	48	04.3	0	44	13.9
	5	356	14	35.7	1	01	44.2		21	31	33	09.5	0	43	42.2
	6	357	01	25.8	1	01	29.6		22	32	18	11.6	0	43	10.3
	7	357	48	14.4	-1	01	14.6		23	33	03	10.3	-0	42	38.0
	8	358	35	01.6	1	00	59.2		24	33	48	05.7	0	42	05.5
	9	359	21	47.3	1	00	43.3		25	34	32	57.9	0	41	32.6
	10	0	08	31.4	1	00	27.0		26	35	17	46.8	0	40	59.4
	11	0	55	13.9	1	00	10.3		27	36	02	32.5	0	40	25.9
	12	1	41	54.8	0	59	53.2		28	36	47	15.0	0	39	52.1
	13	2	28	33.9	-0	59	35.6	June	29	37	31	54.3	-0	39	17.9
	14	3	15	11.2	0	59	17.6		30	38	16	30.4	0	38	43.5
	15	4	01	46.7	0	58	59.2		31	39	01	03.2	0	38	08.7
	16	4	48	20.3	0	58	40.4		1	39	45	32.9	0	37	33.7
	17	5	34	51.9	0	58	21.2		2	40	29	59.4	0	36	58.3
	18	6	21	21.6	0	58	01.6		3	41	14	22.6	0	36	22.7
	19	7	07	49.3	-0	57	41.6		4	41	58	42.6	-0	35	46.7
	20	7	54	14.9	0	57	21.2		5	42	42	59.3	0	35	10.5
	21	8	40	38.3	0	57	00.4		6	43	27	12.7	0	34	34.0
	22	9	26	59.5	0	56	39.3		7	44	11	22.7	0	33	57.2
	23	10	13	18.4	0	56	17.7		8	44	55	29.4	0	33	20.1
	24	10	59	34.9	0	55	55.8		9	45	39	32.8	0	32	42.8
	25	11	45	48.9	-0	55	33.5		10	46	23	32.7	-0	32	05.2
	26	12	32	00.5	0	55	10.8		11	47	07	29.3	0	31	27.3
	27	13	18	09.6	0	54	47.7		12	47	51	22.5	0	30	49.2
	28	14	04	16.4	0	54	24.3		13	48	35	12.3	0	30	10.9
	29	14	50	20.7	0	54	00.4		14	49	18	58.6	0	29	32.3
	30	15	36	22.5	0	53	36.2		15	50	02	41.4	0	28	53.5
May	1	16	22	22.0	-0	53	11.5		16	50	46	20.4	-0	28	14.5
	2	17	08	19.1	0	52	46.5		17	51	29	55.8	0	27	35.2
	3	17	54	13.8	0	52	21.1		18	52	13	27.3	0	26	55.7
	4	18	40	06.1	0	51	55.3		19	52	56	54.9	0	26	16.0
	5	19	25	55.9	0	51	29.1		20	53	40	18.7	0	25	36.0
	6	20	11	43.2	0	51	02.6		21	54	23	38.5	0	24	55.8
	7	20	57	28.0	-0	50	35.6		22	55	06	54.6	-0	24	15.3
	8	21	43	10.3	0	50	08.3		23	55	50	06.8	0	23	34.6
	9	22	28	50.0	0	49	40.7		24	56	33	15.2	0	22	53.7
	10	23	14	27.0	0	49	12.6		25	57	16	19.9	0	22	12.5
	11	24	00	01.3	0	48	44.3		26	57	59	20.7	0	21	31.1
	12	24	45	33.0	0	48	15.5		27	58	42	17.9	0	20	49.4
	13	25	31	01.8	-0	47	46.5	July	28	59	25	11.2	-0	20	07.5
	14	26	16	28.0	0	47	17.1		29	60	08	00.8	0	19	25.4
	15	27	01	51.3	0	46	47.3		30	60	50	46.6	0	18	43.1
	16	27	47	11.8	0	46	17.3		1	61	33	28.7	0	18	00.5
	17	28	32	29.4	-0	45	46.9		2	62	16	06.9	-0	17	17.7

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		°	'	"	°	'	"			°	'	"	°	'	"
July	1	61	33	28.7	-0	18	00.5	Aug.	16	93	03	52.2	+0	18	01.5
	2	62	16	06.9	0	17	17.7		17	93	43	13.6	0	18	52.7
	3	62	58	41.3	0	16	34.7		18	94	22	30.0	0	19	44.0
	4	63	41	11.9	0	15	51.5		19	95	01	41.6	0	20	35.6
	5	64	23	38.8	0	15	08.1		20	95	40	48.2	0	21	27.3
	6	65	06	01.7	0	14	24.5		21	96	19	49.8	0	22	19.3
	7	65	48	20.9	-0	13	40.7		22	96	58	46.4	+0	23	11.4
	8	66	30	36.2	0	12	56.6		23	97	37	38.1	0	24	03.8
	9	67	12	47.8	0	12	12.4		24	98	16	24.7	0	24	56.3
	10	67	54	55.5	0	11	28.1		25	98	55	06.3	0	25	49.0
	11	68	36	59.3	0	10	43.5		26	99	33	42.8	0	26	42.0
	12	69	18	59.1	0	09	58.8		27	100	12	14.3	0	27	35.1
	13	70	00	55.0	-0	09	13.8	Sept.	28	100	50	40.6	+0	28	28.5
	14	70	42	46.7	0	08	28.7		29	101	29	01.9	0	29	22.0
	15	71	24	34.3	0	07	43.5		30	102	07	18.1	0	30	15.7
	16	72	06	17.5	0	06	58.0		31	102	45	29.2	0	31	09.6
	17	72	47	56.4	0	06	12.4		1	103	23	35.2	0	32	03.7
	18	73	29	31.0	0	05	26.6		2	104	01	36.0	0	32	58.0
	19	74	11	01.2	-0	04	40.6		3	104	39	31.7	+0	33	52.5
	20	74	52	27.1	0	03	54.4		4	105	17	22.2	0	34	47.2
	21	75	33	48.8	0	03	08.0		5	105	55	07.4	0	35	42.1
	22	76	15	06.1	0	02	21.4		6	106	32	47.1	0	36	37.2
	23	76	56	19.2	0	01	34.6		7	107	10	21.3	0	37	32.5
	24	77	37	28.0	-0	00	47.7		8	107	47	49.9	0	38	28.0
	25	78	18	32.6	-0	00	00.5		9	108	25	12.6	+0	39	23.7
	26	78	59	32.9	+0	00	46.8		10	109	02	29.5	0	40	19.6
	27	79	40	28.9	0	01	34.4		11	109	39	40.5	0	41	15.8
	28	80	21	20.7	0	02	22.1		12	110	16	45.4	0	42	12.2
	29	81	02	08.1	0	03	10.0		13	110	53	44.4	0	43	08.8
	30	81	42	51.3	0	03	58.1		14	111	30	37.2	0	44	05.8
Aug.	31	82	23	30.1	+0	04	46.4		15	112	07	23.9	+0	45	02.9
	1	83	04	04.6	0	05	34.9		16	112	44	04.4	0	46	00.4
	2	83	44	34.9	0	06	23.5		17	113	20	38.8	0	46	58.1
	3	84	25	00.8	0	07	12.3		18	113	57	06.8	0	47	56.0
	4	85	05	22.5	0	08	01.3		19	114	33	28.5	0	48	54.3
	5	85	45	39.8	0	08	50.4		20	115	09	43.8	0	49	52.8
	6	86	25	52.9	+0	09	39.7		21	115	45	52.6	+0	50	51.6
	7	87	06	01.6	0	10	29.1		22	116	21	55.0	0	51	50.7
	8	87	46	05.9	0	11	18.7		23	116	57	50.7	0	52	50.0
	9	88	26	05.8	0	12	08.5		24	117	33	39.9	0	53	49.7
	10	89	06	01.1	0	12	58.4		25	118	09	22.4	0	54	49.6
	11	89	45	51.7	0	13	48.5		26	118	44	58.3	0	55	49.8
	12	90	25	37.6	+0	14	38.8	Oct.	27	119	20	27.4	+0	56	50.3
	13	91	05	18.6	0	15	29.2		28	119	55	49.9	0	57	51.1
	14	91	44	54.7	0	16	19.8		29	120	31	05.5	0	58	52.2
	15	92	24	25.9	0	17	10.6		30	121	06	14.3	0	59	53.6
	16	93	03	52.2	+0	18	01.5		1	121	41	16.1	+1	00	55.3

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		°	'	"	°	'	"			°	'	"	°	'	"
Oct.	1	121	41	16.1	+1	00	55.3	Nov.	16	145	46	11.7	+1	56	01.2
	2	122	16	11.0	1	01	57.3		17	146	12	51.9	1	57	26.7
	3	122	50	58.6	1	02	59.6		18	146	39	16.1	1	58	53.0
	4	123	25	38.8	1	04	02.2		19	147	05	24.1	2	00	20.0
	5	124	00	11.5	1	05	05.1		20	147	31	15.6	2	01	47.8
	6	124	34	36.4	1	06	08.4		21	147	56	50.2	2	03	16.3
	7	125	08	53.5	+1	07	12.1		22	148	22	07.8	+2	04	45.6
	8	125	43	02.6	1	08	16.1		23	148	47	08.1	2	06	15.7
	9	126	17	03.6	1	09	20.4		24	149	11	50.8	2	07	46.6
	10	126	50	56.3	1	10	25.2		25	149	36	15.4	2	09	18.2
	11	127	24	40.6	1	11	30.3		26	150	00	21.7	2	10	50.7
	12	127	58	16.4	1	12	35.9		27	150	24	09.2	2	12	24.0
	13	128	31	43.7	+1	13	41.9	Dec.	28	150	47	37.3	+2	13	58.1
	14	129	05	02.2	1	14	48.3		29	151	10	45.7	2	15	33.1
	15	129	38	11.8	1	15	55.1		30	151	33	33.8	2	17	09.0
	16	130	11	12.4	1	17	02.3		1	151	56	01.1	2	18	45.7
	17	130	44	03.9	1	18	10.0		2	152	18	07.1	2	20	23.4
	18	131	16	46.2	1	19	18.1		3	152	39	51.4	2	22	02.0
	19	131	49	19.0	+1	20	26.7		4	153	01	13.4	+2	23	41.5
	20	132	21	42.4	1	21	35.8		5	153	22	12.7	2	25	22.0
	21	132	53	56.1	1	22	45.3		6	153	42	48.7	2	27	03.5
	22	133	26	00.1	1	23	55.2		7	154	03	00.9	2	28	45.9
	23	133	57	54.2	1	25	05.6		8	154	22	48.8	2	30	29.3
	24	134	29	38.3	1	26	16.5		9	154	42	11.9	2	32	13.6
	25	135	01	12.4	+1	27	27.9		10	155	01	09.5	+2	33	59.0
	26	135	32	36.3	1	28	39.8		11	155	19	41.2	2	35	45.3
	27	136	03	49.9	1	29	52.1		12	155	37	46.4	2	37	32.5
	28	136	34	53.0	1	31	05.0		13	155	55	24.6	2	39	20.8
	29	137	05	45.5	1	32	18.3		14	156	12	35.2	2	41	09.9
	30	137	36	27.1	1	33	32.2		15	156	29	17.7	2	43	00.1
Nov.	31	138	06	57.6	+1	34	46.6	Dec.	16	156	45	31.5	+2	44	51.2
	1	138	37	16.6	1	36	01.5		17	157	01	16.1	2	46	43.2
	2	139	07	24.0	1	37	17.0		18	157	16	30.9	2	48	36.1
	3	139	37	19.3	1	38	33.1		19	157	31	15.5	2	50	29.9
	4	140	07	02.5	1	39	49.8		20	157	45	29.3	2	52	24.6
	5	140	36	33.1	1	41	07.1		21	157	59	11.8	2	54	20.2
	6	141	05	51.0	+1	42	25.0		22	158	12	22.3	+2	56	16.6
	7	141	34	55.9	1	43	43.6		23	158	25	00.2	2	58	13.8
	8	142	03	47.5	1	45	02.8		24	158	37	04.9	3	00	11.9
	9	142	32	25.7	1	46	22.6		25	158	48	35.6	3	02	10.8
	10	143	00	50.0	1	47	43.2		26	158	59	31.6	3	04	10.5
	11	143	29	00.4	1	49	04.4		27	159	09	52.1	3	06	11.0
	12	143	56	56.4	+1	50	26.4		28	159	19	36.3	+3	08	12.3
	13	144	24	37.8	1	51	49.0		29	159	28	43.4	3	10	14.3
	14	144	52	04.3	1	53	12.3		30	159	37	12.8	3	12	17.0
	15	145	19	15.7	1	54	36.4		31	159	45	03.7	3	14	20.3
	16	145	46	11.7	+1	56	01.2		32	159	52	15.2	+3	16	24.3

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Jan.	0	18	52	10.82	-23	47	05.1	2.411 456	3.65	1.94	12	13	10
	1	18	55	30.95	23	43	12.2	2.410 680	3.65	1.94	12	12	34
	2	18	58	51.05	23	39	03.4	2.409 885	3.65	1.94	12	11	57
	3	19	02	11.10	23	34	38.6	2.409 074	3.65	1.94	12	11	20
	4	19	05	31.09	23	29	57.9	2.408 245	3.65	1.94	12	10	44
	5	19	08	51.01	23	25	01.3	2.407 399	3.65	1.94	12	10	07
	6	19	12	10.85	-23	19	48.9	2.406 537	3.65	1.94	12	09	30
	7	19	15	30.58	23	14	20.6	2.405 658	3.66	1.95	12	08	54
	8	19	18	50.19	23	08	36.6	2.404 763	3.66	1.95	12	08	17
	9	19	22	09.68	23	02	36.8	2.403 852	3.66	1.95	12	07	39
	10	19	25	29.04	22	56	21.4	2.402 925	3.66	1.95	12	07	02
	11	19	28	48.25	22	49	50.2	2.401 981	3.66	1.95	12	06	25
	12	19	32	07.30	-22	43	03.6	2.401 021	3.66	1.95	12	05	47
	13	19	35	26.18	22	36	01.5	2.400 045	3.66	1.95	12	05	09
	14	19	38	44.87	22	28	44.1	2.399 053	3.67	1.95	12	04	32
	15	19	42	03.37	22	21	11.4	2.398 045	3.67	1.95	12	03	53
	16	19	45	21.65	22	13	23.6	2.397 022	3.67	1.95	12	03	15
	17	19	48	39.70	22	05	20.8	2.395 983	3.67	1.95	12	02	36
	18	19	51	57.51	-21	57	03.1	2.394 928	3.67	1.95	12	01	58
	19	19	55	15.07	21	48	30.5	2.393 859	3.67	1.96	12	01	18
	20	19	58	32.36	21	39	43.3	2.392 774	3.68	1.96	12	00	39
	21	20	01	49.36	21	30	41.5	2.391 675	3.68	1.96	11	59	59
	22	20	05	06.07	21	21	25.2	2.390 562	3.68	1.96	11	59	19
	23	20	08	22.48	21	11	54.7	2.389 435	3.68	1.96	11	58	39
	24	20	11	38.57	-21	02	09.9	2.388 295	3.68	1.96	11	57	58
	25	20	14	54.34	20	52	11.1	2.387 142	3.68	1.96	11	57	18
	26	20	18	09.77	20	41	58.4	2.385 977	3.69	1.96	11	56	36
	27	20	21	24.88	20	31	31.9	2.384 801	3.69	1.96	11	55	55
	28	20	24	39.64	20	20	51.7	2.383 613	3.69	1.96	11	55	13
	29	20	27	54.04	20	09	58.2	2.382 416	3.69	1.96	11	54	30
	30	20	31	08.09	-19	58	51.3	2.381 209	3.69	1.97	11	53	48
Feb.	31	20	34	21.78	19	47	31.4	2.379 993	3.70	1.97	11	53	05
	1	20	37	35.09	19	35	58.4	2.378 768	3.70	1.97	11	52	21
	2	20	40	48.03	19	24	12.6	2.377 535	3.70	1.97	11	51	38
	3	20	44	00.58	19	12	14.1	2.376 294	3.70	1.97	11	50	53
	4	20	47	12.75	19	00	03.1	2.375 045	3.70	1.97	11	50	09
	5	20	50	24.53	-18	47	39.7	2.373 787	3.70	1.97	11	49	24
	6	20	53	35.93	18	35	04.0	2.372 522	3.71	1.97	11	48	39
	7	20	56	46.94	18	22	16.3	2.371 249	3.71	1.97	11	47	53
	8	20	59	57.56	18	09	16.6	2.369 968	3.71	1.97	11	47	07
	9	21	03	07.78	17	56	05.2	2.368 680	3.71	1.98	11	46	20
	10	21	06	17.62	17	42	42.3	2.367 382	3.71	1.98	11	45	33
	11	21	09	27.05	-17	29	08.0	2.366 077	3.72	1.98	11	44	46
	12	21	12	36.08	17	15	22.5	2.364 764	3.72	1.98	11	43	58
	13	21	15	44.71	17	01	26.0	2.363 443	3.72	1.98	11	43	10
	14	21	18	52.93	16	47	18.8	2.362 113	3.72	1.98	11	42	22
	15	21	22	00.74	-16	33	01.0	2.360 775	3.73	1.98	11	41	33

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit			
	h	m	s	°	'	"		"	"	h	m	s	
Feb.	15	21	22	00.74	-16	33	01.0	2.360 775	3.73	1.98	11	41	33
	16	21	25	08.14	16	18	32.8	2.359 429	3.73	1.98	11	40	43
	17	21	28	15.11	16	03	54.4	2.358 075	3.73	1.98	11	39	54
	18	21	31	21.68	15	49	06.0	2.356 714	3.73	1.99	11	39	04
	19	21	34	27.82	15	34	07.8	2.355 344	3.73	1.99	11	38	13
	20	21	37	33.54	15	19	00.1	2.353 967	3.74	1.99	11	37	22
	21	21	40	38.84	-15	03	42.9	2.352 583	3.74	1.99	11	36	31
	22	21	43	43.73	14	48	16.6	2.351 192	3.74	1.99	11	35	39
	23	21	46	48.21	14	32	41.3	2.349 795	3.74	1.99	11	34	46
	24	21	49	52.27	14	16	57.2	2.348 392	3.74	1.99	11	33	54
	25	21	52	55.92	14	01	04.6	2.346 984	3.75	1.99	11	33	01
	26	21	55	59.17	13	45	03.6	2.345 570	3.75	2.00	11	32	07
	27	21	59	02.01	-13	28	54.5	2.344 153	3.75	2.00	11	31	13
	28	22	02	04.44	13	12	37.4	2.342 731	3.75	2.00	11	30	19
	1	22	05	06.47	12	56	12.6	2.341 306	3.76	2.00	11	29	24
	2	22	08	08.11	12	39	40.3	2.339 878	3.76	2.00	11	28	29
	3	22	11	09.35	12	23	00.6	2.338 446	3.76	2.00	11	27	34
	4	22	14	10.21	12	06	13.8	2.337 011	3.76	2.00	11	26	38
	5	22	17	10.69	-11	49	19.9	2.335 572	3.77	2.00	11	25	42
	6	22	20	10.81	11	32	19.2	2.334 131	3.77	2.01	11	24	45
	7	22	23	10.56	11	15	11.9	2.332 686	3.77	2.01	11	23	48
	8	22	26	09.95	10	57	58.2	2.331 237	3.77	2.01	11	22	51
	9	22	29	09.00	10	40	38.2	2.329 784	3.77	2.01	11	21	53
	10	22	32	07.70	10	23	12.3	2.328 328	3.78	2.01	11	20	55
	11	22	35	06.06	-10	05	40.5	2.326 867	3.78	2.01	11	19	57
	12	22	38	04.09	9	48	03.1	2.325 402	3.78	2.01	11	18	58
	13	22	41	01.79	9	30	20.4	2.323 932	3.78	2.01	11	18	00
	14	22	43	59.17	9	12	32.5	2.322 458	3.79	2.02	11	17	00
	15	22	46	56.22	8	54	39.6	2.320 978	3.79	2.02	11	16	01
	16	22	49	52.95	8	36	42.0	2.319 494	3.79	2.02	11	15	01
	17	22	52	49.38	-8	18	39.9	2.318 003	3.79	2.02	11	14	00
	18	22	55	45.50	8	00	33.4	2.316 508	3.80	2.02	11	13	00
	19	22	58	41.31	7	42	22.9	2.315 007	3.80	2.02	11	11	59
	20	23	01	36.84	7	24	08.5	2.313 500	3.80	2.02	11	10	58
	21	23	04	32.07	7	05	50.3	2.311 987	3.80	2.02	11	09	57
	22	23	07	27.02	6	47	28.7	2.310 470	3.81	2.03	11	08	55
	23	23	10	21.71	-6	29	03.9	2.308 947	3.81	2.03	11	07	53
	24	23	13	16.12	6	10	35.9	2.307 419	3.81	2.03	11	06	51
	25	23	16	10.27	5	52	05.2	2.305 888	3.81	2.03	11	05	48
	26	23	19	04.16	5	33	31.8	2.304 351	3.82	2.03	11	04	46
	27	23	21	57.81	5	14	56.0	2.302 812	3.82	2.03	11	03	43
	28	23	24	51.21	4	56	18.0	2.301 268	3.82	2.03	11	02	39
	29	23	27	44.37	-4	37	37.9	2.299 721	3.82	2.04	11	01	36
	30	23	30	37.30	4	18	56.0	2.298 171	3.83	2.04	11	00	32
	31	23	33	30.02	4	00	12.5	2.296 617	3.83	2.04	10	59	28
	1	23	36	22.53	3	41	27.4	2.295 060	3.83	2.04	10	58	24
	2	23	39	14.85	-3	22	41.0	2.293 500	3.83	2.04	10	57	20

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Apr.	1	23	36	22.53	-3	41	27.4	2.295 060	3.83	2.04	10	58	24
	2	23	39	14.85	3	22	41.0	2.293 500	3.83	2.04	10	57	20
	3	23	42	06.98	3	03	53.5	2.291 936	3.84	2.04	10	56	16
	4	23	44	58.93	2	45	05.0	2.290 368	3.84	2.04	10	55	11
	5	23	47	50.72	2	26	15.8	2.288 796	3.84	2.04	10	54	06
	6	23	50	42.35	2	07	25.9	2.287 220	3.84	2.05	10	53	01
	7	23	53	33.84	-1	48	35.6	2.285 638	3.85	2.05	10	51	56
	8	23	56	25.18	1	29	45.1	2.284 052	3.85	2.05	10	50	51
	9	23	59	16.39	1	10	54.6	2.282 460	3.85	2.05	10	49	45
	10	0	02	07.47	0	52	04.3	2.280 862	3.86	2.05	10	48	40
	11	0	04	58.43	0	33	14.4	2.279 257	3.86	2.05	10	47	34
	12	0	07	49.28	-0	14	25.0	2.277 646	3.86	2.05	10	46	29
	13	0	10	40.02	+0	04	23.6	2.276 028	3.86	2.06	10	45	23
	14	0	13	30.66	0	23	11.2	2.274 402	3.87	2.06	10	44	17
	15	0	16	21.20	0	41	57.7	2.272 768	3.87	2.06	10	43	11
	16	0	19	11.66	1	00	42.8	2.271 125	3.87	2.06	10	42	05
	17	0	22	02.05	1	19	26.3	2.269 475	3.87	2.06	10	40	59
	18	0	24	52.36	1	38	08.1	2.267 815	3.88	2.06	10	39	53
	19	0	27	42.61	+1	56	48.0	2.266 147	3.88	2.07	10	38	46
	20	0	30	32.80	2	15	25.8	2.264 470	3.88	2.07	10	37	40
	21	0	33	22.94	2	34	01.3	2.262 784	3.89	2.07	10	36	34
	22	0	36	13.03	2	52	34.2	2.261 090	3.89	2.07	10	35	27
	23	0	39	03.08	3	11	04.5	2.259 388	3.89	2.07	10	34	21
	24	0	41	53.08	3	29	31.8	2.257 678	3.90	2.07	10	33	14
	25	0	44	43.06	+3	47	56.1	2.255 959	3.90	2.07	10	32	08
	26	0	47	33.01	4	06	17.2	2.254 233	3.90	2.08	10	31	01
	27	0	50	22.95	4	24	34.9	2.252 498	3.90	2.08	10	29	54
	28	0	53	12.88	4	42	49.0	2.250 755	3.91	2.08	10	28	48
	29	0	56	02.82	5	00	59.4	2.249 005	3.91	2.08	10	27	41
	30	0	58	52.77	5	19	06.0	2.247 246	3.91	2.08	10	26	35
May	1	1	01	42.74	+5	37	08.6	2.245 478	3.92	2.08	10	25	28
	2	1	04	32.75	5	55	07.0	2.243 701	3.92	2.09	10	24	22
	3	1	07	22.80	6	13	01.1	2.241 914	3.92	2.09	10	23	15
	4	1	10	12.90	6	30	50.7	2.240 118	3.93	2.09	10	22	09
	5	1	13	03.05	6	48	35.7	2.238 312	3.93	2.09	10	21	03
	6	1	15	53.26	7	06	15.8	2.236 495	3.93	2.09	10	19	56
	7	1	18	43.53	+7	23	51.0	2.234 666	3.94	2.09	10	18	50
	8	1	21	33.88	7	41	21.1	2.232 826	3.94	2.10	10	17	44
	9	1	24	24.30	7	58	45.8	2.230 974	3.94	2.10	10	16	38
	10	1	27	14.80	8	16	05.1	2.229 109	3.95	2.10	10	15	32
	11	1	30	05.39	8	33	18.7	2.227 230	3.95	2.10	10	14	26
	12	1	32	56.07	8	50	26.5	2.225 338	3.95	2.10	10	13	20
	13	1	35	46.85	+9	07	28.3	2.223 430	3.96	2.10	10	12	15
	14	1	38	37.73	9	24	23.9	2.221 508	3.96	2.11	10	11	09
	15	1	41	28.72	9	41	13.3	2.219 571	3.96	2.11	10	10	04
	16	1	44	19.82	9	57	56.1	2.217 617	3.97	2.11	10	08	58
	17	1	47	11.03	+10	14	32.4	2.215 648	3.97	2.11	10	07	53

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
May	17	1	47	11.03	+10	14	32.4	2.215 648	3.97	2.11	10	07	53
	18	1	50	02.36	10	31	01.8	2.213 662	3.97	2.11	10	06	48
	19	1	52	53.80	10	47	24.3	2.211 659	3.98	2.12	10	05	43
	20	1	55	45.36	11	03	39.7	2.209 640	3.98	2.12	10	04	38
	21	1	58	37.04	11	19	47.8	2.207 605	3.98	2.12	10	03	33
	22	2	01	28.83	11	35	48.4	2.205 554	3.99	2.12	10	02	28
	23	2	04	20.74	+11	51	41.5	2.203 487	3.99	2.12	10	01	24
	24	2	07	12.78	12	07	26.8	2.201 403	3.99	2.13	10	00	19
	25	2	10	04.94	12	23	04.3	2.199 303	4.00	2.13	9	59	15
	26	2	12	57.25	12	38	33.8	2.197 187	4.00	2.13	9	58	11
June	27	2	15	49.70	12	53	55.2	2.195 054	4.01	2.13	9	57	07
	28	2	18	42.29	13	09	08.3	2.192 904	4.01	2.13	9	56	03
	29	2	21	35.04	+13	24	13.1	2.190 738	4.01	2.14	9	55	00
	30	2	24	27.94	13	39	09.5	2.188 553	4.02	2.14	9	53	56
	31	2	27	21.00	13	53	57.3	2.186 351	4.02	2.14	9	52	53
	1	2	30	14.22	14	08	36.3	2.184 130	4.03	2.14	9	51	49
	2	2	33	07.60	14	23	06.6	2.181 891	4.03	2.14	9	50	46
	3	2	36	01.14	14	37	27.8	2.179 632	4.03	2.15	9	49	43
	4	2	38	54.86	+14	51	40.0	2.177 353	4.04	2.15	9	48	41
	5	2	41	48.73	15	05	42.9	2.175 054	4.04	2.15	9	47	38
July	6	2	44	42.77	15	19	36.5	2.172 734	4.05	2.15	9	46	36
	7	2	47	36.98	15	33	20.6	2.170 392	4.05	2.16	9	45	33
	8	2	50	31.35	15	46	55.1	2.168 027	4.06	2.16	9	44	31
	9	2	53	25.89	16	00	19.8	2.165 640	4.06	2.16	9	43	29
	10	2	56	20.60	+16	13	34.7	2.163 229	4.07	2.16	9	42	28
	11	2	59	15.48	16	26	39.6	2.160 794	4.07	2.17	9	41	26
	12	3	02	10.52	16	39	34.4	2.158 334	4.07	2.17	9	40	25
	13	3	05	05.72	16	52	19.0	2.155 849	4.08	2.17	9	39	24
	14	3	08	01.09	17	04	53.3	2.153 338	4.08	2.17	9	38	22
	15	3	10	56.61	17	17	17.2	2.150 801	4.09	2.18	9	37	21
	16	3	13	52.27	+17	29	30.5	2.148 237	4.09	2.18	9	36	21
	17	3	16	48.07	17	41	33.1	2.145 648	4.10	2.18	9	35	20
	18	3	19	44.01	17	53	25.0	2.143 032	4.10	2.18	9	34	19
	19	3	22	40.07	18	05	06.0	2.140 390	4.11	2.19	9	33	19
	20	3	25	36.26	18	16	36.1	2.137 721	4.11	2.19	9	32	19
	21	3	28	32.58	18	27	55.0	2.135 026	4.12	2.19	9	31	19
	22	3	31	29.01	+18	39	02.8	2.132 305	4.12	2.19	9	30	19
	23	3	34	25.57	18	49	59.4	2.129 558	4.13	2.20	9	29	19
	24	3	37	22.25	19	00	44.7	2.126 783	4.13	2.20	9	28	19
	25	3	40	19.05	19	11	18.6	2.123 982	4.14	2.20	9	27	19
	26	3	43	15.97	19	21	41.2	2.121 154	4.15	2.21	9	26	20
	27	3	46	12.99	19	31	52.2	2.118 299	4.15	2.21	9	25	20
	28	3	49	10.13	+19	41	51.7	2.115 415	4.16	2.21	9	24	21
	29	3	52	07.37	19	51	39.5	2.112 504	4.16	2.22	9	23	22
	30	3	55	04.71	20	01	15.7	2.109 563	4.17	2.22	9	22	23
	1	3	58	02.14	20	10	40.1	2.106 594	4.17	2.22	9	21	23
	2	4	00	59.67	+20	19	52.7	2.103 595	4.18	2.22	9	20	25

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
July	1	3	58	02.14	+20	10	40.1	2.106 594	4.17	2.22	9	21	23
	2	4	00	59.67	20	19	52.7	2.103 595	4.18	2.22	9	20	25
	3	4	03	57.27	20	28	53.4	2.100 566	4.19	2.23	9	19	26
	4	4	06	54.95	20	37	42.2	2.097 506	4.19	2.23	9	18	27
	5	4	09	52.71	20	46	18.9	2.094 414	4.20	2.23	9	17	28
	6	4	12	50.53	20	54	43.6	2.091 291	4.21	2.24	9	16	29
	7	4	15	48.41	+21	02	56.1	2.088 135	4.21	2.24	9	15	31
	8	4	18	46.34	21	10	56.4	2.084 945	4.22	2.24	9	14	32
	9	4	21	44.33	21	18	44.4	2.081 722	4.22	2.25	9	13	34
	10	4	24	42.35	21	26	20.2	2.078 464	4.23	2.25	9	12	35
	11	4	27	40.40	21	33	43.7	2.075 171	4.24	2.26	9	11	37
	12	4	30	38.47	21	40	54.8	2.071 842	4.24	2.26	9	10	38
	13	4	33	36.55	+21	47	53.6	2.068 478	4.25	2.26	9	09	40
	14	4	36	34.62	21	54	40.0	2.065 077	4.26	2.27	9	08	41
	15	4	39	32.66	22	01	13.9	2.061 640	4.27	2.27	9	07	43
	16	4	42	30.67	22	07	35.3	2.058 166	4.27	2.27	9	06	44
	17	4	45	28.63	22	13	44.3	2.054 657	4.28	2.28	9	05	46
	18	4	48	26.54	22	19	40.7	2.051 111	4.29	2.28	9	04	47
	19	4	51	24.38	+22	25	24.5	2.047 528	4.30	2.29	9	03	49
	20	4	54	22.16	22	30	55.8	2.043 910	4.30	2.29	9	02	50
	21	4	57	19.86	22	36	14.6	2.040 255	4.31	2.29	9	01	51
	22	5	00	17.47	22	41	20.9	2.036 564	4.32	2.30	9	00	52
	23	5	03	14.99	22	46	14.6	2.032 837	4.33	2.30	8	59	53
	24	5	06	12.41	22	50	55.9	2.029 073	4.33	2.31	8	58	54
	25	5	09	09.73	+22	55	24.7	2.025 272	4.34	2.31	8	57	55
	26	5	12	06.92	22	59	41.0	2.021 434	4.35	2.32	8	56	55
	27	5	15	03.99	23	03	44.9	2.017 559	4.36	2.32	8	55	56
	28	5	18	00.92	23	07	36.3	2.013 646	4.37	2.32	8	54	56
	29	5	20	57.70	23	11	15.3	2.009 695	4.38	2.33	8	53	56
	30	5	23	54.33	23	14	42.0	2.005 706	4.38	2.33	8	52	56
Aug.	31	5	26	50.79	+23	17	56.2	2.001 677	4.39	2.34	8	51	56
	1	5	29	47.08	23	20	58.1	1.997 609	4.40	2.34	8	50	56
	2	5	32	43.18	23	23	47.7	1.993 502	4.41	2.35	8	49	55
	3	5	35	39.10	23	26	24.9	1.989 353	4.42	2.35	8	48	55
	4	5	38	34.81	23	28	49.8	1.985 164	4.43	2.36	8	47	54
	5	5	41	30.31	23	31	02.5	1.980 933	4.44	2.36	8	46	53
	6	5	44	25.59	+23	33	03.0	1.976 659	4.45	2.37	8	45	51
	7	5	47	20.64	23	34	51.4	1.972 343	4.46	2.37	8	44	50
	8	5	50	15.45	23	36	27.6	1.967 983	4.47	2.38	8	43	48
	9	5	53	10.00	23	37	51.9	1.963 580	4.48	2.38	8	42	46
	10	5	56	04.27	23	39	04.2	1.959 133	4.49	2.39	8	41	44
	11	5	58	58.25	23	40	04.7	1.954 641	4.50	2.39	8	40	41
	12	6	01	51.93	+23	40	53.2	1.950 105	4.51	2.40	8	39	38
	13	6	04	45.28	23	41	30.1	1.945 525	4.52	2.41	8	38	35
	14	6	07	38.30	23	41	55.2	1.940 901	4.53	2.41	8	37	31
	15	6	10	30.98	23	42	08.6	1.936 232	4.54	2.42	8	36	27
	16	6	13	23.30	+23	42	10.5	1.931 519	4.55	2.42	8	35	23

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Aug.	16	6	13	23.30	+23	42	10.5	1.931 519	4.55	2.42	8	35	23
	17	6	16	15.27	23	42	01.0	1.926 763	4.56	2.43	8	34	18
	18	6	19	06.86	23	41	40.0	1.921 962	4.58	2.44	8	33	13
	19	6	21	58.08	23	41	07.8	1.917 118	4.59	2.44	8	32	08
	20	6	24	48.91	23	40	24.3	1.912 231	4.60	2.45	8	31	02
	21	6	27	39.34	23	39	29.8	1.907 300	4.61	2.45	8	29	56
	22	6	30	29.37	+23	38	24.3	1.902 325	4.62	2.46	8	28	49
	23	6	33	18.99	23	37	07.9	1.897 306	4.64	2.47	8	27	42
	24	6	36	08.18	23	35	40.7	1.892 243	4.65	2.47	8	26	35
	25	6	38	56.95	23	34	02.7	1.887 137	4.66	2.48	8	25	27
	26	6	41	45.27	23	32	14.2	1.881 986	4.67	2.49	8	24	18
	27	6	44	33.15	23	30	15.2	1.876 791	4.69	2.49	8	23	10
	28	6	47	20.57	+23	28	05.7	1.871 551	4.70	2.50	8	22	00
	29	6	50	07.53	23	25	45.9	1.866 266	4.71	2.51	8	20	51
	30	6	52	54.02	23	23	15.9	1.860 936	4.73	2.51	8	19	41
	31	6	55	40.04	23	20	35.7	1.855 560	4.74	2.52	8	18	30
Sept.	1	6	58	25.57	23	17	45.5	1.850 138	4.75	2.53	8	17	19
	2	7	01	10.62	23	14	45.5	1.844 669	4.77	2.54	8	16	07
	3	7	03	55.17	+23	11	35.6	1.839 153	4.78	2.54	8	14	55
	4	7	06	39.21	23	08	16.1	1.833 589	4.80	2.55	8	13	42
	5	7	09	22.73	23	04	47.1	1.827 977	4.81	2.56	8	12	29
	6	7	12	05.73	23	01	08.8	1.822 318	4.83	2.57	8	11	16
	7	7	14	48.18	22	57	21.2	1.816 610	4.84	2.58	8	10	01
	8	7	17	30.07	22	53	24.5	1.810 853	4.86	2.58	8	08	47
	9	7	20	11.39	+22	49	18.9	1.805 048	4.87	2.59	8	07	31
	10	7	22	52.13	22	45	04.5	1.799 195	4.89	2.60	8	06	15
	11	7	25	32.28	22	40	41.4	1.793 293	4.90	2.61	8	04	59
	12	7	28	11.84	22	36	09.7	1.787 344	4.92	2.62	8	03	42
	13	7	30	50.79	22	31	29.6	1.781 347	4.94	2.63	8	02	24
	14	7	33	29.12	22	26	41.3	1.775 303	4.95	2.64	8	01	06
	15	7	36	06.85	+22	21	44.9	1.769 212	4.97	2.65	7	59	47
	16	7	38	43.95	22	16	40.6	1.763 075	4.99	2.65	7	58	27
	17	7	41	20.42	22	11	28.4	1.756 891	5.01	2.66	7	57	07
	18	7	43	56.26	22	06	08.6	1.750 661	5.02	2.67	7	55	46
	19	7	46	31.46	22	00	41.3	1.744 385	5.04	2.68	7	54	24
	20	7	49	06.01	21	55	06.7	1.738 064	5.06	2.69	7	53	02
	21	7	51	39.90	+21	49	24.9	1.731 697	5.08	2.70	7	51	39
	22	7	54	13.14	21	43	36.1	1.725 285	5.10	2.71	7	50	16
	23	7	56	45.72	21	37	40.3	1.718 827	5.12	2.72	7	48	52
	24	7	59	17.63	21	31	37.8	1.712 324	5.14	2.73	7	47	27
	25	8	01	48.87	21	25	28.7	1.705 776	5.16	2.74	7	46	02
	26	8	04	19.43	21	19	13.1	1.699 183	5.18	2.75	7	44	36
	27	8	06	49.32	+21	12	51.1	1.692 544	5.20	2.77	7	43	09
	28	8	09	18.53	21	06	22.9	1.685 860	5.22	2.78	7	41	41
	29	8	11	47.05	20	59	48.7	1.679 129	5.24	2.79	7	40	13
	30	8	14	14.89	20	53	08.6	1.672 353	5.26	2.80	7	38	44
Oct.	1	8	16	42.03	+20	46	22.8	1.665 531	5.28	2.81	7	37	15

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Oct.	1	8	16	42.03	+20	46	22.8	1.665 531	5.28	2.81	7	37	15
	2	8	19	08.47	20	39	31.4	1.658 662	5.30	2.82	7	35	45
	3	8	21	34.21	20	32	34.7	1.651 746	5.32	2.83	7	34	14
	4	8	23	59.22	20	25	32.9	1.644 784	5.35	2.85	7	32	42
	5	8	26	23.49	20	18	26.0	1.637 775	5.37	2.86	7	31	09
	6	8	28	47.03	20	11	14.4	1.630 720	5.39	2.87	7	29	36
	7	8	31	09.81	+20	03	58.2	1.623 619	5.42	2.88	7	28	02
	8	8	33	31.83	19	56	37.5	1.616 472	5.44	2.90	7	26	28
	9	8	35	53.08	19	49	12.5	1.609 279	5.46	2.91	7	24	52
	10	8	38	13.55	19	41	43.4	1.602 042	5.49	2.92	7	23	16
	11	8	40	33.25	19	34	10.5	1.594 761	5.51	2.93	7	21	39
	12	8	42	52.16	19	26	33.8	1.587 436	5.54	2.95	7	20	01
	13	8	45	10.28	+19	18	53.6	1.580 068	5.57	2.96	7	18	23
	14	8	47	27.60	19	11	10.0	1.572 657	5.59	2.98	7	16	43
	15	8	49	44.12	19	03	23.3	1.565 205	5.62	2.99	7	15	03
	16	8	51	59.82	18	55	33.6	1.557 712	5.65	3.00	7	13	22
	17	8	54	14.71	18	47	41.1	1.550 178	5.67	3.02	7	11	40
	18	8	56	28.78	18	39	46.0	1.542 604	5.70	3.03	7	09	58
	19	8	58	42.03	+18	31	48.4	1.534 990	5.73	3.05	7	08	14
	20	9	00	54.43	18	23	48.6	1.527 338	5.76	3.06	7	06	30
	21	9	03	06.00	18	15	46.7	1.519 647	5.79	3.08	7	04	45
	22	9	05	16.73	18	07	42.8	1.511 917	5.82	3.10	7	02	59
	23	9	07	26.61	17	59	37.1	1.504 150	5.85	3.11	7	01	12
	24	9	09	35.64	17	51	29.8	1.496 346	5.88	3.13	6	59	25
	25	9	11	43.82	+17	43	21.1	1.488 505	5.91	3.14	6	57	36
	26	9	13	51.13	17	35	11.1	1.480 626	5.94	3.16	6	55	47
	27	9	15	57.59	17	26	60.0	1.472 711	5.97	3.18	6	53	57
	28	9	18	03.18	17	18	47.9	1.464 760	6.00	3.20	6	52	06
	29	9	20	07.89	17	10	35.2	1.456 772	6.04	3.21	6	50	14
	30	9	22	11.72	17	02	22.0	1.448 747	6.07	3.23	6	48	21
Nov.	31	9	24	14.64	+16	54	08.5	1.440 687	6.10	3.25	6	46	27
	1	9	26	16.65	16	45	55.0	1.432 591	6.14	3.27	6	44	32
	2	9	28	17.72	16	37	41.6	1.424 460	6.17	3.29	6	42	37
	3	9	30	17.86	16	29	28.6	1.416 294	6.21	3.30	6	40	40
	4	9	32	17.04	16	21	16.3	1.408 094	6.25	3.32	6	38	43
	5	9	34	15.25	16	13	04.7	1.399 861	6.28	3.34	6	36	44
	6	9	36	12.48	+16	04	54.2	1.391 596	6.32	3.36	6	34	45
	7	9	38	08.72	15	56	44.9	1.383 300	6.36	3.38	6	32	44
	8	9	40	03.95	15	48	37.1	1.374 973	6.40	3.40	6	30	43
	9	9	41	58.17	15	40	31.0	1.366 617	6.43	3.42	6	28	41
	10	9	43	51.36	15	32	26.8	1.358 232	6.47	3.45	6	26	37
	11	9	45	43.51	15	24	24.8	1.349 821	6.52	3.47	6	24	33
	12	9	47	34.61	+15	16	25.1	1.341 384	6.56	3.49	6	22	27
	13	9	49	24.64	15	08	28.0	1.332 922	6.60	3.51	6	20	20
	14	9	51	13.59	15	00	33.6	1.324 437	6.64	3.53	6	18	13
	15	9	53	01.45	14	52	42.3	1.315 928	6.68	3.56	6	16	04
	16	9	54	48.20	+14	44	54.2	1.307 399	6.73	3.58	6	13	54

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit			
	h	m	s	°	'	"		"	"	h	m	s	
Nov.	16	9	54	48.20	+14	44	54.2	1.307 399	6.73	3.58	6	13	54
	17	9	56	33.83	14	37	09.5	1.298 849	6.77	3.60	6	11	43
	18	9	58	18.33	14	29	28.4	1.290 280	6.82	3.63	6	09	31
	19	10	00	01.68	14	21	51.1	1.281 692	6.86	3.65	6	07	18
	20	10	01	43.87	14	14	17.9	1.273 087	6.91	3.68	6	05	03
	21	10	03	24.89	14	06	48.9	1.264 466	6.95	3.70	6	02	48
	22	10	05	04.72	+13	59	24.3	1.255 830	7.00	3.73	6	00	31
23	10	06	43.36	13	52	04.3	1.247 179	7.05	3.75	5	58	13	
24	10	08	20.79	13	44	49.2	1.238 515	7.10	3.78	5	55	54	
25	10	09	57.00	13	37	39.2	1.229 838	7.15	3.81	5	53	33	
26	10	11	31.95	13	30	34.6	1.221 149	7.20	3.83	5	51	11	
27	10	13	05.63	13	23	35.5	1.212 449	7.25	3.86	5	48	48	
28	10	14	38.01	+13	16	42.4	1.203 738	7.31	3.89	5	46	24	
29	10	16	09.07	13	09	55.4	1.195 018	7.36	3.92	5	43	59	
30	10	17	38.78	13	03	14.9	1.186 290	7.41	3.95	5	41	32	
Dec.	1	10	19	07.11	12	56	41.2	1.177 556	7.47	3.97	5	39	03
	2	10	20	34.03	12	50	14.4	1.168 816	7.52	4.00	5	36	34
	3	10	21	59.52	12	43	54.9	1.160 072	7.58	4.03	5	34	03
4	10	23	23.56	+12	37	43.0	1.151 326	7.64	4.06	5	31	30	
5	10	24	46.11	12	31	38.9	1.142 580	7.70	4.10	5	28	56	
6	10	26	07.14	12	25	43.0	1.133 836	7.76	4.13	5	26	20	
7	10	27	26.64	12	19	55.5	1.125 095	7.82	4.16	5	23	43	
8	10	28	44.56	12	14	16.6	1.116 359	7.88	4.19	5	21	04	
9	10	30	00.88	12	08	46.8	1.107 631	7.94	4.23	5	18	24	
10	10	31	15.57	+12	03	26.2	1.098 913	8.00	4.26	5	15	42	
11	10	32	28.59	11	58	15.1	1.090 206	8.07	4.29	5	12	59	
12	10	33	39.93	11	53	13.8	1.081 513	8.13	4.33	5	10	13	
13	10	34	49.53	11	48	22.5	1.072 836	8.20	4.36	5	07	26	
14	10	35	57.39	11	43	41.6	1.064 177	8.26	4.40	5	04	38	
15	10	37	03.45	11	39	11.3	1.055 538	8.33	4.43	5	01	47	
16	10	38	07.70	+11	34	51.8	1.046 921	8.40	4.47	4	58	55	
17	10	39	10.11	11	30	43.4	1.038 329	8.47	4.51	4	56	01	
18	10	40	10.63	11	26	46.4	1.029 764	8.54	4.54	4	53	04	
19	10	41	09.24	11	23	00.9	1.021 228	8.61	4.58	4	50	06	
20	10	42	05.92	11	19	27.3	1.012 722	8.68	4.62	4	47	07	
21	10	43	00.62	11	16	05.8	1.004 250	8.76	4.66	4	44	05	
22	10	43	53.31	+11	12	56.6	0.995 813	8.83	4.70	4	41	01	
23	10	44	43.96	11	09	60.0	0.987 412	8.91	4.74	4	37	55	
24	10	45	32.53	11	07	16.3	0.979 052	8.98	4.78	4	34	47	
25	10	46	18.97	11	04	45.9	0.970 732	9.06	4.82	4	31	37	
26	10	47	03.24	11	02	29.1	0.962 456	9.14	4.86	4	28	25	
27	10	47	45.29	11	00	26.1	0.954 227	9.22	4.90	4	25	10	
28	10	48	25.07	+10	58	37.3	0.946 046	9.30	4.95	4	21	53	
29	10	49	02.54	10	57	03.0	0.937 916	9.38	4.99	4	18	34	
30	10	49	37.65	10	55	43.5	0.929 840	9.46	5.03	4	15	13	
31	10	50	10.36	10	54	39.0	0.921 823	9.54	5.08	4	11	49	
32	10	50	40.62	+10	53	49.9	0.913 865	9.62	5.12	4	08	23	

JUPITER, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector		Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector	
	°	'	"	°	'	"				°	'	"	°	'	"		
Jan.	1	109	19	49.9	+0	11	40.8	5.211 8936	Apr.	3	116	53	33.7	+0	21	44.9	5.245 0297
	3	109	29	45.4	0	11	54.2	5.212 6201		5	117	03	21.8	0	21	57.7	5.245 7415
	5	109	39	40.8	0	12	07.6	5.213 3464		7	117	13	09.6	0	22	10.5	5.246 4528
	7	109	49	35.9	0	12	21.0	5.214 0725		9	117	22	57.4	0	22	23.4	5.247 1636
	9	109	59	31.0	0	12	34.3	5.214 7984		11	117	32	44.9	0	22	36.1	5.247 8740
	11	110	09	25.8	0	12	47.7	5.215 5241	13	117	42	32.3	0	22	48.9	5.248 5840	
	13	110	19	20.5	+0	13	01.0	5.216 2496	15	117	52	19.5	+0	23	01.7	5.249 2934	
	15	110	29	15.0	0	13	14.3	5.216 9749	17	118	02	06.6	0	23	14.4	5.250 0024	
	17	110	39	09.3	0	13	27.6	5.217 7000	19	118	11	53.5	0	23	27.2	5.250 7108	
	19	110	49	03.5	0	13	40.9	5.218 4248	21	118	21	40.3	0	23	39.9	5.251 4188	
21	110	58	57.5	0	13	54.2	5.219 1494	23	118	31	26.9	0	23	52.6	5.252 1262		
23	111	08	51.4	0	14	07.5	5.219 8738	25	118	41	13.4	0	24	05.3	5.252 8332		
25	111	18	45.1	+0	14	20.8	5.220 5979	27	118	50	59.7	+0	24	18.0	5.253 5396		
27	111	28	38.6	0	14	34.0	5.221 3218	29	119	00	45.8	0	24	30.6	5.254 2455		
29	111	38	32.0	0	14	47.3	5.222 0454	May	1	119	10	31.8	0	24	43.3	5.254 9509	
31	111	48	25.2	0	15	00.5	5.222 7688		3	119	20	17.6	0	24	55.9	5.255 6558	
Feb.	2	111	58	18.2	0	15	13.8		5.223 4919	5	119	30	03.3	0	25	08.5	5.256 3601
	4	112	08	11.0	0	15	27.0		5.224 2147	7	119	39	48.8	0	25	21.1	5.257 0639
	6	112	18	03.7	+0	15	40.2		5.224 9372	9	119	49	34.1	+0	25	33.7	5.257 7672
	8	112	27	56.3	0	15	53.4	5.225 6595	11	119	59	19.3	0	25	46.3	5.258 4698	
	10	112	37	48.7	0	16	06.5	5.226 3814	13	120	09	04.4	0	25	58.8	5.259 1720	
12	112	47	40.9	0	16	19.7	5.227 1031	15	120	18	49.3	0	26	11.3	5.259 8735		
14	112	57	33.0	0	16	32.9	5.227 8245	17	120	28	34.0	0	26	23.9	5.260 5745		
16	113	07	24.8	0	16	46.0	5.228 5455	19	120	38	18.6	0	26	36.4	5.261 2749		
18	113	17	16.5	+0	16	59.2	5.229 2662	21	120	48	03.0	+0	26	48.8	5.261 9748		
20	113	27	08.1	0	17	12.3	5.229 9866	23	120	57	47.2	0	27	01.3	5.262 6740		
22	113	36	59.5	0	17	25.4	5.230 7067	25	121	07	31.4	0	27	13.7	5.263 3727		
24	113	46	50.8	0	17	38.5	5.231 4264	27	121	17	15.3	0	27	26.2	5.264 0707		
26	113	56	41.8	0	17	51.6	5.232 1458	29	121	26	59.1	0	27	38.6	5.264 7682		
28	114	06	32.8	0	18	04.6	5.232 8649	31	121	36	42.8	0	27	51.0	5.265 4650		
Mar.	2	114	16	23.5	+0	18	17.7	5.233 5835	June	2	121	46	26.3	+0	28	03.4	5.266 1613
	4	114	26	14.1	0	18	30.7	5.234 3019		4	121	56	09.6	0	28	15.8	5.266 8569
	6	114	36	04.5	0	18	43.8	5.235 0198		6	122	05	52.8	0	28	28.1	5.267 5519
	8	114	45	54.8	0	18	56.8	5.235 7374		8	122	15	35.8	0	28	40.4	5.268 2462
	10	114	55	44.9	0	19	09.8	5.236 4546		10	122	25	18.7	0	28	52.8	5.268 9400
	12	115	05	34.9	0	19	22.8	5.237 1715	12	122	35	01.4	0	29	05.1	5.269 6330	
	14	115	15	24.7	+0	19	35.8	5.237 8879	14	122	44	44.0	+0	29	17.4	5.270 3255	
	16	115	25	14.3	0	19	48.8	5.238 6040	16	122	54	26.4	0	29	29.6	5.271 0173	
	18	115	35	03.8	0	20	01.7	5.239 3196	18	123	04	08.7	0	29	41.9	5.271 7085	
	20	115	44	53.1	0	20	14.7	5.240 0348	20	123	13	50.8	0	29	54.1	5.272 3990	
22	115	54	42.2	0	20	27.6	5.240 7497	22	123	23	32.8	0	30	06.3	5.273 0888		
24	116	04	31.2	0	20	40.5	5.241 4641	24	123	33	14.6	0	30	18.5	5.273 7779		
26	116	14	20.0	+0	20	53.4	5.242 1781	26	123	42	56.2	+0	30	30.7	5.274 4664		
28	116	24	08.7	0	21	06.3	5.242 8916	28	123	52	37.8	0	30	42.9	5.275 1543		
30	116	33	57.2	0	21	19.2	5.243 6047	30	124	02	19.1	0	30	55.0	5.275 8414		
Apr.	1	116	43	45.5	0	21	32.1	5.244 3174	July	2	124	12	00.3	0	31	07.1	5.276 5278
	3	116	53	33.7	+0	21	44.9	5.245 0297		4	124	21	41.4	+0	31	19.2	5.277 2136

JUPITER, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude				Heliocentric Latitude			Radius Vector	Date	Heliocentric Longitude				Heliocentric Latitude			Radius Vector
	°	'	"		°	'	"			°	'	"		°	'	"	
July	2	124	12	00.3	+0	31	07.1	5.276 5278	Oct.	2	131	34	56.9	+0	40	04.3	5.307 2766
	4	124	21	41.4	0	31	19.2	5.277 2136		4	131	44	31.3	0	40	15.5	5.307 9252
	6	124	31	22.3	0	31	31.4	5.277 8987		6	131	54	05.5	0	40	26.7	5.308 5728
	8	124	41	03.1	0	31	43.4	5.278 5830		8	132	03	39.6	0	40	37.8	5.309 2196
	10	124	50	43.7	0	31	55.5	5.279 2667		10	132	13	13.6	0	40	49.0	5.309 8654
	12	125	00	24.1	0	32	07.5	5.279 9496		12	132	22	47.4	0	41	00.1	5.310 5102
	14	125	10	04.4	+0	32	19.5	5.280 6318		14	132	32	21.1	+0	41	11.2	5.311 1541
	16	125	19	44.6	0	32	31.5	5.281 3133		16	132	41	54.7	0	41	22.2	5.311 7971
	18	125	29	24.6	0	32	43.5	5.281 9941		18	132	51	28.1	0	41	33.3	5.312 4391
	20	125	39	04.4	0	32	55.5	5.282 6742		20	133	01	01.4	0	41	44.3	5.313 0802
Aug.	22	125	48	44.2	0	33	07.4	5.283 3535	Nov.	22	133	10	34.5	0	41	55.3	5.313 7202
	24	125	58	23.7	0	33	19.3	5.284 0321		24	133	20	07.5	0	42	06.3	5.314 3594
	26	126	08	03.1	+0	33	31.2	5.284 7099		26	133	29	40.4	+0	42	17.3	5.314 9975
	28	126	17	42.4	0	33	43.1	5.285 3870		28	133	39	13.1	0	42	28.2	5.315 6347
	30	126	27	21.6	0	33	55.0	5.286 0633		30	133	48	45.7	0	42	39.1	5.316 2708
	1	126	37	00.5	0	34	06.9	5.286 7388		1	133	58	18.2	0	42	50.0	5.316 9060
	3	126	46	39.3	0	34	18.7	5.287 4136		3	134	07	50.5	0	43	00.9	5.317 5402
	5	126	56	18.0	0	34	30.5	5.288 0877		5	134	17	22.7	0	43	11.8	5.318 1734
	7	127	05	56.6	+0	34	42.3	5.288 7609		7	134	26	54.8	+0	43	22.6	5.318 8056
	9	127	15	34.9	0	34	54.0	5.289 4334		9	134	36	26.7	0	43	33.4	5.319 4367
Sept.	11	127	25	13.2	0	35	05.8	5.290 1051	Dec.	11	134	45	58.5	0	43	44.2	5.320 0669
	13	127	34	51.3	0	35	17.5	5.290 7760		13	134	55	30.2	0	43	54.9	5.320 6960
	15	127	44	29.2	0	35	29.3	5.291 4461		15	135	05	01.7	0	44	05.7	5.321 3241
	17	127	54	07.0	0	35	40.9	5.292 1154		17	135	14	33.1	0	44	16.4	5.321 9512
	19	128	03	44.7	+0	35	52.6	5.292 7839		19	135	24	04.3	+0	44	27.1	5.322 5773
	21	128	13	22.2	0	36	04.3	5.293 4515		21	135	33	35.4	0	44	37.7	5.323 2023
	23	128	22	59.6	0	36	15.9	5.294 1184		23	135	43	06.4	0	44	48.4	5.323 8262
	25	128	32	36.8	0	36	27.5	5.294 7844		25	135	52	37.3	0	44	59.0	5.324 4491
	27	128	42	13.9	0	36	39.1	5.295 4497		27	136	02	08.0	0	45	09.6	5.325 0710
	29	128	51	50.8	0	36	50.7	5.296 1140		29	136	11	38.6	0	45	20.2	5.325 6917
Oct.	31	129	01	27.6	+0	37	02.2	5.296 7776	Jan.	1	136	21	09.1	+0	45	30.7	5.326 3114
	2	129	11	04.2	0	37	13.8	5.297 4403		3	136	30	39.4	0	45	41.2	5.326 9301
	4	129	20	40.7	0	37	25.3	5.298 1021		5	136	40	09.6	0	45	51.8	5.327 5477
	6	129	30	17.1	0	37	36.8	5.298 7631		7	136	49	39.7	0	46	02.3	5.328 1642
	8	129	39	53.3	0	37	48.3	5.299 4233		9	136	59	09.6	0	46	12.7	5.328 7796
	10	129	49	29.4	0	37	59.7	5.300 0826		11	137	08	39.4	0	46	23.1	5.329 3939
	12	129	59	05.3	+0	38	11.2	5.300 7410		13	137	18	09.1	+0	46	33.5	5.330 0071
	14	130	08	41.1	0	38	22.5	5.301 3986		15	137	27	38.6	0	46	43.9	5.330 6193
	16	130	18	16.8	0	38	33.9	5.302 0552		17	137	37	08.0	0	46	54.3	5.331 2303
	18	130	27	52.3	0	38	45.3	5.302 7110		19	137	46	37.3	0	47	04.6	5.331 8402
Oct.	20	130	37	27.6	0	38	56.7	5.303 3660	Feb.	21	137	56	06.5	0	47	14.9	5.332 4490
	22	130	47	02.9	0	39	08.0	5.304 0200		23	138	05	35.5	0	47	25.2	5.333 0567
	24	130	56	38.0	+0	39	19.3	5.304 6731		25	138	15	04.4	+0	47	35.5	5.333 6633
	26	131	06	12.9	0	39	30.6	5.305 3254		27	138	24	33.2	0	47	45.7	5.334 2688
	28	131	15	47.7	0	39	41.8	5.305 9767		29	138	34	01.8	0	47	56.0	5.334 8731
	30	131	25	22.4	0	39	53.1	5.306 6271		31	138	43	30.3	0	48	06.2	5.335 4763
	Oct. 2	131	34	56.9	+0	40	04.3	5.307 2766		33	138	52	58.7	+0	48	16.3	5.336 0783

JUPITER, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Jan.	0	111	29	16.1	+0	14	12.0	Feb.	15	106	01	46.6	+0	19	37.8
	1	111	21	27.8	0	14	20.9		16	105	57	15.9	0	19	42.8
	2	111	13	36.2	0	14	29.7		17	105	52	55.6	0	19	47.8
	3	111	05	41.7	0	14	38.4		18	105	48	46.0	0	19	52.6
	4	110	57	44.6	0	14	47.1		19	105	44	47.2	0	19	57.4
	5	110	49	45.1	0	14	55.7		20	105	40	59.3	0	20	02.0
	6	110	41	43.6	+0	15	04.2		21	105	37	22.6	+0	20	06.6
	7	110	33	40.4	0	15	12.6		22	105	33	57.1	0	20	11.1
	8	110	25	36.0	0	15	21.0		23	105	30	43.0	0	20	15.6
	9	110	17	30.7	0	15	29.3		24	105	27	40.3	0	20	19.9
	10	110	09	24.8	0	15	37.6		25	105	24	49.1	0	20	24.1
11	110	01	18.9	0	15	45.8	26	105	22	09.5	0	20	28.3		
12	109	53	13.2	+0	15	53.9	Mar.	27	105	19	41.5	+0	20	32.4	
13	109	45	08.2	0	16	01.9		28	105	17	25.0	0	20	36.4	
14	109	37	04.1	0	16	09.9		1	105	15	20.1	0	20	40.4	
15	109	29	01.5	0	16	17.8		2	105	13	26.9	0	20	44.2	
16	109	21	00.6	0	16	25.6		3	105	11	45.2	0	20	48.0	
17	109	13	01.9	0	16	33.3		4	105	10	15.2	0	20	51.8	
18	109	05	05.6	+0	16	41.0		5	105	08	56.9	+0	20	55.4	
19	108	57	12.2	0	16	48.6		6	105	07	50.4	0	20	59.0	
20	108	49	22.0	0	16	56.1		7	105	06	55.6	0	21	02.6	
21	108	41	35.3	0	17	03.5		8	105	06	12.6	0	21	06.1	
22	108	33	52.6	0	17	10.8		9	105	05	41.4	0	21	09.5	
23	108	26	14.2	0	17	18.0	10	105	05	22.0	0	21	12.9		
24	108	18	40.4	+0	17	25.2	Apr.	11	105	05	14.4	+0	21	16.2	
25	108	11	11.6	0	17	32.2		12	105	05	18.6	0	21	19.5	
26	108	03	48.3	0	17	39.2		13	105	05	34.4	0	21	22.8	
27	107	56	30.6	0	17	46.0		14	105	06	02.0	0	21	26.0	
28	107	49	19.0	0	17	52.7		15	105	06	41.3	0	21	29.1	
29	107	42	13.7	0	17	59.4		16	105	07	32.2	0	21	32.2	
30	107	35	15.0	+0	18	05.9		17	105	08	34.7	+0	21	35.3	
31	107	28	23.1	0	18	12.4		18	105	09	48.8	0	21	38.3	
1	107	21	38.3	0	18	18.7		19	105	11	14.4	0	21	41.3	
2	107	15	00.7	0	18	25.0		20	105	12	51.5	0	21	44.2	
3	107	08	30.6	0	18	31.1		21	105	14	40.2	0	21	47.1	
4	107	02	08.3	0	18	37.2	22	105	16	40.3	0	21	49.9		
5	106	55	54.0	+0	18	43.1	Apr.	23	105	18	51.8	+0	21	52.7	
6	106	49	48.1	0	18	49.0		24	105	21	14.6	0	21	55.5	
7	106	43	50.7	0	18	54.7		25	105	23	48.6	0	21	58.2	
8	106	38	02.1	0	19	00.4		26	105	26	33.7	0	22	00.9	
9	106	32	22.6	0	19	06.0		27	105	29	29.8	0	22	03.5	
10	106	26	52.3	0	19	11.5		28	105	32	36.7	0	22	06.1	
11	106	21	31.5	+0	19	17.0		29	105	35	54.3	+0	22	08.7	
12	106	16	20.3	0	19	22.3		30	105	39	22.6	0	22	11.2	
13	106	11	19.0	0	19	27.6		31	105	43	01.3	0	22	13.7	
14	106	06	27.7	0	19	32.7		1	105	46	50.6	0	22	16.2	
15	106	01	46.6	+0	19	37.8		2	105	50	50.2	+0	22	18.7	

JUPITER, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Apr.	1	105	46	50.6	+0	22	16.2	May	17	111	22	59.7	+0	24	03.8
	2	105	50	50.2	0	22	18.7		18	111	33	08.0	0	24	06.3
	3	105	55	00.2	0	22	21.2		19	111	43	22.0	0	24	08.8
	4	105	59	20.4	0	22	23.6		20	111	53	41.4	0	24	11.3
	5	106	03	50.7	0	22	26.0		21	112	04	06.2	0	24	13.9
	6	106	08	31.1	0	22	28.4		22	112	14	36.2	0	24	16.4
	7	106	13	21.5	+0	22	30.8		23	112	25	11.3	+0	24	19.0
	8	106	18	21.7	0	22	33.2		24	112	35	51.4	0	24	21.5
	9	106	23	31.7	0	22	35.6		25	112	46	36.4	0	24	24.1
	10	106	28	51.3	0	22	37.9		26	112	57	26.2	0	24	26.8
	11	106	34	20.5	0	22	40.3		27	113	08	20.9	0	24	29.4
	12	106	39	59.1	0	22	42.6		28	113	19	20.2	0	24	32.1
	13	106	45	47.0	+0	22	45.0	June	29	113	30	24.1	+0	24	34.8
	14	106	51	44.2	0	22	47.3		30	113	41	32.6	0	24	37.5
	15	106	57	50.5	0	22	49.6		31	113	52	45.5	0	24	40.3
	16	107	04	05.9	0	22	51.9		1	114	04	02.8	0	24	43.1
	17	107	10	30.3	0	22	54.2		2	114	15	24.4	0	24	45.9
	18	107	17	03.6	0	22	56.5		3	114	26	50.1	0	24	48.7
	19	107	23	45.8	+0	22	58.8		4	114	38	19.9	+0	24	51.6
	20	107	30	36.7	0	23	01.0		5	114	49	53.7	0	24	54.5
	21	107	37	36.1	0	23	03.3		6	115	01	31.4	0	24	57.4
	22	107	44	44.1	0	23	05.5		7	115	13	12.9	0	25	00.4
	23	107	52	00.2	0	23	07.8		8	115	24	58.2	0	25	03.4
	24	107	59	24.5	0	23	10.0		9	115	36	47.1	0	25	06.4
	25	108	06	56.8	+0	23	12.3		10	115	48	39.7	+0	25	09.5
	26	108	14	36.9	0	23	14.5		11	116	00	35.9	0	25	12.5
	27	108	22	24.7	0	23	16.8		12	116	12	35.7	0	25	15.6
	28	108	30	20.2	0	23	19.0		13	116	24	38.9	0	25	18.7
	29	108	38	23.3	0	23	21.3		14	116	36	45.5	0	25	21.9
	30	108	46	33.8	0	23	23.5		15	116	48	55.5	0	25	25.0
May	1	108	54	51.8	+0	23	25.8		16	117	01	08.6	+0	25	28.2
	2	109	03	17.0	0	23	28.1		17	117	13	24.7	0	25	31.5
	3	109	11	49.4	0	23	30.4		18	117	25	43.7	0	25	34.7
	4	109	20	28.8	0	23	32.7		19	117	38	05.6	0	25	38.0
	5	109	29	15.3	0	23	35.0		20	117	50	30.1	0	25	41.3
	6	109	38	08.6	0	23	37.3		21	118	02	57.3	0	25	44.7
	7	109	47	08.7	+0	23	39.6		22	118	15	27.1	+0	25	48.1
	8	109	56	15.4	0	23	42.0		23	118	27	59.4	0	25	51.5
	9	110	05	28.7	0	23	44.4		24	118	40	34.2	0	25	54.9
	10	110	14	48.4	0	23	46.8		25	118	53	11.4	0	25	58.4
	11	110	24	14.4	0	23	49.2		26	119	05	51.0	0	26	02.0
	12	110	33	46.7	0	23	51.6		27	119	18	32.8	0	26	05.6
	13	110	43	25.2	+0	23	54.0	July	28	119	31	16.8	+0	26	09.2
	14	110	53	09.8	0	23	56.4		29	119	44	03.0	0	26	12.9
	15	111	03	00.5	0	23	58.9		30	119	56	51.2	0	26	16.6
	16	111	12	57.1	0	24	01.4		1	120	09	41.3	0	26	20.3
	17	111	22	59.7	+0	24	03.8		2	120	22	33.3	+0	26	24.1

JUPITER, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
July	1	120	09	41.3	+0	26	20.3	Aug.	16	130	15	56.3	+0	30	00.6
	2	120	22	33.3	0	26	24.1		17	130	29	01.7	0	30	06.6
	3	120	35	27.1	0	26	27.9		18	130	42	05.7	0	30	12.7
	4	120	48	22.7	0	26	31.8		19	130	55	08.3	0	30	18.8
	5	121	01	19.9	0	26	35.7		20	131	08	09.4	0	30	25.0
	6	121	14	18.8	0	26	39.6		21	131	21	09.0	0	30	31.3
	7	121	27	19.3	+0	26	43.6		22	131	34	06.9	+0	30	37.6
	8	121	40	21.3	0	26	47.6		23	131	47	03.1	0	30	44.0
	9	121	53	24.8	0	26	51.7		24	131	59	57.4	0	30	50.5
	10	122	06	29.8	0	26	55.8		25	132	12	49.9	0	30	57.1
	11	122	19	36.2	0	26	59.9		26	132	25	40.4	0	31	03.7
	12	122	32	43.9	0	27	04.1		27	132	38	28.9	0	31	10.4
	13	122	45	52.9	+0	27	08.3	Sept.	28	132	51	15.2	+0	31	17.1
	14	122	59	02.9	0	27	12.6		29	133	03	59.3	0	31	23.9
	15	123	12	13.9	0	27	16.8		30	133	16	41.3	0	31	30.8
	16	123	25	25.8	0	27	21.2		31	133	29	20.9	0	31	37.8
	17	123	38	38.5	0	27	25.5		1	133	41	58.3	0	31	44.8
	18	123	51	51.8	0	27	30.0		2	133	54	33.2	0	31	51.8
	19	124	05	05.9	+0	27	34.4		3	134	07	05.8	+0	31	59.0
	20	124	18	20.5	0	27	38.9		4	134	19	35.9	0	32	06.2
	21	124	31	35.8	0	27	43.5		5	134	32	03.3	0	32	13.5
	22	124	44	51.5	0	27	48.1		6	134	44	28.1	0	32	20.8
	23	124	58	07.7	0	27	52.8		7	134	56	50.0	0	32	28.2
	24	125	11	24.3	0	27	57.5		8	135	09	08.9	0	32	35.7
	25	125	24	41.2	+0	28	02.3		9	135	21	24.8	+0	32	43.2
	26	125	37	58.3	0	28	07.1		10	135	33	37.5	0	32	50.9
	27	125	51	15.6	0	28	12.1		11	135	45	46.9	0	32	58.6
	28	126	04	33.1	0	28	17.1		12	135	57	53.1	0	33	06.4
	29	126	17	50.5	0	28	22.5		13	136	09	55.8	0	33	14.2
	30	126	31	07.0	0	28	27.4		14	136	21	55.1	0	33	22.1
	31	126	44	24.3	+0	28	32.2		15	136	33	50.8	+0	33	30.2
	1	126	57	41.4	0	28	37.2		16	136	45	42.9	0	33	38.3
	2	127	10	58.2	0	28	42.4		17	136	57	31.3	0	33	46.4
	3	127	24	14.7	0	28	47.7		18	137	09	15.9	0	33	54.7
	4	127	37	30.9	0	28	53.0		19	137	20	56.6	0	34	03.1
	5	127	50	46.7	0	28	58.3		20	137	32	33.3	0	34	11.5
Aug.	6	128	04	02.2	+0	29	03.7		21	137	44	05.9	+0	34	20.0
	7	128	17	17.2	0	29	09.1		22	137	55	34.4	0	34	28.6
	8	128	30	31.6	0	29	14.6		23	138	06	58.5	0	34	37.3
	9	128	43	45.5	0	29	20.2		24	138	18	18.2	0	34	46.1
	10	128	56	58.6	0	29	25.8		25	138	29	33.5	0	34	54.9
	11	129	10	10.9	0	29	31.4		26	138	40	44.3	0	35	03.9
	12	129	23	22.2	+0	29	37.2		27	138	51	50.5	+0	35	12.9
	13	129	36	32.5	0	29	42.9		28	139	02	52.1	0	35	22.0
	14	129	49	41.6	0	29	48.7		29	139	13	48.9	0	35	31.2
	15	130	02	49.6	0	29	54.6		30	139	24	41.0	0	35	40.4
	16	130	15	56.3	+0	30	00.6		1	139	35	28.3	+0	35	49.8
								Oct.							

JUPITER, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date				Apparent Geocentric Longitude				Apparent Geocentric Latitude				Date				Apparent Geocentric Longitude				Apparent Geocentric Latitude			
				°	'	"		°	'	"						°	'	"		°	'	"	
Oct.	1	139	35	28.3	+0	35	49.8	Nov.	16	145	52	01.2	+0	44	37.9	Dec.	1	146	47	19.9	0	48	09.4
	2	139	46	10.5	0	35	59.2		17	145	56	55.6	0	44	51.5		2	146	49	34.1	0	48	24.0
	3	139	56	47.7	0	36	08.7		18	146	01	39.7	0	45	05.2		3	146	51	36.9	0	48	38.6
	4	140	07	19.6	0	36	18.3		19	146	06	13.7	0	45	19.0		4	146	53	28.3	+0	48	53.3
	5	140	17	46.2	0	36	28.0		20	146	10	37.5	0	45	32.8		5	146	55	08.2	0	49	08.1
	6	140	28	07.2	0	36	37.7		21	146	14	50.8	0	45	46.7		6	146	56	36.6	0	49	22.8
	7	140	38	22.6	+0	36	47.6		22	146	18	53.8	+0	46	00.7		7	146	57	53.4	0	49	37.7
	8	140	48	32.3	0	36	57.5		23	146	22	46.4	0	46	14.8		8	146	58	58.7	0	49	52.5
	9	140	58	36.1	0	37	07.5		24	146	26	28.4	0	46	28.9		9	146	59	52.2	0	50	07.4
	10	141	08	34.0	0	37	17.7		25	146	29	59.9	0	46	43.1		10	147	00	34.0	+0	50	22.3
	11	141	18	25.9	0	37	27.9		26	146	33	20.7	0	46	57.3		11	147	01	04.0	0	50	37.3
	12	141	28	11.7	0	37	38.2		27	146	36	30.6	0	47	11.7		12	147	01	22.2	0	50	52.3
Nov.	13	141	37	51.3	+0	37	48.6	Dec.	28	146	39	29.7	+0	47	26.0		13	147	01	28.6	0	51	07.3
	14	141	47	24.6	0	37	59.1		29	146	42	17.6	0	47	40.4		14	147	01	23.2	0	51	22.3
	15	141	56	51.5	0	38	09.7		30	146	44	54.4	0	47	54.9		15	147	01	05.9	0	51	37.3
	16	142	06	11.9	0	38	20.4		1	146	47	19.9	0	48	09.4		16	147	00	36.8	+0	51	52.3
	17	142	15	25.6	0	38	31.2		2	146	49	34.1	0	48	24.0		17	146	59	55.8	0	52	07.3
	18	142	24	32.5	0	38	42.1		3	146	51	36.9	0	48	38.6		18	146	59	03.1	0	52	22.3
	19	142	33	32.5	+0	38	53.1		4	146	53	28.3	+0	48	53.3		19	146	57	58.6	0	52	37.3
	20	142	42	25.6	0	39	04.2		5	146	55	08.2	0	49	08.1		20	146	56	42.5	0	52	52.2
	21	142	51	11.5	0	39	15.3		6	146	56	36.6	0	49	22.8		21	146	55	14.8	0	53	07.2
	22	142	59	50.2	0	39	26.6		7	146	57	53.4	0	49	37.7		22	146	53	35.5	+0	53	22.1
	23	143	08	21.7	0	39	38.0		8	146	58	58.7	0	49	52.5		23	146	51	44.6	0	53	36.9
	24	143	16	45.8	0	39	49.4		9	146	59	52.2	0	50	07.4		24	146	49	42.3	0	53	51.7
	25	143	25	02.5	+0	40	01.0		10	147	00	34.0	+0	50	22.3		25	146	47	28.5	0	54	06.5
	26	143	33	11.6	0	40	12.6		11	147	01	04.0	0	50	37.3		26	146	45	03.1	0	54	21.2
	27	143	41	13.2	0	40	24.4		12	147	01	22.2	0	50	52.3		27	146	42	26.2	0	54	35.9
	28	143	49	07.1	0	40	36.2		13	147	01	28.6	0	51	07.3		28	146	39	37.9	+0	54	50.5
	29	143	56	53.2	0	40	48.1		14	147	01	23.2	0	51	22.3		29	146	36	38.3	0	55	05.1
	30	144	04	31.3	0	41	00.1		15	147	01	05.9	0	51	37.3		30	146	33	27.3	0	55	19.5
Nov.	31	144	12	01.4	+0	41	12.1	Dec.	16	147	00	36.8	+0	51	52.3		31	146	30	05.3	0	55	34.0
	1	144	19	23.2	0	41	24.3		17	146	59	55.8	0	52	07.3		32	146	26	32.2	+0	55	48.3
	2	144	26	36.7	0	41	36.6		18	146	59	03.1	0	52	22.3								
	3	144	33	41.6	0	41	48.9		19	146	57	58.6	0	52	37.3								
	4	144	40	37.8	0	42	01.3		20	146	56	42.5	0	52	52.2								
	5	144	47	25.3	0	42	13.9		21	146	55	14.8	0	53	07.2								
	6	144	54	04.0	+0	42	26.5		22	146	53	35.5	+0	53	22.1								
	7	145	00	33.7	0	42	39.2		23	146	51	44.6	0	53	36.9								
	8	145	06	54.4	0	42	52.0		24	146	49	42.3	0	53	51.7								
	9	145	13	06.0	0	43	05.0		25	146	47	28.5	0	54	06.5								
	10	145	19	08.3	0	43	18.0		26	146	45	03.1	0	54	21.2								
	11	145	25	01.2	0	43	31.1		27	146	42	26.2	0	54	35.9								
	12	145	30	44.6	+0	43	44.2		28	146	39	37.9	+0	54	50.5								
	13	145	36	18.5	0	43	57.5		29	146	36	38.3	0	55	05.1								
	14	145	41	42.6	0	44	10.9		30	146	33	27.3	0	55	19.5								
	15	145	46	56.9	0	44	24.3		31	146	30	05.3	0	55	34.0								
	16	145	52	01.2	+0	44	37.9		32	146	26	32.2	+0	55	48.3								

JUPITER, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Jan.	0	7	33	03.02	+21	57	22.8	4.245 463	2.07	21.68	0	54	11
	1	7	32	29.87	21	58	44.8	4.242 683	2.07	21.70	0	49	42
	2	7	31	56.48	22	00	06.9	4.240 214	2.07	21.71	0	45	12
	3	7	31	22.87	22	01	29.1	4.238 057	2.08	21.72	0	40	43
	4	7	30	49.06	22	02	51.1	4.236 212	2.08	21.73	0	36	14
	5	7	30	15.07	22	04	13.1	4.234 681	2.08	21.74	0	31	44
	6	7	29	40.93	+22	05	34.8	4.233 465	2.08	21.75	0	27	14
	7	7	29	06.65	22	06	56.3	4.232 564	2.08	21.75	0	22	44
	8	7	28	32.28	22	08	17.4	4.231 980	2.08	21.75	0	18	14
	9	7	27	57.83	22	09	38.2	4.231 713	2.08	21.75	0	13	44
	10	7	27	23.33	22	10	58.5	4.231 764	2.08	21.75	0	09	14
	11	7	26	48.81	22	12	18.3	4.232 133	2.08	21.75	0	04	43
	12	7	26	14.30	+22	13	37.5	4.232 821	2.08	21.75	0	00	13
	13	7	25	39.82	22	14	56.1	4.233 827	2.08	21.74	23	51	13
	14	7	25	05.40	22	16	14.0	4.235 152	2.08	21.74	23	46	43
	15	7	24	31.08	22	17	31.2	4.236 796	2.08	21.73	23	42	13
	16	7	23	56.86	22	18	47.7	4.238 757	2.07	21.72	23	37	43
	17	7	23	22.79	22	20	03.3	4.241 036	2.07	21.71	23	33	13
	18	7	22	48.88	+22	21	18.1	4.243 631	2.07	21.69	23	28	44
	19	7	22	15.17	22	22	32.0	4.246 541	2.07	21.68	23	24	15
	20	7	21	41.67	22	23	45.0	4.249 765	2.07	21.66	23	19	46
	21	7	21	08.42	22	24	57.0	4.253 302	2.07	21.64	23	15	17
	22	7	20	35.44	22	26	07.9	4.257 149	2.07	21.62	23	10	49
	23	7	20	02.75	22	27	17.7	4.261 304	2.06	21.60	23	06	21
	24	7	19	30.39	+22	28	26.3	4.265 766	2.06	21.58	23	01	53
	25	7	18	58.38	22	29	33.8	4.270 532	2.06	21.56	22	57	25
	26	7	18	26.74	22	30	40.0	4.275 599	2.06	21.53	22	52	59
	27	7	17	55.50	22	31	45.0	4.280 965	2.05	21.50	22	48	32
	28	7	17	24.69	22	32	48.7	4.286 626	2.05	21.48	22	44	06
	29	7	16	54.31	22	33	51.2	4.292 580	2.05	21.45	22	39	40
Feb.	30	7	16	24.40	+22	34	52.3	4.298 824	2.05	21.42	22	35	15
	31	7	15	54.98	22	35	52.2	4.305 354	2.04	21.38	22	30	50
	1	7	15	26.04	22	36	50.8	4.312 168	2.04	21.35	22	26	26
	2	7	14	57.62	22	37	48.0	4.319 262	2.04	21.31	22	22	02
	3	7	14	29.74	22	38	43.8	4.326 634	2.03	21.28	22	17	39
	4	7	14	02.40	22	39	38.3	4.334 280	2.03	21.24	22	13	17
	5	7	13	35.63	+22	40	31.4	4.342 198	2.03	21.20	22	08	55
	6	7	13	09.45	22	41	23.0	4.350 383	2.02	21.16	22	04	33
	7	7	12	43.87	22	42	13.2	4.358 834	2.02	21.12	22	00	13
	8	7	12	18.93	22	43	02.0	4.367 546	2.01	21.08	21	55	52
	9	7	11	54.62	22	43	49.3	4.376 516	2.01	21.03	21	51	33
	10	7	11	30.98	22	44	35.2	4.385 740	2.01	20.99	21	47	14
	11	7	11	08.01	+22	45	19.6	4.395 215	2.00	20.95	21	42	56
	12	7	10	45.72	22	46	02.6	4.404 937	2.00	20.90	21	38	39
	13	7	10	24.14	22	46	44.2	4.414 902	1.99	20.85	21	34	22
	14	7	10	03.28	22	47	24.3	4.425 105	1.99	20.80	21	30	06
	15	7	09	43.14	+22	48	03.0	4.435 543	1.98	20.76	21	25	51

JUPITER, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Feb.	15	7	09	43.14	+22	48	03.0	4.435 543	1.98	20.76	21	25	51
	16	7	09	23.74	22	48	40.2	4.446 210	1.98	20.71	21	21	36
	17	7	09	05.09	22	49	16.0	4.457 104	1.97	20.65	21	17	22
	18	7	08	47.21	22	49	50.3	4.468 218	1.97	20.60	21	13	09
	19	7	08	30.09	22	50	23.0	4.479 549	1.96	20.55	21	08	57
	20	7	08	13.76	22	50	54.3	4.491 091	1.96	20.50	21	04	46
	21	7	07	58.23	+22	51	24.1	4.502 840	1.95	20.44	21	00	35
	22	7	07	43.50	22	51	52.4	4.514 789	1.95	20.39	20	56	25
	23	7	07	29.58	22	52	19.2	4.526 935	1.94	20.34	20	52	16
	24	7	07	16.49	22	52	44.5	4.539 272	1.94	20.28	20	48	08
Mar.	25	7	07	04.22	22	53	08.4	4.551 795	1.93	20.22	20	44	00
	26	7	06	52.78	22	53	30.8	4.564 499	1.93	20.17	20	39	54
	27	7	06	42.17	+22	53	51.8	4.577 379	1.92	20.11	20	35	48
	28	7	06	32.40	22	54	11.4	4.590 429	1.92	20.05	20	31	43
	1	7	06	23.45	22	54	29.6	4.603 646	1.91	20.00	20	27	39
	2	7	06	15.34	22	54	46.4	4.617 025	1.90	19.94	20	23	36
	3	7	06	08.06	22	55	01.7	4.630 560	1.90	19.88	20	19	33
	4	7	06	01.62	22	55	15.6	4.644 248	1.89	19.82	20	15	32
	5	7	05	56.02	+22	55	28.1	4.658 083	1.89	19.76	20	11	31
	6	7	05	51.26	22	55	39.2	4.672 062	1.88	19.70	20	07	31
	7	7	05	47.35	22	55	48.9	4.686 180	1.88	19.65	20	03	32
	8	7	05	44.28	22	55	57.1	4.700 431	1.87	19.59	19	59	34
	9	7	05	42.07	22	56	04.0	4.714 813	1.87	19.53	19	55	36
	10	7	05	40.70	22	56	09.5	4.729 319	1.86	19.47	19	51	40
	11	7	05	40.18	+22	56	13.7	4.743 946	1.85	19.41	19	47	44
	12	7	05	40.51	22	56	16.5	4.758 689	1.85	19.35	19	43	49
	13	7	05	41.67	22	56	17.9	4.773 543	1.84	19.29	19	39	55
	14	7	05	43.69	22	56	18.0	4.788 504	1.84	19.23	19	36	02
	15	7	05	46.54	22	56	16.8	4.803 566	1.83	19.16	19	32	09
	16	7	05	50.22	22	56	14.2	4.818 725	1.82	19.10	19	28	18
	17	7	05	54.75	+22	56	10.2	4.833 976	1.82	19.04	19	24	27
	18	7	06	00.10	22	56	04.9	4.849 314	1.81	18.98	19	20	37
	19	7	06	06.28	22	55	58.2	4.864 734	1.81	18.92	19	16	48
	20	7	06	13.29	22	55	50.1	4.880 231	1.80	18.86	19	13	00
	21	7	06	21.13	22	55	40.6	4.895 801	1.80	18.80	19	09	12
	22	7	06	29.79	22	55	29.7	4.911 437	1.79	18.74	19	05	26
	23	7	06	39.26	+22	55	17.4	4.927 136	1.78	18.68	19	01	40
	24	7	06	49.56	22	55	03.8	4.942 892	1.78	18.62	18	57	55
	25	7	07	00.65	22	54	48.8	4.958 700	1.77	18.57	18	54	11
	26	7	07	12.55	22	54	32.5	4.974 556	1.77	18.51	18	50	27
	27	7	07	25.23	22	54	14.9	4.990 455	1.76	18.45	18	46	44
	28	7	07	38.68	22	53	55.9	5.006 393	1.76	18.39	18	43	02
	29	7	07	52.91	+22	53	35.6	5.022 365	1.75	18.33	18	39	21
	30	7	08	07.90	22	53	13.9	5.038 368	1.75	18.27	18	35	41
	31	7	08	23.64	22	52	50.9	5.054 398	1.74	18.21	18	32	01
Apr.	1	7	08	40.14	22	52	26.5	5.070 450	1.73	18.16	18	28	22
	2	7	08	57.38	+22	52	00.8	5.086 521	1.73	18.10	18	24	44

JUPITER, 2026
 RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Apr.	1	7	08	40.14	+22	52	26.5	5.070 450	1.73	18.16	18	28	22
	2	7	08	57.38	22	52	00.8	5.086 521	1.73	18.10	18	24	44
	3	7	09	15.35	22	51	33.6	5.102 607	1.72	18.04	18	21	07
	4	7	09	34.07	22	51	05.1	5.118 705	1.72	17.99	18	17	30
	5	7	09	53.50	22	50	35.3	5.134 809	1.71	17.93	18	13	54
	6	7	10	13.66	22	50	04.0	5.150 918	1.71	17.87	18	10	19
	7	7	10	34.53	+22	49	31.4	5.167 026	1.70	17.82	18	06	44
	8	7	10	56.11	22	48	57.5	5.183 131	1.70	17.76	18	03	10
	9	7	11	18.38	22	48	22.2	5.199 229	1.69	17.71	17	59	37
	10	7	11	41.34	22	47	45.5	5.215 315	1.69	17.65	17	56	04
	11	7	12	04.99	22	47	07.5	5.231 386	1.68	17.60	17	52	32
	12	7	12	29.30	22	46	28.0	5.247 439	1.68	17.54	17	49	01
	13	7	12	54.29	+22	45	47.2	5.263 469	1.67	17.49	17	45	31
	14	7	13	19.93	22	45	05.0	5.279 473	1.67	17.44	17	42	01
	15	7	13	46.22	22	44	21.3	5.295 446	1.66	17.38	17	38	31
	16	7	14	13.15	22	43	36.2	5.311 386	1.66	17.33	17	35	03
	17	7	14	40.73	22	42	49.7	5.327 288	1.65	17.28	17	31	35
	18	7	15	08.94	22	42	01.6	5.343 148	1.65	17.23	17	28	07
	19	7	15	37.78	+22	41	12.1	5.358 962	1.64	17.18	17	24	41
	20	7	16	07.24	22	40	21.2	5.374 727	1.64	17.13	17	21	14
	21	7	16	37.31	22	39	28.8	5.390 438	1.63	17.08	17	17	49
	22	7	17	07.98	22	38	35.0	5.406 093	1.63	17.03	17	14	24
	23	7	17	39.23	22	37	39.7	5.421 687	1.62	16.98	17	10	59
	24	7	18	11.05	22	36	43.0	5.437 219	1.62	16.93	17	07	36
	25	7	18	43.44	+22	35	44.9	5.452 684	1.61	16.88	17	04	12
	26	7	19	16.38	22	34	45.3	5.468 079	1.61	16.84	17	00	50
	27	7	19	49.87	22	33	44.2	5.483 402	1.60	16.79	16	57	27
	28	7	20	23.90	22	32	41.7	5.498 650	1.60	16.74	16	54	06
	29	7	20	58.45	22	31	37.6	5.513 821	1.59	16.70	16	50	45
	30	7	21	33.54	22	30	32.1	5.528 912	1.59	16.65	16	47	24
May	1	7	22	09.14	+22	29	25.0	5.543 919	1.59	16.61	16	44	04
	2	7	22	45.25	22	28	16.5	5.558 841	1.58	16.56	16	40	44
	3	7	23	21.87	22	27	06.4	5.573 676	1.58	16.52	16	37	25
	4	7	23	58.98	22	25	54.9	5.588 420	1.57	16.47	16	34	06
	5	7	24	36.58	22	24	41.8	5.603 071	1.57	16.43	16	30	48
	6	7	25	14.66	22	23	27.3	5.617 627	1.57	16.39	16	27	30
	7	7	25	53.21	+22	22	11.2	5.632 084	1.56	16.35	16	24	13
	8	7	26	32.22	22	20	53.7	5.646 442	1.56	16.30	16	20	56
	9	7	27	11.69	22	19	34.6	5.660 696	1.55	16.26	16	17	40
	10	7	27	51.60	22	18	14.0	5.674 845	1.55	16.22	16	14	24
	11	7	28	31.95	22	16	51.9	5.688 885	1.55	16.18	16	11	09
	12	7	29	12.74	22	15	28.2	5.702 815	1.54	16.14	16	07	54
	13	7	29	53.95	+22	14	03.0	5.716 631	1.54	16.10	16	04	39
	14	7	30	35.58	22	12	36.1	5.730 331	1.53	16.07	16	01	25
	15	7	31	17.63	22	11	07.7	5.743 913	1.53	16.03	15	58	11
	16	7	32	00.09	22	09	37.6	5.757 372	1.53	15.99	15	54	58
	17	7	32	42.96	+22	08	06.0	5.770 708	1.52	15.95	15	51	45

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
May	17	7	32	42.96	+22	08	06.0	5.770 708	1.52	15.95	15	51	45
	18	7	33	26.22	22	06	32.8	5.783 917	1.52	15.92	15	48	32
	19	7	34	09.86	22	04	58.1	5.796 996	1.52	15.88	15	45	20
	20	7	34	53.88	22	03	21.8	5.809 944	1.51	15.85	15	42	08
	21	7	35	38.26	22	01	43.9	5.822 757	1.51	15.81	15	38	56
	22	7	36	23.00	22	00	04.5	5.835 435	1.51	15.78	15	35	45
	23	7	37	08.08	+21	58	23.6	5.847 974	1.50	15.74	15	32	34
	24	7	37	53.49	21	56	41.1	5.860 374	1.50	15.71	15	29	24
	25	7	38	39.24	21	54	57.0	5.872 633	1.50	15.68	15	26	14
	26	7	39	25.31	21	53	11.3	5.884 748	1.49	15.64	15	23	04
June	27	7	40	11.70	21	51	24.0	5.896 720	1.49	15.61	15	19	54
	28	7	40	58.40	21	49	35.2	5.908 545	1.49	15.58	15	16	45
	29	7	41	45.42	+21	47	44.7	5.920 222	1.49	15.55	15	13	36
	30	7	42	32.73	21	45	52.7	5.931 751	1.48	15.52	15	10	27
	31	7	43	20.33	21	43	59.2	5.943 129	1.48	15.49	15	07	19
	1	7	44	08.23	21	42	04.1	5.954 355	1.48	15.46	15	04	11
	2	7	44	56.40	21	40	07.4	5.965 427	1.47	15.43	15	01	03
	3	7	45	44.85	21	38	09.2	5.976 344	1.47	15.40	14	57	56
	4	7	46	33.57	+21	36	09.5	5.987 105	1.47	15.38	14	54	48
	5	7	47	22.54	21	34	08.2	5.997 708	1.47	15.35	14	51	41
July	6	7	48	11.77	21	32	05.3	6.008 151	1.46	15.32	14	48	35
	7	7	49	01.24	21	30	00.9	6.018 433	1.46	15.30	14	45	28
	8	7	49	50.95	21	27	55.0	6.028 553	1.46	15.27	14	42	22
	9	7	50	40.91	21	25	47.4	6.038 508	1.46	15.25	14	39	16
	10	7	51	31.09	+21	23	38.3	6.048 296	1.45	15.22	14	36	10
	11	7	52	21.50	21	21	27.6	6.057 917	1.45	15.20	14	33	04
	12	7	53	12.14	21	19	15.3	6.067 368	1.45	15.17	14	29	59
	13	7	54	02.99	21	17	01.5	6.076 648	1.45	15.15	14	26	54
	14	7	54	54.06	21	14	46.1	6.085 755	1.45	15.13	14	23	49
	15	7	55	45.34	21	12	29.1	6.094 686	1.44	15.10	14	20	44
	16	7	56	36.81	+21	10	10.7	6.103 442	1.44	15.08	14	17	39
	17	7	57	28.47	21	07	50.8	6.112 019	1.44	15.06	14	14	35
	18	7	58	20.31	21	05	29.4	6.120 418	1.44	15.04	14	11	31
	19	7	59	12.32	21	03	06.5	6.128 636	1.43	15.02	14	08	27
	20	8	00	04.48	21	00	42.1	6.136 673	1.43	15.00	14	05	23
	21	8	00	56.81	20	58	16.2	6.144 528	1.43	14.98	14	02	19
	22	8	01	49.29	+20	55	48.9	6.152 200	1.43	14.96	13	59	15
	23	8	02	41.92	20	53	20.0	6.159 689	1.43	14.95	13	56	12
	24	8	03	34.69	20	50	49.7	6.166 993	1.43	14.93	13	53	09
	25	8	04	27.60	20	48	18.0	6.174 112	1.42	14.91	13	50	06
	26	8	05	20.65	20	45	44.8	6.181 046	1.42	14.89	13	47	02
	27	8	06	13.83	20	43	10.1	6.187 793	1.42	14.88	13	43	60
	28	8	07	07.13	+20	40	34.1	6.194 353	1.42	14.86	13	40	57
	29	8	08	00.55	20	37	56.7	6.200 726	1.42	14.85	13	37	54
	30	8	08	54.08	20	35	17.9	6.206 911	1.42	14.83	13	34	51
	1	8	09	47.72	20	32	37.7	6.212 906	1.42	14.82	13	31	49
	2	8	10	41.45	+20	29	56.2	6.218 712	1.41	14.80	13	28	47

JUPITER, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
July	1	8	09	47.72	+20	32	37.7	6.212 906	1.42	14.82	13	31	49
	2	8	10	41.45	20	29	56.2	6.218 712	1.41	14.80	13	28	47
	3	8	11	35.29	20	27	13.3	6.224 327	1.41	14.79	13	25	44
	4	8	12	29.21	20	24	29.1	6.229 751	1.41	14.78	13	22	42
	5	8	13	23.22	20	21	43.5	6.234 983	1.41	14.77	13	19	40
	6	8	14	17.31	20	18	56.5	6.240 022	1.41	14.75	13	16	38
	7	8	15	11.48	+20	16	08.2	6.244 867	1.41	14.74	13	13	36
	8	8	16	05.72	20	13	18.6	6.249 517	1.41	14.73	13	10	34
	9	8	17	00.03	20	10	27.6	6.253 972	1.41	14.72	13	07	32
	10	8	17	54.42	20	07	35.4	6.258 230	1.41	14.71	13	04	31
	11	8	18	48.87	20	04	41.8	6.262 290	1.40	14.70	13	01	29
	12	8	19	43.38	20	01	46.9	6.266 152	1.40	14.69	12	58	27
	13	8	20	37.94	+19	58	50.8	6.269 814	1.40	14.68	12	55	26
	14	8	21	32.54	19	55	53.5	6.273 276	1.40	14.67	12	52	24
	15	8	22	27.18	19	52	55.0	6.276 536	1.40	14.67	12	49	23
	16	8	23	21.84	19	49	55.4	6.279 595	1.40	14.66	12	46	21
	17	8	24	16.53	19	46	54.5	6.282 453	1.40	14.65	12	43	20
	18	8	25	11.23	19	43	52.6	6.285 108	1.40	14.65	12	40	18
	19	8	26	05.94	+19	40	49.5	6.287 560	1.40	14.64	12	37	17
	20	8	27	00.66	19	37	45.2	6.289 811	1.40	14.64	12	34	15
	21	8	27	55.39	19	34	39.9	6.291 859	1.40	14.63	12	31	14
	22	8	28	50.12	19	31	33.4	6.293 705	1.40	14.63	12	28	12
	23	8	29	44.84	19	28	25.9	6.295 349	1.40	14.62	12	25	11
	24	8	30	39.56	19	25	17.4	6.296 790	1.40	14.62	12	22	09
	25	8	31	34.26	+19	22	07.8	6.298 029	1.40	14.62	12	19	08
	26	8	32	28.95	19	18	57.3	6.299 067	1.40	14.61	12	16	06
	27	8	33	23.62	19	15	45.8	6.299 902	1.40	14.61	12	13	05
	28	8	34	18.26	19	12	33.4	6.300 535	1.40	14.61	12	10	03
	29	8	35	12.87	19	09	20.4	6.300 966	1.40	14.61	12	07	02
	30	8	36	07.38	19	06	06.2	6.301 196	1.40	14.61	12	04	00
Aug.	31	8	37	01.90	+19	02	50.6	6.301 223	1.40	14.61	12	00	58
	1	8	37	56.38	18	59	34.5	6.301 048	1.40	14.61	11	57	57
	2	8	38	50.81	18	56	17.5	6.300 670	1.40	14.61	11	54	55
	3	8	39	45.18	18	52	59.7	6.300 091	1.40	14.61	11	51	53
	4	8	40	39.49	18	49	41.0	6.299 308	1.40	14.61	11	48	51
	5	8	41	33.75	18	46	21.5	6.298 323	1.40	14.62	11	45	49
	6	8	42	27.94	+18	43	01.2	6.297 134	1.40	14.62	11	42	47
	7	8	43	22.07	18	39	40.1	6.295 742	1.40	14.62	11	39	45
	8	8	44	16.13	18	36	18.2	6.294 147	1.40	14.63	11	36	43
	9	8	45	10.11	18	32	55.7	6.292 347	1.40	14.63	11	33	41
	10	8	46	04.02	18	29	32.5	6.290 343	1.40	14.64	11	30	38
	11	8	46	57.83	18	26	08.6	6.288 136	1.40	14.64	11	27	36
	12	8	47	51.54	+18	22	44.1	6.285 724	1.40	14.65	11	24	34
	13	8	48	45.14	18	19	19.1	6.283 108	1.40	14.65	11	21	31
	14	8	49	38.64	18	15	53.5	6.280 289	1.40	14.66	11	18	28
	15	8	50	32.02	18	12	27.4	6.277 266	1.40	14.67	11	15	25
	16	8	51	25.28	+18	09	00.8	6.274 042	1.40	14.67	11	12	22

JUPITER, 2026
 RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Aug.	16	8	51	25.28	+18	09	00.8	6.274 042	1.40	14.67	11	12	22
	17	8	52	18.42	18	05	33.6	6.270 615	1.40	14.68	11	09	19
	18	8	53	11.44	18	02	06.0	6.266 988	1.40	14.69	11	06	16
	19	8	54	04.33	17	58	38.0	6.263 161	1.40	14.70	11	03	13
	20	8	54	57.08	17	55	09.5	6.259 134	1.41	14.71	11	00	09
	21	8	55	49.70	17	51	40.8	6.254 909	1.41	14.72	10	57	06
	22	8	56	42.17	+17	48	11.7	6.250 486	1.41	14.73	10	54	02
	23	8	57	34.49	17	44	42.3	6.245 866	1.41	14.74	10	50	58
	24	8	58	26.66	17	41	12.6	6.241 050	1.41	14.75	10	47	54
	25	8	59	18.67	17	37	42.7	6.236 038	1.41	14.76	10	44	50
Sept.	26	9	00	10.52	17	34	12.6	6.230 831	1.41	14.77	10	41	45
	27	9	01	02.20	17	30	42.4	6.225 431	1.41	14.79	10	38	41
	28	9	01	53.70	+17	27	12.0	6.219 838	1.41	14.80	10	35	36
	29	9	02	45.03	17	23	41.5	6.214 052	1.42	14.81	10	32	31
	30	9	03	36.17	17	20	10.8	6.208 074	1.42	14.83	10	29	26
	31	9	04	27.14	17	16	40.1	6.201 904	1.42	14.84	10	26	21
	1	9	05	17.92	17	13	09.3	6.195 544	1.42	14.86	10	23	15
	2	9	06	08.51	17	09	38.5	6.188 994	1.42	14.87	10	20	10
	3	9	06	58.90	+17	06	07.6	6.182 254	1.42	14.89	10	17	04
	4	9	07	49.10	17	02	36.8	6.175 325	1.42	14.91	10	13	58
	5	9	08	39.10	16	59	06.1	6.168 207	1.43	14.92	10	10	52
	6	9	09	28.89	16	55	35.6	6.160 901	1.43	14.94	10	07	45
	7	9	10	18.46	16	52	05.2	6.153 407	1.43	14.96	10	04	38
	8	9	11	07.81	16	48	35.1	6.145 728	1.43	14.98	10	01	32
	9	9	11	56.92	+16	45	05.2	6.137 862	1.43	15.00	9	58	24
	10	9	12	45.79	16	41	35.6	6.129 812	1.43	15.02	9	55	17
	11	9	13	34.42	16	38	06.4	6.121 579	1.44	15.04	9	52	09
	12	9	14	22.80	16	34	37.5	6.113 164	1.44	15.06	9	49	02
	13	9	15	10.93	16	31	09.1	6.104 568	1.44	15.08	9	45	53
	14	9	15	58.80	16	27	41.1	6.095 794	1.44	15.10	9	42	45
	15	9	16	46.41	+16	24	13.5	6.086 843	1.44	15.12	9	39	36
	16	9	17	33.76	16	20	46.5	6.077 716	1.45	15.15	9	36	28
	17	9	18	20.83	16	17	20.0	6.068 415	1.45	15.17	9	33	18
	18	9	19	07.63	16	13	54.2	6.058 941	1.45	15.19	9	30	09
	19	9	19	54.15	16	10	29.0	6.049 298	1.45	15.22	9	26	59
	20	9	20	40.37	16	07	04.5	6.039 485	1.46	15.24	9	23	49
	21	9	21	26.30	+16	03	40.8	6.029 506	1.46	15.27	9	20	39
	22	9	22	11.94	16	00	17.9	6.019 361	1.46	15.29	9	17	28
	23	9	22	57.26	15	56	55.8	6.009 052	1.46	15.32	9	14	17
	24	9	23	42.27	15	53	34.5	5.998 582	1.47	15.35	9	11	06
	25	9	24	26.97	15	50	14.1	5.987 951	1.47	15.37	9	07	54
	26	9	25	11.35	15	46	54.7	5.977 161	1.47	15.40	9	04	43
	27	9	25	55.40	+15	43	36.2	5.966 214	1.47	15.43	9	01	30
	28	9	26	39.13	15	40	18.7	5.955 112	1.48	15.46	8	58	18
	29	9	27	22.52	15	37	02.2	5.943 856	1.48	15.49	8	55	05
	30	9	28	05.58	15	33	46.7	5.932 447	1.48	15.52	8	51	52
Oct.	1	9	28	48.30	+15	30	32.4	5.920 887	1.49	15.55	8	48	38

JUPITER, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Oct.	1	9	28	48.30	+15	30	32.4	5.920 887	1.49	15.55	8	48	38
	2	9	29	30.68	15	27	19.2	5.909 177	1.49	15.58	8	45	24
	3	9	30	12.70	15	24	07.2	5.897 319	1.49	15.61	8	42	10
	4	9	30	54.36	15	20	56.5	5.885 315	1.49	15.64	8	38	56
	5	9	31	35.64	15	17	47.2	5.873 167	1.50	15.67	8	35	41
	6	9	32	16.55	15	14	39.2	5.860 876	1.50	15.71	8	32	25
	7	9	32	57.07	+15	11	32.7	5.848 444	1.50	15.74	8	29	10
	8	9	33	37.20	15	08	27.7	5.835 874	1.51	15.77	8	25	53
	9	9	34	16.93	15	05	24.1	5.823 168	1.51	15.81	8	22	37
	10	9	34	56.25	15	02	22.2	5.810 329	1.51	15.84	8	19	20
	11	9	35	35.17	14	59	21.8	5.797 358	1.52	15.88	8	16	03
	12	9	36	13.67	14	56	23.1	5.784 260	1.52	15.92	8	12	45
	13	9	36	51.75	+14	53	26.0	5.771 036	1.52	15.95	8	09	27
	14	9	37	29.41	14	50	30.8	5.757 689	1.53	15.99	8	06	08
	15	9	38	06.63	14	47	37.3	5.744 222	1.53	16.03	8	02	49
	16	9	38	43.41	14	44	45.7	5.730 639	1.53	16.06	7	59	30
	17	9	39	19.75	14	41	56.1	5.716 941	1.54	16.10	7	56	10
	18	9	39	55.63	14	39	08.4	5.703 131	1.54	16.14	7	52	49
	19	9	40	31.05	+14	36	22.7	5.689 214	1.55	16.18	7	49	29
	20	9	41	06.00	14	33	39.1	5.675 190	1.55	16.22	7	46	07
	21	9	41	40.48	14	30	57.6	5.661 065	1.55	16.26	7	42	46
	22	9	42	14.48	14	28	18.2	5.646 839	1.56	16.30	7	39	23
	23	9	42	47.99	14	25	41.0	5.632 516	1.56	16.34	7	36	01
	24	9	43	21.02	14	23	06.1	5.618 100	1.57	16.39	7	32	37
	25	9	43	53.55	+14	20	33.3	5.603 592	1.57	16.43	7	29	14
	26	9	44	25.58	14	18	02.9	5.588 995	1.57	16.47	7	25	50
	27	9	44	57.11	14	15	34.8	5.574 313	1.58	16.52	7	22	25
	28	9	45	28.13	14	13	09.1	5.559 547	1.58	16.56	7	18	60
	29	9	45	58.64	14	10	45.8	5.544 702	1.59	16.60	7	15	34
	30	9	46	28.63	14	08	25.0	5.529 778	1.59	16.65	7	12	08
Nov.	31	9	46	58.08	+14	06	06.8	5.514 780	1.59	16.69	7	08	41
	1	9	47	26.99	14	03	51.3	5.499 710	1.60	16.74	7	05	14
	2	9	47	55.35	14	01	38.4	5.484 571	1.60	16.79	7	01	46
	3	9	48	23.16	13	59	28.2	5.469 367	1.61	16.83	6	58	17
	4	9	48	50.39	13	57	20.9	5.454 101	1.61	16.88	6	54	48
	5	9	49	17.06	13	55	16.3	5.438 777	1.62	16.93	6	51	19
	6	9	49	43.14	+13	53	14.6	5.423 398	1.62	16.97	6	47	49
	7	9	50	08.65	13	51	15.9	5.407 968	1.63	17.02	6	44	18
	8	9	50	33.56	13	49	20.1	5.392 492	1.63	17.07	6	40	47
	9	9	50	57.88	13	47	27.3	5.376 972	1.64	17.12	6	37	15
	10	9	51	21.59	13	45	37.6	5.361 414	1.64	17.17	6	33	42
	11	9	51	44.70	13	43	51.0	5.345 821	1.65	17.22	6	30	09
	12	9	52	07.19	+13	42	07.6	5.330 197	1.65	17.27	6	26	36
	13	9	52	29.05	13	40	27.3	5.314 547	1.65	17.32	6	23	01
	14	9	52	50.29	13	38	50.4	5.298 875	1.66	17.37	6	19	26
	15	9	53	10.89	13	37	16.7	5.283 185	1.66	17.43	6	15	51
	16	9	53	30.85	+13	35	46.5	5.267 482	1.67	17.48	6	12	14

JUPITER, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Nov.	16	9	53	30.85	+13	35	46.5	5.267 482	1.67	17.48	6	12	14
	17	9	53	50.15	13	34	19.5	5.251 768	1.67	17.53	6	08	38
	18	9	54	08.81	13	32	56.1	5.236 050	1.68	17.58	6	05	00
	19	9	54	26.80	13	31	36.0	5.220 330	1.68	17.63	6	01	22
	20	9	54	44.13	13	30	19.5	5.204 613	1.69	17.69	5	57	43
	21	9	55	00.79	13	29	06.4	5.188 904	1.69	17.74	5	54	04
	22	9	55	16.77	+13	27	56.9	5.173 206	1.70	17.80	5	50	23
	23	9	55	32.09	13	26	50.9	5.157 523	1.71	17.85	5	46	43
	24	9	55	46.73	13	25	48.5	5.141 860	1.71	17.90	5	43	01
	25	9	56	00.68	13	24	49.7	5.126 220	1.72	17.96	5	39	19
Dec.	26	9	56	13.95	13	23	54.6	5.110 608	1.72	18.01	5	35	36
	27	9	56	26.52	13	23	03.2	5.095 027	1.73	18.07	5	31	52
	28	9	56	38.38	+13	22	15.6	5.079 481	1.73	18.12	5	28	08
	29	9	56	49.53	13	21	31.8	5.063 976	1.74	18.18	5	24	23
	30	9	56	59.97	13	20	51.8	5.048 514	1.74	18.24	5	20	37
	1	9	57	09.68	13	20	15.8	5.033 102	1.75	18.29	5	16	51
	2	9	57	18.66	13	19	43.6	5.017 743	1.75	18.35	5	13	04
	3	9	57	26.90	13	19	15.3	5.002 443	1.76	18.40	5	09	16
	4	9	57	34.42	+13	18	50.9	4.987 206	1.76	18.46	5	05	27
	5	9	57	41.19	13	18	30.5	4.972 038	1.77	18.52	5	01	38
	6	9	57	47.23	13	18	14.1	4.956 943	1.77	18.57	4	57	48
	7	9	57	52.52	13	18	01.7	4.941 927	1.78	18.63	4	53	57
	8	9	57	57.06	13	17	53.3	4.926 995	1.78	18.68	4	50	06
	9	9	58	00.86	13	17	48.9	4.912 153	1.79	18.74	4	46	13
	10	9	58	03.90	+13	17	48.6	4.897 404	1.80	18.80	4	42	20
	11	9	58	06.18	13	17	52.3	4.882 756	1.80	18.85	4	38	27
	12	9	58	07.71	13	18	00.2	4.868 212	1.81	18.91	4	34	32
	13	9	58	08.47	13	18	12.1	4.853 778	1.81	18.97	4	30	37
	14	9	58	08.47	13	18	28.0	4.839 459	1.82	19.02	4	26	41
	15	9	58	07.71	13	18	48.1	4.825 260	1.82	19.08	4	22	44
	16	9	58	06.19	+13	19	12.2	4.811 186	1.83	19.13	4	18	46
	17	9	58	03.91	13	19	40.3	4.797 243	1.83	19.19	4	14	48
	18	9	58	00.87	13	20	12.5	4.783 434	1.84	19.25	4	10	49
	19	9	57	57.07	13	20	48.6	4.769 766	1.84	19.30	4	06	49
	20	9	57	52.52	13	21	28.7	4.756 242	1.85	19.36	4	02	49
	21	9	57	47.22	13	22	12.8	4.742 868	1.85	19.41	3	58	47
	22	9	57	41.18	+13	23	00.7	4.729 647	1.86	19.46	3	54	45
	23	9	57	34.39	13	23	52.6	4.716 585	1.86	19.52	3	50	42
	24	9	57	26.86	13	24	48.4	4.703 686	1.87	19.57	3	46	39
	25	9	57	18.59	13	25	48.1	4.690 954	1.87	19.63	3	42	35
	26	9	57	09.58	13	26	51.7	4.678 395	1.88	19.68	3	38	30
	27	9	56	59.82	13	27	59.1	4.666 012	1.88	19.73	3	34	24
	28	9	56	49.32	+13	29	10.4	4.653 810	1.89	19.78	3	30	17
	29	9	56	38.09	13	30	25.5	4.641 794	1.89	19.83	3	26	10
	30	9	56	26.12	13	31	44.3	4.629 970	1.90	19.88	3	22	02
	31	9	56	13.44	13	33	06.8	4.618 342	1.90	19.93	3	17	54
	32	9	56	00.03	+13	34	32.9	4.606 915	1.91	19.98	3	13	44

SATURN, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector		Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector	
	°	'	"	°	'	"				°	'	"	°	'	"		
Jan.	1	1	54	58.5	-2	18	18.9	9.518 5432	Apr.	3	5	01	07.8	-2	21	07.9	9.490 1572
	3	1	59	00.6	2	18	22.9	9.517 9258		5	5	05	11.4	2	21	11.3	9.489 5408
	5	2	03	02.7	2	18	26.8	9.517 3084		7	5	09	14.9	2	21	14.7	9.488 9244
	7	2	07	04.9	2	18	30.6	9.516 6910		9	5	13	18.5	2	21	18.1	9.488 3080
	9	2	11	07.1	2	18	34.5	9.516 0736		11	5	17	22.2	2	21	21.5	9.487 6917
	11	2	15	09.4	2	18	38.4	9.515 4563		13	5	21	25.8	2	21	24.9	9.487 0755
	13	2	19	11.6	-2	18	42.3	9.514 8389		15	5	25	29.5	-2	21	28.2	9.486 4593
	15	2	23	13.9	2	18	46.1	9.514 2215		17	5	29	33.2	2	21	31.6	9.485 8431
	17	2	27	16.3	2	18	50.0	9.513 6041		19	5	33	37.0	2	21	34.9	9.485 2270
	19	2	31	18.6	2	18	53.8	9.512 9868		21	5	37	40.8	2	21	38.2	9.484 6109
	21	2	35	21.0	2	18	57.6	9.512 3694		23	5	41	44.6	2	21	41.5	9.483 9949
23	2	39	23.4	2	19	01.5	9.511 7521	25	5	45	48.5	2	21	44.8	9.483 3789		
25	2	43	25.9	-2	19	05.3	9.511 1348	27	5	49	52.4	-2	21	48.1	9.482 7630		
27	2	47	28.4	2	19	09.0	9.510 5174	29	5	53	56.3	2	21	51.4	9.482 1472		
29	2	51	30.9	2	19	12.8	9.509 9001	May	1	5	58	00.2	2	21	54.7	9.481 5314	
31	2	55	33.4	2	19	16.6	9.509 2828		3	6	02	04.2	2	21	57.9	9.480 9156	
Feb.	2	2	59	36.0	2	19	20.4		9.508 6656	5	6	06	08.2	2	22	01.2	9.480 2999
	4	3	03	38.6	2	19	24.1		9.508 0483	7	6	10	12.2	2	22	04.4	9.479 6843
6	3	07	41.3	-2	19	27.8	9.507 4310		9	6	14	16.3	-2	22	07.6	9.479 0687	
8	3	11	44.0	2	19	31.6	9.506 8138		11	6	18	20.4	2	22	10.8	9.478 4532	
10	3	15	46.7	2	19	35.3	9.506 1965		13	6	22	24.5	2	22	14.0	9.477 8378	
12	3	19	49.4	2	19	39.0	9.505 5793		15	6	26	28.7	2	22	17.2	9.477 2224	
14	3	23	52.1	2	19	42.7	9.504 9621		17	6	30	32.9	2	22	20.3	9.476 6071	
16	3	27	54.9	2	19	46.4	9.504 3450		19	6	34	37.1	2	22	23.5	9.475 9918	
18	3	31	57.8	-2	19	50.0	9.503 7278		21	6	38	41.4	-2	22	26.6	9.475 3766	
20	3	36	00.6	2	19	53.7	9.503 1107	23	6	42	45.7	2	22	29.8	9.474 7615		
22	3	40	03.5	2	19	57.3	9.502 4935	25	6	46	50.0	2	22	32.9	9.474 1464		
24	3	44	06.4	2	20	01.0	9.501 8764	27	6	50	54.3	2	22	36.0	9.473 5314		
26	3	48	09.4	2	20	04.6	9.501 2594	29	6	54	58.7	2	22	39.1	9.472 9165		
28	3	52	12.4	2	20	08.2	9.500 6423	31	6	59	03.1	2	22	42.2	9.472 3017		
Mar.	2	3	56	15.4	-2	20	11.8	9.500 0253	June	2	7	03	07.6	-2	22	45.3	9.471 6869
	4	4	00	18.4	2	20	15.4	9.499 4083		4	7	07	12.1	2	22	48.4	9.471 0722
	6	4	04	21.5	2	20	19.0	9.498 7913		6	7	11	16.6	2	22	51.4	9.470 4576
	8	4	08	24.6	2	20	22.6	9.498 1744		8	7	15	21.1	2	22	54.5	9.469 8430
	10	4	12	27.7	2	20	26.1	9.497 5575		10	7	19	25.7	2	22	57.5	9.469 2285
	12	4	16	30.9	2	20	29.7	9.496 9406		12	7	23	30.3	2	23	00.5	9.468 6141
	14	4	20	34.1	-2	20	33.2	9.496 3237		14	7	27	34.9	-2	23	03.5	9.467 9998
	16	4	24	37.3	2	20	36.7	9.495 7069		16	7	31	39.6	2	23	06.5	9.467 3856
	18	4	28	40.6	2	20	40.2	9.495 0901		18	7	35	44.3	2	23	09.5	9.466 7714
	20	4	32	43.9	2	20	43.7	9.494 4734		20	7	39	49.0	2	23	12.5	9.466 1573
	22	4	36	47.2	2	20	47.2	9.493 8567		22	7	43	53.7	2	23	15.4	9.465 5433
24	4	40	50.6	2	20	50.7	9.493 2400	24	7	47	58.5	2	23	18.4	9.464 9294		
26	4	44	54.0	-2	20	54.2	9.492 6234	26	7	52	03.3	-2	23	21.3	9.464 3156		
28	4	48	57.4	2	20	57.6	9.492 0068	28	7	56	08.2	2	23	24.3	9.463 7018		
30	4	53	00.8	2	21	01.1	9.491 3902	30	8	00	13.1	2	23	27.2	9.463 0882		
Apr.	1	4	57	04.3	2	21	04.5	9.490 7737	July	2	8	04	18.0	2	23	30.1	9.462 4746
	3	5	01	07.8	-2	21	07.9	9.490 1572		4	8	08	23.0	-2	23	33.0	9.461 8611

SATURN, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector	Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector		
	°	'	"	°	'	"			°	'	"	°	'	"			
July	2	8	04	18.0	-2	23	30.1	9.462 4746	Oct.	2	11	12	38.1	-2	25	30.8	9.434 3493
	4	8	08	23.0	2	23	33.0	9.461 8611		4	11	16	44.4	2	25	33.2	9.433 7403
	6	8	12	27.9	2	23	35.8	9.461 2477		6	11	20	50.9	2	25	35.5	9.433 1314
	8	8	16	32.9	2	23	38.7	9.460 6344		8	11	24	57.3	2	25	37.8	9.432 5226
	10	8	20	38.0	2	23	41.6	9.460 0211		10	11	29	03.8	2	25	40.1	9.431 9139
	12	8	24	43.1	2	23	44.4	9.459 4080		12	11	33	10.3	2	25	42.4	9.431 3053
	14	8	28	48.2	-2	23	47.3	9.458 7949		14	11	37	16.9	-2	25	44.7	9.430 6968
	16	8	32	53.3	2	23	50.1	9.458 1819		16	11	41	23.5	2	25	47.0	9.430 0885
	18	8	36	58.5	2	23	52.9	9.457 5690		18	11	45	30.1	2	25	49.2	9.429 4802
	20	8	41	03.6	2	23	55.7	9.456 9562		20	11	49	36.7	2	25	51.5	9.428 8721
	22	8	45	08.9	2	23	58.5	9.456 3435		22	11	53	43.4	2	25	53.7	9.428 2641
	24	8	49	14.2	2	24	01.2	9.455 7309		24	11	57	50.1	2	25	55.9	9.427 6562
Aug.	26	8	53	19.4	-2	24	04.0	9.455 1183	Nov.	26	12	01	56.8	-2	25	58.1	9.427 0484
	28	8	57	24.7	2	24	06.7	9.454 5059		28	12	06	03.6	2	26	00.3	9.426 4408
	30	9	01	30.1	2	24	09.5	9.453 8935		30	12	10	10.4	2	26	02.5	9.425 8332
	1	9	05	35.5	2	24	12.2	9.453 2813		1	12	14	17.2	2	26	04.7	9.425 2258
	3	9	09	40.9	2	24	14.9	9.452 6691		3	12	18	24.1	2	26	06.9	9.424 6185
	5	9	13	46.4	2	24	17.6	9.452 0570		5	12	22	31.0	2	26	09.0	9.424 0114
	7	9	17	51.8	-2	24	20.3	9.451 4450		7	12	26	37.9	-2	26	11.1	9.423 4043
	9	9	21	57.3	2	24	23.0	9.450 8331		9	12	30	44.9	2	26	13.3	9.422 7974
	11	9	26	02.9	2	24	25.7	9.450 2213		11	12	34	51.8	2	26	15.4	9.422 1906
	13	9	30	08.5	2	24	28.3	9.449 6096		13	12	38	58.9	2	26	17.5	9.421 5840
	15	9	34	14.1	2	24	31.0	9.448 9980		15	12	43	05.9	2	26	19.5	9.420 9775
	17	9	38	19.7	2	24	33.6	9.448 3864		17	12	47	13.0	2	26	21.6	9.420 3711
Sept.	19	9	42	25.4	-2	24	36.2	9.447 7750	Dec.	19	12	51	20.1	-2	26	23.7	9.419 7648
	21	9	46	31.1	2	24	38.8	9.447 1637		21	12	55	27.2	2	26	25.7	9.419 1587
	23	9	50	36.8	2	24	41.4	9.446 5525		23	12	59	34.4	2	26	27.8	9.418 5527
	25	9	54	42.6	2	24	44.0	9.445 9413		25	13	03	41.6	2	26	29.8	9.417 9468
	27	9	58	48.4	2	24	46.6	9.445 3303		27	13	07	48.9	2	26	31.8	9.417 3411
	29	10	02	54.2	2	24	49.1	9.444 7194		29	13	11	56.1	2	26	33.8	9.416 7355
	31	10	07	00.1	-2	24	51.7	9.444 1085		1	13	16	03.4	-2	26	35.8	9.416 1301
	2	10	11	06.0	2	24	54.2	9.443 4978		3	13	20	10.7	2	26	37.8	9.415 5248
	4	10	15	11.9	2	24	56.8	9.442 8872		5	13	24	18.1	2	26	39.7	9.414 9197
	6	10	19	17.8	2	24	59.3	9.442 2766		7	13	28	25.5	2	26	41.7	9.414 3147
	8	10	23	23.8	2	25	01.8	9.441 6662		9	13	32	32.9	2	26	43.6	9.413 7098
	10	10	27	29.8	2	25	04.3	9.441 0559		11	13	36	40.4	2	26	45.6	9.413 1051
Oct.	12	10	31	35.9	-2	25	06.7	9.440 4457		13	13	40	47.9	-2	26	47.5	9.412 5006
	14	10	35	42.0	2	25	09.2	9.439 8356		15	13	44	55.3	2	26	49.4	9.411 8962
	16	10	39	48.0	2	25	11.6	9.439 2256		17	13	49	02.9	2	26	51.2	9.411 2919
	18	10	43	54.2	2	25	14.1	9.438 6157		19	13	53	10.5	2	26	53.1	9.410 6878
	20	10	48	00.4	2	25	16.5	9.438 0059		21	13	57	18.1	2	26	55.0	9.410 0838
	22	10	52	06.6	2	25	18.9	9.437 3962		23	14	01	25.7	2	26	56.8	9.409 4800
	24	10	56	12.8	-2	25	21.3	9.436 7866		25	14	05	33.4	-2	26	58.7	9.408 8764
	26	11	00	19.1	2	25	23.7	9.436 1771		27	14	09	41.1	2	27	00.5	9.408 2729
	28	11	04	25.4	2	25	26.1	9.435 5677		29	14	13	48.8	2	27	02.3	9.407 6696
	30	11	08	31.7	2	25	28.5	9.434 9585		31	14	17	56.6	2	27	04.1	9.407 0664
	2	11	12	38.1	-2	25	30.8	9.434 3493		33	14	22	04.4	-2	27	05.9	9.406 4634

SATURN, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Jan.	0	356	06	34.8	-2	15	43.3	Feb.	15	0	06	34.0	-2	08	50.5
	1	356	10	01.9	2	15	31.5		16	0	13	14.2	2	08	45.1
	2	356	13	34.7	2	15	19.7		17	0	19	56.9	2	08	39.9
	3	356	17	13.0	2	15	08.1		18	0	26	42.2	2	08	34.8
	4	356	20	56.7	2	14	56.6		19	0	33	29.8	2	08	29.9
	5	356	24	45.8	2	14	45.1		20	0	40	19.9	2	08	25.2
	6	356	28	40.1	-2	14	33.8		21	0	47	12.2	-2	08	20.7
	7	356	32	39.7	2	14	22.6		22	0	54	06.9	2	08	16.3
	8	356	36	44.5	2	14	11.5		23	1	01	03.7	2	08	12.1
	9	356	40	54.5	2	14	00.5		24	1	08	02.7	2	08	08.1
	10	356	45	09.6	2	13	49.6		25	1	15	03.7	2	08	04.3
	11	356	49	29.9	2	13	38.9		26	1	22	06.7	2	08	00.6
	12	356	53	55.2	-2	13	28.2	Mar.	27	1	29	11.6	-2	07	57.1
	13	356	58	25.6	2	13	17.7		28	1	36	18.2	2	07	53.8
	14	357	03	01.0	2	13	07.3		1	1	43	26.4	2	07	50.7
	15	357	07	41.2	2	12	57.0		2	1	50	36.3	2	07	47.8
	16	357	12	26.3	2	12	46.8		3	1	57	47.7	2	07	45.0
	17	357	17	16.2	2	12	36.8		4	2	05	00.5	2	07	42.4
	18	357	22	10.8	-2	12	26.9		5	2	12	14.8	-2	07	40.0
	19	357	27	09.9	2	12	17.1		6	2	19	30.5	2	07	37.8
	20	357	32	13.6	2	12	07.5		7	2	26	47.6	2	07	35.7
	21	357	37	21.7	2	11	58.0		8	2	34	06.0	2	07	33.8
	22	357	42	34.1	2	11	48.7		9	2	41	25.6	2	07	32.1
	23	357	47	50.9	2	11	39.5		10	2	48	46.4	2	07	30.6
	24	357	53	11.9	-2	11	30.4		11	2	56	08.4	-2	07	29.2
	25	357	58	37.2	2	11	21.5		12	3	03	31.3	2	07	28.1
	26	358	04	06.6	2	11	12.7		13	3	10	55.2	2	07	27.1
	27	358	09	40.1	2	11	04.1		14	3	18	20.0	2	07	26.2
	28	358	15	17.6	2	10	55.7		15	3	25	45.5	2	07	25.6
	29	358	20	59.1	2	10	47.4		16	3	33	11.8	2	07	25.1
	30	358	26	44.5	-2	10	39.2		17	3	40	38.6	-2	07	24.8
	31	358	32	33.6	2	10	31.2		18	3	48	06.0	2	07	24.7
Feb.	1	358	38	26.3	2	10	23.4		19	3	55	33.9	2	07	24.8
	2	358	44	22.6	2	10	15.7		20	4	03	02.2	2	07	25.1
	3	358	50	22.4	2	10	08.2		21	4	10	30.9	2	07	25.5
	4	358	56	25.6	2	10	00.9		22	4	18	00.0	2	07	26.2
	5	359	02	32.2	-2	09	53.7		23	4	25	29.4	-2	07	27.0
	6	359	08	42.2	2	09	46.6		24	4	32	58.9	2	07	28.0
	7	359	14	55.5	2	09	39.7		25	4	40	28.5	2	07	29.3
	8	359	21	12.0	2	09	33.0		26	4	47	58.0	2	07	30.6
	9	359	27	31.8	2	09	26.5		27	4	55	27.6	2	07	32.1
	10	359	33	54.7	2	09	20.1		28	5	02	56.9	2	07	33.8
	11	359	40	20.8	-2	09	13.8	Apr.	29	5	10	26.1	-2	07	35.7
	12	359	46	49.8	2	09	07.8		30	5	17	54.9	2	07	37.7
	13	359	53	21.7	2	09	01.9		31	5	25	23.3	2	07	40.0
	14	359	59	56.5	2	08	56.1		1	5	32	51.4	2	07	42.4
	15	0	06	34.0	-2	08	50.5		2	5	40	19.0	-2	07	45.0

SATURN, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Apr.	1	5	32	51.4	-2	07	42.4	May	17	10	51	20.5	-2	12	44.6
	2	5	40	19.0	2	07	45.0		18	10	57	19.6	2	12	55.1
	3	5	47	46.1	2	07	47.8		19	11	03	15.3	2	13	05.9
	4	5	55	12.7	2	07	50.8		20	11	09	07.5	2	13	16.7
	5	6	02	38.7	2	07	54.0		21	11	14	56.2	2	13	27.8
	6	6	10	04.1	2	07	57.3		22	11	20	41.1	2	13	39.0
	7	6	17	28.8	-2	08	00.8		23	11	26	22.4	-2	13	50.3
	8	6	24	52.8	2	08	04.5		24	11	31	59.8	2	14	01.8
	9	6	32	15.8	2	08	08.3		25	11	37	33.5	2	14	13.5
	10	6	39	37.9	2	08	12.4		26	11	43	03.4	2	14	25.3
	11	6	46	59.1	2	08	16.6		27	11	48	29.4	2	14	37.2
	12	6	54	19.1	2	08	21.0		28	11	53	51.5	2	14	49.3
	13	7	01	37.9	-2	08	25.5	June	29	11	59	09.6	-2	15	01.6
	14	7	08	55.6	2	08	30.3		30	12	04	23.9	2	15	14.0
	15	7	16	11.9	2	08	35.2		31	12	09	34.0	2	15	26.5
	16	7	23	26.8	2	08	40.3		1	12	14	40.1	2	15	39.2
	17	7	30	40.4	2	08	45.6		2	12	19	42.1	2	15	52.0
	18	7	37	52.6	2	08	51.0		3	12	24	39.8	2	16	04.9
	19	7	45	03.3	-2	08	56.7		4	12	29	33.2	-2	16	18.0
	20	7	52	12.4	2	09	02.5		5	12	34	22.2	2	16	31.2
	21	7	59	19.9	2	09	08.5		6	12	39	06.8	2	16	44.5
	22	8	06	25.6	2	09	14.7		7	12	43	46.9	2	16	58.0
	23	8	13	29.5	2	09	21.0		8	12	48	22.5	2	17	11.6
	24	8	20	31.5	2	09	27.6		9	12	52	53.4	2	17	25.4
	25	8	27	31.5	-2	09	34.3		10	12	57	19.8	-2	17	39.3
	26	8	34	29.4	2	09	41.2		11	13	01	41.5	2	17	53.3
	27	8	41	25.1	2	09	48.2		12	13	05	58.4	2	18	07.4
	28	8	48	18.8	2	09	55.5		13	13	10	10.7	2	18	21.7
	29	8	55	10.3	2	10	02.9		14	13	14	18.1	2	18	36.1
	30	9	01	59.5	2	10	10.4		15	13	18	20.7	2	18	50.6
May	1	9	08	46.5	-2	10	18.2		16	13	22	18.3	-2	19	05.2
	2	9	15	31.2	2	10	26.1		17	13	26	10.9	2	19	20.0
	3	9	22	13.5	2	10	34.2		18	13	29	58.3	2	19	34.9
	4	9	28	53.5	2	10	42.4		19	13	33	40.5	2	19	49.9
	5	9	35	30.9	2	10	50.8		20	13	37	17.4	2	20	04.9
	6	9	42	05.8	2	10	59.4		21	13	40	49.1	2	20	20.1
	7	9	48	38.0	-2	11	08.1		22	13	44	15.6	-2	20	35.4
	8	9	55	07.5	2	11	17.0		23	13	47	36.7	2	20	50.8
	9	10	01	34.3	2	11	26.1		24	13	50	52.6	2	21	06.3
	10	10	07	58.1	2	11	35.3		25	13	54	03.1	2	21	21.9
	11	10	14	19.1	2	11	44.7		26	13	57	08.3	2	21	37.6
	12	10	20	37.1	2	11	54.3		27	14	00	08.0	2	21	53.3
	13	10	26	52.0	-2	12	04.0	July	28	14	03	02.4	-2	22	09.1
	14	10	33	03.8	2	12	13.9		29	14	05	51.2	2	22	25.0
	15	10	39	12.6	2	12	24.0		30	14	08	34.5	2	22	41.0
	16	10	45	18.2	2	12	34.2		1	14	11	12.2	2	22	57.1
	17	10	51	20.5	-2	12	44.6		2	14	13	44.2	-2	23	13.2

SATURN, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
July	1	14	11	12.2	-2	22	57.1	Aug.	16	14	24	24.1	-2	35	30.3
	2	14	13	44.2	2	23	13.2		17	14	22	20.2	2	35	45.1
	3	14	16	10.6	2	23	29.4		18	14	20	10.7	2	35	59.8
	4	14	18	31.2	2	23	45.7		19	14	17	55.8	2	36	14.3
	5	14	20	46.0	2	24	02.1		20	14	15	35.4	2	36	28.6
	6	14	22	55.0	2	24	18.5		21	14	13	09.6	2	36	42.7
	7	14	24	58.2	-2	24	34.9		22	14	10	38.6	-2	36	56.7
	8	14	26	55.6	2	24	51.4		23	14	08	02.3	2	37	10.5
	9	14	28	47.1	2	25	08.0		24	14	05	20.8	2	37	24.0
	10	14	30	32.7	2	25	24.6		25	14	02	34.2	2	37	37.4
	11	14	32	12.5	2	25	41.3		26	13	59	42.5	2	37	50.6
	12	14	33	46.3	2	25	58.0		27	13	56	45.9	2	38	03.5
Aug.	13	14	35	14.1	-2	26	14.7	Sept.	28	13	53	44.3	-2	38	16.3
	14	14	36	35.9	2	26	31.5		29	13	50	37.9	2	38	28.8
	15	14	37	51.5	2	26	48.3		30	13	47	26.7	2	38	41.1
	16	14	39	01.0	2	27	05.2		31	13	44	10.9	2	38	53.1
	17	14	40	04.3	2	27	22.0		1	13	40	50.6	2	39	04.9
	18	14	41	01.4	2	27	38.9		2	13	37	25.8	2	39	16.5
	19	14	41	52.3	-2	27	55.7		3	13	33	56.8	-2	39	27.8
	20	14	42	37.1	2	28	12.6		4	13	30	23.5	2	39	38.9
	21	14	43	15.8	2	28	29.5		5	13	26	46.1	2	39	49.7
	22	14	43	48.4	2	28	46.3		6	13	23	04.5	2	40	00.3
	23	14	44	14.9	2	29	03.2		7	13	19	19.0	2	40	10.6
	24	14	44	35.3	2	29	20.0		8	13	15	29.6	2	40	20.6
	25	14	44	49.6	-2	29	36.8		9	13	11	36.3	-2	40	30.3
	26	14	44	57.7	2	29	53.5		10	13	07	39.4	2	40	39.7
	27	14	44	59.8	2	30	10.3		11	13	03	38.8	2	40	48.9
	28	14	44	55.7	2	30	27.0		12	12	59	34.9	2	40	57.7
	29	14	44	45.4	2	30	43.6		13	12	55	27.7	2	41	06.2
	30	14	44	29.0	2	31	00.2		14	12	51	17.4	2	41	14.5
Aug.	31	14	44	06.4	-2	31	16.8	Oct.	15	12	47	04.2	-2	41	22.4
	1	14	43	37.7	2	31	33.3		16	12	42	48.2	2	41	30.0
	2	14	43	02.8	2	31	49.7		17	12	38	29.5	2	41	37.2
	3	14	42	21.8	2	32	06.0		18	12	34	08.3	2	41	44.2
	4	14	41	34.8	2	32	22.3		19	12	29	44.7	2	41	50.8
	5	14	40	41.7	2	32	38.6		20	12	25	18.9	2	41	57.0
	6	14	39	42.6	-2	32	54.7		21	12	20	50.8	-2	42	03.0
	7	14	38	37.5	2	33	10.7		22	12	16	20.7	2	42	08.5
	8	14	37	26.5	2	33	26.7		23	12	11	48.8	2	42	13.8
	9	14	36	09.5	2	33	42.6		24	12	07	15.1	2	42	18.7
	10	14	34	46.5	2	33	58.3		25	12	02	39.7	2	42	23.3
	11	14	33	17.5	2	34	14.0		26	11	58	02.9	2	42	27.5
	12	14	31	42.6	-2	34	29.5		27	11	53	24.8	-2	42	31.4
	13	14	30	01.7	2	34	44.9		28	11	48	45.6	2	42	34.9
	14	14	28	15.0	2	35	00.2		29	11	44	05.3	2	42	38.1
	15	14	26	22.4	2	35	15.3		30	11	39	24.3	2	42	40.9
	16	14	24	24.1	-2	35	30.3		1	11	34	42.7	-2	42	43.4

SATURN, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Oct.	1	11	34	42.7	-2	42	43.4	Nov.	16	8	29	01.3	-2	38	31.5
	2	11	30	00.4	2	42	45.5		17	8	26	29.4	2	38	19.3
	3	11	25	17.8	2	42	47.3		18	8	24	03.0	2	38	07.0
	4	11	20	34.9	2	42	48.7		19	8	21	42.3	2	37	54.4
	5	11	15	51.8	2	42	49.7		20	8	19	27.4	2	37	41.7
	6	11	11	08.7	2	42	50.4		21	8	17	18.2	2	37	28.8
	7	11	06	25.6	-2	42	50.7		22	8	15	14.9	-2	37	15.7
	8	11	01	42.9	2	42	50.7		23	8	13	17.6	2	37	02.5
	9	10	57	00.7	2	42	50.3		24	8	11	26.4	2	36	49.1
	10	10	52	19.1	2	42	49.6		25	8	09	41.2	2	36	35.5
	11	10	47	38.4	2	42	48.5		26	8	08	02.2	2	36	21.9
	12	10	42	58.8	2	42	47.0		27	8	06	29.2	2	36	08.0
	13	10	38	20.3	-2	42	45.1	Dec.	28	8	05	02.4	-2	35	54.1
	14	10	33	43.3	2	42	42.9		29	8	03	41.7	2	35	40.0
	15	10	29	07.7	2	42	40.4		30	8	02	27.3	2	35	25.8
	16	10	24	33.8	2	42	37.5		1	8	01	19.0	2	35	11.5
	17	10	20	01.7	2	42	34.2		2	8	00	17.1	2	34	57.0
	18	10	15	31.6	2	42	30.6		3	7	59	21.5	2	34	42.5
	19	10	11	03.5	-2	42	26.6		4	7	58	32.3	-2	34	27.9
	20	10	06	37.6	2	42	22.3		5	7	57	49.7	2	34	13.1
	21	10	02	14.1	2	42	17.6		6	7	57	13.6	2	33	58.3
	22	9	57	53.1	2	42	12.7		7	7	56	44.0	2	33	43.4
	23	9	53	34.6	2	42	07.3		8	7	56	21.1	2	33	28.4
	24	9	49	19.0	2	42	01.7		9	7	56	04.7	2	33	13.4
	25	9	45	06.3	-2	41	55.7		10	7	55	54.9	-2	32	58.2
	26	9	40	56.7	2	41	49.5		11	7	55	51.7	2	32	43.1
	27	9	36	50.4	2	41	42.9		12	7	55	55.2	2	32	27.8
	28	9	32	47.4	2	41	36.0		13	7	56	05.2	2	32	12.6
	29	9	28	47.9	2	41	28.7		14	7	56	21.8	2	31	57.3
	30	9	24	52.0	2	41	21.2		15	7	56	44.9	2	31	41.9
	31	9	20	59.8	-2	41	13.4		16	7	57	14.6	-2	31	26.6
	1	9	17	11.3	2	41	05.3		17	7	57	50.9	2	31	11.2
	2	9	13	26.7	2	40	56.9		18	7	58	33.8	2	30	55.8
	3	9	09	46.1	2	40	48.2		19	7	59	23.3	2	30	40.4
	4	9	06	09.7	2	40	39.3		20	8	00	19.3	2	30	25.0
	5	9	02	37.5	2	40	30.0		21	8	01	21.9	2	30	09.7
Nov.	6	8	59	09.7	-2	40	20.5		22	8	02	31.2	-2	29	54.3
	7	8	55	46.5	2	40	10.7		23	8	03	46.9	2	29	38.9
	8	8	52	27.9	2	40	00.7		24	8	05	09.2	2	29	23.6
	9	8	49	14.2	2	39	50.4		25	8	06	37.8	2	29	08.3
	10	8	46	05.4	2	39	39.8		26	8	08	12.9	2	28	53.0
	11	8	43	01.7	2	39	29.0		27	8	09	54.2	2	28	37.8
	12	8	40	03.0	-2	39	17.9		28	8	11	41.9	-2	28	22.6
	13	8	37	09.6	2	39	06.7		29	8	13	35.8	2	28	07.4
	14	8	34	21.5	2	38	55.1		30	8	15	36.0	2	27	52.3
	15	8	31	38.6	2	38	43.4		31	8	17	42.5	2	27	37.2
	16	8	29	01.3	-2	38	31.5		32	8	19	55.3	-2	27	22.2

SATURN, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Jan.	0	23	49	19.05	-3	37	20.2	9.699 087	0.91	7.61	17	07	57
	1	23	49	31.42	3	35	47.1	9.715 174	0.91	7.60	17	04	14
	2	23	49	44.14	3	34	11.8	9.731 190	0.90	7.59	17	00	30
	3	23	49	57.20	3	32	34.3	9.747 133	0.90	7.57	16	56	48
	4	23	50	10.60	3	30	54.9	9.762 999	0.90	7.56	16	53	05
	5	23	50	24.32	3	29	13.3	9.778 783	0.90	7.55	16	49	23
	6	23	50	38.37	-3	27	29.8	9.794 481	0.90	7.54	16	45	41
	7	23	50	52.74	3	25	44.3	9.810 090	0.90	7.52	16	42	00
	8	23	51	07.43	3	23	56.8	9.825 606	0.90	7.51	16	38	19
	9	23	51	22.45	3	22	07.4	9.841 024	0.89	7.50	16	34	38
	10	23	51	37.78	3	20	16.0	9.856 340	0.89	7.49	16	30	58
	11	23	51	53.43	3	18	22.7	9.871 551	0.89	7.48	16	27	18
	12	23	52	09.39	-3	16	27.4	9.886 652	0.89	7.47	16	23	38
	13	23	52	25.66	3	14	30.3	9.901 639	0.89	7.46	16	19	58
	14	23	52	42.24	3	12	31.2	9.916 508	0.89	7.44	16	16	19
	15	23	52	59.12	3	10	30.4	9.931 254	0.89	7.43	16	12	40
	16	23	53	16.30	3	08	27.7	9.945 874	0.88	7.42	16	09	02
	17	23	53	33.78	3	06	23.3	9.960 364	0.88	7.41	16	05	23
	18	23	53	51.54	-3	04	17.1	9.974 720	0.88	7.40	16	01	45
	19	23	54	09.59	3	02	09.2	9.988 937	0.88	7.39	15	58	07
	20	23	54	27.92	2	59	59.6	10.003 013	0.88	7.38	15	54	30
	21	23	54	46.52	2	57	48.4	10.016 942	0.88	7.37	15	50	53
	22	23	55	05.40	2	55	35.5	10.030 721	0.88	7.36	15	47	16
	23	23	55	24.54	2	53	21.1	10.044 348	0.88	7.35	15	43	39
	24	23	55	43.94	-2	51	05.1	10.057 817	0.87	7.34	15	40	03
	25	23	56	03.61	2	48	47.6	10.071 127	0.87	7.33	15	36	26
	26	23	56	23.53	2	46	28.6	10.084 273	0.87	7.32	15	32	50
	27	23	56	43.71	2	44	08.0	10.097 253	0.87	7.31	15	29	15
	28	23	57	04.13	2	41	46.0	10.110 064	0.87	7.30	15	25	39
	29	23	57	24.81	2	39	22.6	10.122 703	0.87	7.29	15	22	04
	30	23	57	45.72	-2	36	57.7	10.135 167	0.87	7.28	15	18	29
	31	23	58	06.86	2	34	31.6	10.147 455	0.87	7.27	15	14	54
Feb.	1	23	58	28.23	2	32	04.1	10.159 563	0.87	7.27	15	11	20
	2	23	58	49.82	2	29	35.3	10.171 489	0.86	7.26	15	07	46
	3	23	59	11.63	2	27	05.3	10.183 230	0.86	7.25	15	04	12
	4	23	59	33.65	2	24	34.1	10.194 785	0.86	7.24	15	00	38
	5	23	59	55.89	-2	22	01.7	10.206 150	0.86	7.23	14	57	04
	6	0	00	18.33	2	19	28.1	10.217 323	0.86	7.22	14	53	31
	7	0	00	40.98	2	16	53.3	10.228 301	0.86	7.22	14	49	57
	8	0	01	03.83	2	14	17.3	10.239 082	0.86	7.21	14	46	24
	9	0	01	26.89	2	11	40.3	10.249 664	0.86	7.20	14	42	51
	10	0	01	50.14	2	09	02.1	10.260 042	0.86	7.19	14	39	19
	11	0	02	13.58	-2	06	22.8	10.270 216	0.86	7.19	14	35	46
	12	0	02	37.21	2	03	42.5	10.280 181	0.86	7.18	14	32	14
	13	0	03	01.02	2	01	01.2	10.289 937	0.85	7.17	14	28	42
	14	0	03	25.01	1	58	18.9	10.299 480	0.85	7.17	14	25	10
	15	0	03	49.17	-1	55	35.7	10.308 808	0.85	7.16	14	21	38

SATURN, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Feb.	15	0	03	49.17	-1	55	35.7	10.308 808	0.85	7.16	14	21	38
	16	0	04	13.50	1	52	51.6	10.317 919	0.85	7.15	14	18	07
	17	0	04	37.99	1	50	06.6	10.326 810	0.85	7.15	14	14	35
	18	0	05	02.63	1	47	20.8	10.335 480	0.85	7.14	14	11	04
	19	0	05	27.43	1	44	34.2	10.343 925	0.85	7.14	14	07	33
	20	0	05	52.38	1	41	46.9	10.352 145	0.85	7.13	14	04	02
	21	0	06	17.47	-1	38	58.7	10.360 137	0.85	7.13	14	00	31
	22	0	06	42.71	1	36	09.9	10.367 900	0.85	7.12	13	57	00
	23	0	07	08.08	1	33	20.3	10.375 432	0.85	7.11	13	53	29
	24	0	07	33.59	1	30	30.1	10.382 733	0.85	7.11	13	49	59
Mar.	25	0	07	59.23	1	27	39.2	10.389 800	0.85	7.11	13	46	29
	26	0	08	25.00	1	24	47.7	10.396 632	0.85	7.10	13	42	58
	27	0	08	50.88	-1	21	55.6	10.403 230	0.85	7.10	13	39	28
	28	0	09	16.88	1	19	03.0	10.409 591	0.84	7.09	13	35	58
	1	0	09	42.98	1	16	10.0	10.415 715	0.84	7.09	13	32	28
	2	0	10	09.19	1	13	16.4	10.421 602	0.84	7.08	13	28	59
	3	0	10	35.49	1	10	22.5	10.427 250	0.84	7.08	13	25	29
	4	0	11	01.88	1	07	28.1	10.432 658	0.84	7.08	13	21	59
	5	0	11	28.37	-1	04	33.4	10.437 825	0.84	7.07	13	18	30
	6	0	11	54.95	1	01	38.2	10.442 751	0.84	7.07	13	15	01
	7	0	12	21.62	0	58	42.7	10.447 434	0.84	7.07	13	11	31
	8	0	12	48.38	0	55	46.9	10.451 874	0.84	7.06	13	08	02
	9	0	13	15.21	0	52	50.7	10.456 069	0.84	7.06	13	04	33
	10	0	13	42.12	0	49	54.3	10.460 019	0.84	7.06	13	01	04
	11	0	14	09.11	-0	46	57.6	10.463 722	0.84	7.05	12	57	35
	12	0	14	36.16	0	44	00.7	10.467 178	0.84	7.05	12	54	06
	13	0	15	03.28	0	41	03.6	10.470 385	0.84	7.05	12	50	37
	14	0	15	30.45	0	38	06.3	10.473 344	0.84	7.05	12	47	08
	15	0	15	57.68	0	35	08.9	10.476 052	0.84	7.05	12	43	39
	16	0	16	24.95	0	32	11.4	10.478 510	0.84	7.04	12	40	10
	17	0	16	52.27	-0	29	13.9	10.480 717	0.84	7.04	12	36	42
	18	0	17	19.62	0	26	16.3	10.482 671	0.84	7.04	12	33	13
	19	0	17	47.01	0	23	18.7	10.484 374	0.84	7.04	12	29	44
	20	0	18	14.44	0	20	21.2	10.485 824	0.84	7.04	12	26	16
	21	0	18	41.89	0	17	23.7	10.487 021	0.84	7.04	12	22	47
	22	0	19	09.37	0	14	26.3	10.487 965	0.84	7.04	12	19	19
	23	0	19	36.87	-0	11	29.0	10.488 657	0.84	7.04	12	15	50
	24	0	20	04.39	0	08	31.8	10.489 097	0.84	7.04	12	12	22
	25	0	20	31.92	0	05	34.8	10.489 285	0.84	7.04	12	08	53
	26	0	20	59.46	-0	02	38.0	10.489 221	0.84	7.04	12	05	25
Apr.	27	0	21	26.99	+0	00	18.7	10.488 907	0.84	7.04	12	01	56
	28	0	21	54.52	0	03	15.1	10.488 342	0.84	7.04	11	58	27
	29	0	22	22.04	+0	06	11.2	10.487 529	0.84	7.04	11	54	59
	30	0	22	49.55	0	09	07.0	10.486 466	0.84	7.04	11	51	30
	31	0	23	17.04	0	12	02.4	10.485 155	0.84	7.04	11	48	02
	1	0	23	44.52	0	14	57.4	10.483 597	0.84	7.04	11	44	33
	2	0	24	11.97	+0	17	52.1	10.481 791	0.84	7.04	11	41	05

SATURN, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Apr.	1	0	23	44.52	+0	14	57.4	10.483 597	0.84	7.04	11	44	33
	2	0	24	11.97	0	17	52.1	10.481 791	0.84	7.04	11	41	05
	3	0	24	39.40	0	20	46.4	10.479 739	0.84	7.04	11	37	36
	4	0	25	06.81	0	23	40.2	10.477 440	0.84	7.05	11	34	07
	5	0	25	34.18	0	26	33.6	10.474 897	0.84	7.05	11	30	39
	6	0	26	01.52	0	29	26.6	10.472 107	0.84	7.05	11	27	10
	7	0	26	28.83	+0	32	19.1	10.469 074	0.84	7.05	11	23	41
	8	0	26	56.09	0	35	11.1	10.465 796	0.84	7.05	11	20	12
	9	0	27	23.31	0	38	02.6	10.462 274	0.84	7.06	11	16	44
	10	0	27	50.47	0	40	53.4	10.458 510	0.84	7.06	11	13	15
	11	0	28	17.58	0	43	43.7	10.454 503	0.84	7.06	11	09	46
	12	0	28	44.63	0	46	33.4	10.450 255	0.84	7.06	11	06	17
	13	0	29	11.62	+0	49	22.3	10.445 765	0.84	7.07	11	02	48
	14	0	29	38.53	0	52	10.6	10.441 036	0.84	7.07	10	59	18
	15	0	30	05.37	0	54	58.2	10.436 067	0.84	7.07	10	55	49
	16	0	30	32.13	0	57	45.0	10.430 860	0.84	7.08	10	52	20
	17	0	30	58.82	1	00	31.1	10.425 415	0.84	7.08	10	48	50
	18	0	31	25.43	1	03	16.3	10.419 735	0.84	7.08	10	45	21
	19	0	31	51.95	+1	06	00.8	10.413 820	0.84	7.09	10	41	51
	20	0	32	18.38	1	08	44.5	10.407 672	0.84	7.09	10	38	22
	21	0	32	44.72	1	11	27.3	10.401 293	0.85	7.10	10	34	52
	22	0	33	10.95	1	14	09.2	10.394 685	0.85	7.10	10	31	22
	23	0	33	37.09	1	16	50.2	10.387 850	0.85	7.11	10	27	52
	24	0	34	03.11	1	19	30.2	10.380 789	0.85	7.11	10	24	22
	25	0	34	29.01	+1	22	09.2	10.373 505	0.85	7.12	10	20	52
	26	0	34	54.79	1	24	47.2	10.365 999	0.85	7.12	10	17	22
	27	0	35	20.45	1	27	24.1	10.358 274	0.85	7.13	10	13	51
	28	0	35	45.98	1	30	00.1	10.350 331	0.85	7.13	10	10	21
	29	0	36	11.39	1	32	34.9	10.342 172	0.85	7.14	10	06	50
	30	0	36	36.67	1	35	08.7	10.333 799	0.85	7.14	10	03	19
May	1	0	37	01.81	+1	37	41.3	10.325 214	0.85	7.15	9	59	48
	2	0	37	26.82	1	40	12.9	10.316 419	0.85	7.16	9	56	17
	3	0	37	51.70	1	42	43.3	10.307 414	0.85	7.16	9	52	46
	4	0	38	16.43	1	45	12.6	10.298 203	0.85	7.17	9	49	14
	5	0	38	41.01	1	47	40.8	10.288 787	0.85	7.17	9	45	43
	6	0	39	05.44	1	50	07.7	10.279 167	0.86	7.18	9	42	11
	7	0	39	29.72	+1	52	33.4	10.269 346	0.86	7.19	9	38	39
	8	0	39	53.84	1	54	57.8	10.259 325	0.86	7.20	9	35	07
	9	0	40	17.79	1	57	20.9	10.249 106	0.86	7.20	9	31	35
	10	0	40	41.58	1	59	42.8	10.238 692	0.86	7.21	9	28	03
	11	0	41	05.19	2	02	03.2	10.228 083	0.86	7.22	9	24	30
	12	0	41	28.62	2	04	22.4	10.217 282	0.86	7.23	9	20	58
	13	0	41	51.87	+2	06	40.1	10.206 292	0.86	7.23	9	17	25
	14	0	42	14.94	2	08	56.4	10.195 114	0.86	7.24	9	13	52
	15	0	42	37.83	2	11	11.3	10.183 752	0.86	7.25	9	10	19
	16	0	43	00.52	2	13	24.7	10.172 206	0.86	7.26	9	06	45
	17	0	43	23.03	+2	15	36.7	10.160 480	0.87	7.27	9	03	12

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
May	17	0	43	23.03	+2	15	36.7	10.160 480	0.87	7.27	9	03	12
	18	0	43	45.34	2	17	47.3	10.148 578	0.87	7.27	8	59	38
	19	0	44	07.45	2	19	56.3	10.136 501	0.87	7.28	8	56	04
	20	0	44	29.35	2	22	03.8	10.124 253	0.87	7.29	8	52	30
	21	0	44	51.04	2	24	09.6	10.111 838	0.87	7.30	8	48	55
	22	0	45	12.51	2	26	13.9	10.099 257	0.87	7.31	8	45	21
	23	0	45	33.75	+2	28	16.5	10.086 515	0.87	7.32	8	41	46
	24	0	45	54.77	2	30	17.5	10.073 615	0.87	7.33	8	38	11
	25	0	46	15.56	2	32	16.8	10.060 559	0.87	7.34	8	34	35
	26	0	46	36.12	2	34	14.5	10.047 350	0.88	7.35	8	30	60
	27	0	46	56.45	2	36	10.4	10.033 992	0.88	7.36	8	27	24
	28	0	47	16.55	2	38	04.7	10.020 487	0.88	7.37	8	23	48
	29	0	47	36.41	+2	39	57.3	10.006 839	0.88	7.38	8	20	12
	30	0	47	56.03	2	41	48.1	9.993 050	0.88	7.39	8	16	35
	31	0	48	15.41	2	43	37.3	9.979 122	0.88	7.40	8	12	59
	1	0	48	34.54	2	45	24.6	9.965 060	0.88	7.41	8	09	22
June	2	0	48	53.42	2	47	10.2	9.950 865	0.88	7.42	8	05	45
	3	0	49	12.05	2	48	54.0	9.936 541	0.89	7.43	8	02	07
	4	0	49	30.42	+2	50	36.0	9.922 090	0.89	7.44	7	58	29
	5	0	49	48.52	2	52	16.1	9.907 516	0.89	7.45	7	54	51
	6	0	50	06.36	2	53	54.3	9.892 821	0.89	7.46	7	51	13
	7	0	50	23.92	2	55	30.6	9.878 009	0.89	7.47	7	47	35
	8	0	50	41.22	2	57	05.0	9.863 083	0.89	7.48	7	43	56
	9	0	50	58.23	2	58	37.5	9.848 045	0.89	7.50	7	40	17
	10	0	51	14.96	+3	00	08.0	9.832 899	0.89	7.51	7	36	37
	11	0	51	31.41	3	01	36.6	9.817 648	0.90	7.52	7	32	58
	12	0	51	47.58	3	03	03.2	9.802 296	0.90	7.53	7	29	18
	13	0	52	03.45	3	04	27.7	9.786 847	0.90	7.54	7	25	38
	14	0	52	19.04	3	05	50.4	9.771 304	0.90	7.55	7	21	57
	15	0	52	34.34	3	07	10.9	9.755 670	0.90	7.57	7	18	16
	16	0	52	49.33	+3	08	29.5	9.739 951	0.90	7.58	7	14	35
	17	0	53	04.01	3	09	45.9	9.724 151	0.90	7.59	7	10	54
	18	0	53	18.38	3	11	00.2	9.708 272	0.91	7.60	7	07	12
	19	0	53	32.43	3	12	12.4	9.692 321	0.91	7.62	7	03	30
	20	0	53	46.17	3	13	22.5	9.676 300	0.91	7.63	6	59	48
	21	0	53	59.59	3	14	30.3	9.660 214	0.91	7.64	6	56	05
	22	0	54	12.68	+3	15	36.1	9.644 067	0.91	7.65	6	52	22
	23	0	54	25.45	3	16	39.7	9.627 863	0.91	7.67	6	48	39
	24	0	54	37.90	3	17	41.1	9.611 605	0.91	7.68	6	44	55
	25	0	54	50.03	3	18	40.3	9.595 297	0.92	7.69	6	41	11
	26	0	55	01.83	3	19	37.4	9.578 944	0.92	7.71	6	37	27
	27	0	55	13.30	3	20	32.3	9.562 549	0.92	7.72	6	33	42
	28	0	55	24.43	+3	21	25.0	9.546 116	0.92	7.73	6	29	57
	29	0	55	35.23	3	22	15.6	9.529 649	0.92	7.75	6	26	12
	30	0	55	45.69	3	23	03.9	9.513 151	0.92	7.76	6	22	27
	1	0	55	55.81	3	23	49.9	9.496 627	0.93	7.77	6	18	41
	2	0	56	05.59	+3	24	33.7	9.480 079	0.93	7.79	6	14	54

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
July	1	0	55	55.81	+3	23	49.9	9.496 627	0.93	7.77	6	18	41
	2	0	56	05.59	3	24	33.7	9.480 079	0.93	7.79	6	14	54
	3	0	56	15.01	3	25	15.3	9.463 512	0.93	7.80	6	11	08
	4	0	56	24.09	3	25	54.5	9.446 930	0.93	7.81	6	07	21
	5	0	56	32.81	3	26	31.4	9.430 337	0.93	7.83	6	03	33
	6	0	56	41.17	3	27	06.1	9.413 737	0.93	7.84	5	59	46
	7	0	56	49.18	+3	27	38.4	9.397 133	0.94	7.86	5	55	58
	8	0	56	56.83	3	28	08.4	9.380 530	0.94	7.87	5	52	09
	9	0	57	04.12	3	28	36.1	9.363 932	0.94	7.88	5	48	21
	10	0	57	11.06	3	29	01.5	9.347 344	0.94	7.90	5	44	31
	11	0	57	17.63	3	29	24.5	9.330 769	0.94	7.91	5	40	42
	12	0	57	23.83	3	29	45.3	9.314 213	0.94	7.93	5	36	52
	13	0	57	29.67	+3	30	03.7	9.297 681	0.95	7.94	5	33	02
	14	0	57	35.14	3	30	19.7	9.281 176	0.95	7.95	5	29	11
	15	0	57	40.23	3	30	33.3	9.264 704	0.95	7.97	5	25	20
	16	0	57	44.94	3	30	44.6	9.248 271	0.95	7.98	5	21	29
	17	0	57	49.27	3	30	53.4	9.231 880	0.95	8.00	5	17	37
	18	0	57	53.22	3	30	59.9	9.215 536	0.95	8.01	5	13	45
	19	0	57	56.79	+3	31	03.9	9.199 245	0.96	8.02	5	09	53
	20	0	57	59.98	3	31	05.6	9.183 010	0.96	8.04	5	06	00
	21	0	58	02.80	3	31	05.0	9.166 837	0.96	8.05	5	02	07
	22	0	58	05.24	3	31	02.0	9.150 730	0.96	8.07	4	58	13
	23	0	58	07.31	3	30	56.6	9.134 692	0.96	8.08	4	54	19
	24	0	58	08.99	3	30	48.9	9.118 729	0.96	8.10	4	50	25
	25	0	58	10.31	+3	30	38.9	9.102 845	0.97	8.11	4	46	30
	26	0	58	11.24	3	30	26.6	9.087 044	0.97	8.12	4	42	35
	27	0	58	11.80	3	30	11.9	9.071 331	0.97	8.14	4	38	40
	28	0	58	11.97	3	29	55.0	9.055 709	0.97	8.15	4	34	44
	29	0	58	11.77	3	29	35.7	9.040 182	0.97	8.17	4	30	48
	30	0	58	11.19	3	29	14.0	9.024 756	0.97	8.18	4	26	51
Aug.	31	0	58	10.22	+3	28	50.1	9.009 434	0.98	8.19	4	22	54
	1	0	58	08.88	3	28	23.8	8.994 221	0.98	8.21	4	18	57
	2	0	58	07.15	3	27	55.3	8.979 120	0.98	8.22	4	14	59
	3	0	58	05.05	3	27	24.4	8.964 137	0.98	8.24	4	11	01
	4	0	58	02.57	3	26	51.2	8.949 275	0.98	8.25	4	07	03
	5	0	57	59.72	3	26	15.8	8.934 539	0.98	8.26	4	03	04
	6	0	57	56.50	+3	25	38.2	8.919 933	0.99	8.28	3	59	05
	7	0	57	52.91	3	24	58.3	8.905 462	0.99	8.29	3	55	05
	8	0	57	48.94	3	24	16.2	8.891 131	0.99	8.30	3	51	06
	9	0	57	44.61	3	23	31.9	8.876 944	0.99	8.32	3	47	05
	10	0	57	39.91	3	22	45.4	8.862 907	0.99	8.33	3	43	05
	11	0	57	34.84	3	21	56.7	8.849 023	0.99	8.34	3	39	04
	12	0	57	29.39	+3	21	05.8	8.835 299	1.00	8.36	3	35	02
	13	0	57	23.58	3	20	12.7	8.821 738	1.00	8.37	3	31	00
	14	0	57	17.40	3	19	17.5	8.808 347	1.00	8.38	3	26	58
	15	0	57	10.87	3	18	20.2	8.795 128	1.00	8.39	3	22	56
	16	0	57	03.97	+3	17	20.8	8.782 087	1.00	8.41	3	18	53

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Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Aug.	16	0	57	03.97	+3	17	20.8	8.782 087	1.00	8.41	3	18	53
	17	0	56	56.73	3	16	19.3	8.769 227	1.00	8.42	3	14	50
	18	0	56	49.14	3	15	15.9	8.756 554	1.00	8.43	3	10	46
	19	0	56	41.21	3	14	10.4	8.744 071	1.01	8.44	3	06	43
	20	0	56	32.94	3	13	03.1	8.731 782	1.01	8.45	3	02	38
	21	0	56	24.33	3	11	53.8	8.719 691	1.01	8.47	2	58	34
	22	0	56	15.40	+3	10	42.6	8.707 803	1.01	8.48	2	54	29
	23	0	56	06.14	3	09	29.6	8.696 120	1.01	8.49	2	50	24
	24	0	55	56.56	3	08	14.8	8.684 646	1.01	8.50	2	46	18
	25	0	55	46.65	3	06	58.2	8.673 385	1.01	8.51	2	42	13
Sept.	26	0	55	36.43	3	05	39.8	8.662 341	1.02	8.52	2	38	07
	27	0	55	25.90	3	04	19.6	8.651 517	1.02	8.53	2	34	00
	28	0	55	15.06	+3	02	57.8	8.640 916	1.02	8.54	2	29	53
	29	0	55	03.92	3	01	34.2	8.630 543	1.02	8.55	2	25	46
	30	0	54	52.48	3	00	09.0	8.620 400	1.02	8.56	2	21	39
	31	0	54	40.75	2	58	42.3	8.610 490	1.02	8.57	2	17	31
	1	0	54	28.74	2	57	13.9	8.600 818	1.02	8.58	2	13	24
	2	0	54	16.45	2	55	44.1	8.591 387	1.02	8.59	2	09	15
	3	0	54	03.89	+2	54	12.8	8.582 201	1.02	8.60	2	05	07
	4	0	53	51.06	2	52	40.1	8.573 262	1.03	8.61	2	00	58
	5	0	53	37.97	2	51	06.0	8.564 574	1.03	8.62	1	56	49
	6	0	53	24.63	2	49	30.5	8.556 142	1.03	8.63	1	52	40
	7	0	53	11.04	2	47	53.8	8.547 968	1.03	8.64	1	48	31
	8	0	52	57.19	2	46	15.7	8.540 056	1.03	8.64	1	44	21
	9	0	52	43.11	+2	44	36.4	8.532 410	1.03	8.65	1	40	11
	10	0	52	28.79	2	42	56.0	8.525 033	1.03	8.66	1	36	01
	11	0	52	14.25	2	41	14.4	8.517 927	1.03	8.67	1	31	51
	12	0	51	59.49	2	39	31.7	8.511 096	1.03	8.67	1	27	40
	13	0	51	44.52	2	37	48.0	8.504 542	1.03	8.68	1	23	29
	14	0	51	29.36	2	36	03.4	8.498 269	1.03	8.69	1	19	18
	15	0	51	14.01	+2	34	17.9	8.492 277	1.04	8.69	1	15	07
	16	0	50	58.48	2	32	31.6	8.486 571	1.04	8.70	1	10	56
	17	0	50	42.78	2	30	44.5	8.481 151	1.04	8.70	1	06	44
	18	0	50	26.91	2	28	56.7	8.476 019	1.04	8.71	1	02	32
	19	0	50	10.90	2	27	08.3	8.471 178	1.04	8.71	0	58	21
	20	0	49	54.73	2	25	19.3	8.466 628	1.04	8.72	0	54	09
	21	0	49	38.43	+2	23	29.7	8.462 372	1.04	8.72	0	49	56
	22	0	49	21.99	2	21	39.7	8.458 411	1.04	8.73	0	45	44
	23	0	49	05.43	2	19	49.2	8.454 746	1.04	8.73	0	41	32
	24	0	48	48.75	2	17	58.2	8.451 379	1.04	8.73	0	37	19
Oct.	25	0	48	31.96	2	16	07.0	8.448 310	1.04	8.74	0	33	07
	26	0	48	15.08	2	14	15.4	8.445 541	1.04	8.74	0	28	54
	27	0	47	58.11	+2	12	23.7	8.443 073	1.04	8.74	0	24	41
	28	0	47	41.06	2	10	31.8	8.440 906	1.04	8.75	0	20	28
	29	0	47	23.95	2	08	39.8	8.439 042	1.04	8.75	0	16	15
	30	0	47	06.78	2	06	47.7	8.437 482	1.04	8.75	0	12	02
	1	0	46	49.56	+2	04	55.7	8.436 226	1.04	8.75	0	07	49

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Oct.	1	0	46	49.56	+2	04	55.7	8.436 226	1.04	8.75	0	07	49
	2	0	46	32.30	2	03	03.8	8.435 275	1.04	8.75	0	03	36
	3	0	46	15.00	2	01	12.1	8.434 631	1.04	8.75	23	55	10
	4	0	45	57.68	1	59	20.5	8.434 295	1.04	8.75	23	50	57
	5	0	45	40.34	1	57	29.2	8.434 266	1.04	8.75	23	46	44
	6	0	45	22.99	1	55	38.2	8.434 546	1.04	8.75	23	42	31
	7	0	45	05.64	+1	53	47.5	8.435 135	1.04	8.75	23	38	17
	8	0	44	48.30	1	51	57.2	8.436 033	1.04	8.75	23	34	04
	9	0	44	30.98	1	50	07.5	8.437 241	1.04	8.75	23	29	51
	10	0	44	13.69	1	48	18.2	8.438 757	1.04	8.75	23	25	38
	11	0	43	56.45	1	46	29.7	8.440 582	1.04	8.75	23	21	25
	12	0	43	39.26	1	44	41.8	8.442 716	1.04	8.74	23	17	12
	13	0	43	22.14	+1	42	54.7	8.445 156	1.04	8.74	23	12	59
	14	0	43	05.09	1	41	08.5	8.447 903	1.04	8.74	23	08	47
	15	0	42	48.13	1	39	23.1	8.450 955	1.04	8.74	23	04	34
	16	0	42	31.27	1	37	38.8	8.454 311	1.04	8.73	23	00	21
	17	0	42	14.50	1	35	55.4	8.457 970	1.04	8.73	22	56	09
	18	0	41	57.85	1	34	13.1	8.461 929	1.04	8.72	22	51	57
	19	0	41	41.31	+1	32	31.9	8.466 188	1.04	8.72	22	47	44
	20	0	41	24.90	1	30	51.8	8.470 744	1.04	8.71	22	43	32
	21	0	41	08.63	1	29	13.0	8.475 595	1.04	8.71	22	39	20
	22	0	40	52.50	1	27	35.4	8.480 740	1.04	8.70	22	35	08
	23	0	40	36.52	1	25	59.1	8.486 176	1.04	8.70	22	30	57
	24	0	40	20.71	1	24	24.2	8.491 902	1.04	8.69	22	26	45
	25	0	40	05.07	+1	22	50.7	8.497 915	1.03	8.69	22	22	34
	26	0	39	49.61	1	21	18.7	8.504 213	1.03	8.68	22	18	23
	27	0	39	34.34	1	19	48.2	8.510 793	1.03	8.67	22	14	12
	28	0	39	19.28	1	18	19.4	8.517 654	1.03	8.67	22	10	01
	29	0	39	04.41	1	16	52.1	8.524 793	1.03	8.66	22	05	51
	30	0	38	49.77	1	15	26.5	8.532 209	1.03	8.65	22	01	41
Nov.	31	0	38	35.33	+1	14	02.7	8.539 898	1.03	8.64	21	57	31
	1	0	38	21.13	1	12	40.5	8.547 859	1.03	8.64	21	53	21
	2	0	38	07.15	1	11	20.2	8.556 089	1.03	8.63	21	49	11
	3	0	37	53.41	1	10	01.6	8.564 586	1.03	8.62	21	45	02
	4	0	37	39.91	1	08	44.9	8.573 346	1.03	8.61	21	40	53
	5	0	37	26.67	1	07	30.2	8.582 367	1.02	8.60	21	36	44
	6	0	37	13.70	+1	06	17.3	8.591 646	1.02	8.59	21	32	35
	7	0	37	00.99	1	05	06.6	8.601 179	1.02	8.58	21	28	27
	8	0	36	48.57	1	03	57.8	8.610 963	1.02	8.57	21	24	19
	9	0	36	36.44	1	02	51.3	8.620 994	1.02	8.56	21	20	11
	10	0	36	24.60	1	01	46.8	8.631 269	1.02	8.55	21	16	04
	11	0	36	13.06	1	00	44.6	8.641 783	1.02	8.54	21	11	57
	12	0	36	01.83	+0	59	44.6	8.652 532	1.02	8.53	21	07	50
	13	0	35	50.92	0	58	46.8	8.663 512	1.02	8.52	21	03	43
	14	0	35	40.32	0	57	51.3	8.674 720	1.01	8.51	20	59	37
	15	0	35	30.04	0	56	58.1	8.686 150	1.01	8.50	20	55	31
	16	0	35	20.09	+0	56	07.2	8.697 799	1.01	8.49	20	51	26

SATURN, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Nov.	16	0	35	20.09	+0	56	07.2	8.697 799	1.01	8.49	20	51	26
	17	0	35	10.47	0	55	18.7	8.709 661	1.01	8.48	20	47	21
	18	0	35	01.19	0	54	32.5	8.721 733	1.01	8.46	20	43	16
	19	0	34	52.24	0	53	48.8	8.734 010	1.01	8.45	20	39	11
	20	0	34	43.65	0	53	07.4	8.746 488	1.01	8.44	20	35	07
	21	0	34	35.40	0	52	28.5	8.759 161	1.00	8.43	20	31	03
	22	0	34	27.51	+0	51	52.0	8.772 025	1.00	8.42	20	26	60
	23	0	34	19.98	0	51	18.0	8.785 077	1.00	8.40	20	22	57
	24	0	34	12.82	0	50	46.6	8.798 310	1.00	8.39	20	18	54
	25	0	34	06.02	0	50	17.6	8.811 722	1.00	8.38	20	14	52
	26	0	33	59.60	0	49	51.2	8.825 308	1.00	8.36	20	10	50
	27	0	33	53.54	0	49	27.4	8.839 063	0.99	8.35	20	06	48
	28	0	33	47.86	+0	49	06.1	8.852 983	0.99	8.34	20	02	47
	29	0	33	42.56	0	48	47.3	8.867 065	0.99	8.33	19	58	46
	30	0	33	37.62	0	48	31.0	8.881 303	0.99	8.31	19	54	45
Dec.	1	0	33	33.07	0	48	17.3	8.895 693	0.99	8.30	19	50	45
	2	0	33	28.90	0	48	06.2	8.910 231	0.99	8.28	19	46	46
	3	0	33	25.11	0	47	57.7	8.924 911	0.99	8.27	19	42	46
	4	0	33	21.72	+0	47	51.8	8.939 729	0.98	8.26	19	38	47
	5	0	33	18.72	0	47	48.6	8.954 680	0.98	8.24	19	34	49
	6	0	33	16.12	0	47	48.0	8.969 759	0.98	8.23	19	30	51
	7	0	33	13.92	0	47	50.0	8.984 960	0.98	8.22	19	26	53
	8	0	33	12.12	0	47	54.8	9.000 278	0.98	8.20	19	22	55
	9	0	33	10.72	0	48	02.2	9.015 708	0.98	8.19	19	18	58
	10	0	33	09.73	+0	48	12.2	9.031 245	0.97	8.17	19	15	02
	11	0	33	09.13	0	48	24.9	9.046 883	0.97	8.16	19	11	06
	12	0	33	08.94	0	48	40.2	9.062 617	0.97	8.15	19	07	10
	13	0	33	09.16	0	48	58.2	9.078 441	0.97	8.13	19	03	14
	14	0	33	09.77	0	49	18.8	9.094 350	0.97	8.12	18	59	19
	15	0	33	10.78	0	49	42.0	9.110 339	0.97	8.10	18	55	25
	16	0	33	12.20	+0	50	07.8	9.126 402	0.96	8.09	18	51	31
	17	0	33	14.02	0	50	36.3	9.142 535	0.96	8.07	18	47	37
	18	0	33	16.24	0	51	07.3	9.158 731	0.96	8.06	18	43	44
	19	0	33	18.86	0	51	40.9	9.174 986	0.96	8.05	18	39	51
	20	0	33	21.89	0	52	17.1	9.191 294	0.96	8.03	18	35	58
	21	0	33	25.32	0	52	55.8	9.207 650	0.96	8.02	18	32	06
	22	0	33	29.16	+0	53	37.2	9.224 050	0.95	8.00	18	28	14
	23	0	33	33.39	0	54	21.1	9.240 489	0.95	7.99	18	24	23
	24	0	33	38.02	0	55	07.6	9.256 962	0.95	7.97	18	20	32
	25	0	33	43.05	0	55	56.5	9.273 465	0.95	7.96	18	16	41
	26	0	33	48.47	0	56	48.0	9.289 992	0.95	7.95	18	12	51
	27	0	33	54.28	0	57	41.9	9.306 540	0.94	7.93	18	09	01
	28	0	34	00.47	+0	58	38.2	9.323 105	0.94	7.92	18	05	11
	29	0	34	07.04	0	59	36.9	9.339 680	0.94	7.90	18	01	22
	30	0	34	14.01	1	00	38.1	9.356 262	0.94	7.89	17	57	34
	31	0	34	21.36	1	01	41.7	9.372 845	0.94	7.88	17	53	45
	32	0	34	29.10	+1	02	47.8	9.389 425	0.94	7.86	17	49	57

URANUS, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude				Heliocentric Latitude			Radius Vector		Date	Heliocentric Longitude				Heliocentric Latitude			Radius Vector	
		°	'	"	°	'	"				°	'	"	°	'	"			
Jan.	1	59	54	10.5	-0	11	24.4	19.490 1345	Apr.	3	60	57	15.3	-0	10	34.8	19.473 8057		
	3	59	55	32.8	0	11	23.4	19.489 7811		5	60	58	37.6	0	10	33.8	19.473 4490		
	5	59	56	55.0	0	11	22.3	19.489 4277		7	60	59	60.0	0	10	32.7	19.473 0923		
	7	59	58	17.2	0	11	21.2	19.489 0743		9	61	01	22.3	0	10	31.6	19.472 7355		
	9	59	59	39.4	0	11	20.1	19.488 7207		11	61	02	44.6	0	10	30.5	19.472 3786		
	11	60	01	01.6	0	11	19.0	19.488 3671		13	61	04	07.0	0	10	29.5	19.472 0216		
	13	60	02	23.9	-0	11	18.0	19.488 0134		15	61	05	29.3	-0	10	28.4	19.471 6646		
	15	60	03	46.1	0	11	16.9	19.487 6596		17	61	06	51.7	0	10	27.3	19.471 3075		
	17	60	05	08.3	0	11	15.8	19.487 3058		19	61	08	14.1	0	10	26.2	19.470 9503		
	19	60	06	30.6	0	11	14.7	19.486 9519		21	61	09	36.4	0	10	25.1	19.470 5931		
	21	60	07	52.8	0	11	13.7	19.486 5979		23	61	10	58.8	0	10	24.0	19.470 2358		
23	60	09	15.0	0	11	12.6	19.486 2439	25	61	12	21.2	0	10	22.9	19.469 8784				
Feb.	25	60	10	37.3	-0	11	11.5	19.485 8897	27	61	13	43.5	-0	10	21.9	19.469 5209			
	27	60	11	59.5	0	11	10.4	19.485 5355	29	61	15	05.9	0	10	20.8	19.469 1634			
	29	60	13	21.8	0	11	09.4	19.485 1813	May	1	61	16	28.3	0	10	19.7	19.468 8059		
	31	60	14	44.1	0	11	08.3	19.484 8269		3	61	17	50.7	0	10	18.6	19.468 4482		
	2	60	16	06.3	0	11	07.2	19.484 4725		5	61	19	13.0	0	10	17.5	19.468 0905		
	4	60	17	28.6	0	11	06.1	19.484 1180		7	61	20	35.4	0	10	16.4	19.467 7327		
	6	60	18	50.9	-0	11	05.1	19.483 7635		9	61	21	57.8	-0	10	15.4	19.467 3749		
	8	60	20	13.1	0	11	04.0	19.483 4088		11	61	23	20.2	0	10	14.3	19.467 0169		
	10	60	21	35.4	0	11	02.9	19.483 0541		13	61	24	42.6	0	10	13.2	19.466 6590		
	12	60	22	57.6	0	11	01.8	19.482 6993		15	61	26	05.0	0	10	12.1	19.466 3009		
	14	60	24	19.9	0	11	00.8	19.482 3445		17	61	27	27.4	0	10	11.0	19.465 9428		
16	60	25	42.2	0	10	59.7	19.481 9895	19		61	28	49.8	0	10	09.9	19.465 5846			
18	60	27	04.5	-0	10	58.6	19.481 6345	21		61	30	12.1	-0	10	08.9	19.465 2264			
20	60	28	26.8	0	10	57.5	19.481 2794	23	61	31	34.5	0	10	07.8	19.464 8680				
22	60	29	49.0	0	10	56.5	19.480 9243	25	61	32	57.0	0	10	06.7	19.464 5097				
24	60	31	11.3	0	10	55.4	19.480 5691	27	61	34	19.4	0	10	05.6	19.464 1512				
26	60	32	33.6	0	10	54.3	19.480 2137	29	61	35	41.8	0	10	04.5	19.463 7927				
28	60	33	55.9	0	10	53.2	19.479 8584	31	61	37	04.2	0	10	03.4	19.463 4342				
Mar.	2	60	35	18.2	-0	10	52.1	19.479 5029	June	2	61	38	26.6	-0	10	02.3	19.463 0755		
	4	60	36	40.5	0	10	51.1	19.479 1474		4	61	39	49.0	0	10	01.3	19.462 7168		
	6	60	38	02.8	0	10	50.0	19.478 7918		6	61	41	11.5	0	10	00.2	19.462 3581		
	8	60	39	25.1	0	10	48.9	19.478 4361		8	61	42	33.9	0	09	59.1	19.461 9993		
	10	60	40	47.4	0	10	47.8	19.478 0803		10	61	43	56.3	0	09	58.0	19.461 6404		
	12	60	42	09.7	0	10	46.7	19.477 7245		12	61	45	18.7	0	09	56.9	19.461 2815		
	14	60	43	32.0	-0	10	45.6	19.477 3686		14	61	46	41.2	-0	09	55.8	19.460 9225		
	16	60	44	54.3	0	10	44.6	19.477 0127		16	61	48	03.6	0	09	54.8	19.460 5635		
	18	60	46	16.7	0	10	43.5	19.476 6566		18	61	49	26.0	0	09	53.7	19.460 2044		
	20	60	47	38.9	0	10	42.4	19.476 3005		20	61	50	48.5	0	09	52.6	19.459 8452		
	22	60	49	01.3	0	10	41.3	19.475 9443		22	61	52	10.9	0	09	51.5	19.459 4860		
24	60	50	23.6	0	10	40.3	19.475 5881	24	61	53	33.4	0	09	50.4	19.459 1268				
Apr.	26	60	51	45.9	-0	10	39.2	19.475 2317	26	61	54	55.8	-0	09	49.3	19.458 7674			
	28	60	53	08.3	0	10	38.1	19.474 8754	28	61	56	18.3	0	09	48.3	19.458 4081			
	30	60	54	30.6	0	10	37.0	19.474 5189	30	61	57	40.7	0	09	47.2	19.458 0486			
	1	60	55	52.9	0	10	35.9	19.474 1623	July	2	61	59	03.2	0	09	46.0	19.457 6891		
	3	60	57	15.3	-0	10	34.8	19.473 8057		4	62	00	25.6	-0	09	45.0	19.457 3296		

URANUS, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude				Heliocentric Latitude				Radius Vector		Date	Heliocentric Longitude				Heliocentric Latitude				Radius Vector	
		°	'	"	°	'	"				°	'	"	°	'	"					
July	2	61	59	03.2	-0	09	46.0	19.457 6891	Oct.	2	63	02	19.1	-0	08	55.9	19.441 0925				
	4	62	00	25.6	0	09	45.0	19.457 3296		4	63	03	41.7	0	08	54.8	19.440 7304				
	6	62	01	48.1	0	09	43.9	19.456 9700		6	63	05	04.3	0	08	53.7	19.440 3681				
	8	62	03	10.5	0	09	42.8	19.456 6103		8	63	06	26.8	0	08	52.6	19.440 0059				
	10	62	04	33.0	0	09	41.7	19.456 2506		10	63	07	49.5	0	08	51.5	19.439 6435				
	12	62	05	55.5	0	09	40.6	19.455 8909		12	63	09	12.1	0	08	50.5	19.439 2811				
	14	62	07	18.0	-0	09	39.5	19.455 5311		14	63	10	34.6	-0	08	49.3	19.438 9187				
	16	62	08	40.4	0	09	38.5	19.455 1712		16	63	11	57.2	0	08	48.3	19.438 5561				
	18	62	10	02.9	0	09	37.4	19.454 8113		18	63	13	19.8	0	08	47.2	19.438 1936				
	20	62	11	25.4	0	09	36.3	19.454 4513		20	63	14	42.5	0	08	46.1	19.437 8309				
	22	62	12	47.9	0	09	35.2	19.454 0913		22	63	16	05.1	0	08	45.0	19.437 4682				
	24	62	14	10.4	0	09	34.1	19.453 7312		24	63	17	27.7	0	08	43.9	19.437 1054				
Aug.	26	62	15	32.9	-0	09	33.0	19.453 3710	Nov.	26	63	18	50.3	-0	08	42.8	19.436 7426				
	28	62	16	55.3	0	09	31.9	19.453 0108		28	63	20	12.9	0	08	41.7	19.436 3797				
	30	62	18	17.8	0	09	30.8	19.452 6506		30	63	21	35.5	0	08	40.6	19.436 0167				
	1	62	19	40.3	0	09	29.7	19.452 2903		1	63	22	58.2	0	08	39.5	19.435 6537				
	3	62	21	02.8	0	09	28.7	19.451 9299		3	63	24	20.8	0	08	38.4	19.435 2906				
	5	62	22	25.3	0	09	27.6	19.451 5695		5	63	25	43.4	0	08	37.3	19.434 9274				
	7	62	23	47.8	-0	09	26.5	19.451 2090		7	63	27	06.1	-0	08	36.2	19.434 5642				
	9	62	25	10.4	0	09	25.4	19.450 8485		9	63	28	28.7	0	08	35.1	19.434 2009				
	11	62	26	32.9	0	09	24.3	19.450 4879		11	63	29	51.3	0	08	34.0	19.433 8375				
	13	62	27	55.4	0	09	23.2	19.450 1273		13	63	31	14.0	0	08	32.9	19.433 4741				
	15	62	29	17.9	0	09	22.1	19.449 7666		15	63	32	36.6	0	08	31.8	19.433 1106				
	17	62	30	40.4	0	09	21.0	19.449 4058		17	63	33	59.2	0	08	30.7	19.432 7470				
	19	62	32	02.9	-0	09	20.0	19.449 0450		19	63	35	21.9	-0	08	29.6	19.432 3834				
	21	62	33	25.5	0	09	18.8	19.448 6841		21	63	36	44.6	0	08	28.6	19.432 0197				
	23	62	34	48.0	0	09	17.7	19.448 3232		23	63	38	07.2	0	08	27.4	19.431 6560				
	25	62	36	10.5	0	09	16.7	19.447 9622		25	63	39	29.9	0	08	26.4	19.431 2922				
	27	62	37	33.0	0	09	15.6	19.447 6012		27	63	40	52.5	0	08	25.3	19.430 9283				
	29	62	38	55.6	0	09	14.5	19.447 2401		29	63	42	15.2	0	08	24.1	19.430 5643				
	31	62	40	18.1	-0	09	13.4	19.446 8789		Dec.	1	63	43	37.9	-0	08	23.1	19.430 2003			
	2	62	41	40.6	0	09	12.3	19.446 5177			3	63	45	00.5	0	08	22.0	19.429 8363			
	4	62	43	03.2	0	09	11.2	19.446 1564			5	63	46	23.2	0	08	20.9	19.429 4722			
6	62	44	25.7	0	09	10.1	19.445 7951	7	63		47	45.9	0	08	19.8	19.429 1080					
8	62	45	48.3	0	09	09.0	19.445 4337	9	63		49	08.5	0	08	18.7	19.428 7437					
10	62	47	10.8	0	09	07.9	19.445 0723	11	63	50	31.2	0	08	17.6	19.428 3794						
	12	62	48	33.4	-0	09	06.8	19.444 7108		13	63	51	53.9	-0	08	16.5	19.428 0151				
	14	62	49	56.0	0	09	05.7	19.444 3492		15	63	53	16.6	0	08	15.4	19.427 6506				
	16	62	51	18.5	0	09	04.7	19.443 9876		17	63	54	39.3	0	08	14.3	19.427 2861				
	18	62	52	41.1	0	09	03.6	19.443 6259		19	63	56	02.0	0	08	13.2	19.426 9216				
	20	62	54	03.6	0	09	02.5	19.443 2642		21	63	57	24.7	0	08	12.1	19.426 5570				
	22	62	55	26.2	0	09	01.4	19.442 9024		23	63	58	47.3	0	08	11.0	19.426 1923				
	24	62	56	48.8	-0	09	00.3	19.442 5405		25	64	00	10.0	-0	08	09.9	19.425 8276				
Oct.	26	62	58	11.3	0	08	59.2	19.442 1786	27	64	01	32.7	0	08	08.8	19.425 4629					
	28	62	59	33.9	0	08	58.1	19.441 8166	29	64	02	55.4	0	08	07.7	19.425 0980					
	30	63	00	56.5	0	08	57.0	19.441 4546	31	64	04	18.2	0	08	06.6	19.424 7331					
	2	63	02	19.1	-0	08	55.9	19.441 0925	33	64	05	40.8	-0	08	05.5	19.424 3682					

URANUS, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Jan.	0	57	58	37.6	-0	11	52.3	Feb.	15	57	30	45.0	-0	11	01.9
	1	57	56	57.6	0	11	51.3		16	57	31	21.4	0	11	00.8
	2	57	55	20.0	0	11	50.3		17	57	32	00.8	0	10	59.7
	3	57	53	44.9	0	11	49.3		18	57	32	43.4	0	10	58.6
	4	57	52	12.2	0	11	48.3		19	57	33	29.1	0	10	57.4
	5	57	50	42.0	0	11	47.3		20	57	34	17.9	0	10	56.3
	6	57	49	14.2	-0	11	46.3		21	57	35	09.8	-0	10	55.2
	7	57	47	49.0	0	11	45.2		22	57	36	04.8	0	10	54.1
	8	57	46	26.3	0	11	44.2		23	57	37	03.0	0	10	53.0
	9	57	45	06.3	0	11	43.2		24	57	38	04.3	0	10	51.8
	10	57	43	48.9	0	11	42.1		25	57	39	08.7	0	10	50.7
	11	57	42	34.3	0	11	41.0		26	57	40	16.2	0	10	49.6
	12	57	41	22.5	-0	11	40.0	Mar.	27	57	41	26.7	-0	10	48.6
	13	57	40	13.5	0	11	38.9		28	57	42	40.1	0	10	47.5
	14	57	39	07.4	0	11	37.8		1	57	43	56.5	0	10	46.4
	15	57	38	04.2	0	11	36.7		2	57	45	15.7	0	10	45.3
	16	57	37	03.9	0	11	35.7		3	57	46	37.7	0	10	44.2
	17	57	36	06.6	0	11	34.6		4	57	48	02.7	0	10	43.2
	18	57	35	12.2	-0	11	33.5		5	57	49	30.4	-0	10	42.1
	19	57	34	20.7	0	11	32.4		6	57	51	01.0	0	10	41.0
	20	57	33	32.2	0	11	31.2		7	57	52	34.5	0	10	40.0
	21	57	32	46.7	0	11	30.1		8	57	54	10.9	0	10	38.9
	22	57	32	04.1	0	11	29.0		9	57	55	50.0	0	10	37.9
	23	57	31	24.6	0	11	27.9		10	57	57	32.0	0	10	36.8
	24	57	30	48.2	-0	11	26.8		11	57	59	16.7	-0	10	35.8
	25	57	30	14.9	0	11	25.6		12	58	01	04.2	0	10	34.7
	26	57	29	44.7	0	11	24.5		13	58	02	54.4	0	10	33.7
	27	57	29	17.7	0	11	23.4		14	58	04	47.3	0	10	32.7
	28	57	28	53.9	0	11	22.3		15	58	06	42.7	0	10	31.7
	29	57	28	33.3	0	11	21.1		16	58	08	40.8	0	10	30.6
	30	57	28	15.9	-0	11	20.0		17	58	10	41.3	-0	10	29.6
	31	57	28	01.6	0	11	18.9		18	58	12	44.4	0	10	28.6
Feb.	1	57	27	50.4	0	11	17.8		19	58	14	50.0	0	10	27.6
	2	57	27	42.3	0	11	16.6		20	58	16	58.1	0	10	26.6
	3	57	27	37.3	0	11	15.5		21	58	19	08.7	0	10	25.6
	4	57	27	35.4	0	11	14.4		22	58	21	21.8	0	10	24.6
	5	57	27	36.6	-0	11	13.2		23	58	23	37.4	-0	10	23.6
	6	57	27	41.0	0	11	12.1		24	58	25	55.3	0	10	22.7
	7	57	27	48.6	0	11	11.0		25	58	28	15.6	0	10	21.7
	8	57	27	59.4	0	11	09.9		26	58	30	38.3	0	10	20.7
	9	57	28	13.5	0	11	08.7		27	58	33	03.1	0	10	19.8
	10	57	28	30.7	0	11	07.6		28	58	35	30.1	0	10	18.9
	11	57	28	51.2	-0	11	06.5	Apr.	29	58	37	59.2	-0	10	17.9
	12	57	29	14.9	0	11	05.3		30	58	40	30.4	0	10	17.0
	13	57	29	41.8	0	11	04.2		31	58	43	03.6	0	10	16.1
	14	57	30	11.8	0	11	03.1		1	58	45	38.9	0	10	15.2
	15	57	30	45.0	-0	11	01.9		2	58	48	16.2	-0	10	14.3

URANUS, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Apr.	1	58	45	38.9	-0	10	15.2	May	17	61	11	21.5	-0	09	41.0
	2	58	48	16.2	0	10	14.3		18	61	14	51.5	0	09	40.5
	3	58	50	55.6	0	10	13.4		19	61	18	21.8	0	09	39.9
	4	58	53	36.9	0	10	12.5		20	61	21	52.2	0	09	39.4
	5	58	56	20.2	0	10	11.6		21	61	25	22.7	0	09	38.9
	6	58	59	05.5	0	10	10.7		22	61	28	53.6	0	09	38.6
	7	59	01	52.6	-0	10	09.9		23	61	32	22.3	-0	09	38.2
	8	59	04	41.6	0	10	09.0		24	61	35	53.1	0	09	37.3
	9	59	07	32.4	0	10	08.1		25	61	39	23.4	0	09	36.8
	10	59	10	25.0	0	10	07.3		26	61	42	53.6	0	09	36.3
	11	59	13	19.2	0	10	06.4		27	61	46	23.5	0	09	35.8
	12	59	16	15.2	0	10	05.6		28	61	49	53.3	0	09	35.3
	13	59	19	12.7	-0	10	04.7	June	29	61	53	22.9	-0	09	34.9
	14	59	22	11.8	0	10	03.9		30	61	56	52.3	0	09	34.4
	15	59	25	12.4	0	10	03.1		31	62	00	21.4	0	09	33.9
	16	59	28	14.6	0	10	02.3		1	62	03	50.2	0	09	33.5
	17	59	31	18.2	0	10	01.5		2	62	07	18.7	0	09	33.0
	18	59	34	23.4	0	10	00.7		3	62	10	46.8	0	09	32.6
	19	59	37	30.1	-0	09	59.9		4	62	14	14.4	-0	09	32.1
	20	59	40	38.2	0	09	59.1		5	62	17	41.5	0	09	31.7
	21	59	43	47.6	0	09	58.3		6	62	21	08.0	0	09	31.3
	22	59	46	58.4	0	09	57.6		7	62	24	33.9	0	09	30.9
	23	59	50	10.4	0	09	56.8		8	62	27	59.3	0	09	30.4
	24	59	53	23.5	0	09	56.1		9	62	31	23.9	0	09	30.0
	25	59	56	37.8	-0	09	55.4		10	62	34	47.9	-0	09	29.6
	26	59	59	53.0	0	09	54.6		11	62	38	11.2	0	09	29.3
	27	60	03	09.3	0	09	53.9		12	62	41	33.8	0	09	28.9
	28	60	06	26.6	0	09	53.2		13	62	44	55.6	0	09	28.5
	29	60	09	44.8	0	09	52.5		14	62	48	16.7	0	09	28.1
	30	60	13	04.1	0	09	51.8		15	62	51	37.0	0	09	27.8
May	1	60	16	24.3	-0	09	51.1		16	62	54	56.4	-0	09	27.4
	2	60	19	45.4	0	09	50.4		17	62	58	14.8	0	09	27.1
	3	60	23	07.3	0	09	49.8		18	63	01	32.1	0	09	26.8
	4	60	26	30.2	0	09	49.1		19	63	04	48.3	0	09	26.4
	5	60	29	53.8	0	09	48.4		20	63	08	03.3	0	09	26.1
	6	60	33	18.1	0	09	47.8		21	63	11	17.2	0	09	25.8
	7	60	36	43.1	-0	09	47.1		22	63	14	29.8	-0	09	25.5
	8	60	40	08.8	0	09	46.5		23	63	17	41.3	0	09	25.2
	9	60	43	35.0	0	09	45.8		24	63	20	51.6	0	09	24.9
	10	60	47	01.8	0	09	45.2		25	63	24	00.7	0	09	24.6
	11	60	50	29.0	0	09	44.6		26	63	27	08.4	0	09	24.3
	12	60	53	56.7	0	09	44.0		27	63	30	14.9	0	09	24.1
	13	60	57	24.9	-0	09	43.4	July	28	63	33	20.1	-0	09	23.8
	14	61	00	53.4	0	09	42.8		29	63	36	23.9	0	09	23.5
	15	61	04	22.4	0	09	42.2		30	63	39	26.2	0	09	23.2
	16	61	07	51.8	0	09	41.6		1	63	42	27.1	0	09	23.0
	17	61	11	21.5	-0	09	41.0		2	63	45	26.4	-0	09	22.7

URANUS, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
July	1	63	42	27.1	-0	09	23.0	Aug.	16	65	25	00.1	-0	09	16.2
	2	63	45	26.4	0	09	22.7		17	65	26	15.7	0	09	16.1
	3	63	48	24.2	0	09	22.5		18	65	27	28.5	0	09	16.0
	4	63	51	20.3	0	09	22.2		19	65	28	38.4	0	09	16.0
	5	63	54	14.8	0	09	22.0		20	65	29	45.6	0	09	15.9
	6	63	57	07.6	0	09	21.8		21	65	30	49.8	0	09	15.8
	7	63	59	58.8	-0	09	21.5		22	65	31	51.2	-0	09	15.8
	8	64	02	48.3	0	09	21.3		23	65	32	49.6	0	09	15.7
	9	64	05	36.0	0	09	21.1		24	65	33	45.1	0	09	15.6
	10	64	08	22.0	0	09	20.9		25	65	34	37.6	0	09	15.6
	11	64	11	06.3	0	09	20.7		26	65	35	27.2	0	09	15.5
	12	64	13	48.8	0	09	20.5		27	65	36	13.7	0	09	15.4
	13	64	16	29.5	-0	09	20.3	Sept.	28	65	36	57.2	-0	09	15.3
	14	64	19	08.1	0	09	20.1		29	65	37	37.7	0	09	15.3
	15	64	21	44.8	0	09	19.9		30	65	38	15.1	0	09	15.2
	16	64	24	19.4	0	09	19.8		31	65	38	49.6	0	09	15.1
	17	64	26	51.9	0	09	19.6		1	65	39	21.1	0	09	15.1
	18	64	29	22.3	0	09	19.4		2	65	39	49.6	0	09	15.0
	19	64	31	50.5	-0	09	19.3		3	65	40	15.1	-0	09	14.9
	20	64	34	16.6	0	09	19.1		4	65	40	37.6	0	09	14.9
	21	64	36	40.5	0	09	19.0		5	65	40	57.1	0	09	14.8
	22	64	39	02.3	0	09	18.8		6	65	41	13.6	0	09	14.7
	23	64	41	21.9	0	09	18.7		7	65	41	27.0	0	09	14.7
	24	64	43	39.4	0	09	18.6		8	65	41	37.3	0	09	14.6
	25	64	45	54.5	-0	09	18.4		9	65	41	44.4	-0	09	14.5
	26	64	48	07.4	0	09	18.3		10	65	41	48.4	0	09	14.5
	27	64	50	18.0	0	09	18.1		11	65	41	49.2	0	09	14.4
	28	64	52	26.2	0	09	18.0		12	65	41	47.0	0	09	14.3
	29	64	54	32.1	0	09	17.9		13	65	41	41.6	0	09	14.2
	30	64	56	35.5	0	09	17.8		14	65	41	33.3	0	09	14.2
	31	64	58	36.4	-0	09	17.6		15	65	41	21.9	-0	09	14.1
Aug.	1	65	00	34.8	0	09	17.5		16	65	41	07.4	0	09	14.0
	2	65	02	30.7	0	09	17.4		17	65	40	50.0	0	09	13.9
	3	65	04	24.1	0	09	17.3		18	65	40	29.6	0	09	13.8
	4	65	06	15.0	0	09	17.2		19	65	40	06.2	0	09	13.7
	5	65	08	03.4	0	09	17.1		20	65	39	39.7	0	09	13.6
	6	65	09	49.2	-0	09	17.0		21	65	39	10.3	-0	09	13.5
	7	65	11	32.5	0	09	16.9		22	65	38	37.8	0	09	13.4
	8	65	13	13.2	0	09	16.8		23	65	38	02.4	0	09	13.3
	9	65	14	51.3	0	09	16.7		24	65	37	23.9	0	09	13.1
	10	65	16	26.7	0	09	16.6		25	65	36	42.5	0	09	13.0
	11	65	17	59.3	0	09	16.5		26	65	35	58.1	0	09	12.9
	12	65	19	29.2	-0	09	16.5	Oct.	27	65	35	10.8	-0	09	12.8
	13	65	20	56.2	0	09	16.4		28	65	34	20.6	0	09	12.6
	14	65	22	20.3	0	09	16.3		29	65	33	27.6	0	09	12.5
	15	65	23	41.6	0	09	16.3		30	65	32	31.9	0	09	12.3
	16	65	25	00.1	-0	09	16.2		1	65	31	33.3	-0	09	12.2

URANUS, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Oct.	1	65	31	33.3	-0	09	12.2	Nov.	16	64	05	25.0	-0	08	58.3
	2	65	30	32.0	0	09	12.0		17	64	02	56.7	0	08	57.8
	3	65	29	27.9	0	09	11.9		18	64	00	27.8	0	08	57.3
	4	65	28	21.1	0	09	11.7		19	63	57	58.3	0	08	56.8
	5	65	27	11.4	0	09	11.6		20	63	55	28.4	0	08	56.3
	6	65	25	58.9	0	09	11.4		21	63	52	58.0	0	08	55.7
	7	65	24	43.7	-0	09	11.2		22	63	50	27.4	-0	08	55.2
	8	65	23	25.7	0	09	11.1		23	63	47	56.6	0	08	54.6
	9	65	22	05.1	0	09	10.9		24	63	45	25.6	0	08	54.1
	10	65	20	41.8	0	09	10.7		25	63	42	54.6	0	08	53.5
	11	65	19	16.0	0	09	10.5		26	63	40	23.5	0	08	52.9
	12	65	17	47.7	0	09	10.3		27	63	37	52.5	0	08	52.3
	13	65	16	16.9	-0	09	10.1	Dec.	28	63	35	21.5	-0	08	51.7
	14	65	14	43.7	0	09	09.9		29	63	32	50.6	0	08	51.1
	15	65	13	08.1	0	09	09.7		30	63	30	19.7	0	08	50.5
	16	65	11	30.1	0	09	09.4		1	63	27	49.1	0	08	49.9
	17	65	09	49.8	0	09	09.2		2	63	25	18.7	0	08	49.3
	18	65	08	07.2	0	09	08.9		3	63	22	48.7	0	08	48.7
	19	65	06	22.3	-0	09	08.7		4	63	20	19.1	-0	08	48.0
	20	65	04	35.2	0	09	08.4		5	63	17	50.1	0	08	47.4
	21	65	02	45.8	0	09	08.1		6	63	15	21.7	0	08	46.7
	22	65	00	54.3	0	09	07.8		7	63	12	54.1	0	08	46.0
	23	64	59	00.7	0	09	07.6		8	63	10	27.2	0	08	45.4
	24	64	57	05.1	0	09	07.3		9	63	08	01.1	0	08	44.7
	25	64	55	07.5	-0	09	07.0		10	63	05	36.0	-0	08	44.0
	26	64	53	07.9	0	09	06.7		11	63	03	11.8	0	08	43.2
	27	64	51	06.6	0	09	06.3		12	63	00	48.5	0	08	42.5
	28	64	49	03.5	0	09	06.0		13	62	58	26.3	0	08	41.8
	29	64	46	58.7	0	09	05.7		14	62	56	05.2	0	08	41.0
	30	64	44	52.2	0	09	05.3		15	62	53	45.3	0	08	40.3
	31	64	42	43.9	-0	09	05.0		16	62	51	26.6	-0	08	39.5
Nov.	1	64	40	34.0	0	09	04.7		17	62	49	09.3	0	08	38.8
	2	64	38	22.4	0	09	04.3		18	62	46	53.3	0	08	38.0
	3	64	36	09.2	0	09	03.9		19	62	44	38.7	0	08	37.2
	4	64	33	54.5	0	09	03.6		20	62	42	25.8	0	08	36.5
	5	64	31	38.3	0	09	03.2		21	62	40	14.4	0	08	35.7
	6	64	29	20.7	-0	09	02.8		22	62	38	04.8	-0	08	34.9
	7	64	27	01.9	0	09	02.4		23	62	35	56.8	0	08	34.1
	8	64	24	41.8	0	09	02.0		24	62	33	50.7	0	08	33.3
	9	64	22	20.6	0	09	01.6		25	62	31	46.3	0	08	32.5
	10	64	19	58.3	0	09	01.1		26	62	29	43.7	0	08	31.6
	11	64	17	35.0	0	09	00.7		27	62	27	42.9	0	08	30.8
	12	64	15	10.7	-0	09	00.2		28	62	25	44.0	-0	08	30.0
	13	64	12	45.5	0	08	59.8		29	62	23	46.9	0	08	29.2
	14	64	10	19.5	0	08	59.3		30	62	21	51.9	0	08	28.3
	15	64	07	52.6	0	08	58.8		31	62	19	59.0	0	08	27.5
	16	64	05	25.0	-0	08	58.3		32	62	18	08.3	-0	08	26.6

URANUS, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Jan.	0	3	43	03.83	+19	30	56.2	18.743 820	0.47	1.87	21	00	49
	1	3	42	56.92	19	30	34.8	18.755 251	0.47	1.87	20	56	46
	2	3	42	50.18	19	30	13.9	18.766 909	0.47	1.87	20	52	43
	3	3	42	43.61	19	29	53.5	18.778 790	0.47	1.86	20	48	41
	4	3	42	37.21	19	29	33.8	18.790 890	0.47	1.86	20	44	39
	5	3	42	30.97	19	29	14.6	18.803 206	0.47	1.86	20	40	37
	6	3	42	24.91	+19	28	55.9	18.815 733	0.47	1.86	20	36	35
	7	3	42	19.02	19	28	37.8	18.828 467	0.47	1.86	20	32	33
	8	3	42	13.30	19	28	20.3	18.841 406	0.47	1.86	20	28	32
	9	3	42	07.77	19	28	03.3	18.854 544	0.47	1.86	20	24	31
	10	3	42	02.43	19	27	46.9	18.867 877	0.47	1.86	20	20	30
	11	3	41	57.27	19	27	31.1	18.881 402	0.47	1.85	20	16	29
	12	3	41	52.31	+19	27	15.9	18.895 113	0.47	1.85	20	12	28
	13	3	41	47.54	19	27	01.4	18.909 007	0.47	1.85	20	08	28
	14	3	41	42.97	19	26	47.5	18.923 078	0.46	1.85	20	04	27
	15	3	41	38.60	19	26	34.2	18.937 322	0.46	1.85	20	00	27
	16	3	41	34.43	19	26	21.7	18.951 733	0.46	1.85	19	56	27
	17	3	41	30.46	19	26	09.8	18.966 308	0.46	1.85	19	52	28
	18	3	41	26.70	+19	25	58.6	18.981 041	0.46	1.84	19	48	28
	19	3	41	23.13	19	25	48.1	18.995 927	0.46	1.84	19	44	29
	20	3	41	19.78	19	25	38.2	19.010 960	0.46	1.84	19	40	30
	21	3	41	16.62	19	25	29.1	19.026 136	0.46	1.84	19	36	31
	22	3	41	13.68	19	25	20.6	19.041 448	0.46	1.84	19	32	32
	23	3	41	10.94	19	25	12.8	19.056 892	0.46	1.84	19	28	34
	24	3	41	08.41	+19	25	05.6	19.072 462	0.46	1.84	19	24	35
	25	3	41	06.10	19	24	59.2	19.088 153	0.46	1.83	19	20	37
	26	3	41	04.00	19	24	53.4	19.103 958	0.46	1.83	19	16	40
	27	3	41	02.13	19	24	48.3	19.119 873	0.46	1.83	19	12	42
	28	3	41	00.47	19	24	44.0	19.135 893	0.46	1.83	19	08	45
	29	3	40	59.04	19	24	40.4	19.152 011	0.46	1.83	19	04	47
	30	3	40	57.82	+19	24	37.6	19.168 224	0.46	1.83	19	00	50
	31	3	40	56.82	19	24	35.4	19.184 525	0.46	1.83	18	56	54
Feb.	1	3	40	56.03	19	24	34.1	19.200 910	0.46	1.82	18	52	57
	2	3	40	55.45	19	24	33.4	19.217 374	0.46	1.82	18	49	01
	3	3	40	55.09	19	24	33.4	19.233 913	0.46	1.82	18	45	05
	4	3	40	54.94	19	24	34.1	19.250 520	0.46	1.82	18	41	09
	5	3	40	55.00	+19	24	35.5	19.267 193	0.46	1.82	18	37	13
	6	3	40	55.29	19	24	37.6	19.283 924	0.46	1.82	18	33	18
	7	3	40	55.79	19	24	40.4	19.300 710	0.46	1.81	18	29	23
	8	3	40	56.52	19	24	44.0	19.317 546	0.46	1.81	18	25	27
	9	3	40	57.47	19	24	48.2	19.334 425	0.45	1.81	18	21	33
	10	3	40	58.64	19	24	53.2	19.351 344	0.45	1.81	18	17	38
	11	3	41	00.03	+19	24	58.9	19.368 297	0.45	1.81	18	13	44
	12	3	41	01.64	19	25	05.4	19.385 278	0.45	1.81	18	09	50
	13	3	41	03.47	19	25	12.6	19.402 282	0.45	1.80	18	05	56
	14	3	41	05.52	19	25	20.6	19.419 305	0.45	1.80	18	02	02
	15	3	41	07.79	+19	25	29.2	19.436 339	0.45	1.80	17	58	08

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Feb.	15	3	41	07.79	+19	25	29.2	19.436 339	0.45	1.80	17	58	08
	16	3	41	10.28	19	25	38.6	19.453 381	0.45	1.80	17	54	15
	17	3	41	12.98	19	25	48.7	19.470 424	0.45	1.80	17	50	22
	18	3	41	15.89	19	25	59.5	19.487 463	0.45	1.80	17	46	29
	19	3	41	19.01	19	26	11.0	19.504 492	0.45	1.80	17	42	37
	20	3	41	22.35	19	26	23.1	19.521 506	0.45	1.79	17	38	44
	21	3	41	25.91	+19	26	35.9	19.538 500	0.45	1.79	17	34	52
	22	3	41	29.69	19	26	49.4	19.555 468	0.45	1.79	17	31	00
	23	3	41	33.68	19	27	03.6	19.572 404	0.45	1.79	17	27	08
	24	3	41	37.88	19	27	18.5	19.589 304	0.45	1.79	17	23	17
Mar.	25	3	41	42.30	19	27	34.1	19.606 163	0.45	1.79	17	19	25
	26	3	41	46.93	19	27	50.4	19.622 975	0.45	1.78	17	15	34
	27	3	41	51.77	+19	28	07.4	19.639 736	0.45	1.78	17	11	43
	28	3	41	56.81	19	28	25.0	19.656 442	0.45	1.78	17	07	52
	1	3	42	02.05	19	28	43.3	19.673 087	0.45	1.78	17	04	02
	2	3	42	07.49	19	29	02.3	19.689 667	0.45	1.78	17	00	12
	3	3	42	13.13	19	29	21.8	19.706 179	0.45	1.78	16	56	21
	4	3	42	18.96	19	29	42.0	19.722 617	0.45	1.78	16	52	31
	5	3	42	24.99	+19	30	02.8	19.738 977	0.45	1.77	16	48	42
	6	3	42	31.22	19	30	24.1	19.755 255	0.45	1.77	16	44	52
	7	3	42	37.65	19	30	46.1	19.771 447	0.44	1.77	16	41	03
	8	3	42	44.27	19	31	08.7	19.787 548	0.44	1.77	16	37	13
	9	3	42	51.09	19	31	32.0	19.803 553	0.44	1.77	16	33	25
	10	3	42	58.11	19	31	55.8	19.819 459	0.44	1.77	16	29	36
	11	3	43	05.31	+19	32	20.2	19.835 261	0.44	1.77	16	25	47
	12	3	43	12.71	19	32	45.3	19.850 954	0.44	1.76	16	21	59
	13	3	43	20.29	19	33	10.9	19.866 535	0.44	1.76	16	18	10
	14	3	43	28.05	19	33	37.1	19.881 997	0.44	1.76	16	14	22
	15	3	43	36.00	19	34	03.9	19.897 338	0.44	1.76	16	10	34
	16	3	43	44.12	19	34	31.3	19.912 553	0.44	1.76	16	06	47
	17	3	43	52.42	+19	34	59.2	19.927 637	0.44	1.76	16	02	59
	18	3	44	00.90	19	35	27.6	19.942 585	0.44	1.76	15	59	12
	19	3	44	09.55	19	35	56.5	19.957 394	0.44	1.75	15	55	25
	20	3	44	18.37	19	36	25.9	19.972 059	0.44	1.75	15	51	38
	21	3	44	27.37	19	36	55.8	19.986 575	0.44	1.75	15	47	51
	22	3	44	36.54	19	37	26.2	20.000 940	0.44	1.75	15	44	04
	23	3	44	45.88	+19	37	57.1	20.015 147	0.44	1.75	15	40	18
	24	3	44	55.39	19	38	28.5	20.029 195	0.44	1.75	15	36	31
	25	3	45	05.06	19	39	00.5	20.043 078	0.44	1.75	15	32	45
	26	3	45	14.90	19	39	32.9	20.056 794	0.44	1.75	15	28	59
	27	3	45	24.88	19	40	05.8	20.070 339	0.44	1.74	15	25	13
	28	3	45	35.02	19	40	39.1	20.083 711	0.44	1.74	15	21	27
Apr.	29	3	45	45.30	+19	41	12.8	20.096 905	0.44	1.74	15	17	42
	30	3	45	55.73	19	41	47.0	20.109 920	0.44	1.74	15	13	56
	31	3	46	06.30	19	42	21.5	20.122 751	0.44	1.74	15	10	11
	1	3	46	17.02	19	42	56.5	20.135 397	0.44	1.74	15	06	26
	2	3	46	27.87	+19	43	31.8	20.147 854	0.44	1.74	15	02	41

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Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Apr.	1	3	46	17.02	+19	42	56.5	20.135 397	0.44	1.74	15	06	26
	2	3	46	27.87	19	43	31.8	20.147 854	0.44	1.74	15	02	41
	3	3	46	38.87	19	44	07.5	20.160 119	0.44	1.74	14	58	56
	4	3	46	50.01	19	44	43.6	20.172 190	0.44	1.74	14	55	11
	5	3	47	01.29	19	45	20.0	20.184 063	0.44	1.74	14	51	27
	6	3	47	12.70	19	45	56.8	20.195 737	0.44	1.73	14	47	42
	7	3	47	24.24	+19	46	34.0	20.207 207	0.44	1.73	14	43	58
	8	3	47	35.92	19	47	11.6	20.218 471	0.43	1.73	14	40	14
	9	3	47	47.72	19	47	49.5	20.229 526	0.43	1.73	14	36	30
	10	3	47	59.64	19	48	27.7	20.240 370	0.43	1.73	14	32	46
	11	3	48	11.68	19	49	06.3	20.250 999	0.43	1.73	14	29	02
	12	3	48	23.84	19	49	45.2	20.261 410	0.43	1.73	14	25	18
	13	3	48	36.11	+19	50	24.4	20.271 602	0.43	1.73	14	21	34
	14	3	48	48.49	19	51	03.8	20.281 570	0.43	1.73	14	17	51
	15	3	49	00.98	19	51	43.5	20.291 313	0.43	1.73	14	14	07
	16	3	49	13.58	19	52	23.4	20.300 828	0.43	1.73	14	10	24
	17	3	49	26.29	19	53	03.6	20.310 111	0.43	1.72	14	06	41
	18	3	49	39.10	19	53	44.0	20.319 161	0.43	1.72	14	02	58
	19	3	49	52.02	+19	54	24.7	20.327 975	0.43	1.72	13	59	15
	20	3	50	05.03	19	55	05.6	20.336 550	0.43	1.72	13	55	32
	21	3	50	18.15	19	55	46.7	20.344 886	0.43	1.72	13	51	49
	22	3	50	31.36	19	56	28.1	20.352 979	0.43	1.72	13	48	06
	23	3	50	44.65	19	57	09.7	20.360 829	0.43	1.72	13	44	24
	24	3	50	58.02	19	57	51.5	20.368 433	0.43	1.72	13	40	41
	25	3	51	11.47	+19	58	33.4	20.375 791	0.43	1.72	13	36	59
	26	3	51	25.00	19	59	15.5	20.382 901	0.43	1.72	13	33	16
	27	3	51	38.60	19	59	57.7	20.389 763	0.43	1.72	13	29	34
	28	3	51	52.27	20	00	40.1	20.396 374	0.43	1.72	13	25	52
	29	3	52	06.01	20	01	22.5	20.402 733	0.43	1.72	13	22	09
	30	3	52	19.82	20	02	05.1	20.408 840	0.43	1.72	13	18	27
May	1	3	52	33.70	+20	02	47.8	20.414 694	0.43	1.72	13	14	45
	2	3	52	47.64	20	03	30.6	20.420 292	0.43	1.71	13	11	03
	3	3	53	01.65	20	04	13.5	20.425 635	0.43	1.71	13	07	21
	4	3	53	15.72	20	04	56.5	20.430 721	0.43	1.71	13	03	39
	5	3	53	29.85	20	05	39.6	20.435 549	0.43	1.71	12	59	58
	6	3	53	44.02	20	06	22.8	20.440 117	0.43	1.71	12	56	16
	7	3	53	58.25	+20	07	06.1	20.444 425	0.43	1.71	12	52	34
	8	3	54	12.53	20	07	49.5	20.448 472	0.43	1.71	12	48	52
	9	3	54	26.84	20	08	32.9	20.452 256	0.43	1.71	12	45	11
	10	3	54	41.20	20	09	16.3	20.455 777	0.43	1.71	12	41	29
	11	3	54	55.59	20	09	59.7	20.459 034	0.43	1.71	12	37	48
	12	3	55	10.02	20	10	43.2	20.462 025	0.43	1.71	12	34	06
	13	3	55	24.47	+20	11	26.6	20.464 749	0.43	1.71	12	30	24
	14	3	55	38.96	20	12	10.1	20.467 207	0.43	1.71	12	26	43
	15	3	55	53.49	20	12	53.5	20.469 396	0.43	1.71	12	23	02
	16	3	56	08.04	20	13	36.8	20.471 316	0.43	1.71	12	19	20
	17	3	56	22.61	+20	14	20.2	20.472 967	0.43	1.71	12	15	39

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
May	17	3	56	22.61	+20	14	20.2	20.472 967	0.43	1.71	12	15	39
	18	3	56	37.22	20	15	03.6	20.474 348	0.43	1.71	12	11	57
	19	3	56	51.84	20	15	46.9	20.475 459	0.43	1.71	12	08	16
	20	3	57	06.47	20	16	30.2	20.476 301	0.43	1.71	12	04	35
	21	3	57	21.12	20	17	13.5	20.476 872	0.43	1.71	12	00	53
	22	3	57	35.79	20	17	56.6	20.477 174	0.43	1.71	11	57	12
	23	3	57	50.31	+20	18	39.2	20.477 208	0.43	1.71	11	53	30
	24	3	58	04.98	20	19	22.6	20.476 973	0.43	1.71	11	49	49
	25	3	58	19.61	20	20	05.5	20.476 470	0.43	1.71	11	46	08
	26	3	58	34.24	20	20	48.3	20.475 699	0.43	1.71	11	42	26
June	27	3	58	48.86	20	21	30.9	20.474 662	0.43	1.71	11	38	45
	28	3	59	03.47	20	22	13.4	20.473 359	0.43	1.71	11	35	04
	29	3	59	18.07	+20	22	55.7	20.471 790	0.43	1.71	11	31	22
	30	3	59	32.65	20	23	37.9	20.469 957	0.43	1.71	11	27	41
	31	3	59	47.22	20	24	20.1	20.467 859	0.43	1.71	11	23	59
	1	4	00	01.77	20	25	02.0	20.465 497	0.43	1.71	11	20	18
	2	4	00	16.30	20	25	43.9	20.462 872	0.43	1.71	11	16	37
	3	4	00	30.80	20	26	25.5	20.459 984	0.43	1.71	11	12	55
	4	4	00	45.28	+20	27	07.1	20.456 834	0.43	1.71	11	09	14
	5	4	00	59.72	20	27	48.4	20.453 423	0.43	1.71	11	05	32
July	6	4	01	14.12	20	28	29.6	20.449 751	0.43	1.71	11	01	50
	7	4	01	28.48	20	29	10.6	20.445 820	0.43	1.71	10	58	09
	8	4	01	42.80	20	29	51.4	20.441 628	0.43	1.71	10	54	27
	9	4	01	57.08	20	30	31.9	20.437 178	0.43	1.71	10	50	45
	10	4	02	11.31	+20	31	12.2	20.432 470	0.43	1.71	10	47	04
	11	4	02	25.50	20	31	52.3	20.427 505	0.43	1.71	10	43	22
	12	4	02	39.64	20	32	32.1	20.422 284	0.43	1.71	10	39	40
	13	4	02	53.73	20	33	11.7	20.416 807	0.43	1.72	10	35	58
	14	4	03	07.77	20	33	51.1	20.411 077	0.43	1.72	10	32	16
	15	4	03	21.76	20	34	30.2	20.405 093	0.43	1.72	10	28	34
	16	4	03	35.69	+20	35	09.2	20.398 859	0.43	1.72	10	24	52
	17	4	03	49.54	20	35	47.9	20.392 375	0.43	1.72	10	21	10
	18	4	04	03.32	20	36	26.3	20.385 644	0.43	1.72	10	17	27
	19	4	04	17.03	20	37	04.5	20.378 667	0.43	1.72	10	13	45
	20	4	04	30.66	20	37	42.3	20.371 447	0.43	1.72	10	10	03
	21	4	04	44.21	20	38	19.8	20.363 985	0.43	1.72	10	06	20
	22	4	04	57.68	+20	38	57.0	20.356 285	0.43	1.72	10	02	38
	23	4	05	11.06	20	39	33.9	20.348 348	0.43	1.72	9	58	55
	24	4	05	24.37	20	40	10.5	20.340 176	0.43	1.72	9	55	12
	25	4	05	37.59	20	40	46.8	20.331 771	0.43	1.72	9	51	30
	26	4	05	50.72	20	41	22.7	20.323 136	0.43	1.72	9	47	47
	27	4	06	03.77	20	41	58.4	20.314 273	0.43	1.72	9	44	04
	28	4	06	16.72	+20	42	33.7	20.305 184	0.43	1.72	9	40	21
	29	4	06	29.58	20	43	08.7	20.295 871	0.43	1.73	9	36	37
	30	4	06	42.34	20	43	43.4	20.286 336	0.43	1.73	9	32	54
	1	4	06	55.00	20	44	17.8	20.276 582	0.43	1.73	9	29	11
	2	4	07	07.55	+20	44	51.8	20.266 610	0.43	1.73	9	25	27

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
July	1	4	06	55.00	+20	44	17.8	20.276 582	0.43	1.73	9	29	11
	2	4	07	07.55	20	44	51.8	20.266 610	0.43	1.73	9	25	27
	3	4	07	19.99	20	45	25.5	20.256 422	0.43	1.73	9	21	44
	4	4	07	32.32	20	45	58.9	20.246 022	0.43	1.73	9	18	00
	5	4	07	44.54	20	46	31.8	20.235 410	0.43	1.73	9	14	16
	6	4	07	56.65	20	47	04.4	20.224 590	0.43	1.73	9	10	32
	7	4	08	08.63	+20	47	36.6	20.213 563	0.44	1.73	9	06	48
	8	4	08	20.50	20	48	08.3	20.202 332	0.44	1.73	9	03	04
	9	4	08	32.26	20	48	39.7	20.190 899	0.44	1.73	8	59	20
	10	4	08	43.89	20	49	10.7	20.179 267	0.44	1.74	8	55	36
	11	4	08	55.40	20	49	41.4	20.167 438	0.44	1.74	8	51	51
	12	4	09	06.79	20	50	11.6	20.155 414	0.44	1.74	8	48	06
	13	4	09	18.05	+20	50	41.5	20.143 200	0.44	1.74	8	44	22
	14	4	09	29.17	20	51	11.0	20.130 798	0.44	1.74	8	40	37
	15	4	09	40.15	20	51	40.1	20.118 210	0.44	1.74	8	36	52
	16	4	09	50.99	20	52	08.8	20.105 442	0.44	1.74	8	33	07
	17	4	10	01.68	20	52	37.0	20.092 495	0.44	1.74	8	29	21
	18	4	10	12.23	20	53	04.8	20.079 375	0.44	1.74	8	25	36
	19	4	10	22.62	+20	53	32.1	20.066 084	0.44	1.75	8	21	50
	20	4	10	32.87	20	53	59.0	20.052 625	0.44	1.75	8	18	04
	21	4	10	42.97	20	54	25.4	20.039 004	0.44	1.75	8	14	18
	22	4	10	52.92	20	54	51.4	20.025 222	0.44	1.75	8	10	32
	23	4	11	02.71	20	55	17.0	20.011 284	0.44	1.75	8	06	46
	24	4	11	12.36	20	55	42.1	19.997 194	0.44	1.75	8	03	00
	25	4	11	21.84	+20	56	06.7	19.982 954	0.44	1.75	7	59	13
	26	4	11	31.17	20	56	31.0	19.968 568	0.44	1.75	7	55	27
	27	4	11	40.33	20	56	54.8	19.954 040	0.44	1.76	7	51	40
	28	4	11	49.33	20	57	18.2	19.939 374	0.44	1.76	7	47	53
	29	4	11	58.17	20	57	41.1	19.924 572	0.44	1.76	7	44	05
	30	4	12	06.83	20	58	03.5	19.909 638	0.44	1.76	7	40	18
Aug.	31	4	12	15.32	+20	58	25.5	19.894 576	0.44	1.76	7	36	31
	1	4	12	23.63	20	58	47.0	19.879 389	0.44	1.76	7	32	43
	2	4	12	31.77	20	59	08.0	19.864 081	0.44	1.76	7	28	55
	3	4	12	39.74	20	59	28.5	19.848 655	0.44	1.76	7	25	07
	4	4	12	47.53	20	59	48.5	19.833 115	0.44	1.77	7	21	19
	5	4	12	55.14	21	00	08.0	19.817 464	0.44	1.77	7	17	30
	6	4	13	02.57	+21	00	27.0	19.801 706	0.44	1.77	7	13	42
	7	4	13	09.83	21	00	45.5	19.785 845	0.44	1.77	7	09	53
	8	4	13	16.90	21	01	03.6	19.769 885	0.44	1.77	7	06	04
	9	4	13	23.79	21	01	21.2	19.753 830	0.45	1.77	7	02	15
	10	4	13	30.50	21	01	38.3	19.737 683	0.45	1.77	6	58	26
	11	4	13	37.01	21	01	54.9	19.721 450	0.45	1.78	6	54	36
	12	4	13	43.32	+21	02	11.0	19.705 135	0.45	1.78	6	50	47
	13	4	13	49.43	21	02	26.6	19.688 743	0.45	1.78	6	46	57
	14	4	13	55.35	21	02	41.7	19.672 278	0.45	1.78	6	43	07
	15	4	14	01.06	21	02	56.3	19.655 745	0.45	1.78	6	39	16
	16	4	14	06.58	+21	03	10.3	19.639 149	0.45	1.78	6	35	26

URANUS, 2026

RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Aug.	16	4	14	06.58	+21	03	10.3	19.639 149	0.45	1.78	6	35	26
	17	4	14	11.89	21	03	23.7	19.622 494	0.45	1.78	6	31	35
	18	4	14	17.01	21	03	36.6	19.605 786	0.45	1.79	6	27	44
	19	4	14	21.93	21	03	49.1	19.589 028	0.45	1.79	6	23	53
	20	4	14	26.65	21	04	01.0	19.572 226	0.45	1.79	6	20	02
	21	4	14	31.16	21	04	12.4	19.555 384	0.45	1.79	6	16	10
	22	4	14	35.48	+21	04	23.3	19.538 507	0.45	1.79	6	12	19
	23	4	14	39.59	21	04	33.7	19.521 599	0.45	1.79	6	08	27
	24	4	14	43.49	21	04	43.5	19.504 665	0.45	1.80	6	04	35
	25	4	14	47.18	21	04	52.9	19.487 708	0.45	1.80	6	00	43
Sept.	26	4	14	50.66	21	05	01.8	19.470 734	0.45	1.80	5	56	50
	27	4	14	53.93	21	05	10.1	19.453 747	0.45	1.80	5	52	57
	28	4	14	56.99	+21	05	17.9	19.436 751	0.45	1.80	5	49	04
	29	4	14	59.84	21	05	25.1	19.419 751	0.45	1.80	5	45	11
	30	4	15	02.47	21	05	31.8	19.402 751	0.45	1.80	5	41	18
	31	4	15	04.90	21	05	37.9	19.385 755	0.45	1.81	5	37	24
	1	4	15	07.11	21	05	43.5	19.368 767	0.45	1.81	5	33	31
	2	4	15	09.11	21	05	48.5	19.351 794	0.45	1.81	5	29	37
	3	4	15	10.91	+21	05	53.0	19.334 837	0.45	1.81	5	25	43
	4	4	15	12.49	21	05	57.0	19.317 904	0.46	1.81	5	21	48
	5	4	15	13.86	21	06	00.5	19.300 997	0.46	1.81	5	17	54
	6	4	15	15.02	21	06	03.4	19.284 122	0.46	1.82	5	13	59
	7	4	15	15.96	21	06	05.9	19.267 285	0.46	1.82	5	10	04
	8	4	15	16.69	21	06	07.8	19.250 490	0.46	1.82	5	06	08
	9	4	15	17.19	+21	06	09.2	19.233 742	0.46	1.82	5	02	13
	10	4	15	17.46	21	06	10.0	19.217 046	0.46	1.82	4	58	17
	11	4	15	17.52	21	06	10.2	19.200 409	0.46	1.82	4	54	21
	12	4	15	17.36	21	06	09.9	19.183 834	0.46	1.83	4	50	25
	13	4	15	16.99	21	06	09.0	19.167 329	0.46	1.83	4	46	29
	14	4	15	16.40	21	06	07.6	19.150 897	0.46	1.83	4	42	33
	15	4	15	15.59	+21	06	05.6	19.134 543	0.46	1.83	4	38	36
	16	4	15	14.58	21	06	03.2	19.118 274	0.46	1.83	4	34	39
	17	4	15	13.35	21	06	00.1	19.102 093	0.46	1.83	4	30	42
	18	4	15	11.91	21	05	56.6	19.086 005	0.46	1.83	4	26	44
	19	4	15	10.27	21	05	52.6	19.070 016	0.46	1.84	4	22	47
	20	4	15	08.40	21	05	48.1	19.054 131	0.46	1.84	4	18	49
	21	4	15	06.33	+21	05	43.0	19.038 353	0.46	1.84	4	14	51
	22	4	15	04.05	21	05	37.5	19.022 688	0.46	1.84	4	10	53
	23	4	15	01.55	21	05	31.4	19.007 140	0.46	1.84	4	06	54
	24	4	14	58.84	21	05	24.8	18.991 713	0.46	1.84	4	02	56
	25	4	14	55.93	21	05	17.6	18.976 413	0.46	1.85	3	58	57
	26	4	14	52.80	21	05	09.9	18.961 242	0.46	1.85	3	54	58
	27	4	14	49.47	+21	05	01.7	18.946 207	0.46	1.85	3	50	58
	28	4	14	45.94	21	04	53.0	18.931 311	0.46	1.85	3	46	59
	29	4	14	42.22	21	04	43.7	18.916 558	0.46	1.85	3	42	59
	30	4	14	38.29	21	04	34.0	18.901 953	0.47	1.85	3	39	00
Oct.	1	4	14	34.18	+21	04	23.7	18.887 501	0.47	1.85	3	35	00

URANUS, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Oct.	1	4	14	34.18	+21	04	23.7	18.887 501	0.47	1.85	3	35	00
	2	4	14	29.86	21	04	13.0	18.873 205	0.47	1.86	3	30	59
	3	4	14	25.36	21	04	01.8	18.859 071	0.47	1.86	3	26	59
	4	4	14	20.65	21	03	50.1	18.845 103	0.47	1.86	3	22	58
	5	4	14	15.75	21	03	38.0	18.831 306	0.47	1.86	3	18	57
	6	4	14	10.65	21	03	25.4	18.817 685	0.47	1.86	3	14	56
	7	4	14	05.36	+21	03	12.2	18.804 244	0.47	1.86	3	10	55
	8	4	13	59.88	21	02	58.6	18.790 988	0.47	1.86	3	06	54
	9	4	13	54.21	21	02	44.4	18.777 923	0.47	1.86	3	02	52
	10	4	13	48.35	21	02	29.8	18.765 052	0.47	1.87	2	58	51
	11	4	13	42.32	21	02	14.7	18.752 381	0.47	1.87	2	54	49
	12	4	13	36.11	21	01	59.1	18.739 913	0.47	1.87	2	50	46
	13	4	13	29.73	+21	01	43.1	18.727 654	0.47	1.87	2	46	44
	14	4	13	23.17	21	01	26.6	18.715 607	0.47	1.87	2	42	42
	15	4	13	16.45	21	01	09.7	18.703 776	0.47	1.87	2	38	39
	16	4	13	09.57	21	00	52.4	18.692 166	0.47	1.87	2	34	36
	17	4	13	02.51	21	00	34.7	18.680 780	0.47	1.87	2	30	33
	18	4	12	55.30	21	00	16.6	18.669 622	0.47	1.88	2	26	30
	19	4	12	47.93	+20	59	58.0	18.658 696	0.47	1.88	2	22	27
	20	4	12	40.40	20	59	39.1	18.648 006	0.47	1.88	2	18	24
	21	4	12	32.72	20	59	19.7	18.637 553	0.47	1.88	2	14	20
	22	4	12	24.88	20	58	60.0	18.627 343	0.47	1.88	2	10	16
	23	4	12	16.90	20	58	39.8	18.617 378	0.47	1.88	2	06	13
	24	4	12	08.77	20	58	19.3	18.607 661	0.47	1.88	2	02	09
	25	4	12	00.51	+20	57	58.3	18.598 196	0.47	1.88	1	58	04
	26	4	11	52.12	20	57	36.9	18.588 985	0.47	1.88	1	54	00
	27	4	11	43.59	20	57	15.2	18.580 030	0.47	1.88	1	49	56
	28	4	11	34.95	20	56	53.2	18.571 337	0.47	1.89	1	45	51
	29	4	11	26.18	20	56	30.8	18.562 906	0.47	1.89	1	41	47
	30	4	11	17.30	20	56	08.1	18.554 741	0.47	1.89	1	37	42
Nov.	31	4	11	08.29	+20	55	45.1	18.546 845	0.47	1.89	1	33	37
	1	4	10	59.17	20	55	21.8	18.539 222	0.47	1.89	1	29	32
	2	4	10	49.93	20	54	58.2	18.531 874	0.47	1.89	1	25	27
	3	4	10	40.58	20	54	34.3	18.524 804	0.47	1.89	1	21	22
	4	4	10	31.12	20	54	10.1	18.518 015	0.47	1.89	1	17	16
	5	4	10	21.56	20	53	45.5	18.511 511	0.48	1.89	1	13	11
	6	4	10	11.90	+20	53	20.7	18.505 294	0.48	1.89	1	09	05
	7	4	10	02.16	20	52	55.6	18.499 366	0.48	1.89	1	04	60
	8	4	09	52.33	20	52	30.2	18.493 731	0.48	1.89	1	00	54
	9	4	09	42.42	20	52	04.5	18.488 390	0.48	1.89	0	56	48
	10	4	09	32.44	20	51	38.7	18.483 345	0.48	1.89	0	52	42
	11	4	09	22.38	20	51	12.6	18.478 599	0.48	1.90	0	48	37
	12	4	09	12.26	+20	50	46.4	18.474 153	0.48	1.90	0	44	31
	13	4	09	02.08	20	50	19.9	18.470 009	0.48	1.90	0	40	25
	14	4	08	51.84	20	49	53.3	18.466 169	0.48	1.90	0	36	18
	15	4	08	41.54	20	49	26.6	18.462 633	0.48	1.90	0	32	12
	16	4	08	31.19	+20	48	59.6	18.459 403	0.48	1.90	0	28	06

URANUS, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Nov.	16	4	08	31.19	+20	48	59.6	18.459 403	0.48	1.90	0	28	06
	17	4	08	20.79	20	48	32.6	18.456 480	0.48	1.90	0	24	00
	18	4	08	10.35	20	48	05.3	18.453 864	0.48	1.90	0	19	54
	19	4	07	59.87	20	47	38.0	18.451 557	0.48	1.90	0	15	47
	20	4	07	49.36	20	47	10.4	18.449 560	0.48	1.90	0	11	41
	21	4	07	38.82	20	46	42.8	18.447 871	0.48	1.90	0	07	34
	22	4	07	28.26	+20	46	15.1	18.446 493	0.48	1.90	0	03	28
	23	4	07	17.69	20	45	47.2	18.445 425	0.48	1.90	23	55	15
	24	4	07	07.12	20	45	19.3	18.444 667	0.48	1.90	23	51	09
	25	4	06	56.54	20	44	51.4	18.444 220	0.48	1.90	23	47	02
	26	4	06	45.95	20	44	23.4	18.444 084	0.48	1.90	23	42	56
	27	4	06	35.37	20	43	55.5	18.444 259	0.48	1.90	23	38	49
	28	4	06	24.80	+20	43	27.5	18.444 746	0.48	1.90	23	34	43
	29	4	06	14.22	20	42	59.6	18.445 544	0.48	1.90	23	30	37
	30	4	06	03.66	20	42	31.6	18.446 654	0.48	1.90	23	26	30
Dec.	1	4	05	53.11	20	42	03.6	18.448 076	0.48	1.90	23	22	24
	2	4	05	42.58	20	41	35.7	18.449 810	0.48	1.90	23	18	17
	3	4	05	32.07	20	41	07.7	18.451 855	0.48	1.90	23	14	11
	4	4	05	21.60	+20	40	39.8	18.454 213	0.48	1.90	23	10	05
	5	4	05	11.17	20	40	12.0	18.456 882	0.48	1.90	23	05	59
	6	4	05	00.79	20	39	44.2	18.459 861	0.48	1.90	23	01	52
	7	4	04	50.46	20	39	16.5	18.463 149	0.48	1.90	22	57	46
	8	4	04	40.18	20	38	49.0	18.466 747	0.48	1.90	22	53	40
	9	4	04	29.96	20	38	21.6	18.470 651	0.48	1.90	22	49	34
	10	4	04	19.80	+20	37	54.4	18.474 862	0.48	1.90	22	45	28
	11	4	04	09.71	20	37	27.3	18.479 378	0.48	1.90	22	41	22
	12	4	03	59.68	20	37	00.5	18.484 196	0.48	1.89	22	37	17
	13	4	03	49.74	20	36	33.8	18.489 315	0.48	1.89	22	33	11
	14	4	03	39.87	20	36	07.3	18.494 733	0.48	1.89	22	29	05
	15	4	03	30.08	20	35	40.9	18.500 448	0.48	1.89	22	25	00
	16	4	03	20.38	+20	35	14.8	18.506 457	0.48	1.89	22	20	54
	17	4	03	10.77	20	34	48.9	18.512 759	0.48	1.89	22	16	49
	18	4	03	01.26	20	34	23.3	18.519 350	0.47	1.89	22	12	43
	19	4	02	51.85	20	33	57.9	18.526 228	0.47	1.89	22	08	38
	20	4	02	42.56	20	33	32.7	18.533 390	0.47	1.89	22	04	33
	21	4	02	33.37	20	33	07.8	18.540 834	0.47	1.89	22	00	28
	22	4	02	24.31	+20	32	43.2	18.548 557	0.47	1.89	21	56	24
	23	4	02	15.37	20	32	19.0	18.556 555	0.47	1.89	21	52	19
	24	4	02	06.55	20	31	55.1	18.564 826	0.47	1.89	21	48	14
	25	4	01	57.86	20	31	31.5	18.573 368	0.47	1.89	21	44	10
	26	4	01	49.29	20	31	08.3	18.582 177	0.47	1.88	21	40	05
	27	4	01	40.84	20	30	45.5	18.591 251	0.47	1.88	21	36	01
	28	4	01	32.53	+20	30	23.0	18.600 588	0.47	1.88	21	31	57
	29	4	01	24.35	20	30	00.8	18.610 184	0.47	1.88	21	27	53
	30	4	01	16.31	20	29	39.0	18.620 036	0.47	1.88	21	23	50
	31	4	01	08.42	20	29	17.6	18.630 142	0.47	1.88	21	19	46
	32	4	01	00.68	+20	28	56.5	18.640 498	0.47	1.88	21	15	42

NEPTUNE, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector		Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector	
	°	'	"	°	'	"				°	'	"	°	'	"		
Jan.	1	1	21	30.6	-1	20	24.0	29.884 8421	Apr.	3	1	55	09.0	-1	21	04.2	29.882 5173
	3	1	22	14.4	1	20	24.9	29.884 7911		5	1	55	52.9	1	21	05.0	29.882 4672
	5	1	22	58.3	1	20	25.8	29.884 7402		7	1	56	36.7	1	21	05.9	29.882 4171
	7	1	23	42.2	1	20	26.6	29.884 6894		9	1	57	20.6	1	21	06.8	29.882 3670
	9	1	24	26.1	1	20	27.5	29.884 6385		11	1	58	04.5	1	21	07.6	29.882 3170
	11	1	25	10.0	1	20	28.4	29.884 5877	13	1	58	48.3	1	21	08.5	29.882 2670	
	13	1	25	53.8	-1	20	29.3	29.884 5368	15	1	59	32.3	-1	21	09.3	29.882 2170	
	15	1	26	37.7	1	20	30.2	29.884 4860	17	2	00	16.1	1	21	10.2	29.882 1670	
	17	1	27	21.6	1	20	31.0	29.884 4352	19	2	00	60.0	1	21	11.1	29.882 1171	
	19	1	28	05.5	1	20	31.9	29.884 3845	21	2	01	43.9	1	21	12.0	29.882 0672	
	21	1	28	49.4	1	20	32.8	29.884 3337	23	2	02	27.7	1	21	12.8	29.882 0173	
23	1	29	33.3	1	20	33.7	29.884 2829	25	2	03	11.6	1	21	13.7	29.881 9674		
25	1	30	17.1	-1	20	34.5	29.884 2322	27	2	03	55.5	-1	21	14.5	29.881 9176		
27	1	31	01.0	1	20	35.4	29.884 1815	29	2	04	39.4	1	21	15.4	29.881 8678		
29	1	31	44.9	1	20	36.3	29.884 1308	May	1	2	05	23.2	1	21	16.3	29.881 8180	
31	1	32	28.8	1	20	37.1	29.884 0801		3	2	06	07.1	1	21	17.1	29.881 7682	
Feb.	2	1	33	12.7	1	20	38.0		29.884 0295	5	2	06	51.0	1	21	18.0	29.881 7185
	4	1	33	56.5	1	20	38.9		29.883 9788	7	2	07	34.8	1	21	18.9	29.881 6688
	6	1	34	40.4	-1	20	39.8		29.883 9282	9	2	08	18.7	-1	21	19.7	29.881 6191
	8	1	35	24.3	1	20	40.7	29.883 8775	11	2	09	02.6	1	21	20.6	29.881 5694	
	10	1	36	08.2	1	20	41.5	29.883 8269	13	2	09	46.5	1	21	21.5	29.881 5198	
12	1	36	52.1	1	20	42.4	29.883 7763	15	2	10	30.4	1	21	22.3	29.881 4701		
14	1	37	35.9	1	20	43.3	29.883 7258	17	2	11	14.2	1	21	23.2	29.881 4206		
16	1	38	19.8	1	20	44.1	29.883 6752	19	2	11	58.1	1	21	24.0	29.881 3710		
18	1	39	03.7	-1	20	45.0	29.883 6246	21	2	12	42.0	-1	21	24.9	29.881 3215		
20	1	39	47.6	1	20	45.9	29.883 5741	23	2	13	25.8	1	21	25.8	29.881 2720		
22	1	40	31.4	1	20	46.8	29.883 5236	25	2	14	09.7	1	21	26.6	29.881 2225		
24	1	41	15.3	1	20	47.6	29.883 4731	27	2	14	53.6	1	21	27.5	29.881 1731		
26	1	41	59.2	1	20	48.5	29.883 4226	29	2	15	37.5	1	21	28.4	29.881 1236		
28	1	42	43.1	1	20	49.4	29.883 3721	31	2	16	21.3	1	21	29.2	29.881 0743		
Mar.	2	1	43	27.0	-1	20	50.2	29.883 3217	June	2	2	17	05.2	-1	21	30.1	29.881 0249
	4	1	44	10.8	1	20	51.1	29.883 2713		4	2	17	49.1	1	21	30.9	29.880 9756
	6	1	44	54.7	1	20	52.0	29.883 2209		6	2	18	32.9	1	21	31.8	29.880 9263
	8	1	45	38.6	1	20	52.9	29.883 1705		8	2	19	16.8	1	21	32.7	29.880 8770
	10	1	46	22.5	1	20	53.7	29.883 1201		10	2	20	00.7	1	21	33.5	29.880 8278
	12	1	47	06.3	1	20	54.6	29.883 0698	12	2	20	44.6	1	21	34.4	29.880 7786	
	14	1	47	50.2	-1	20	55.4	29.883 0194	14	2	21	28.4	-1	21	35.2	29.880 7295	
	16	1	48	34.1	1	20	56.3	29.882 9691	16	2	22	12.3	1	21	36.1	29.880 6803	
	18	1	49	18.0	1	20	57.2	29.882 9188	18	2	22	56.2	1	21	37.0	29.880 6312	
	20	1	50	01.8	1	20	58.1	29.882 8686	20	2	23	40.0	1	21	37.8	29.880 5821	
	22	1	50	45.7	1	20	58.9	29.882 8183	22	2	24	23.9	1	21	38.7	29.880 5331	
	24	1	51	29.6	1	20	59.8	29.882 7681	24	2	25	07.8	1	21	39.5	29.880 4841	
26	1	52	13.5	-1	21	00.7	29.882 7179	26	2	25	51.7	-1	21	40.4	29.880 4351		
28	1	52	57.4	1	21	01.5	29.882 6677	28	2	26	35.5	1	21	41.3	29.880 3861		
30	1	53	41.2	1	21	02.4	29.882 6175	30	2	27	19.4	1	21	42.1	29.880 3372		
Apr.	1	1	54	25.1	1	21	03.3	29.882 5674	July	2	2	28	03.3	1	21	43.0	29.880 2883
	3	1	55	09.0	-1	21	04.2	29.882 5173		4	2	28	47.1	-1	21	43.8	29.880 2395

NEPTUNE, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector	Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector		
	°	'	"	°	'	"			°	'	"	°	'	"			
July	2	2	28	03.3	-1	21	43.0	29.880 2883	Oct.	2	3	01	41.3	-1	22	22.2	29.878 0657
	4	2	28	47.1	1	21	43.8	29.880 2395		4	3	02	25.2	1	22	23.0	29.878 0179
	6	2	29	31.0	1	21	44.7	29.880 1906		6	3	03	09.1	1	22	23.9	29.877 9701
	8	2	30	14.9	1	21	45.5	29.880 1418		8	3	03	52.9	1	22	24.7	29.877 9223
	10	2	30	58.8	1	21	46.4	29.880 0930		10	3	04	36.8	1	22	25.6	29.877 8745
	12	2	31	42.6	1	21	47.3	29.880 0443		12	3	05	20.7	1	22	26.4	29.877 8268
	14	2	32	26.5	-1	21	48.1	29.879 9956		14	3	06	04.5	-1	22	27.3	29.877 7790
	16	2	33	10.4	1	21	49.0	29.879 9469		16	3	06	48.4	1	22	28.1	29.877 7313
	18	2	33	54.2	1	21	49.8	29.879 8982		18	3	07	32.3	1	22	29.0	29.877 6836
	20	2	34	38.1	1	21	50.7	29.879 8495		20	3	08	16.1	1	22	29.8	29.877 6360
	22	2	35	22.0	1	21	51.5	29.879 8009		22	3	09	00.0	1	22	30.7	29.877 5883
	24	2	36	05.9	1	21	52.4	29.879 7523		24	3	09	43.9	1	22	31.5	29.877 5407
Aug.	26	2	36	49.7	-1	21	53.2	29.879 7038	Nov.	26	3	10	27.8	-1	22	32.4	29.877 4930
	28	2	37	33.6	1	21	54.1	29.879 6552		28	3	11	11.6	1	22	33.2	29.877 4455
	30	2	38	17.5	1	21	55.0	29.879 6067		30	3	11	55.5	1	22	34.0	29.877 3979
	1	2	39	01.3	1	21	55.8	29.879 5582		1	3	12	39.4	1	22	34.9	29.877 3503
	3	2	39	45.2	1	21	56.7	29.879 5097		3	3	13	23.2	1	22	35.7	29.877 3028
	5	2	40	29.1	1	21	57.5	29.879 4613		5	3	14	07.1	1	22	36.6	29.877 2553
	7	2	41	13.0	-1	21	58.4	29.879 4128		7	3	14	50.9	-1	22	37.4	29.877 2078
	9	2	41	56.8	1	21	59.2	29.879 3644		9	3	15	34.8	1	22	38.3	29.877 1603
	11	2	42	40.7	1	22	00.1	29.879 3161		11	3	16	18.7	1	22	39.1	29.877 1128
	13	2	43	24.6	1	22	00.9	29.879 2677		13	3	17	02.6	1	22	40.0	29.877 0654
	15	2	44	08.4	1	22	01.8	29.879 2194		15	3	17	46.4	1	22	40.8	29.877 0180
	17	2	44	52.3	1	22	02.6	29.879 1710		17	3	18	30.3	1	22	41.6	29.876 9706
Sept.	19	2	45	36.2	-1	22	03.5	29.879 1227	Dec.	19	3	19	14.2	-1	22	42.5	29.876 9233
	21	2	46	20.1	1	22	04.3	29.879 0745		21	3	19	58.0	1	22	43.3	29.876 8759
	23	2	47	03.9	1	22	05.2	29.879 0262		23	3	20	41.9	1	22	44.2	29.876 8286
	25	2	47	47.8	1	22	06.1	29.878 9780		25	3	21	25.8	1	22	45.0	29.876 7813
	27	2	48	31.6	1	22	06.9	29.878 9298		27	3	22	09.6	1	22	45.8	29.876 7341
	29	2	49	15.5	1	22	07.7	29.878 8816		29	3	22	53.5	1	22	46.7	29.876 6869
	31	2	49	59.4	-1	22	08.6	29.878 8334		1	3	23	37.4	-1	22	47.5	29.876 6397
	2	2	50	43.3	1	22	09.5	29.878 7853		3	3	24	21.2	1	22	48.4	29.876 5925
	4	2	51	27.1	1	22	10.3	29.878 7372		5	3	25	05.1	1	22	49.2	29.876 5454
	6	2	52	11.0	1	22	11.2	29.878 6891		7	3	25	48.9	1	22	50.0	29.876 4983
	8	2	52	54.9	1	22	12.0	29.878 6410		9	3	26	32.8	1	22	50.9	29.876 4512
	10	2	53	38.7	1	22	12.8	29.878 5930		11	3	27	16.7	1	22	51.7	29.876 4041
Oct.	12	2	54	22.6	-1	22	13.7	29.878 5449		13	3	28	00.6	-1	22	52.5	29.876 3571
	14	2	55	06.5	1	22	14.6	29.878 4969		15	3	28	44.4	1	22	53.4	29.876 3102
	16	2	55	50.4	1	22	15.4	29.878 4489		17	3	29	28.3	1	22	54.2	29.876 2632
	18	2	56	34.2	1	22	16.2	29.878 4010		19	3	30	12.1	1	22	55.1	29.876 2163
	20	2	57	18.1	1	22	17.1	29.878 3530		21	3	30	56.0	1	22	55.9	29.876 1694
	22	2	58	02.0	1	22	18.0	29.878 3051		23	3	31	39.9	1	22	56.7	29.876 1225
	24	2	58	45.8	-1	22	18.8	29.878 2571		25	3	32	23.8	-1	22	57.6	29.876 0757
	26	2	59	29.7	1	22	19.7	29.878 2093		27	3	33	07.6	1	22	58.4	29.876 0289
	28	3	00	13.6	1	22	20.5	29.878 1614		29	3	33	51.5	1	22	59.3	29.875 9822
	30	3	00	57.5	1	22	21.3	29.878 1135		31	3	34	35.3	1	23	00.1	29.875 9355
	2	3	01	41.3	-1	22	22.2	29.878 0657		33	3	35	19.2	-1	23	00.9	29.875 8888

NEPTUNE, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date				Apparent Geocentric Longitude				Apparent Geocentric Latitude				Date				Apparent Geocentric Longitude				Apparent Geocentric Latitude			
				°	'	"		°	'	"						°	'	"		°	'	"	
Jan.	0	359	29	40.7	-1	19	58.9	Feb.	15	0	33	45.2	-1	18	35.9	Mar.	27	0	58	20.6	-1	18	25.5
	1	359	30	24.4	1	19	56.6		16	0	35	42.9	1	18	34.9		28	1	00	29.1	1	18	24.9
	2	359	31	10.2	1	19	54.3		17	0	37	41.7	1	18	33.8		1	1	02	38.2	1	18	24.3
	3	359	31	58.0	1	19	52.1		18	0	39	41.4	1	18	32.8		2	1	04	47.8	1	18	23.8
	4	359	32	47.8	1	19	49.8		19	0	41	42.1	1	18	31.8		3	1	06	58.1	1	18	23.3
	5	359	33	39.5	1	19	47.6		20	0	43	43.8	1	18	30.9		4	1	09	08.8	1	18	22.9
	6	359	34	33.1	-1	19	45.4		21	0	45	46.4	-1	18	30.0		5	1	11	20.2	-1	18	22.5
	7	359	35	28.5	1	19	43.2		22	0	47	49.9	1	18	29.1		6	1	13	32.1	1	18	22.1
	8	359	36	25.8	1	19	41.0		23	0	49	54.3	1	18	28.3		7	1	15	44.5	1	18	21.8
	9	359	37	25.1	1	19	38.8		24	0	51	59.7	1	18	27.5		8	1	17	57.4	1	18	21.5
	10	359	38	26.2	1	19	36.6		25	0	54	05.9	1	18	26.8		9	1	20	10.9	1	18	21.3
Jan.	11	359	39	29.3	1	19	34.5	Feb.	26	0	56	12.9	1	18	26.1		10	1	22	24.8	1	18	21.1
	12	359	40	34.2	-1	19	32.4		27	0	58	20.6	-1	18	25.5		11	1	24	39.1	-1	18	21.0
	13	359	41	41.1	1	19	30.3		28	1	00	29.1	1	18	24.9		12	1	26	53.9	1	18	20.8
	14	359	42	49.9	1	19	28.2		1	1	02	38.2	1	18	24.3		13	1	29	08.9	1	18	20.8
	15	359	44	00.6	1	19	26.1		2	1	04	47.8	1	18	23.8		14	1	31	24.3	1	18	20.8
	16	359	45	13.1	1	19	24.1		3	1	06	58.1	1	18	23.3		15	1	33	39.9	1	18	20.8
	17	359	46	27.4	1	19	22.1		4	1	09	08.8	1	18	22.9		16	1	35	55.7	1	18	20.9
	18	359	47	43.5	-1	19	20.1		5	1	11	20.2	-1	18	22.5		17	1	38	11.7	-1	18	21.0
	19	359	49	01.4	1	19	18.1		6	1	13	32.1	1	18	22.1		18	1	40	27.8	1	18	21.1
	20	359	50	20.9	1	19	16.1		7	1	15	44.5	1	18	21.8		19	1	42	44.0	1	18	21.3
	21	359	51	42.2	1	19	14.2		8	1	17	57.4	1	18	21.5		20	1	45	00.4	1	18	21.6
Jan.	22	359	53	05.1	1	19	12.3		9	1	20	10.9	1	18	21.3		21	1	47	16.8	1	18	22.0
	23	359	54	29.6	1	19	10.4		10	1	22	24.8	1	18	21.1		22	1	49	33.3	1	18	22.4
	24	359	55	55.8	-1	19	08.6		11	1	24	39.1	-1	18	21.0		23	1	51	49.7	-1	18	22.8
	25	359	57	23.6	1	19	06.8		12	1	26	53.9	1	18	20.8		24	1	54	06.3	1	18	23.1
	26	359	58	53.1	1	19	05.0		13	1	29	08.9	1	18	20.8		25	1	56	22.9	1	18	23.5
	27	0	00	24.2	1	19	03.2		14	1	31	24.3	1	18	20.8		26	1	58	39.5	1	18	23.9
	28	0	01	57.0	1	19	01.5		15	1	33	39.9	1	18	20.8		27	2	00	56.0	1	18	24.5
	29	0	03	31.4	1	18	59.8		16	1	35	55.7	1	18	20.9		28	2	03	12.2	1	18	25.0
	30	0	05	07.3	-1	18	58.1		17	1	38	11.7	-1	18	21.0		29	2	05	28.2	-1	18	25.7
	31	0	06	44.6	1	18	56.5		18	1	40	27.8	1	18	21.1		30	2	07	43.9	1	18	26.3
Feb.	1	0	08	23.4	1	18	54.9		19	1	42	44.0	1	18	21.3		31	2	09	59.4	1	18	27.1
	2	0	10	03.6	1	18	53.3	Apr.	1	2	12	14.6	1	18	27.8		2	2	14	29.4	-1	18	28.6
	3	0	11	45.1	1	18	51.8		2	2	14	29.4	-1	18	28.6								
	4	0	13	28.0	1	18	50.3																
	5	0	15	12.2	-1	18	48.8																
	6	0	16	57.7	1	18	47.4																
	7	0	18	44.5	1	18	46.0																
	8	0	20	32.7	1	18	44.6																
	9	0	22	22.3	1	18	43.2																
	10	0	24	13.1	1	18	41.9																
	11	0	26	05.1	-1	18	40.7																
	12	0	27	58.4	1	18	39.4																
	13	0	29	52.9	1	18	38.2																
	14	0	31	48.5	1	18	37.1																
	15	0	33	45.2	-1	18	35.9																

NEPTUNE, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Apr.	1	2	12	14.6	-1	18	27.8	May	17	3	43	16.0	-1	19	45.7
	2	2	14	29.4	1	18	28.6		18	3	44	48.6	1	19	48.2
	3	2	16	44.0	1	18	29.5		19	3	46	19.7	1	19	50.7
	4	2	18	58.3	1	18	30.4		20	3	47	49.3	1	19	53.3
	5	2	21	12.3	1	18	31.3		21	3	49	17.3	1	19	55.9
	6	2	23	25.9	1	18	32.3		22	3	50	43.7	1	19	58.5
	7	2	25	39.1	-1	18	33.3		23	3	52	08.5	-1	20	01.2
	8	2	27	51.9	1	18	34.3		24	3	53	31.6	1	20	03.9
	9	2	30	04.2	1	18	35.4		25	3	54	53.0	1	20	06.6
	10	2	32	16.0	1	18	36.6		26	3	56	12.9	1	20	09.3
	11	2	34	27.2	1	18	37.7		27	3	57	31.1	1	20	12.1
	12	2	36	37.8	1	18	39.0		28	3	58	47.7	1	20	14.8
	13	2	38	47.8	-1	18	40.2	June	29	4	00	02.7	-1	20	17.6
	14	2	40	57.1	1	18	41.5		30	4	01	16.0	1	20	20.5
	15	2	43	05.7	1	18	42.9		31	4	02	27.7	1	20	23.3
	16	2	45	13.6	1	18	44.2		1	4	03	37.8	1	20	26.2
	17	2	47	20.9	1	18	45.7		2	4	04	46.1	1	20	29.1
	18	2	49	27.4	1	18	47.1		3	4	05	52.7	1	20	32.0
	19	2	51	33.2	-1	18	48.6		4	4	06	57.5	-1	20	34.9
	20	2	53	38.2	1	18	50.2		5	4	08	00.5	1	20	37.8
	21	2	55	42.5	1	18	51.8		6	4	09	01.8	1	20	40.8
	22	2	57	46.0	1	18	53.4		7	4	10	01.2	1	20	43.8
	23	2	59	48.5	1	18	55.0		8	4	10	58.7	1	20	46.7
	24	3	01	50.1	1	18	56.7		9	4	11	54.5	1	20	49.8
	25	3	03	50.6	-1	18	58.5		10	4	12	48.4	-1	20	52.8
	26	3	05	50.1	1	19	00.3		11	4	13	40.4	1	20	55.8
	27	3	07	48.6	1	19	02.1		12	4	14	30.7	1	20	58.9
	28	3	09	46.0	1	19	03.9		13	4	15	19.2	1	21	02.0
	29	3	11	42.4	1	19	05.8		14	4	16	05.9	1	21	05.0
	30	3	13	37.8	1	19	07.8		15	4	16	50.7	1	21	08.1
May	1	3	15	32.1	-1	19	09.7		16	4	17	33.6	-1	21	11.3
	2	3	17	25.3	1	19	11.7		17	4	18	14.7	1	21	14.4
	3	3	19	17.5	1	19	13.8		18	4	18	53.7	1	21	17.5
	4	3	21	08.5	1	19	15.8		19	4	19	30.7	1	21	20.7
	5	3	22	58.4	1	19	17.9		20	4	20	05.8	1	21	23.8
	6	3	24	47.1	1	19	20.1		21	4	20	38.8	1	21	27.0
	7	3	26	34.6	-1	19	22.2		22	4	21	10.0	-1	21	30.2
	8	3	28	20.8	1	19	24.4		23	4	21	39.1	1	21	33.3
	9	3	30	05.7	1	19	26.7		24	4	22	06.4	1	21	36.5
	10	3	31	49.3	1	19	28.9		25	4	22	31.8	1	21	39.7
	11	3	33	31.5	1	19	31.2		26	4	22	55.2	1	21	42.9
	12	3	35	12.4	1	19	33.5		27	4	23	16.8	1	21	46.1
	13	3	36	51.9	-1	19	35.9	July	28	4	23	36.4	-1	21	49.3
	14	3	38	30.0	1	19	38.3		29	4	23	54.1	1	21	52.5
	15	3	40	06.7	1	19	40.7		30	4	24	09.9	1	21	55.7
	16	3	41	42.0	1	19	43.2		1	4	24	23.6	1	21	58.9
	17	3	43	16.0	-1	19	45.7		2	4	24	35.4	-1	22	02.0

NEPTUNE, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
July	1	4	24	23.6	-1	21	58.9	Aug.	16	4	01	04.9	-1	24	12.6
	2	4	24	35.4	1	22	02.0		17	3	59	54.9	1	24	15.0
	3	4	24	45.3	1	22	05.2		18	3	58	43.5	1	24	17.3
	4	4	24	53.1	1	22	08.4		19	3	57	30.8	1	24	19.5
	5	4	24	58.9	1	22	11.6		20	3	56	16.9	1	24	21.7
	6	4	25	02.7	1	22	14.8		21	3	55	01.7	1	24	23.9
	7	4	25	04.6	-1	22	18.0		22	3	53	45.3	-1	24	26.0
	8	4	25	04.5	1	22	21.2		23	3	52	27.6	1	24	28.1
	9	4	25	02.5	1	22	24.3		24	3	51	08.8	1	24	30.1
	10	4	24	58.6	1	22	27.5		25	3	49	48.8	1	24	32.1
	11	4	24	52.8	1	22	30.7		26	3	48	27.6	1	24	34.1
	12	4	24	45.1	1	22	33.8		27	3	47	05.3	1	24	36.0
	13	4	24	35.6	-1	22	37.0		28	3	45	41.8	-1	24	37.8
	14	4	24	24.0	1	22	40.1		29	3	44	17.3	1	24	39.7
	15	4	24	10.5	1	22	43.2		30	3	42	51.7	1	24	41.4
	16	4	23	55.0	1	22	46.3	Sept.	31	3	41	25.2	1	24	43.2
	17	4	23	37.5	1	22	49.4		1	3	39	57.7	1	24	44.9
	18	4	23	18.0	1	22	52.5		2	3	38	29.3	1	24	46.5
	19	4	22	56.6	-1	22	55.6		3	3	37	00.1	-1	24	48.1
	20	4	22	33.3	1	22	58.7		4	3	35	30.1	1	24	49.6
	21	4	22	08.1	1	23	01.7		5	3	33	59.3	1	24	51.2
	22	4	21	41.1	1	23	04.7		6	3	32	27.7	1	24	52.6
	23	4	21	12.3	1	23	07.7		7	3	30	55.3	1	24	54.0
	24	4	20	41.7	1	23	10.7		8	3	29	22.1	1	24	55.4
	25	4	20	09.4	-1	23	13.7		9	3	27	48.2	-1	24	56.7
	26	4	19	35.2	1	23	16.7		10	3	26	13.6	1	24	58.0
	27	4	18	59.2	1	23	19.6		11	3	24	38.2	1	24	59.2
	28	4	18	21.5	1	23	22.5		12	3	23	02.3	1	25	00.4
	29	4	17	41.9	1	23	25.4		13	3	21	25.9	1	25	01.5
	30	4	17	00.6	1	23	28.2		14	3	19	48.9	1	25	02.5
Aug.	31	4	16	17.5	-1	23	31.1		15	3	18	11.6	-1	25	03.5
	1	4	15	32.6	1	23	33.9		16	3	16	33.8	1	25	04.5
	2	4	14	46.0	1	23	36.7		17	3	14	55.8	1	25	05.4
	3	4	13	57.7	1	23	39.4		18	3	13	17.4	1	25	06.2
	4	4	13	07.7	1	23	42.1		19	3	11	38.7	1	25	07.0
	5	4	12	16.0	1	23	44.9		20	3	09	59.7	1	25	07.8
	6	4	11	22.8	-1	23	47.5		21	3	08	20.5	-1	25	08.5
	7	4	10	28.0	1	23	50.2		22	3	06	41.1	1	25	09.1
	8	4	09	31.7	1	23	52.8		23	3	05	01.5	1	25	09.7
	9	4	08	33.8	1	23	55.4		24	3	03	21.7	1	25	10.2
	10	4	07	34.4	1	23	58.0		25	3	01	41.9	1	25	10.7
	11	4	06	33.3	1	24	00.5		26	3	00	01.9	1	25	11.1
	12	4	05	30.7	-1	24	03.0		27	2	58	21.9	-1	25	11.5
	13	4	04	26.5	1	24	05.5		28	2	56	42.0	1	25	11.8
	14	4	03	20.8	1	24	07.9		29	2	55	02.2	1	25	12.1
	15	4	02	13.6	1	24	10.3		30	2	53	22.6	1	25	12.3
	16	4	01	04.9	-1	24	12.6	Oct.	1	2	51	43.2	-1	25	12.4

NEPTUNE, 2026
GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Oct.	1	2	51	43.2	-1	25	12.4	Nov.	16	1	48	55.0	-1	24	26.9
	2	2	50	04.0	1	25	12.5		17	1	48	03.4	1	24	25.0
	3	2	48	25.0	1	25	12.6		18	1	47	13.6	1	24	23.0
	4	2	46	46.3	1	25	12.6		19	1	46	25.4	1	24	20.9
	5	2	45	07.8	1	25	12.6		20	1	45	39.1	1	24	18.9
	6	2	43	29.7	1	25	12.5		21	1	44	54.5	1	24	16.8
	7	2	41	51.8	-1	25	12.3		22	1	44	11.8	-1	24	14.7
	8	2	40	14.3	1	25	12.1		23	1	43	31.0	1	24	12.6
	9	2	38	37.2	1	25	11.9		24	1	42	52.2	1	24	10.4
	10	2	37	00.6	1	25	11.5		25	1	42	15.3	1	24	08.3
	11	2	35	24.6	1	25	11.2		26	1	41	40.3	1	24	06.1
	12	2	33	49.1	1	25	10.8		27	1	41	07.2	1	24	03.9
	13	2	32	14.4	-1	25	10.3		28	1	40	36.0	-1	24	01.6
	14	2	30	40.4	1	25	09.8		29	1	40	06.7	1	23	59.4
	15	2	29	07.0	1	25	09.2	Dec.	30	1	39	39.3	1	23	57.1
	16	2	27	34.5	1	25	08.6		1	1	39	13.8	1	23	54.8
	17	2	26	02.7	1	25	07.9		2	1	38	50.2	1	23	52.5
	18	2	24	31.8	1	25	07.2		3	1	38	28.6	1	23	50.2
	19	2	23	01.6	-1	25	06.4		4	1	38	09.0	-1	23	47.8
	20	2	21	32.4	1	25	05.6		5	1	37	51.5	1	23	45.4
	21	2	20	04.0	1	25	04.7		6	1	37	36.0	1	23	43.1
	22	2	18	36.5	1	25	03.8		7	1	37	22.7	1	23	40.7
	23	2	17	09.9	1	25	02.8		8	1	37	11.4	1	23	38.3
	24	2	15	44.4	1	25	01.8		9	1	37	02.2	1	23	35.8
	25	2	14	20.0	-1	25	00.7		10	1	36	55.1	-1	23	33.4
	26	2	12	56.6	1	24	59.6		11	1	36	50.1	1	23	31.0
	27	2	11	34.5	1	24	58.5		12	1	36	47.2	1	23	28.5
	28	2	10	13.5	1	24	57.3		13	1	36	46.3	1	23	26.1
	29	2	08	53.8	1	24	56.1		14	1	36	47.5	1	23	23.6
	30	2	07	35.4	1	24	54.8		15	1	36	50.7	1	23	21.1
Nov.	31	2	06	18.2	-1	24	53.5		16	1	36	56.0	-1	23	18.6
	1	2	05	02.2	1	24	52.1		17	1	37	03.3	1	23	16.2
	2	2	03	47.4	1	24	50.7		18	1	37	12.8	1	23	13.7
	3	2	02	34.0	1	24	49.2		19	1	37	24.3	1	23	11.2
	4	2	01	21.8	1	24	47.8		20	1	37	38.0	1	23	08.7
	5	2	00	11.0	1	24	46.2		21	1	37	53.9	1	23	06.2
	6	1	59	01.7	-1	24	44.7		22	1	38	11.8	-1	23	03.8
	7	1	57	53.8	1	24	43.1		23	1	38	32.0	1	23	01.3
	8	1	56	47.5	1	24	41.4		24	1	38	54.2	1	22	58.8
	9	1	55	42.7	1	24	39.7		25	1	39	18.6	1	22	56.3
	10	1	54	39.5	1	24	38.0		26	1	39	44.9	1	22	53.9
	11	1	53	38.0	1	24	36.2		27	1	40	13.2	1	22	51.4
	12	1	52	38.1	-1	24	34.4		28	1	40	43.6	-1	22	48.9
	13	1	51	39.8	1	24	32.6		29	1	41	15.9	1	22	46.5
	14	1	50	43.2	1	24	30.8		30	1	41	50.2	1	22	44.1
	15	1	49	48.2	1	24	28.9		31	1	42	26.6	1	22	41.6
	16	1	48	55.0	-1	24	26.9		32	1	43	05.1	-1	22	39.2

NEPTUNE, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Jan.	0	0	00	16.00	-1	25	26.6	30.040 869	0.29	1.12	17	18	45
	1	0	00	18.61	1	25	07.0	30.057 921	0.29	1.11	17	14	52
	2	0	00	21.35	1	24	46.7	30.074 915	0.29	1.11	17	10	59
	3	0	00	24.22	1	24	25.6	30.091 846	0.29	1.11	17	07	06
	4	0	00	27.20	1	24	03.8	30.108 709	0.29	1.11	17	03	13
	5	0	00	30.31	1	23	41.2	30.125 501	0.29	1.11	16	59	20
	6	0	00	33.52	-1	23	17.8	30.142 215	0.29	1.11	16	55	27
	7	0	00	36.86	1	22	53.7	30.158 847	0.29	1.11	16	51	35
	8	0	00	40.30	1	22	28.9	30.175 394	0.29	1.11	16	47	42
	9	0	00	43.87	1	22	03.4	30.191 849	0.29	1.11	16	43	50
	10	0	00	47.55	1	21	37.1	30.208 207	0.29	1.11	16	39	58
	11	0	00	51.35	1	21	10.0	30.224 465	0.29	1.11	16	36	06
	12	0	00	55.27	-1	20	42.2	30.240 616	0.29	1.11	16	32	14
	13	0	00	59.31	1	20	13.7	30.256 656	0.29	1.11	16	28	22
	14	0	01	03.46	1	19	44.4	30.272 580	0.29	1.11	16	24	30
	15	0	01	07.72	1	19	14.4	30.288 383	0.29	1.11	16	20	39
	16	0	01	12.11	1	18	43.7	30.304 061	0.29	1.11	16	16	47
	17	0	01	16.60	1	18	12.3	30.319 607	0.29	1.10	16	12	56
	18	0	01	21.20	-1	17	40.2	30.335 018	0.29	1.10	16	09	05
	19	0	01	25.91	1	17	07.4	30.350 288	0.29	1.10	16	05	14
	20	0	01	30.72	1	16	34.0	30.365 413	0.29	1.10	16	01	22
	21	0	01	35.64	1	15	59.9	30.380 388	0.29	1.10	15	57	32
	22	0	01	40.66	1	15	25.2	30.395 209	0.29	1.10	15	53	41
	23	0	01	45.78	1	14	49.8	30.409 870	0.29	1.10	15	49	50
	24	0	01	51.00	-1	14	13.9	30.424 368	0.29	1.10	15	45	59
	25	0	01	56.33	1	13	37.3	30.438 699	0.29	1.10	15	42	09
	26	0	02	01.75	1	13	00.0	30.452 858	0.29	1.10	15	38	18
	27	0	02	07.28	1	12	22.2	30.466 841	0.29	1.10	15	34	28
	28	0	02	12.91	1	11	43.7	30.480 645	0.29	1.10	15	30	38
	29	0	02	18.63	1	11	04.6	30.494 267	0.29	1.10	15	26	48
	30	0	02	24.45	-1	10	24.9	30.507 702	0.29	1.10	15	22	57
	31	0	02	30.37	1	09	44.7	30.520 947	0.29	1.10	15	19	07
Feb.	1	0	02	36.37	1	09	03.9	30.534 000	0.29	1.10	15	15	18
	2	0	02	42.45	1	08	22.6	30.546 856	0.29	1.10	15	11	28
	3	0	02	48.62	1	07	40.8	30.559 513	0.29	1.10	15	07	38
	4	0	02	54.87	1	06	58.6	30.571 967	0.29	1.10	15	03	48
	5	0	03	01.20	-1	06	15.8	30.584 215	0.29	1.10	14	59	59
	6	0	03	07.62	1	05	32.5	30.596 254	0.29	1.09	14	56	09
	7	0	03	14.12	1	04	48.7	30.608 080	0.29	1.09	14	52	20
	8	0	03	20.70	1	04	04.4	30.619 689	0.29	1.09	14	48	31
	9	0	03	27.36	1	03	19.6	30.631 079	0.29	1.09	14	44	41
	10	0	03	34.10	1	02	34.3	30.642 247	0.29	1.09	14	40	52
	11	0	03	40.92	-1	01	48.6	30.653 188	0.29	1.09	14	37	03
	12	0	03	47.82	1	01	02.4	30.663 899	0.29	1.09	14	33	14
	13	0	03	54.78	1	00	15.8	30.674 379	0.29	1.09	14	29	25
	14	0	04	01.82	0	59	28.8	30.684 622	0.29	1.09	14	25	36
	15	0	04	08.93	-0	58	41.3	30.694 627	0.29	1.09	14	21	48

NEPTUNE, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Feb.	15	0	04	08.93	-0	58	41.3	30.694 627	0.29	1.09	14	21	48
	16	0	04	16.10	0	57	53.5	30.704 390	0.29	1.09	14	17	59
	17	0	04	23.34	0	57	05.3	30.713 908	0.29	1.09	14	14	10
	18	0	04	30.64	0	56	16.7	30.723 179	0.29	1.09	14	10	22
	19	0	04	37.99	0	55	27.8	30.732 200	0.29	1.09	14	06	33
	20	0	04	45.41	0	54	38.6	30.740 968	0.29	1.09	14	02	45
	21	0	04	52.88	-0	53	49.0	30.749 482	0.29	1.09	13	58	56
	22	0	05	00.41	0	52	59.1	30.757 738	0.29	1.09	13	55	08
	23	0	05	08.00	0	52	08.9	30.765 735	0.29	1.09	13	51	19
	24	0	05	15.64	0	51	18.3	30.773 471	0.29	1.09	13	47	31
Mar.	25	0	05	23.34	0	50	27.5	30.780 945	0.29	1.09	13	43	43
	26	0	05	31.09	0	49	36.3	30.788 155	0.29	1.09	13	39	55
	27	0	05	38.89	-0	48	45.0	30.795 099	0.29	1.09	13	36	07
	28	0	05	46.73	0	47	53.3	30.801 776	0.29	1.09	13	32	18
	1	0	05	54.61	0	47	01.5	30.808 186	0.29	1.09	13	28	30
	2	0	06	02.52	0	46	09.4	30.814 326	0.29	1.09	13	24	42
	3	0	06	10.47	0	45	17.2	30.820 196	0.29	1.09	13	20	54
	4	0	06	18.46	0	44	24.8	30.825 794	0.29	1.09	13	17	06
	5	0	06	26.48	-0	43	32.2	30.831 119	0.29	1.09	13	13	19
	6	0	06	34.54	0	42	39.5	30.836 171	0.29	1.09	13	09	31
	7	0	06	42.63	0	41	46.5	30.840 946	0.29	1.09	13	05	43
	8	0	06	50.75	0	40	53.4	30.845 445	0.29	1.09	13	01	55
	9	0	06	58.91	0	40	00.1	30.849 667	0.29	1.09	12	58	07
	10	0	07	07.09	0	39	06.7	30.853 609	0.29	1.09	12	54	20
	11	0	07	15.30	-0	38	13.2	30.857 271	0.28	1.09	12	50	32
	12	0	07	23.54	0	37	19.5	30.860 652	0.28	1.09	12	46	44
	13	0	07	31.80	0	36	25.8	30.863 750	0.28	1.09	12	42	56
	14	0	07	40.08	0	35	31.9	30.866 566	0.28	1.09	12	39	09
	15	0	07	48.37	0	34	38.1	30.869 098	0.28	1.09	12	35	21
	16	0	07	56.68	0	33	44.1	30.871 345	0.28	1.09	12	31	33
	17	0	08	05.00	-0	32	50.2	30.873 306	0.28	1.09	12	27	46
	18	0	08	13.33	0	31	56.2	30.874 982	0.28	1.09	12	23	58
	19	0	08	21.66	0	31	02.3	30.876 371	0.28	1.08	12	20	11
	20	0	08	30.01	0	30	08.3	30.877 473	0.28	1.08	12	16	23
	21	0	08	38.36	0	29	14.4	30.878 289	0.28	1.08	12	12	35
	22	0	08	46.72	0	28	20.6	30.878 819	0.28	1.08	12	08	48
	23	0	08	55.07	-0	27	26.7	30.879 062	0.28	1.08	12	05	00
	24	0	09	03.43	0	26	32.7	30.879 019	0.28	1.08	12	01	13
	25	0	09	11.80	0	25	38.7	30.878 691	0.28	1.08	11	57	25
	26	0	09	20.17	0	24	44.9	30.878 079	0.28	1.08	11	53	37
Apr.	27	0	09	28.53	0	23	51.1	30.877 183	0.28	1.08	11	49	50
	28	0	09	36.87	0	22	57.5	30.876 005	0.28	1.08	11	46	02
	29	0	09	45.21	-0	22	04.0	30.874 545	0.28	1.09	11	42	15
	30	0	09	53.53	0	21	10.7	30.872 804	0.28	1.09	11	38	27
	31	0	10	01.83	0	20	17.5	30.870 783	0.28	1.09	11	34	39
	1	0	10	10.12	0	19	24.5	30.868 483	0.28	1.09	11	30	52
	2	0	10	18.39	-0	18	31.7	30.865 905	0.28	1.09	11	27	04

NEPTUNE, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Apr.	1	0	10	10.12	-0	19	24.5	30.868 483	0.28	1.09	11	30	52
	2	0	10	18.39	0	18	31.7	30.865 905	0.28	1.09	11	27	04
	3	0	10	26.64	0	17	39.0	30.863 049	0.28	1.09	11	23	16
	4	0	10	34.88	0	16	46.4	30.859 917	0.28	1.09	11	19	29
	5	0	10	43.10	0	15	54.1	30.856 510	0.29	1.09	11	15	41
	6	0	10	51.29	0	15	01.9	30.852 828	0.29	1.09	11	11	53
	7	0	10	59.47	-0	14	09.9	30.848 872	0.29	1.09	11	08	05
	8	0	11	07.62	0	13	18.1	30.844 644	0.29	1.09	11	04	17
	9	0	11	15.74	0	12	26.5	30.840 144	0.29	1.09	11	00	30
	10	0	11	23.83	0	11	35.2	30.835 373	0.29	1.09	10	56	42
	11	0	11	31.88	0	10	44.2	30.830 334	0.29	1.09	10	52	54
	12	0	11	39.91	0	09	53.4	30.825 026	0.29	1.09	10	49	06
	13	0	11	47.89	-0	09	02.9	30.819 451	0.29	1.09	10	45	18
	14	0	11	55.83	0	08	12.7	30.813 612	0.29	1.09	10	41	30
	15	0	12	03.74	0	07	22.9	30.807 508	0.29	1.09	10	37	42
	16	0	12	11.60	0	06	33.3	30.801 142	0.29	1.09	10	33	54
	17	0	12	19.41	0	05	44.1	30.794 516	0.29	1.09	10	30	06
	18	0	12	27.19	0	04	55.2	30.787 632	0.29	1.09	10	26	17
	19	0	12	34.93	-0	04	06.6	30.780 492	0.29	1.09	10	22	29
	20	0	12	42.62	0	03	18.4	30.773 098	0.29	1.09	10	18	41
	21	0	12	50.26	0	02	30.5	30.765 453	0.29	1.09	10	14	52
	22	0	12	57.85	0	01	43.0	30.757 559	0.29	1.09	10	11	04
	23	0	13	05.39	0	00	55.8	30.749 420	0.29	1.09	10	07	16
	24	0	13	12.87	-0	00	09.1	30.741 037	0.29	1.09	10	03	27
	25	0	13	20.29	+0	00	37.2	30.732 415	0.29	1.09	9	59	39
	26	0	13	27.65	0	01	23.0	30.723 555	0.29	1.09	9	55	50
	27	0	13	34.94	0	02	08.4	30.714 460	0.29	1.09	9	52	01
	28	0	13	42.18	0	02	53.3	30.705 133	0.29	1.09	9	48	13
	29	0	13	49.35	0	03	37.8	30.695 577	0.29	1.09	9	44	24
	30	0	13	56.45	0	04	21.8	30.685 794	0.29	1.09	9	40	35
May	1	0	14	03.50	+0	05	05.4	30.675 787	0.29	1.09	9	36	46
	2	0	14	10.48	0	05	48.5	30.665 558	0.29	1.09	9	32	57
	3	0	14	17.39	0	06	31.1	30.655 112	0.29	1.09	9	29	08
	4	0	14	24.24	0	07	13.3	30.644 449	0.29	1.09	9	25	19
	5	0	14	31.01	0	07	55.0	30.633 572	0.29	1.09	9	21	30
	6	0	14	37.72	0	08	36.2	30.622 485	0.29	1.09	9	17	40
	7	0	14	44.35	+0	09	16.9	30.611 191	0.29	1.09	9	13	51
	8	0	14	50.91	0	09	57.0	30.599 691	0.29	1.09	9	10	02
	9	0	14	57.38	0	10	36.6	30.587 990	0.29	1.10	9	06	12
	10	0	15	03.78	0	11	15.6	30.576 089	0.29	1.10	9	02	22
	11	0	15	10.10	0	11	54.1	30.563 992	0.29	1.10	8	58	33
	12	0	15	16.33	0	12	32.0	30.551 702	0.29	1.10	8	54	43
	13	0	15	22.47	+0	13	09.3	30.539 222	0.29	1.10	8	50	53
	14	0	15	28.54	0	13	46.1	30.526 555	0.29	1.10	8	47	03
	15	0	15	34.52	0	14	22.2	30.513 705	0.29	1.10	8	43	13
	16	0	15	40.42	0	14	57.8	30.500 676	0.29	1.10	8	39	23
	17	0	15	46.23	+0	15	32.8	30.487 471	0.29	1.10	8	35	33

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
May	17	0	15	46.23	+0	15	32.8	30.487 471	0.29	1.10	8	35	33
	18	0	15	51.96	0	16	07.2	30.474 095	0.29	1.10	8	31	43
	19	0	15	57.60	0	16	41.0	30.460 550	0.29	1.10	8	27	53
	20	0	16	03.15	0	17	14.2	30.446 843	0.29	1.10	8	24	02
	21	0	16	08.61	0	17	46.8	30.432 975	0.29	1.10	8	20	12
	22	0	16	13.96	0	18	18.6	30.418 953	0.29	1.10	8	16	2
	23	0	16	19.22	+0	18	49.8	30.404 780	0.29	1.10	8	12	30
	24	0	16	24.37	0	19	20.3	30.390 460	0.29	1.10	8	08	39
June	25	0	16	29.43	0	19	50.2	30.375 997	0.29	1.10	8	04	48
	26	0	16	34.38	0	20	19.3	30.361 396	0.29	1.10	8	00	57
	27	0	16	39.24	0	20	47.8	30.346 660	0.29	1.10	7	57	06
	28	0	16	44.00	0	21	15.7	30.331 792	0.29	1.10	7	53	15
	29	0	16	48.66	+0	21	42.8	30.316 798	0.29	1.10	7	49	24
	30	0	16	53.23	0	22	09.3	30.301 681	0.29	1.11	7	45	32
	31	0	16	57.69	0	22	35.2	30.286 445	0.29	1.11	7	41	41
	1	0	17	02.05	0	23	00.3	30.271 093	0.29	1.11	7	37	49
	2	0	17	06.30	0	23	24.8	30.255 630	0.29	1.11	7	33	58
	3	0	17	10.45	0	23	48.5	30.240 059	0.29	1.11	7	30	06
	4	0	17	14.50	+0	24	11.5	30.224 385	0.29	1.11	7	26	14
	5	0	17	18.43	0	24	33.8	30.208 611	0.29	1.11	7	22	22
	6	0	17	22.26	0	24	55.4	30.192 742	0.29	1.11	7	18	30
	7	0	17	25.97	0	25	16.2	30.176 781	0.29	1.11	7	14	37
	8	0	17	29.57	0	25	36.3	30.160 733	0.29	1.11	7	10	45
	9	0	17	33.06	0	25	55.7	30.144 601	0.29	1.11	7	06	53
	10	0	17	36.44	+0	26	14.3	30.128 391	0.29	1.11	7	03	00
	11	0	17	39.70	0	26	32.1	30.112 105	0.29	1.11	6	59	07
12	0	17	42.86	0	26	49.2	30.095 750	0.29	1.11	6	55	15	
13	0	17	45.91	0	27	05.6	30.079 329	0.29	1.11	6	51	22	
14	0	17	48.84	0	27	21.3	30.062 847	0.29	1.11	6	47	29	
15	0	17	51.67	0	27	36.2	30.046 309	0.29	1.11	6	43	35	
16	0	17	54.38	+0	27	50.4	30.029 721	0.29	1.12	6	39	42	
17	0	17	56.97	0	28	03.8	30.013 087	0.29	1.12	6	35	49	
18	0	17	59.44	0	28	16.4	29.996 411	0.29	1.12	6	31	55	
19	0	18	01.79	0	28	28.2	29.979 700	0.29	1.12	6	28	02	
20	0	18	04.02	0	28	39.2	29.962 959	0.29	1.12	6	24	08	
21	0	18	06.13	0	28	49.4	29.946 191	0.29	1.12	6	20	14	

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
July	1	0	18	20.72	+0	29	49.3	29.778 086	0.30	1.12	5	41	09
	2	0	18	21.53	0	29	51.0	29.761 331	0.30	1.13	5	37	14
	3	0	18	22.21	0	29	52.0	29.744 604	0.30	1.13	5	33	19
	4	0	18	22.78	0	29	52.2	29.727 909	0.30	1.13	5	29	23
	5	0	18	23.22	0	29	51.6	29.711 250	0.30	1.13	5	25	28
	6	0	18	23.54	0	29	50.2	29.694 633	0.30	1.13	5	21	32
	7	0	18	23.73	+0	29	48.0	29.678 061	0.30	1.13	5	17	37
	8	0	18	23.81	0	29	45.0	29.661 540	0.30	1.13	5	13	41
	9	0	18	23.77	0	29	41.3	29.645 073	0.30	1.13	5	09	45
	10	0	18	23.62	0	29	36.9	29.628 666	0.30	1.13	5	05	49
	11	0	18	23.35	0	29	31.7	29.612 324	0.30	1.13	5	01	52
	12	0	18	22.96	0	29	25.7	29.596 051	0.30	1.13	4	57	56
	13	0	18	22.46	+0	29	19.0	29.579 853	0.30	1.13	4	54	00
	14	0	18	21.84	0	29	11.6	29.563 735	0.30	1.13	4	50	03
	15	0	18	21.09	0	29	03.4	29.547 701	0.30	1.13	4	46	06
	16	0	18	20.23	0	28	54.3	29.531 757	0.30	1.13	4	42	10
	17	0	18	19.24	0	28	44.6	29.515 908	0.30	1.13	4	38	13
	18	0	18	18.13	0	28	34.0	29.500 159	0.30	1.14	4	34	16
	19	0	18	16.90	+0	28	22.7	29.484 514	0.30	1.14	4	30	19
	20	0	18	15.55	0	28	10.6	29.468 979	0.30	1.14	4	26	21
	21	0	18	14.09	0	27	57.9	29.453 556	0.30	1.14	4	22	24
	22	0	18	12.52	0	27	44.4	29.438 252	0.30	1.14	4	18	26
	23	0	18	10.84	0	27	30.2	29.423 069	0.30	1.14	4	14	29
	24	0	18	09.05	0	27	15.3	29.408 013	0.30	1.14	4	10	31
	25	0	18	07.14	+0	26	59.8	29.393 087	0.30	1.14	4	06	33
	26	0	18	05.13	0	26	43.5	29.378 296	0.30	1.14	4	02	35
	27	0	18	03.01	0	26	26.6	29.363 644	0.30	1.14	3	58	37
	28	0	18	00.78	0	26	08.9	29.349 135	0.30	1.14	3	54	39
	29	0	17	58.43	0	25	50.6	29.334 772	0.30	1.14	3	50	41
	30	0	17	55.98	0	25	31.6	29.320 560	0.30	1.14	3	46	43
Aug.	31	0	17	53.42	+0	25	11.9	29.306 502	0.30	1.14	3	42	44
	1	0	17	50.75	0	24	51.5	29.292 603	0.30	1.14	3	38	45
	2	0	17	47.97	0	24	30.5	29.278 867	0.30	1.14	3	34	47
	3	0	17	45.08	0	24	08.8	29.265 297	0.30	1.14	3	30	48
	4	0	17	42.10	0	23	46.5	29.251 898	0.30	1.15	3	26	49
	5	0	17	39.01	0	23	23.5	29.238 674	0.30	1.15	3	22	50
	6	0	17	35.82	+0	22	59.9	29.225 628	0.30	1.15	3	18	51
	7	0	17	32.54	0	22	35.8	29.212 764	0.30	1.15	3	14	52
	8	0	17	29.16	0	22	11.0	29.200 088	0.30	1.15	3	10	53
	9	0	17	25.69	0	21	45.7	29.187 603	0.30	1.15	3	06	53
	10	0	17	22.12	0	21	19.7	29.175 314	0.30	1.15	3	02	54
	11	0	17	18.46	0	20	53.2	29.163 224	0.30	1.15	2	58	54
	12	0	17	14.69	+0	20	26.1	29.151 339	0.30	1.15	2	54	54
	13	0	17	10.83	0	19	58.4	29.139 661	0.30	1.15	2	50	55
	14	0	17	06.87	0	19	30.1	29.128 196	0.30	1.15	2	46	55
	15	0	17	02.82	0	19	01.2	29.116 946	0.30	1.15	2	42	55
	16	0	16	58.69	+0	18	31.8	29.105 915	0.30	1.15	2	38	55

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Aug.	16	0	16	58.69	+0	18	31.8	29.105 915	0.30	1.15	2	38	55
	17	0	16	54.46	0	18	01.9	29.095 108	0.30	1.15	2	34	55
	18	0	16	50.16	0	17	31.5	29.084 527	0.30	1.15	2	30	55
	19	0	16	45.77	0	17	00.6	29.074 175	0.30	1.15	2	26	54
	20	0	16	41.30	0	16	29.2	29.064 055	0.30	1.15	2	22	54
	21	0	16	36.76	0	15	57.4	29.054 171	0.30	1.15	2	18	53
	22	0	16	32.14	+0	15	25.2	29.044 525	0.30	1.15	2	14	53
	23	0	16	27.45	0	14	52.4	29.035 121	0.30	1.15	2	10	52
	24	0	16	22.68	0	14	19.3	29.025 960	0.30	1.15	2	06	52
	25	0	16	17.84	0	13	45.7	29.017 046	0.30	1.15	2	02	51
	26	0	16	12.93	0	13	11.7	29.008 381	0.30	1.15	1	58	50
	27	0	16	07.94	0	12	37.3	28.999 967	0.30	1.16	1	54	49
	28	0	16	02.88	+0	12	02.5	28.991 808	0.30	1.16	1	50	48
	29	0	15	57.76	0	11	27.3	28.983 905	0.30	1.16	1	46	47
Sept.	30	0	15	52.57	0	10	51.7	28.976 262	0.30	1.16	1	42	46
	31	0	15	47.32	0	10	15.8	28.968 880	0.30	1.16	1	38	45
	1	0	15	42.02	0	09	39.5	28.961 761	0.30	1.16	1	34	44
	2	0	15	36.65	0	09	02.9	28.954 910	0.30	1.16	1	30	43
	3	0	15	31.24	+0	08	26.0	28.948 327	0.30	1.16	1	26	41
	4	0	15	25.77	0	07	48.9	28.942 015	0.30	1.16	1	22	40
	5	0	15	20.26	0	07	11.5	28.935 978	0.30	1.16	1	18	39
	6	0	15	14.69	0	06	33.8	28.930 217	0.30	1.16	1	14	37
	7	0	15	09.08	0	05	55.8	28.924 735	0.30	1.16	1	10	36
	8	0	15	03.42	0	05	17.6	28.919 534	0.30	1.16	1	06	34
	9	0	14	57.71	+0	04	39.1	28.914 617	0.30	1.16	1	02	33
	10	0	14	51.95	0	04	00.4	28.909 985	0.30	1.16	0	58	31
	11	0	14	46.16	0	03	21.4	28.905 641	0.30	1.16	0	54	29
	12	0	14	40.32	0	02	42.3	28.901 586	0.30	1.16	0	50	28
	13	0	14	34.45	0	02	03.0	28.897 822	0.30	1.16	0	46	26
	14	0	14	28.55	0	01	23.5	28.894 350	0.30	1.16	0	42	24
	15	0	14	22.62	+0	00	44.0	28.891 171	0.30	1.16	0	38	22
	16	0	14	16.67	+0	00	04.3	28.888 286	0.30	1.16	0	34	20
	17	0	14	10.69	-0	00	35.5	28.885 697	0.30	1.16	0	30	19
	18	0	14	04.69	0	01	15.3	28.883 404	0.30	1.16	0	26	17
	19	0	13	58.68	0	01	55.3	28.881 408	0.30	1.16	0	22	15
	20	0	13	52.65	0	02	35.2	28.879 709	0.30	1.16	0	18	13
	21	0	13	46.60	-0	03	15.2	28.878 307	0.30	1.16	0	14	11
	22	0	13	40.53	0	03	55.3	28.877 204	0.30	1.16	0	10	09
	23	0	13	34.46	0	04	35.4	28.876 399	0.30	1.16	0	06	07
	24	0	13	28.37	0	05	15.5	28.875 893	0.30	1.16	0	02	05
	25	0	13	22.27	0	05	55.6	28.875 686	0.30	1.16	23	54	01
	26	0	13	16.17	0	06	35.6	28.875 777	0.30	1.16	23	49	59
	27	0	13	10.07	-0	07	15.7	28.876 168	0.30	1.16	23	45	57
	28	0	13	03.96	0	07	55.7	28.876 858	0.30	1.16	23	41	55
	29	0	12	57.87	0	08	35.5	28.877 847	0.30	1.16	23	37	53
	30	0	12	51.78	0	09	15.3	28.879 135	0.30	1.16	23	33	51
Oct.	1	0	12	45.70	-0	09	54.9	28.880 722	0.30	1.16	23	29	49

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RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Oct.	1	0	12	45.70	-0	09	54.9	28.880 722	0.30	1.16	23	29	49
	2	0	12	39.64	0	10	34.4	28.882 609	0.30	1.16	23	25	48
	3	0	12	33.59	0	11	13.8	28.884 796	0.30	1.16	23	21	46
	4	0	12	27.55	0	11	53.0	28.887 282	0.30	1.16	23	17	44
	5	0	12	21.53	0	12	32.1	28.890 067	0.30	1.16	23	13	42
	6	0	12	15.52	0	13	11.0	28.893 151	0.30	1.16	23	09	40
	7	0	12	09.53	-0	13	49.7	28.896 535	0.30	1.16	23	05	38
	8	0	12	03.56	0	14	28.2	28.900 216	0.30	1.16	23	01	36
	9	0	11	57.61	0	15	06.6	28.904 194	0.30	1.16	22	57	34
	10	0	11	51.70	0	15	44.7	28.908 469	0.30	1.16	22	53	33
	11	0	11	45.82	0	16	22.5	28.913 039	0.30	1.16	22	49	31
	12	0	11	39.97	0	17	00.0	28.917 903	0.30	1.16	22	45	29
	13	0	11	34.16	-0	17	37.2	28.923 059	0.30	1.16	22	41	28
	14	0	11	28.40	0	18	14.1	28.928 506	0.30	1.16	22	37	26
	15	0	11	22.67	0	18	50.6	28.934 242	0.30	1.16	22	33	25
	16	0	11	17.00	0	19	26.8	28.940 265	0.30	1.16	22	29	23
	17	0	11	11.37	0	20	02.7	28.946 573	0.30	1.16	22	25	22
	18	0	11	05.79	0	20	38.1	28.953 163	0.30	1.16	22	21	20
	19	0	11	00.25	-0	21	13.2	28.960 034	0.30	1.16	22	17	19
	20	0	10	54.77	0	21	48.0	28.967 184	0.30	1.16	22	13	17
	21	0	10	49.34	0	22	22.3	28.974 609	0.30	1.16	22	09	16
	22	0	10	43.97	0	22	56.2	28.982 308	0.30	1.16	22	05	15
	23	0	10	38.65	0	23	29.7	28.990 278	0.30	1.16	22	01	14
	24	0	10	33.39	0	24	02.7	28.998 517	0.30	1.16	21	57	13
	25	0	10	28.20	-0	24	35.3	29.007 021	0.30	1.15	21	53	12
	26	0	10	23.07	0	25	07.4	29.015 789	0.30	1.15	21	49	11
	27	0	10	18.02	0	25	39.0	29.024 818	0.30	1.15	21	45	10
	28	0	10	13.04	0	26	10.1	29.034 105	0.30	1.15	21	41	09
	29	0	10	08.13	0	26	40.6	29.043 649	0.30	1.15	21	37	08
	30	0	10	03.30	0	27	10.6	29.053 446	0.30	1.15	21	33	08
Nov.	31	0	09	58.54	-0	27	40.1	29.063 493	0.30	1.15	21	29	07
	1	0	09	53.86	0	28	09.0	29.073 790	0.30	1.15	21	25	07
	2	0	09	49.25	0	28	37.5	29.084 331	0.30	1.15	21	21	06
	3	0	09	44.72	0	29	05.3	29.095 116	0.30	1.15	21	17	06
	4	0	09	40.27	0	29	32.6	29.106 140	0.30	1.15	21	13	06
	5	0	09	35.90	0	29	59.3	29.117 401	0.30	1.15	21	09	05
	6	0	09	31.61	-0	30	25.5	29.128 895	0.30	1.15	21	05	05
	7	0	09	27.42	0	30	51.0	29.140 618	0.30	1.15	21	01	05
	8	0	09	23.32	0	31	15.8	29.152 567	0.30	1.15	20	57	06
	9	0	09	19.31	0	31	40.0	29.164 738	0.30	1.15	20	53	06
	10	0	09	15.40	0	32	03.6	29.177 127	0.30	1.15	20	49	06
	11	0	09	11.59	0	32	26.4	29.189 730	0.30	1.15	20	45	06
	12	0	09	07.88	-0	32	48.6	29.202 542	0.30	1.15	20	41	07
	13	0	09	04.27	0	33	10.1	29.215 560	0.30	1.15	20	37	07
	14	0	09	00.76	0	33	30.8	29.228 779	0.30	1.15	20	33	08
	15	0	08	57.35	0	33	50.9	29.242 194	0.30	1.15	20	29	09
	16	0	08	54.04	-0	34	10.3	29.255 802	0.30	1.15	20	25	10

NEPTUNE, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date		Apparent Right Ascension			Apparent Declination			True Distance from the Earth	Hor. Parallax	Semi Diameter	Ephemeris Transit		
		h	m	s	°	'	"		"	"	h	m	s
Nov.	16	0	08	54.04	-0	34	10.3	29.255 802	0.30	1.15	20	25	10
	17	0	08	50.83	0	34	29.0	29.269 597	0.30	1.14	20	21	11
	18	0	08	47.73	0	34	47.0	29.283 575	0.30	1.14	20	17	12
	19	0	08	44.73	0	35	04.3	29.297 731	0.30	1.14	20	13	13
	20	0	08	41.85	0	35	20.8	29.312 062	0.30	1.14	20	09	14
	21	0	08	39.07	0	35	36.6	29.326 561	0.30	1.14	20	05	16
	22	0	08	36.40	-0	35	51.7	29.341 225	0.30	1.14	20	01	17
	23	0	08	33.85	0	36	06.0	29.356 049	0.30	1.14	19	57	19
	24	0	08	31.41	0	36	19.4	29.371 029	0.30	1.14	19	53	21
	25	0	08	29.10	0	36	32.1	29.386 160	0.30	1.14	19	49	23
Dec.	26	0	08	26.90	0	36	44.0	29.401 438	0.30	1.14	19	45	25
	27	0	08	24.82	0	36	55.1	29.416 858	0.30	1.14	19	41	27
	28	0	08	22.86	-0	37	05.5	29.432 417	0.30	1.14	19	37	29
	29	0	08	21.00	0	37	15.0	29.448 110	0.30	1.14	19	33	31
	30	0	08	19.27	0	37	23.8	29.463 931	0.30	1.14	19	29	34
	1	0	08	17.64	0	37	31.9	29.479 878	0.30	1.14	19	25	36
	2	0	08	16.14	0	37	39.1	29.495 944	0.30	1.14	19	21	39
	3	0	08	14.76	0	37	45.6	29.512 124	0.30	1.14	19	17	42
	4	0	08	13.50	-0	37	51.2	29.528 415	0.30	1.13	19	13	45
	5	0	08	12.36	0	37	56.0	29.544 810	0.30	1.13	19	09	48
	6	0	08	11.35	0	37	60.0	29.561 305	0.30	1.13	19	05	51
	7	0	08	10.47	0	38	03.1	29.577 893	0.30	1.13	19	01	54
	8	0	08	09.72	0	38	05.4	29.594 570	0.30	1.13	18	57	58
	9	0	08	09.09	0	38	06.8	29.611 330	0.30	1.13	18	54	01
	10	0	08	08.60	-0	38	07.4	29.628 168	0.30	1.13	18	50	05
	11	0	08	08.23	0	38	07.1	29.645 077	0.30	1.13	18	46	09
	12	0	08	07.98	0	38	06.1	29.662 053	0.30	1.13	18	42	13
	13	0	08	07.86	0	38	04.2	29.679 089	0.30	1.13	18	38	17
	14	0	08	07.87	0	38	01.4	29.696 181	0.30	1.13	18	34	21
	15	0	08	08.00	0	37	57.9	29.713 322	0.30	1.13	18	30	25
	16	0	08	08.26	-0	37	53.5	29.730 508	0.30	1.13	18	26	30
	17	0	08	08.64	0	37	48.3	29.747 732	0.30	1.13	18	22	34
	18	0	08	09.15	0	37	42.3	29.764 989	0.30	1.13	18	18	39
	19	0	08	09.79	0	37	35.4	29.782 273	0.30	1.12	18	14	44
	20	0	08	10.56	0	37	27.7	29.799 581	0.30	1.12	18	10	49
	21	0	08	11.47	0	37	19.1	29.816 905	0.29	1.12	18	06	54
	22	0	08	12.50	-0	37	09.7	29.834 241	0.29	1.12	18	02	59
	23	0	08	13.67	0	36	59.4	29.851 584	0.29	1.12	17	59	04
	24	0	08	14.96	0	36	48.3	29.868 930	0.29	1.12	17	55	10
	25	0	08	16.39	0	36	36.3	29.886 272	0.29	1.12	17	51	15
	26	0	08	17.93	0	36	23.6	29.903 607	0.29	1.12	17	47	21
	27	0	08	19.60	0	36	10.1	29.920 930	0.29	1.12	17	43	27
	28	0	08	21.39	-0	35	55.8	29.938 235	0.29	1.12	17	39	33
	29	0	08	23.30	0	35	40.7	29.955 518	0.29	1.12	17	35	39
	30	0	08	25.34	0	35	24.8	29.972 773	0.29	1.12	17	31	45
	31	0	08	27.50	0	35	08.1	29.989 995	0.29	1.12	17	27	52
	32	0	08	29.79	-0	34	50.6	30.007 179	0.29	1.12	17	23	58

PLUTO, 2026
HELIOCENTRIC POSITIONS FOR 0^h TERRESTRIAL TIME
MEAN EQUINOX AND ECLIPTIC OF DATE

Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector		Date	Heliocentric Longitude			Heliocentric Latitude			Radius Vector	
	°	'	"	°	'	"				°	'	"	°	'	"		
Jan.	1	303	19	28.8	-3	52	03.3	35.421 3083	July	5	304	10	35.7	-4	07	14.7	35.549 1207
	6	303	20	52.0	3	52	28.1	35.424 7540		10	304	11	58.3	4	07	39.3	35.552 5842
	11	303	22	15.1	3	52	52.8	35.428 2002		15	304	13	20.9	4	08	03.7	35.556 0482
	16	303	23	38.2	3	53	17.6	35.431 6469		20	304	14	43.4	4	08	28.2	35.559 5126
	21	303	25	01.3	3	53	42.3	35.435 0940		25	304	16	06.0	4	08	52.7	35.562 9775
	26	303	26	24.4	3	54	07.1	35.438 5415		30	304	17	28.6	4	09	17.1	35.566 4427
Feb.	31	303	27	47.5	-3	54	31.8	35.441 9895	Aug.	4	304	18	51.1	-4	09	41.6	35.569 9084
	5	303	29	10.6	3	54	56.5	35.445 4380		9	304	20	13.6	4	10	06.1	35.573 3744
	10	303	30	33.7	3	55	21.2	35.448 8870		14	304	21	36.1	4	10	30.5	35.576 8409
	15	303	31	56.7	3	55	45.9	35.452 3364		19	304	22	58.6	4	10	55.0	35.580 3078
	20	303	33	19.7	3	56	10.6	35.455 7864		24	304	24	21.1	4	11	19.4	35.583 7751
	25	303	34	42.7	3	56	35.3	35.459 2368		29	304	25	43.6	4	11	43.8	35.587 2428
Mar.	2	303	36	05.7	-3	56	60.0	35.462 6877	Sept.	3	304	27	06.0	-4	12	08.2	35.590 7109
	7	303	37	28.7	3	57	24.7	35.466 1391		8	304	28	28.4	4	12	32.6	35.594 1795
	12	303	38	51.6	3	57	49.3	35.469 5909		13	304	29	50.9	4	12	57.0	35.597 6484
	17	303	40	14.6	3	58	14.0	35.473 0433		18	304	31	13.3	4	13	21.5	35.601 1177
	22	303	41	37.5	3	58	38.7	35.476 4962		23	304	32	35.7	4	13	45.8	35.604 5875
	27	303	43	00.5	3	59	03.3	35.479 9496		28	304	33	58.1	4	14	10.2	35.608 0576
Apr.	1	303	44	23.3	-3	59	28.0	35.483 4034	Oct.	3	304	35	20.4	-4	14	34.6	35.611 5282
	6	303	45	46.2	3	59	52.6	35.486 8578		8	304	36	42.8	4	14	59.0	35.614 9992
	11	303	47	09.1	4	00	17.2	35.490 3126		13	304	38	05.1	4	15	23.3	35.618 4706
	16	303	48	32.0	4	00	41.8	35.493 7680		18	304	39	27.4	4	15	47.7	35.621 9424
	21	303	49	54.8	4	01	06.4	35.497 2238		23	304	40	49.7	4	16	12.0	35.625 4146
	26	303	51	17.6	4	01	31.1	35.500 6801		28	304	42	12.0	4	16	36.3	35.628 8873
May	1	303	52	40.5	-4	01	55.6	35.504 1370	Nov.	2	304	43	34.3	-4	17	00.7	35.632 3604
	6	303	54	03.2	4	02	20.2	35.507 5943		7	304	44	56.5	4	17	25.0	35.635 8340
	11	303	55	26.0	4	02	44.8	35.511 0522		12	304	46	18.8	4	17	49.3	35.639 3080
	16	303	56	48.8	4	03	09.4	35.514 5105		17	304	47	41.0	4	18	13.6	35.642 7825
	21	303	58	11.5	4	03	34.0	35.517 9693		22	304	49	03.2	4	18	37.9	35.646 2575
	26	303	59	34.3	4	03	58.5	35.521 4286		27	304	50	25.4	4	19	02.2	35.649 7329
June	31	304	00	57.0	-4	04	23.1	35.524 8885	Dec.	2	304	51	47.6	-4	19	26.5	35.653 2089
	5	304	02	19.7	4	04	47.6	35.528 3488		7	304	53	09.7	4	19	50.8	35.656 6853
	10	304	03	42.4	4	05	12.1	35.531 8096		12	304	54	31.9	4	20	15.1	35.660 1622
	15	304	05	05.1	4	05	36.7	35.535 2709		17	304	55	54.1	4	20	39.3	35.663 6396
	20	304	06	27.8	4	06	01.2	35.538 7327		22	304	57	16.2	4	21	03.6	35.667 1175
	25	304	07	50.4	4	06	25.7	35.542 1949		27	304	58	38.3	4	21	27.9	35.670 5958
July	30	304	09	13.0	-4	06	50.3	35.545 6576		32	305	00	00.4	-4	21	52.1	35.674 0747
	5	304	10	35.7	-4	07	14.7	35.549 1207		37	305	01	22.5	-4	22	16.3	35.677 5540

N.B: Pluto is now classified as a dwarf planet as per resolution of IAU

PLUTO, 2026

GEOCENTRIC LONGITUDE AND LATITUDE FOR 0^h TERRESTRIAL TIME

Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude			Date		Apparent Geocentric Longitude			Apparent Geocentric Latitude		
		°	'	"	°	'	"			°	'	"	°	'	"
Jan.	1	302	43	07.4	-3	46	14.8	July	5	304	47	32.7	-4	13	58.4
	6	302	52	17.0	3	46	27.9		10	304	41	00.6	4	14	35.9
	11	303	01	37.6	3	46	43.6		15	304	34	16.3	4	15	10.4
	16	303	11	07.7	3	47	02.0		20	304	27	21.6	4	15	41.8
	21	303	20	43.2	3	47	23.2		25	304	20	21.7	4	16	09.9
	26	303	30	19.5	3	47	47.0		30	304	13	20.5	4	16	34.8
Feb.	31	303	39	55.0	-3	48	13.5	Aug.	4	304	06	20.5	-4	16	56.4
	5	303	49	24.5	3	48	42.9		9	303	59	26.8	4	17	14.8
	10	303	58	45.2	3	49	14.9		14	303	52	42.6	4	17	30.0
	15	304	07	54.8	3	49	49.6		19	303	46	11.2	4	17	42.0
	20	304	16	48.4	3	50	27.0		24	303	39	57.7	4	17	51.0
	25	304	25	23.7	3	51	06.9		29	303	34	04.4	4	17	57.0
Mar.	2	304	33	37.7	-3	51	49.3	Sept.	3	303	28	34.4	-4	18	00.2
	7	304	41	26.5	3	52	34.0		8	303	23	32.1	4	18	00.9
	12	304	48	48.9	3	53	21.0		13	303	18	58.6	4	17	59.0
	17	304	55	41.9	3	54	10.0		18	303	14	58.0	4	17	55.0
	22	305	02	02.2	3	55	01.0		23	303	11	32.8	4	17	48.9
	27	305	07	49.0	3	55	53.8		28	303	08	43.8	4	17	41.0
Apr.	1	305	12	59.1	-3	56	48.2	Oct.	3	303	06	34.1	-4	17	31.7
	6	305	17	31.4	3	57	43.9		8	303	05	04.5	4	17	21.1
	11	305	21	25.4	3	58	40.9		13	303	04	15.9	4	17	09.6
	16	305	24	38.5	3	59	38.8		18	303	04	10.5	4	16	57.3
	21	305	27	10.5	4	00	37.4		23	303	04	47.7	4	16	44.6
	26	305	29	00.9	4	01	36.6		28	303	06	07.6	4	16	31.8
May	1	305	30	08.3	-4	02	36.1	Nov.	2	303	08	11.2	-4	16	19.1
	6	305	30	34.4	4	03	35.5		7	303	10	56.3	4	16	06.8
	11	305	30	18.7	4	04	34.7		12	303	14	23.7	4	15	55.1
	16	305	29	21.1	4	05	33.4		17	303	18	32.2	4	15	44.4
	21	305	27	43.8	4	06	31.4		22	303	23	19.3	4	15	34.9
	26	305	25	26.4	4	07	28.3		27	303	28	44.7	4	15	26.8
June	31	305	22	31.4	-4	08	24.0	Dec.	2	303	34	45.5	-4	15	20.4
	5	305	19	01.2	4	09	18.1		7	303	41	19.5	4	15	15.8
	10	305	14	56.2	4	10	10.5		12	303	48	25.7	4	15	13.3
	15	305	10	19.9	4	11	00.9		17	303	56	00.1	4	15	13.0
	20	305	05	14.6	4	11	49.1		22	304	04	00.1	4	15	15.1
	25	304	59	42.2	4	12	34.9		27	304	12	23.7	4	15	19.8
July	30	304	53	47.5	-4	13	18.0		32	304	21	06.1	-4	15	27.2
	5	304	47	32.7	-4	13	58.4		37	304	30	05.9	-4	15	37.3

N.B : Pluto is now classified as a dwarf planet as per resolution of I.A.U

PLUTO, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Red. To Astrom. (J 2000.0)	Apparent Declination			Red. To Astrom. (J 2000.0)	True Distance from the Earth	Hor. Parallax	Ephemeris Transit	
	h	m	s	s	°	'	"	"		"	h	m
Jan.	1	20	23 44.69	+91.24	-23	13	11.9	-294.14	36.328 093	0.24	13	39
	6	20	24 23.58	91.26	23	11	16.2	295.54	36.360 760	0.24	13	20
	11	20	25 03.28	91.22	23	09	19.9	296.79	36.386 434	0.24	13	01
	16	20	25 43.66	91.22	23	07	23.3	298.39	36.404 927	0.24	12	42
	21	20	26 24.46	91.25	23	05	27.8	299.74	36.416 107	0.24	12	23
	26	20	27 05.35	91.23	23	03	34.0	301.12	36.419 920	0.24	12	04
	31	20	27 46.20	+91.28	-23	01	42.5	-302.94	36.416 409	0.24	11	45
Feb.	5	20	28 26.67	91.32	22	59	54.8	304.30	36.405 672	0.24	11	26
	10	20	29 06.55	91.33	22	58	11.0	305.90	36.387 812	0.24	11	07
	15	20	29 45.68	91.41	22	56	32.1	307.54	36.362 961	0.24	10	48
	20	20	30 23.73	91.45	22	54	59.2	308.88	36.331 315	0.24	10	29
	25	20	31 00.52	91.51	22	53	32.5	310.58	36.293 160	0.24	10	10
Mar.	2	20	31 35.86	+91.62	-22	52	13.3	-312.09	36.248 852	0.24	9	51
	7	20	32 09.45	91.67	22	51	02.0	313.44	36.198 760	0.24	9	32
	12	20	32 41.24	91.77	22	49	58.8	315.06	36.143 252	0.24	9	13
	17	20	33 11.00	91.89	22	49	04.8	316.40	36.082 732	0.24	8	53
	22	20	33 38.49	91.97	22	48	20.3	317.73	36.017 666	0.24	8	34
	27	20	34 03.68	92.12	22	47	45.5	319.29	35.948 592	0.24	8	15
Apr.	1	20	34 26.33	+92.24	-22	47	21.4	-320.38	35.876 072	0.25	7	56
	6	20	34 46.35	92.35	22	47	07.5	321.69	35.800 643	0.25	7	36
	11	20	35 03.73	92.52	22	47	04.4	322.94	35.722 840	0.25	7	17
	16	20	35 18.26	92.65	22	47	12.4	323.86	35.643 230	0.25	6	58
	21	20	35 29.93	92.82	22	47	31.0	325.11	35.562 428	0.25	6	38
	26	20	35 38.71	93.01	22	48	00.8	326.00	35.481 086	0.25	6	19
May	1	20	35 44.49	+93.15	-22	48	41.4	-326.76	35.399 821	0.25	5	59
	6	20	35 47.39	93.33	22	49	32.2	327.70	35.319 208	0.25	5	39
	11	20	35 47.37	93.52	22	50	33.5	328.25	35.239 822	0.25	5	20
	16	20	35 44.40	93.68	22	51	44.6	328.79	35.162 253	0.25	5	00
	21	20	35 38.66	93.91	22	53	04.8	329.48	35.087 122	0.25	4	40
	26	20	35 30.09	94.08	22	54	34.4	329.63	35.015 027	0.25	4	20
	31	20	35 18.86	+94.25	-22	56	11.7	-329.97	34.946 493	0.25	4	01
June	5	20	35 05.14	94.46	22	57	56.5	330.15	34.882 005	0.25	3	41
	10	20	34 48.95	94.63	22	59	48.2	329.97	34.822 037	0.25	3	21
	15	20	34 30.53	94.82	23	01	45.5	330.11	34.767 069	0.25	3	01
	20	20	34 10.03	95.03	23	03	48.0	329.84	34.717 572	0.25	2	41
	25	20	33 47.58	95.16	23	05	54.6	329.45	34.673 940	0.25	2	21
	30	20	33 23.52	+95.34	-23	08	04.0	-329.19	34.636 485	0.25	2	01
July	5	20	32 57.98	95.51	23	10	15.7	328.51	34.605 481	0.25	1	41
	10	20	32 31.17	95.62	23	12	28.3	327.89	34.581 189	0.25	1	21
	15	20	32 03.43	95.81	23	14	40.9	327.38	34.563 858	0.25	1	00
	20	20	31 34.90	95.91	23	16	52.9	326.40	34.553 679	0.25	0	40
	25	20	31 05.93	96.02	23	19	02.6	325.68	34.550 737	0.25	0	20
	30	20	30 36.79	+96.14	-23	21	09.3	-324.77	34.555 055	0.25	23	56
Aug.	4	20	30 07.68	96.20	23	23	12.3	323.63	34.566 622	0.25	23	36
	9	20	29 38.92	96.29	23	25	10.2	322.86	34.585 414	0.25	23	16
	14	20	29 10.78	96.37	23	27	02.7	321.75	34.611 370	0.25	22	56
	19	20	28 43.47	+96.39	-23	28	48.5	-320.68	34.644 337	0.25	22	35

N.B: Pluto is now classified as a dwarf planet as per resolution of I A U

PLUTO, 2026
RIGHT ASCENSION AND DECLINATION FOR 0^h TERRESTRIAL TIME

Date	Apparent Right Ascension			Red. To Astrom. (J 2000.0)	Apparent Declination			Red. To Astrom. (J 2000.0)	True Distance from the Earth	Hor. Parallax	Ephemeris Transit	
	h	m	s	s	°	'	"	"		"	h	m
Aug. 19	20	28	43.47	+96.39	-23	28	48.5	-320.68	34.644 337	0.25	22	35
24	20	28	17.34	96.44	23	30	26.8	319.80	34.684 071	0.25	22	15
29	20	27	52.59	96.45	23	31	57.5	318.61	34.730 288	0.25	21	55
Sept. 3	20	27	29.41	96.43	23	33	19.4	317.67	34.782 687	0.25	21	35
8	20	27	08.13	96.46	23	34	32.1	316.86	34.840 956	0.25	21	15
13	20	26	48.83	96.42	23	35	35.5	315.78	34.904 722	0.25	20	55
18	20	26	31.81	+96.37	-23	36	28.5	-315.10	34.973 522	0.25	20	35
23	20	26	17.25	96.35	23	37	11.4	314.33	35.046 839	0.25	20	15
28	20	26	05.20	96.26	23	37	43.8	313.51	35.124 152	0.25	19	56
Oct. 3	20	25	55.89	96.22	23	38	05.2	313.18	35.204 945	0.25	19	36
8	20	25	49.39	96.16	23	38	16.3	312.58	35.288 687	0.25	19	16
13	20	25	45.76	96.05	23	38	16.4	312.21	35.374 780	0.25	18	56
18	20	25	45.17	+95.99	-23	38	05.6	-312.11	35.462 574	0.25	18	37
23	20	25	47.57	95.89	23	37	44.5	311.80	35.551 419	0.25	18	17
28	20	25	52.98	95.78	23	37	12.9	311.89	35.640 687	0.25	17	58
Nov. 2	20	26	01.47	95.74	23	36	31.3	312.10	35.729 784	0.25	17	38
7	20	26	12.89	95.62	23	35	40.3	312.17	35.818 091	0.25	17	19
12	20	26	27.30	95.52	23	34	39.5	312.69	35.904 947	0.24	16	59
17	20	26	44.62	+95.46	-23	33	30.1	-313.13	35.989 697	0.24	16	40
22	20	27	04.67	95.34	23	32	12.5	313.59	36.071 726	0.24	16	20
27	20	27	27.44	95.29	23	30	46.9	314.56	36.150 475	0.24	16	01
Dec. 2	20	27	52.72	95.22	23	29	14.5	315.22	36.225 426	0.24	15	42
7	20	28	20.36	95.13	23	27	35.5	316.16	36.296 039	0.24	15	23
12	20	28	50.29	95.09	23	25	50.6	317.27	36.361 777	0.24	15	04
17	20	29	22.23	+95.02	-23	24	01.0	-318.17	36.422 158	0.24	14	44
22	20	29	56.00	94.95	23	22	06.8	319.46	36.476 771	0.24	14	25
27	20	30	31.46	94.96	23	20	09.3	320.79	36.525 284	0.24	14	06
32	20	31	08.27	94.90	23	18	09.4	321.95	36.567 387	0.24	13	47
37	20	31	46.33	+94.88	-23	16	07.4	-323.49	36.602 769	0.24	13	28

N.B: Pluto is now classified as a dwarf planet as per resolution of I A U

MAJOR PLANETS, 2026
HELIOCENTRIC OSCULATING ORBITAL ELEMENTS
REFERRED TO THE MEAN ECLIPTIC AND EQUINOX OF J 2000.0

Date	Julian Date 246	Inclina- tion <i>i</i>	Longitude		Mean Distance <i>a</i>	Daily Motion <i>n</i>	Eccentricity <i>e</i>	Mean Longitude <i>L</i>
			Asc. Node Ω	Perihelion ϖ				

MERCURY

Dec'25	31	1040.5	7.0034	48.298	77.49741851	0.387 100	4.092 32	0.205 637	231.0570
Feb'26	9	1080.5	7.0034	48.298	77.49759248	0.387 100	4.092 31	0.205 637	34.7487
Mar	21	1120.5	7.0034	48.298	77.49776645	0.387 097	4.092 36	0.205 637	198.4430
Apr	30	1160.5	7.0034	48.298	77.49794042	0.387 102	4.092 28	0.205 637	2.1356
Jun	9	1200.5	7.0034	48.298	77.49811439	0.387 096	4.092 39	0.205 637	165.8289
Jul	19	1240.5	7.0034	48.298	77.49828836	0.387 099	4.092 33	0.205 637	329.5227
Aug	28	1280.5	7.0034	48.297	77.49846234	0.387 096	4.092 39	0.205 637	133.2167
Oct	7	1320.5	7.0034	48.297	77.49863631	0.387 098	4.092 36	0.205 637	296.9106
Nov	16	1360.5	7.0034	48.297	77.49881028	0.387 097	4.092 37	0.205 637	100.6052
Dec'26	26	1400.5	7.0034	48.297	77.49898425	0.387 098	4.092 35	0.205 637	264.2989
Feb'27	4	1440.5	7.0034	48.297	77.49915822	0.387 101	4.092 31	0.205 637	67.9924

VENUS

Dec'25	31	1040.5	3.3944	76.608	131.5648767	0.723 348	1.602 08	0.006 760	275.0107
Feb'26	9	1080.5	3.3944	76.607	131.5648812	0.723 345	1.602 09	0.006 759	339.0924
Mar	21	1120.5	3.3944	76.607	131.5648858	0.723 324	1.602 16	0.006 759	43.1772
Apr	30	1160.5	3.3944	76.607	131.5648903	0.723 305	1.602 22	0.006 759	107.2654
Jun	9	1200.5	3.3944	76.606	131.5648949	0.723 316	1.602 18	0.006 759	171.3532
Jul	19	1240.5	3.3944	76.606	131.5648994	0.723 336	1.602 12	0.006 759	235.4384
Aug	28	1280.5	3.3944	76.606	131.5649039	0.723 338	1.602 11	0.006 759	299.5222
Oct	7	1320.5	3.3944	76.606	131.5649085	0.723 337	1.602 12	0.006 759	3.6065
Nov	16	1360.5	3.3944	76.605	131.564913	0.723 341	1.602 10	0.006 759	67.6908
Dec'26	26	1400.5	3.3944	76.605	131.5649175	0.723 345	1.602 09	0.006 759	131.7737
Feb'27	4	1440.5	3.3944	76.605	131.564922	0.723 337	1.602 11	0.006 759	195.8562

EARTH*

Dec'25	31	1040.5	0.0034	174.811	103.0212162	1.000 031	0.985 56	0.016 698	99.3148
Feb'26	9	1080.5	0.0034	174.810	103.0215696	1.000 033	0.985 56	0.016 698	138.7371
Mar	21	1120.5	0.0034	174.810	103.0219229	1.000 025	0.985 57	0.016 698	178.1596
Apr	30	1160.5	0.0034	174.810	103.0222763	0.999 999	0.985 61	0.016 698	217.5834
Jun	9	1200.5	0.0035	174.809	103.0226296	0.999 968	0.985 66	0.016 698	257.0093
Jul	19	1240.5	0.0035	174.809	103.0229829	0.999 957	0.985 67	0.016 697	296.4369
Aug	28	1280.5	0.0035	174.809	103.0233363	0.999 977	0.985 64	0.016 697	335.8639
Oct	7	1320.5	0.0035	174.809	103.0236896	1.000 009	0.985 60	0.016 697	15.2886
Nov	16	1360.5	0.0035	174.808	103.024043	1.000 024	0.985 57	0.016 697	54.7115
Dec'26	26	1400.5	0.0035	174.808	103.0243963	1.000 013	0.985 59	0.016 697	94.1346
Feb'27	4	1440.5	0.0035	174.808	103.0247496	0.999 999	0.985 61	0.016 697	133.5591

* Values labelled for the Earth are actually for the Earth/ Moon barycenter

FORMULAS

Mean anomaly, $M = L - \varpi$

Argument of perihelion, measured from node, $\omega = \varpi - \Omega$

True anomaly, $v = M + (2e - e^3/4)\sin M + (5e^2/4)\sin 2M + (13e^3/12)\sin 3M + \dots$ in radians

True distance, $r = a (1 - e^2)/(1 + e \cos v)$

Heliocentric rectangular co-ordinates, referred to the ecliptic of date, may be computed from:

$x = r \{ \cos (v + \omega) \cos \Omega - \sin (v + \omega) \cos i \sin \Omega \}$

$y = r \{ \cos (v + \omega) \sin \Omega + \sin (v + \omega) \cos i \cos \Omega \}$

$z = r \sin (v + \omega) \sin i$

MAJOR PLANETS, 2026
HELIOCENTRIC OSCULATING ORBITAL ELEMENTS
REFERRED TO THE MEAN ECLIPTIC AND EQUINOX OF J 2000.0

Date		Julian Date 246	Inclina- tion <i>i</i>	Longitude		Mean Distance <i>a</i>	Daily Motion <i>n</i>	Eccentricity <i>e</i>	Mean Longitude <i>L</i>
				Asc. Node Ω	Perihelion ϖ				
MARS									
Dec'25	31	1040.5	1.8476	49.481	336.1756245	1.523 436	0.524 16	0.093 424	291.4083
Feb'26	9	1080.5	1.8476	49.481	336.1761106	1.523 477	0.524 14	0.093 424	312.3743
Mar	21	1120.5	1.8476	49.481	336.1765966	1.523 550	0.524 11	0.093 424	333.3386
Apr	30	1160.5	1.8476	49.480	336.1770826	1.523 636	0.524 06	0.093 424	354.3006
Jun	9	1200.5	1.8476	49.480	336.1775687	1.523 717	0.524 02	0.093 425	15.2605
Jul	19	1240.5	1.8476	49.480	336.1780547	1.523 777	0.523 99	0.093 425	36.2189
Aug	28	1280.5	1.8476	49.479	336.1785407	1.523 807	0.523 97	0.093 425	57.1767
Oct	7	1320.5	1.8475	49.479	336.1790268	1.523 811	0.523 97	0.093 425	78.1348
Nov	16	1360.5	1.8475	49.479	336.1795128	1.523 798	0.523 98	0.093 425	99.0937
Dec'26	26	1400.5	1.8475	49.478	336.1799988	1.523 784	0.523 99	0.093 425	120.0535
Feb'27	4	1440.5	1.8475	49.478	336.1804849	1.523 777	0.523 99	0.093 425	141.0139
JUPITER									
Dec'25	31	1040.5	1.3028	100.510	14.3872852	5.203 934	0.083 06	0.048 540	103.3229
Feb'26	9	1080.5	1.3028	100.511	14.38752164	5.203 848	0.083 07	0.048 541	106.6446
Mar	21	1120.5	1.3027	100.511	14.38775808	5.203 756	0.083 07	0.048 541	109.9664
Apr	30	1160.5	1.3027	100.511	14.38799452	5.203 659	0.083 07	0.048 541	113.2885
Jun	9	1200.5	1.3027	100.511	14.38823096	5.203 557	0.083 07	0.048 541	116.6106
Jul	19	1240.5	1.3027	100.511	14.38846741	5.203 451	0.083 08	0.048 541	119.9330
Aug	28	1280.5	1.3027	100.512	14.38870385	5.203 342	0.083 08	0.048 541	123.2555
Oct	7	1320.5	1.3027	100.512	14.3889403	5.203 230	0.083 08	0.048 542	126.5782
Nov	16	1360.5	1.3027	100.512	14.38917675	5.203 117	0.083 08	0.048 542	129.9011
Dec'26	26	1400.5	1.3027	100.512	14.3894132	5.203 001	0.083 09	0.048 542	133.2242
Feb'27	4	1440.5	1.3027	100.512	14.38964966	5.202 885	0.083 09	0.048 542	136.5474
SATURN									
Dec'25	31	1040.5	2.4895	113.599	93.20455848	9.532 608	0.033 49	0.055 458	7.8956
Feb'26	9	1080.5	2.4895	113.598	93.20517922	9.532 632	0.033 49	0.055 458	9.2368
Mar	21	1120.5	2.4895	113.598	93.20579997	9.532 666	0.033 49	0.055 457	10.5779
Apr	30	1160.5	2.4895	113.598	93.20642072	9.532 711	0.033 49	0.055 457	11.9190
Jun	9	1200.5	2.4895	113.598	93.20704146	9.532 766	0.033 49	0.055 456	13.2600
Jul	19	1240.5	2.4896	113.597	93.20766221	9.532 831	0.033 49	0.055 456	14.6008
Aug	28	1280.5	2.4896	113.597	93.20828296	9.532 906	0.033 49	0.055 456	15.9416
Oct	7	1320.5	2.4896	113.597	93.20890372	9.532 990	0.033 49	0.055 455	17.2823
Nov	16	1360.5	2.4896	113.597	93.20952447	9.533 084	0.033 49	0.055 455	18.6229
Dec'26	26	1400.5	2.4896	113.596	93.21014522	9.533 188	0.033 49	0.055 455	19.9633
Feb'27	4	1440.5	2.4896	113.596	93.21076598	9.533 301	0.033 49	0.055 454	21.3037
URANUS									
Dec'25	31	1040.5	0.7728	74.025	173.0285057	19.170 236	0.011 74	0.046 374	64.4438
Mar'26	21	1120.5	0.7728	74.025	173.0287013	19.169 580	0.011 74	0.046 374	65.3840
Jun	9	1200.5	0.7728	74.026	173.0288968	19.168 894	0.011 74	0.046 374	66.3244
Aug	28	1280.5	0.7727	74.026	173.0290923	19.168 180	0.011 74	0.046 374	67.2650
Nov'25	16	1360.5	0.7727	74.026	173.0292878	19.167 443	0.011 75	0.046 374	68.2058
Feb'27	31	1440.5	0.7727	74.026	173.0294834	19.166 688	0.011 75	0.046 374	69.1467
Apr'27	21	1520.5	0.7727	74.026	173.0296789	19.165 917	0.011 75	0.046 374	70.0879
NEPTUNE									
Dec'25	31	1040.5	1.77001	131.782	48.12786841	30.080 445	0.005 97	0.009 457	1.7944
Mar'26	21	1120.5	1.77001	131.782	48.12793243	30.080 135	0.005 97	0.009 457	2.2726
Jun	9	1200.5	1.77001	131.782	48.12799644	30.079 839	0.005 97	0.009 457	2.7507
Aug	28	1280.5	1.77001	131.782	48.12806046	30.079 562	0.005 97	0.009 457	3.2287
Nov'25	16	1360.5	1.77001	131.782	48.12812447	30.079 310	0.005 97	0.009 457	3.7066
Feb'27	31	1440.5	1.77001	131.782	48.12818849	30.079 088	0.005 97	0.009 457	4.1845
Apr'27	21	1520.5	1.77001	131.782	48.12825251	30.078 902	0.005 97	0.009 457	4.6622

Distances are in astronomical units.

CENTRE OF MASS OF THE SOLAR SYSTEM, 2026

HELIOCENTRIC RECTANGULAR CO-ORDINATES
EQUATORIAL RECTANGULAR CO-ORDINATES OF THE BARYCENTRES S_4
(SUN TO MARS) AND S_9 (SUN TO PLUTO) REFERRED TO THE MEAN
EQUINOX AND EQUATOR OF J 2000.0

Date		Barycentre S_4 (In units of 10^{-10} a.u.)			Centre of Mass of the Solar System Barycentre S_9 (In units of 10^{-9} a.u.)		
		x	y	z	X	Y	Z
Jan.	0	+30735313	+51296082	+20803108	+3073792	+5129010	+2080103
	10	30019110	51270984	20806723	3002129	5126500	2080498
	20	29305064	51238026	20807060	2930701	5123146	2080533
	30	28592706	51197003	20804114	2859491	5118940	2080210
Feb.	9	27881581	51147502	20797725	2788483	5113864	2079521
	19	27171447	51088708	20787515	2717671	5107881	2078448
Mar.	29	+26462963	+51019715	+20773003	+2647095	+5100948	+2076969
	10	25757174	50940449	20754074	2576814	5093065	2075079
	20	25054596	50851110	20730839	2506860	5084245	2072785
	30	24355574	50751738	20703317	2437256	5074493	2070089
Apr.	9	23660564	50642328	20671490	2368032	5063812	2066991
	19	22970077	50522968	20635367	2299219	5052210	2063493
May	29	+22284621	+50393864	+20595016	+2230849	+5039701	+2059600
	9	21604586	50255199	20550475	2162948	5026297	2055315
	19	20930472	50107005	20501670	2095546	5012004	2050636
	29	20263414	49949566	20448581	2028706	4996839	2045563
June	8	19604361	49784103	20391689	1962482	4980868	2040122
	18	18953341	49611908	20331597	1896880	4964158	2034344
July	28	+18309961	+49434028	+20268810	+1831887	+4946766	+2028256
	8	17673611	49251256	20203744	1767478	4928735	2021881
	18	17043487	49064236	20136708	1703618	4910102	2015235
	28	16418585	48873323	20067936	1640263	4890888	2008332
Aug.	7	15797755	48678468	19997448	1577360	4871095	2001174
	17	15180164	48479077	19924981	1514873	4850697	1993750
Sept.	27	+14565765	+48274681	+19850273	+1452805	+4829675	+1986049
	6	13954353	48065367	19773370	1391151	4808038	1978074
	16	13345227	47850960	19694292	1329881	4785781	1969828
	26	12737761	47630901	19612843	1268969	4762881	1961303
Oct.	6	12131550	47404405	19528739	1208399	4739302	1952487
	16	11526430	47170625	19441611	1148168	4715007	1943363
Nov.	26	+10922453	+46928612	+19351035	+1088284	+4689953	+1933911
	5	10319878	46677245	19256514	1028764	4664088	1924109
	15	09719673	46415263	19157361	0969661	4637354	1913924
	25	09123679	46142121	19053210	0911072	4609728	1903340
Dec.	5	08533361	45858130	18944142	0853074	4581230	1892362
	15	07949750	45563676	18830327	0795724	4551885	1881001
	25	+07373776	+45259148	+18711943	+0739072	+4521716	+1869268
	35	+06806301	+44945118	+18589216	+0683166	+4490757	+1857176

The heliocentric equatorial rectangular co-ordinates of the barycentre of the solar system referred to the mean equator and equinox of J 2026.5 are given by $\mathbf{r} = \mathbf{P}\mathbf{r}_0$, where \mathbf{r} and \mathbf{r}_0 are the column vectors of the co-ordinates X, Y, Z and X_0, Y_0, Z_0 referred to J 2026.5 and J 2000.0 respectively.

PART - II

STARS

LONGITUDE AND LATITUDE OF STARS, 2026.5
MEAN PLACES FOR JULY 2^d.375 TERRESTRIAL TIME

Cat. No. FK5	BS= HR No.	Star	Mag.	Longitude			Annual Variation	Annual Proper Motion	Latitude			Annual Variation	Annual Proper Motion
				°	'	"	"	"	°	'	"	"	"
35	280	α Sculptoris	4.31	0	51	55.18	50.62	+0.025	-32	30	46.59	+0.040	-0.007
9	74	ι Ceti	3.56	1	17	12.18	50.35	-0.028	-10	01	17.51	+0.020	-0.028
82	674	ϕ Eridani	3.56	1	22	35.91	51.18	+0.110	-58	59	09.30	-0.030	-0.082
902	9072	ω Piscium	4.01	2	57	14.79	50.34	+0.095	+6	21	43.78	-0.100	-0.167
22	188	R Ceti	2.04	2	57	24.51	50.71	+0.242	-20	47	00.91	-0.010	-0.068
783	7957	n Cenhei	3.43	5	03	16.42	51.25	+2.355	+71	46	59.12	+0.450	+0.368
156	1336	α Reticuli	3.35	7	53	39.72	52.76	+0.298	-78	02	23.39	+0.090	-0.015
869	8762	σ Andromedae	3.62	8	08	47.73	49.88	+0.022	+43	45	03.17	+0.090	-0.017
848	8585	α Lacertae	3.77	8	30	37.34	49.89	+0.200	+53	17	27.02	+0.040	-0.070
7	39	γ Pegasi	2.83	9	31	31.81	50.20	+0.001	+12	36	02.42	+0.110	-0.011
40	334	n Ceti	3.45	12	08	23.26	50.58	+0.151	-16	07	08.23	-0.070	-0.213
803	8162	α Cenhei	2.44	13	08	32.18	49.48	+0.339	+68	54	50.52	+0.050	-0.100
836	8465	ζ Cenhei	3.35	14	19	38.26	49.52	+0.028	+61	08	53.62	+0.140	-0.008
1	15	α Andromedae	2.06	14	40	39.18	50.14	+0.056	+25	40	48.28	-0.050	-0.207
47	402	θ Ceti	3.60	16	35	45.70	50.26	-0.163	-15	46	02.73	+0.000	-0.171
723	7310	δ Draconis	3.07	17	30	42.13	47.56	+0.758	+82	53	12.92	+0.080	-0.093
59	509	τ Ceti	3.50	18	10	48.96	49.12	-1.371	-24	48	13.43	+1.640	+1.463
890	8961	λ Andromedae	3.82v	18	39	11.46	49.75	-0.133	+43	46	26.44	-0.260	-0.441
1075	794	ι Eridani	4.11	19	08	49.53	51.01	+0.169	-51	42	49.30	+0.100	-0.095
71	585	v Ceti	4.00	19	48	03.68	50.69	+0.134	-31	01	59.58	+0.120	-0.076
1033	361	ζ Piscium*	5.24	20	14	54.93	50.42	+0.112	-0	12	45.96	+0.100	-0.106
20	165	δ Andromedae	3.27	22	10	58.91	50.20	+0.092	+24	21	04.42	+0.070	-0.141
62	539	ζ Ceti	3.73	22	19	17.99	50.48	+0.025	-20	20	00.17	+0.160	-0.051
106	897	θ Eridani p	3.25	23	38	47.01	50.81	-0.051	-53	44	17.89	+0.260	+0.038
101	841	β Fornacis	4.46	26	36	34.08	50.92	+0.212	-45	51	12.59	+0.350	+0.103
1154	2015	δ Doradus	4.35	26	54	30.08	63.09	-0.280	-88	15	06.37	+0.280	+0.030
50	437	n Piscium	3.62	27	11	09.84	50.29	+0.024	+5	22	45.64	+0.230	-0.015
33	269	u Andromedae	3.87	29	32	42.53	50.25	+0.173	+29	39	37.50	+0.230	-0.038
42	337	β Andromedae	2.06	30	46	30.08	50.24	+0.126	+25	56	38.57	+0.100	-0.178
863	8694	ι Cenhei	3.52	33	36	12.28	49.28	-0.304	+62	37	05.02	+0.280	-0.017
66	553	β Arietis*	2.64	34	20	24.57	50.29	+0.051	+8	29	18.29	+0.160	-0.138
1085	919	τ^3 Eridani	4.09	34	54	20.03	50.38	-0.198	-38	54	13.72	+0.300	0.001
17	153	ζ Cassiopeiae	3.66	35	25	58.68	49.96	+0.016	+44	43	18.82	+0.290	-0.018
2	21	β Cassiopeiae	2.27	35	29	13.24	50.32	+0.462	+51	12	49.38	-0.170	-0.471
809	8238	R Cenhei	3.23	35	54	32.55	49.28	+0.028	+71	09	17.90	+0.300	-0.008
64	544	α Trianguli	3.41	37	13	47.11	50.11	-0.079	+16	48	04.29	+0.090	-0.223
91	779	δ Ceti	4.07	37	56	32.30	50.40	+0.013	-14	27	33.95	+0.310	-0.008
74	617	α Arietis	2.00	38	01	59.50	50.37	+0.130	+9	57	57.45	+0.120	-0.204
21	168	α Cassiopeiae	2.23	38	09	05.48	49.97	+0.036	+46	37	26.84	+0.260	-0.056
171	1465	α Doradus	3.27	38	12	35.58	51.69	+0.155	-74	34	46.85	+0.290	-0.031
104	874	n Eridani	3.89	39	07	16.95	50.46	+0.008	-24	32	45.80	+0.100	-0.233

* No. 1 : *Alpheratz*, Uttara Bhadrapada - 2 No. 66 : *Sheratan*, Asvini
 No. 1033 : *Revati*

Annual rate of Precession in longitude for the middle of the year = 50".29

LONGITUDE AND LATITUDE OF STARS, 2026.5
MEAN PLACES FOR JULY 2^d.375 TERRESTRIAL TIME

Cat. No. FK5	BS= HR No.	Star	Mag.	Longitude			Annual Variation	Annual Proper Motion	Latitude			Annual Variation	Annual Proper Motion
				°	'	"	"	"	°	'	"	"	"
75	622	β Trianguli	3.00	42	43	22.41	50.31	+0.134	+20	34	57.24	+0.250	-0.091
79	664	γ Trianguli	4.01	43	53	15.92	50.22	+0.028	+18	57	01.45	+0.290	-0.064
32	264	γ Cassiopeiae	var.	44	17	56.15	49.97	+0.027	+48	49	02.53	+0.340	-0.019
73	603	γ Andromed. p	2.26	44	35	40.72	50.16	+0.024	+27	48	30.13	+0.290	-0.065
107	911	α Ceti	2.53	44	41	26.23	50.34	-0.032	-12	35	00.60	+0.290	-0.072
155	1326	α Horologii	3.86	46	11	51.76	50.77	-0.072	-61	43	47.02	+0.160	-0.211
48	403	δ Cassiopeiae	2.68	48	18	01.45	50.33	+0.323	+46	24	17.05	+0.170	-0.202
127	1084	ε Eridani	3.73	48	31	52.79	49.39	-1.054	-27	42	39.24	+0.660	+0.280
100	838	41 Arietis*	3.63	48	34	24.85	50.28	+0.029	+10	27	05.43	+0.250	-0.132
135	1136	δ Eridani	3.54	51	14	03.09	50.55	+0.113	-28	40	04.91	+1.130	+0.744
121	1030	ο Tauri	3.60	51	32	00.72	50.26	-0.084	-9	19	54.50	+0.330	-0.059
123	1038	ξ Tauri	3.74	52	16	58.40	50.38	+0.049	-8	47	45.96	+0.340	-0.052
212	1922	β Doradus	3.48v	52	30	52.44	53.28	+0.072	-85	02	28.55	+0.410	+0.007
149	1231	γ Eridani	2.95	54	14	20.98	50.49	+0.039	-33	12	00.26	+0.280	-0.123
63	542	ε Cassiopeiae	3.38	55	07	55.61	50.07	+0.024	+47	33	03.47	+0.370	-0.034
109	921	ρ Persei	var.	55	16	52.03	50.31	+0.099	+20	34	35.80	+0.260	-0.139
1129	1502	α Caeli	4.45	56	31	08.13	50.39	-0.346	-62	59	07.40	+0.380	-0.032
111	936	β Persei	var.	56	32	13.72	50.20	+0.003	+22	25	53.72	+0.410	-0.002
103	854	τ Persei	3.95	58	16	51.37	50.15	-0.003	+34	22	27.62	+0.420	-0.005
99	834	η Persei	3.76	59	04	15.49	50.15	+0.013	+37	29	05.44	+0.400	-0.019
136	1142	17 Tauri	3.70	59	46	55.45	50.30	+0.009	+4	11	33.42	+0.370	-0.049
170	1464	ν [~] Eridani	3.82	60	15	24.46	50.47	-0.076	-51	48	50.68	+0.430	-0.002
151	1251	v Tauri	3.91	60	17	23.18	50.36	+0.005	-14	26	54.87	+0.420	-0.004
139	1165	η Tauri*	2.87	60	21	45.18	50.29	+0.008	+4	03	13.37	+0.380	-0.049
108	915	γ Persei	2.93	60	23	26.42	50.16	-0.002	+34	32	00.05	+0.420	-0.004
893	8974	γ Cephei	3.21	60	27	44.49	50.15	+0.268	+64	40	26.14	+0.550	+0.119
150	1239	λ Tauri	3.47v	61	00	17.55	50.32	-0.009	-7	57	24.20	+0.420	-0.011
120	1017	α Persei	1.79	62	27	01.81	50.21	+0.018	+30	07	42.52	+0.400	-0.030
144	1203	ζ Persei	2.85	63	29	37.80	50.26	+0.004	+11	20	11.85	+0.420	-0.011
134	1135	v Persei	3.77	64	11	33.91	50.21	-0.015	+22	09	24.60	+0.440	+0.002
131	1122	δ Persei	3.01	65	10	18.55	50.23	+0.021	+27	18	17.07	+0.400	-0.040
148	1228	ξ Persei	4.04	65	20	32.49	50.26	+0.002	+14	56	49.45	+0.440	+0.000
147	1220	ε Persei	2.89	66	02	51.70	50.25	+0.013	+19	07	03.41	+0.410	-0.029
159	1346	γ Tauri	3.65	66	10	36.85	50.43	+0.110	-5	43	45.59	+0.400	-0.044
162	1373	δ Tauri	3.76	67	14	30.27	50.41	+0.101	-3	57	59.64	+0.400	-0.046
164	1409	ε Tauri	3.54	68	50	09.69	50.40	+0.100	-2	33	51.30	+0.390	-0.054
168	1457	α Tauri*	0.85	70	09	35.07	50.34	+0.036	-5	27	55.61	+0.260	-0.197
1134	1543	π [~] Orionis	3.19	72	17	55.31	50.80	+0.481	-15	22	52.15	+0.420	-0.045
186	1654	ε Leporis	3.19	72	25	36.23	50.42	+0.021	-44	57	42.50	+0.380	-0.076
179	1552	π [~] Orionis	3.69	72	28	16.49	50.33	-0.001	-16	46	06.69	+0.460	+0.001
180	1567	π [~] Orionis	3.72	72	51	40.51	50.33	+0.000	-20	00	06.14	+0.460	+0.000

* No. 100 : Bharani

No. 168 : Aldebaran, Rohini

No. 139 : Alcyone, Krittika.

Annual rate of Precession in longitude for the middle of the year = 50".29

LONGITUDE AND LATITUDE OF STARS, 2026.5
MEAN PLACES FOR JULY 2^d.375 TERRESTRIAL TIME

Cat. No. FK5	BS= HR No.	Star	Mag.	Longitude			Annual Variation	Annual Proper Motion	Latitude			Annual Variation	Annual Proper Motion
				°	'	"	"	"	°	'	"	"	"
188	1666	β Eridani	2.79	75	38	43.83	50.22	-0.116	-27	51	31.94	+0.400	-0.071
1144	1702	μ Leporis	3.31 _v	75	45	55.03	50.41	+0.051	-39	02	48.76	+0.440	-0.030
695	6927	χ Draconis	3.57	76	15	20.22	44.15	+3.505	+83	34	21.01	+0.620	-0.501
181	1577	ι Aurigae	2.69	77	00	34.51	50.28	+0.001	+10	27	28.04	+0.450	-0.018
194	1713	β Orionis	0.12	77	12	00.28	50.33	+0.000	-31	07	09.70	+0.460	-0.001
195	1735	τ Orionis	3.60	78	13	03.07	50.31	-0.018	-29	50	03.40	+0.460	-0.007
1137	1612	ζ Aurigae	3.75	79	00	12.72	50.29	+0.007	+18	12	20.06	+0.440	-0.023
183	1605	ε Aurigae	var.	79	12	41.34	50.28	-0.001	+20	56	52.04	+0.470	-0.004
185	1641	η Aurigae	3.17	79	48	59.23	50.31	+0.024	+18	17	12.37	+0.400	-0.070
204	1829	β Leporis	2.84	80	02	34.05	50.33	-0.015	-43	54	42.32	+0.380	-0.088
201	1790	γ Orionis	1.64	81	18	59.94	50.30	-0.010	-16	48	45.82	+0.450	-0.013
178	1542	α Camelopardi	4.29	81	20	58.59	50.27	+0.001	+43	25	20.67	+0.470	+0.006
182	1603	β Camelopardi	4.03	81	38	16.02	50.26	-0.010	+37	26	03.75	+0.450	-0.015
207	1865	α Leporis	2.58	81	45	03.30	50.32	+0.001	-41	03	15.61	+0.470	+0.002
193	1708	α Aurigae	0.08	82	13	42.16	50.33	+0.046	+22	51	52.59	+0.030	-0.429
215	1956	α Columbae	2.64	82	32	23.29	50.33	+0.009	-57	22	19.09	+0.440	-0.027
206	1852	δ Orionis	2.23	82	46	00.32	50.30	+0.002	-22	57	07.84	+0.470	-0.002
202	1791	β Tauri	1.65	82	56	42.80	50.31	+0.013	+5	23	14.06	+0.300	-0.176
209	1899	ι Orionis	2.77	83	22	03.98	50.31	+0.000	-29	11	47.52	+0.470	+0.001
210	1903	ε Orionis	1.70	83	50	02.00	50.31	+0.001	-24	30	10.66	+0.470	-0.002
(GC)	1879	λ Orionis*	3.56	84	04	37.39	50.29	-0.001	-13	21	57.59	+0.470	-0.002
211	1910	ζ Tauri	3.00	85	09	17.39	50.29	+0.000	-2	11	32.40	+0.450	-0.021
217	1983	γ Leporis	3.60	85	12	46.80	49.85	-0.439	-45	49	02.66	+0.120	-0.359
219	1998	ζ Leporis	3.55	86	21	22.86	50.27	-0.020	-38	12	44.55	+0.460	+0.000
220	2004	κ Orionis	2.06	86	46	07.64	50.29	+0.002	-33	04	02.04	+0.470	-0.002
223	2040	β Columbae	3.12	86	47	26.02	50.41	+0.136	-59	10	23.45	+0.870	+0.400
222	2035	δ Leporis	3.81	87	32	22.14	50.58	+0.301	-44	17	54.37	-0.190	-0.653
907	424	α Ursae Mins.	2.02	88	56	18.77	50.40	+0.038	+66	06	16.67	+0.430	-0.035
224	2061	α Orionis*	var.	89	07	29.84	50.32	+0.027	-16	01	24.62	+0.470	+0.009
226	2085	η Leporis	3.71	89	16	10.74	50.22	-0.052	-37	35	56.79	+0.610	0.140
229	2120	η Columbae	3.96	89	58	52.98	50.26	+0.055	-66	15	03.17	+0.450	-0.014
227	2088	β Aurigae	1.90	90	16	48.89	50.25	-0.062	+21	30	41.92	+0.460	+0.000
225	2077	δ Aurigae	3.72	90	17	26.63	50.42	+0.095	+30	50	52.75	+0.350	-0.125
1168	2219	κ Aurigae	4.35	93	44	03.99	50.24	-0.066	+6	06	18.48	+0.200	-0.264
241	2286	μ Geminorum	2.88	95	40	21.04	50.36	+0.059	-0	49	03.16	+0.350	-0.109
244	2298	8ε Monocerotis	4.44	96	37	29.05	50.25	-0.019	-18	42	50.56	+0.470	+0.010
1173	2343	ν Geminorum	4.15	97	10	21.19	50.29	-0.007	-3	03	11.10	+0.450	-0.014
243	2294	β Canis Maj.	1.98	97	33	26.52	50.20	-0.008	-41	15	01.24	+0.460	+0.000
240	2282	ζ Canis Maj.	3.02	97	44	48.88	50.17	+0.015	-53	22	09.50	+0.460	+0.003
251	2421	γ Geminorum	1.93	99	28	30.46	50.32	+0.045	-6	44	22.00	+0.410	-0.039
254	2473	ε Geminorum	2.98	100	18	32.40	50.30	-0.005	+2	04	23.45	+0.440	-0.014

* No. GC : *Mrgasiras*.No. 224 : *Betelgeuse*, Mag. 0.4 to 1.3 Ardra.

Annual rate of Precession in longitude for the middle of the year = 50".29

LONGITUDE AND LATITUDE OF STARS, 2026.5
MEAN PLACES FOR JULY 2^d.375 TERRESTRIAL TIME

Cat. No. FK5	BS= HR No.	Star	Mag.	Longitude			Annual Variation	Annual Proper Motion	Latitude			Annual Variation	Annual Proper Motion
				°	'	"	"	"	°	'	"	"	"
261	2540	θ Geminorum	3.60	101	29	37.79	50.32	+0.003	+11	01	59.23	+0.400	-0.048
256	2484	ξ Geminorum	3.36	101	34	42.57	50.17	-0.101	-10	06	08.60	+0.250	-0.200
257	2491	α Canis Maj. cg	-1.46	104	26	47.78	49.61	-0.551	-39	36	40.39	-0.810	-1.256
245	2326	α Carinae	-0.72	105	19	36.08	49.73	+0.075	-75	49	13.71	+0.460	+0.024
269	2650	ζ Geminorum	3.79v	105	21	37.11	50.28	-0.009	-2	02	08.20	+0.440	-0.002
252	2451	ν Puppis	3.17	107	30	54.93	49.90	+0.008	-66	04	15.80	+0.430	-0.006
279	2777	δ Geminorum	3.53	108	53	21.47	50.27	-0.024	-0	10	31.27	+0.420	-0.016
1180	2538	κ Canis Maj.	3.96	108	56	03.57	50.01	-0.013	-55	08	39.68	+0.430	+0.003
277	2763	λ Geminorum	3.58	109	08	54.89	50.24	-0.042	-5	37	56.54	+0.390	-0.043
282	2821	ι Geminorum	3.79	109	19	36.57	50.21	-0.109	+5	45	38.48	+0.320	-0.103
1187	2714	22 δ Monocero	4.15	109	45	51.14	50.22	-0.002	-21	44	30.53	+0.430	+0.005
287	2891	α Gemino. Cg*	1.95	110	36	35.82	50.18	-0.155	+10	05	53.65	+0.300	-0.126
268	2618	ε Canis Maj.	1.50	111	07	52.44	50.05	+0.006	-51	21	25.43	+0.420	+0.003
270	2653	ο ~ Canis Maj.	3.02	111	22	16.75	50.07	-0.007	-46	07	38.16	+0.430	+0.002
1183	2646	σ Canis Maj.	3.47	111	55	27.72	50.04	-0.009	-50	13	21.82	+0.420	+0.004
285	2845	β Canis Min.	2.90	112	33	40.28	50.20	-0.047	-13	29	04.14	+0.370	-0.046
317	3323	ο Ursae Maj.	3.36	113	21	59.49	50.36	-0.121	+40	14	43.47	+0.260	-0.145
295	2990	β Geminorum	1.14	113	34	53.49	49.71	-0.614	+6	41	09.86	+0.260	-0.158
273	2693	δ Canis Maj.	1.86	113	45	51.50	50.04	-0.006	-48	27	00.49	+0.420	+0.004
294	2985	κ Geminorum	3.57	114	02	09.16	50.28	-0.024	+3	04	52.10	+0.350	-0.057
291	2943	α C. Min. cg	0.38	116	09	04.37	49.68	-0.540	-16	01	29.79	-0.730	-1.132
263	2553	τ Puppis	2.93	118	05	31.53	49.65	+0.188	-72	51	02.85	+0.330	-0.056
293	2970	26 α Monocero	3.93	119	38	58.02	50.07	-0.078	-30	27	03.40	+0.350	-0.033
283	2827	η Canis Maj.	2.45	119	54	15.20	49.96	-0.008	-50	36	21.19	+0.390	+0.004
278	2773	π Puppis	2.70	120	40	02.95	49.83	-0.019	-58	31	19.69	+0.380	+0.002
335	3569	ι Ursae Maj.	3.14	123	10	05.94	50.06	-0.399	+29	34	30.87	+0.010	-0.359
341	3594	κ Ursae Maj.	3.60	124	18	28.92	50.44	-0.015	+28	58	54.31	+0.310	-0.062
312	3249	β Cancri	3.52	124	37	36.96	50.21	-0.032	-10	17	07.25	+0.300	-0.058
321	3366	η Cancri	5.33	125	46	39.82	50.27	-0.035	+1	34	24.90	+0.300	-0.054
1204	3045	ξ Puppis	3.34	126	24	34.54	49.98	-0.003	-44	56	12.79	+0.350	-0.003
368	3888	ν Ursae Maj.	3.80	126	38	17.40	50.32	-0.261	+42	39	10.69	+0.080	-0.269
328	3475	ι Cancri	4.02	126	42	59.94	50.34	-0.013	+10	25	43.51	+0.300	-0.047
358	3775	θ Ursae Maj.	3.17	127	37	47.53	49.70	-0.820	+34	53	32.02	-0.510	-0.863
1228	3449	γ Cancri	4.66	127	54	29.18	50.22	-0.092	+3	11	33.13	+0.280	-0.066
1194	2878	ρ Puppis	3.25	129	03	14.91	49.38	-0.262	-63	46	15.20	+0.500	+0.157
326	3461	δ Cancri*	3.94	129	05	33.07	50.34	+0.043	+0	04	40.77	+0.110	-0.225
1223	3410	δ Hydrae	4.16	130	40	24.89	50.16	-0.064	-12	23	25.15	+0.300	-0.024
433	4434	λ Draconis	3.84	130	42	27.50	50.79	-0.026	+57	14	36.01	+0.290	-0.040
1224	3418	σ Hydrae	4.44	131	34	45.39	50.19	-0.013	-14	35	58.70	+0.300	-0.022
308	3185	ρ Puppis	2.81	131	45	20.76	49.85	-0.128	-43	16	03.10	+0.340	+0.023
352	3705	α Lyncis	3.13	132	12	42.69	50.18	-0.227	+17	57	57.54	+0.260	-0.054

* No. 287 : *Castor*, Punarvasu-2, Mag. 1.95 & 2.95.

No. 326 : *Pusya*.

Annual rate of Precession in longitude for the middle of the year = 50".29

LONGITUDE AND LATITUDE OF STARS, 2026.5
MEAN PLACES FOR JULY 2^d.375 TERRESTRIAL TIME

Cat. No. FK5	BS= HR No.	Star	Mag.	Longitude			Annual Variation	Annual Proper Motion	Latitude			Annual Variation	Annual Proper Motion
				°	'	"	"	"	°	'	"	"	"
1239	3627	ξ Cancrī	5.14	133	34	52.30	50.33	+0.000	+5	25	34.47	+0.310	+0.005
550	5563	β Ursae Min.	2.08	133	41	52.59	51.41	-0.044	+72	59	22.88	+0.280	-0.031
337	3572	α Cancrī	4.25	134	00	42.97	50.31	+0.041	-5	04	41.82	+0.290	-0.020
334	3547	ζ Hydrae	3.11	134	56	40.75	50.12	-0.101	-10	58	02.89	+0.290	-0.014
417	4301	α Ursae Maj.	1.79	135	34	12.85	50.64	-0.087	+49	40	53.33	+0.170	-0.125
(329)	3482	ε Hydrae m*	3.38	136	27	21.39	49.91	-0.228	-23	26	06.35	+0.180	-0.105
472	4787	κ Draconis	3.87 ^v	136	37	52.06	50.89	-0.090	+61	45	50.68	+0.250	-0.042
306	3165	ζ Puppis	2.25	138	54	58.01	49.62	-0.057	-58	20	44.75	+0.280	+0.000
416	4295	β Ursae Maj.	2.37	139	48	29.81	50.75	+0.071	+45	08	07.90	+0.340	+0.073
383	4033	λ Ursae Maj.	3.45	139	55	13.99	50.36	-0.155	+29	53	11.67	+0.170	-0.103
347	3665	θ Hydrae	3.88	140	39	34.90	50.44	+0.224	-13	03	07.57	+0.010	-0.255
367	3873	ε Leonis	2.98	141	04	31.02	50.33	-0.040	+9	43	01.60	+0.240	-0.026
386	4069	μ Ursae Maj.	3.05	141	36	21.62	50.42	-0.101	+28	59	59.93	+0.260	-0.003
371	3905	μ Leonis	3.88	141	47	58.24	50.19	-0.188	+12	20	59.32	+0.130	-0.128
569	5735	γ Ursae Min.	3.05	141	58	43.65	51.71	-0.080	+75	14	34.38	+0.240	-0.019
262	2550	α Pictoris	3.27	144	26	48.60	45.06	-1.938	-83	02	13.12	+0.380	+0.147
365	3852	ο Leonis	3.52	144	36	58.32	50.15	-0.122	-3	45	21.73	+0.160	-0.081
327	3468	α Pyxidis	3.68	146	52	01.40	49.80	-0.022	-48	55	16.34	+0.230	+0.006
354	3748	α Hydrae	1.98	147	38	52.83	50.10	-0.026	-22	22	50.29	+0.240	+0.026
309	3207	γ [*] Velorum	1.78	147	42	48.24	49.41	-0.015	-64	27	45.25	+0.220	+0.004
384	4031	ζ Leonis	3.44	147	56	11.29	50.40	+0.020	+11	51	59.90	+0.220	+0.000
1250	3845	ι Hydrae	3.91	148	00	42.46	50.26	+0.070	-14	16	33.64	+0.170	-0.044
379	3975	η Leonis	3.52	148	16	32.11	50.33	-0.001	+4	52	02.14	+0.210	-0.001
420	4335	ψ Ursae Maj.	3.01	149	11	06.32	50.55	-0.054	+35	32	19.86	+0.150	-0.055
380	3982	α Leonis*	1.35	150	11	51.62	50.07	-0.235	+0	27	56.51	+0.120	-0.082
447	4554	γ Ursae Maj.	2.44	150	51	04.80	50.86	+0.104	+47	08	36.31	+0.250	+0.065
303	3117	χ Carinae	3.47	151	05	22.75	49.00	-0.105	-70	19	30.85	+0.190	+0.001
456	4660	δ Ursae Maj.	3.31	151	26	23.74	50.96	+0.119	+51	39	31.13	+0.260	+0.074
364	3849	κ Hydrae	5.06	153	02	43.03	50.06	-0.020	-26	35	54.31	+0.150	-0.028
1243	3718	θ Pyxidis	4.72	153	25	36.46	49.94	-0.008	-39	01	59.67	+0.160	-0.012
441	4518	χ Ursae Maj.	3.71	154	01	54.85	50.51	-0.177	+41	32	41.29	+0.120	-0.048
396	4133	ρ Leonis	3.85	156	45	32.82	50.29	-0.005	+0	09	02.80	+0.140	-0.005
425	4377	ν Ursae Maj.	3.48	157	01	30.69	50.47	-0.040	+26	09	49.07	+0.160	+0.014
521	5291	α Draconis	3.65	157	49	59.36	51.21	-0.111	+66	21	46.26	+0.100	-0.037
1261	3970	ν [*] Hydrae	4.60	158	41	36.15	50.06	-0.045	-23	10	36.74	+0.140	+0.003
483	4905	ε Ursae Maj.	1.77	159	18	33.87	51.08	+0.150	+54	19	13.00	+0.200	+0.070
381	3994	λ Hydrae	3.61	159	44	04.73	49.95	-0.165	-22	00	51.18	-0.030	-0.159
1270	4116	δ Sextantis	5.21	160	28	33.23	50.17	-0.040	-11	20	42.30	+0.090	-0.031
345	3634	λ Velorum	2.21	161	33	09.65	49.58	-0.040	-55	52	11.97	+0.110	+0.001
422	4357	δ Leonis*	2.56	161	41	20.54	50.60	+0.188	+14	20	02.07	+0.040	-0.062
423	4359	θ Leonis	3.34	163	47	37.08	50.35	-0.025	+9	40	27.32	-0.010	-0.096

* No. 329 : Aslesa.

No. 422 : Zosma, Purva Phalguni-1.

No. 380 : Regulus, Magha.

Annual rate of Precession in longitude for the middle of the year = 50".29

LONGITUDE AND LATITUDE OF STARS, 2026.5
MEAN PLACES FOR JULY 2^d.375 TERRESTRIAL TIME

Cat. No. FK5	BS= HR No.	Star	Mag.	Longitude			Annual Variation	Annual Proper Motion	Latitude			Annual Variation	Annual Proper Motion
				°	'	"	"	"	°	'	"	"	"
1227	3447	α Velorum	3.62	165	05	45.99	49.17	-0.073	-66	16	32.86	+0.080	+0.001
389	4094	μ Hydrae	3.81	165	24	16.07	49.99	-0.093	-24	40	18.59	-0.040	-0.125
497	5054	ζ Ursae Maj. pr	2.27	166	04	36.64	51.18	+0.188	+56	22	47.93	+0.140	+0.067
1304	4527	93 Leonis*	4.53v	169	20	40.45	50.30	-0.140	+17	18	33.16	-0.010	-0.065
410	4232	ν Hydrae	3.11	170	44	05.75	50.12	+0.004	-21	47	46.20	+0.250	+0.221
444	4534	β Leonis	2.14	171	59	07.61	49.98	-0.417	+12	15	53.29	-0.280	-0.306
392	4104	α Antliae	4.25	172	48	27.81	49.85	-0.089	-37	25	39.29	-0.010	-0.025
315	3307	ϵ Carinae	1.86	173	29	16.23	48.70	-0.093	-72	40	47.82	+0.000	-0.012
1283	4287	α Crateris	4.08	174	03	16.04	49.58	-0.512	-22	43	00.53	-0.060	-0.074
485	4915	α CVn sq	2.90	174	56	15.47	50.39	-0.302	+40	07	13.99	-0.060	-0.069
426	4382	δ Crateris	3.56	177	03	16.52	49.94	-0.206	-17	34	17.72	+0.120	+0.139
509	5191	η Ursae Maj.	1.86	177	18	25.29	50.80	-0.156	+54	23	14.20	-0.100	-0.083
445	4540	β Virginis	3.61	177	32	24.92	51.09	+0.789	+0	41	39.94	+0.030	+0.047
353	3734	κ Velorum	2.50	179	15	18.56	49.32	-0.027	-63	43	19.09	-0.030	+0.000
531	5404	θ Bootis	4.05	182	59	15.51	51.26	+0.147	+60	06	18.03	-0.520	-0.456
639	6396	ζ Draconis	3.17	183	47	09.58	55.06	-0.289	+84	45	39.33	-0.080	-0.013
361	3803	\mathcal{N} Velorum	3.13	184	34	35.35	49.28	-0.056	-64	14	21.05	-0.090	-0.020
492	4983	β Com	4.26	184	40	22.78	50.27	-0.051	+2	35	19.28	-0.120	-0.042
460	4689	η Virginis	3.89	184	43	41.51	49.27	-1.319	+32	30	52.80	+0.350	+0.429
571	5744	ι Draconis	3.29	185	19	45.96	51.59	-0.059	+71	05	34.60	-0.080	+0.004
351	3699	ι Carinae	2.25	185	41	17.45	49.16	-0.048	-67	07	01.55	-0.100	-0.011
1326	4828	ρ Virginis	4.88	185	53	06.74	50.52	+0.116	+13	32	31.02	-0.130	-0.049
375	3940	ϕ Velorum	3.54	186	18	39.12	49.49	-0.019	-59	57	04.30	-0.100	-0.005
434	4450	ξ Hydrae	3.54	188	21	17.38	49.82	-0.193	-31	36	01.10	-0.240	-0.131
488	4932	ϵ Virginis	2.83	190	18	34.15	50.16	-0.269	+16	12	12.19	-0.220	-0.090
457	4662	γ Corvi	2.59	191	05	37.62	50.02	-0.161	-14	30	07.91	-0.180	-0.045
484	4910	δ Virginis	3.38	191	49	42.91	49.95	-0.415	+8	36	38.53	-0.360	-0.232
453	4630	ϵ Corvi	3.00	192	02	01.92	50.06	-0.074	-19	40	28.83	-0.160	-0.018
475	4813	χ Virginis	4.66	192	31	25.28	50.21	-0.060	-3	28	10.48	-0.190	-0.052
465	4757	δ Corvi*	2.95	193	49	12.77	50.06	-0.140	-12	11	56.26	-0.360	-0.211
319	3347	β Volantis	3.77	195	32	01.55	49.13	+0.547	-75	35	13.30	-0.240	-0.082
471	4786	β Corvi	2.65	197	44	14.28	50.18	+0.026	-18	02	46.66	-0.230	-0.048
535	5435	γ Bootis	3.03	198	02	07.53	50.53	-0.268	+49	33	02.93	-0.110	+0.079
513	5235	η Bootis	2.68	199	42	33.08	50.62	+0.095	+28	04	22.97	-0.550	-0.354
281	2803	δ Volantis	3.98	199	46	12.94	47.03	-0.039	-82	28	43.15	-0.200	-0.006
501	5107	ζ Virginis	3.37	202	03	26.23	50.09	-0.284	+9	44	31.72	-0.280	-0.066
534	5429	ρ Bootis	3.58	203	09	27.21	50.48	-0.191	+42	27	02.24	-0.160	+0.066
498	5056	α Virginis*	0.98	204	12	40.64	50.25	-0.028	-2	03	23.24	-0.270	-0.041
526	5340	α Bootis*	-0.04	204	36	12.89	50.26	-0.286	+30	43	04.34	-2.500	-2.265
555	5602	β Bootis	3.50	204	37	28.86	50.82	-0.039	+54	08	56.32	-0.270	-0.044
495	5020	γ Hydrae	3.00	207	23	18.18	50.27	+0.079	-13	44	40.71	-0.260	-0.017

* No. 1304 : Uttara Phalguni-2.

No. 498 : *Spica*, Citra.

No. 465 : *Algorel*, Hasta.

No. 526 : *Arcturus*, Svati.

Annual rate of Precession in longitude for the middle of the year = 50".29

LONGITUDE AND LATITUDE OF STARS, 2026.5
MEAN PLACES FOR JULY 2^d.375 TERRESTRIAL TIME

Cat. No. FK5	BS= HR No.	Star	Mag.	Longitude			Annual Variation	Annual Proper Motion	Latitude			Annual Variation	Annual Proper Motion
				°	'	"	"	"	°	'	"	"	"
452	4621	δ Centauri	2.60	207	50	58.29	49.87	-0.033	-44	30	42.24	-0.270	-0.026
406	4199	θ Carinae	2.76	209	33	13.75	49.52	-0.046	-62	08	28.05	-0.280	-0.012
348	3685	β Carinae	1.68	212	19	37.19	48.67	-0.463	-72	14	20.78	-0.420	-0.133
496	5028	ι Centauri	2.75	213	29	43.82	49.81	-0.305	-26	01	12.01	-0.510	-0.219
563	5681	δ Bootis	3.47	213	31	56.12	50.91	+0.189	+48	57	46.44	-0.350	-0.069
525	5338	ι Virginis	4.08	214	10	08.30	50.49	+0.140	+7	11	39.66	-0.700	-0.409
523	5315	κ Virginis	4.19	214	51	49.77	50.28	-0.039	+2	54	42.29	-0.170	+0.135
436	4467	λ Centauri	3.13	214	54	35.52	49.70	-0.045	-56	47	30.27	-0.330	-0.033
455	4656	δ Crucis	2.80	216	01	53.14	49.82	-0.042	-50	25	19.35	-0.340	-0.032
468	4763	γ Crucis	1.63 _v	217	06	31.69	50.16	+0.257	-47	50	06.02	-0.510	-0.199
1371	5359	λ Virginis	4.52	217	19	20.05	50.27	-0.024	+0	29	18.62	-0.290	+0.023
385	4037	ω Carinae	3.32	217	48	11.95	49.41	-0.054	-67	23	05.97	-0.350	-0.033
519	5287	π Hydrae	3.27	218	59	39.24	50.31	+0.092	-13	03	10.03	-0.440	-0.115
572	5747	β Cr. Borealis	3.68	219	29	14.93	50.36	-0.286	+46	03	06.46	-0.310	+0.018
1189	2736	γ ⁻ Volantis	3.78	220	12	16.01	46.91	-0.682	-82	37	10.19	-0.350	+0.065
545	5487	μ Virginis	3.88	220	30	12.01	50.55	+0.203	+9	40	03.45	-0.600	-0.268
442	4520	λ Muscae	3.64	221	21	24.26	49.59	-0.181	-58	30	35.45	-0.390	-0.053
508	5193	μ Centauri	3.04 _v	221	54	18.05	50.11	-0.015	-28	58	55.13	-0.370	-0.027
481	4853	β Crucis	1.25	222	00	47.20	49.89	-0.046	-48	38	29.79	-0.380	-0.039
462	4730	α Crucis A	1.33	222	14	12.03	49.84	-0.031	-52	52	53.90	-0.370	-0.032
578	5793	α Cr. Borealis	2.23	222	40	11.32	50.81	+0.201	+44	19	14.44	-0.390	-0.044
520	5288	θ Centauri	2.06	222	40	31.79	49.86	-0.317	-22	05	14.84	-1.010	-0.672
608	6092	τ Herculis	3.89	224	45	33.09	50.91	-0.065	+65	49	39.04	-0.330	+0.032
512	5231	ζ Centauri	2.55	225	19	08.73	50.06	-0.040	-32	56	47.27	-0.420	-0.062
548	5531	α ⁻ Librae*	2.75	225	27	08.27	50.22	-0.082	+0	19	46.92	-0.450	-0.095
504	5132	ε Centauri	2.30	225	55	22.81	50.03	-0.023	-39	35	20.02	-0.390	-0.028
297	3024	ζ Volantis	3.95	226	07	03.68	48.57	-0.031	-79	23	24.11	-0.340	+0.034
391	4102	ι Carinae	4.00	228	26	58.96	49.66	+0.052	-67	53	09.77	-0.400	-0.027
564	5685	β Librae	2.61	229	44	29.70	50.24	-0.089	+8	29	34.03	-0.420	-0.043
583	5867	β Serpentis	3.67	230	19	14.70	50.57	+0.093	+34	19	25.11	-0.410	-0.026
537	5440	η Centauri	2.31	230	37	04.89	50.15	-0.023	-25	30	58.40	-0.430	-0.044
474	4798	α Muscae	2.69	230	44	27.36	49.85	-0.044	-56	33	36.70	-0.430	-0.043
556	5603	σ Librae	3.29	231	03	24.41	50.20	-0.059	-7	38	52.09	-0.450	-0.062
559	5652	ι Librae	4.54	231	22	28.86	50.26	-0.024	-1	51	10.01	-0.440	-0.047
582	5854	α Serpentis	2.65	232	26	50.30	50.56	+0.134	+25	30	20.51	-0.320	+0.079
591	5933	γ Serpentis	3.85	233	09	30.33	51.23	+0.758	+35	11	03.24	-1.560	-1.164
541	5469	α Lupi	2.30	233	52	22.34	50.14	-0.016	-30	01	44.38	-0.430	-0.024
518	5267	β Centauri	0.61	234	09	37.88	50.04	-0.026	-44	08	27.00	-0.430	-0.032
469	4773	γ Muscae	3.87	234	23	05.77	49.83	-0.069	-58	52	26.22	-0.450	-0.045
588	5892	ε Serpentis	3.71	234	42	10.46	50.52	+0.121	+24	00	15.86	-0.310	+0.091
553	5576	κ Centauri	3.13	235	09	50.83	50.18	-0.011	-24	02	04.76	-0.430	-0.029

* No. 548 : *Zuben el Genubi*, Visakha.

Annual rate of Precession in longitude for the middle of the year = 50".29

LONGITUDE AND LATITUDE OF STARS, 2026.5
MEAN PLACES FOR JULY 2^d.375 TERRESTRIAL TIME

Cat. No. FK5	BS= HR No.	Star	Mag.	Longitude			Annual Variation	Annual Proper Motion	Latitude			Annual Variation	Annual Proper Motion
				°	'	"	"	"	°	'	"	"	"
552	5571	β Lupi	2.68	235	23	41.29	50.17	-0.023	-25	02	58.31	-0.450	-0.048
577	5787	γ Librae	3.91	235	30	31.81	50.37	+0.061	+4	22	59.05	-0.380	+0.024
585	5881	μ Serpentis	3.54	236	18	33.25	50.28	-0.082	+16	14	05.46	-0.450	-0.042
487	4923	δ Muscae	3.62	236	33	37.07	50.31	+0.359	-56	46	38.71	-0.250	+0.163
566	5705	φ' Lupi	3.56	237	51	48.28	50.16	-0.067	-17	10	55.72	-0.520	-0.105
1413	5838	κ Librae	4.74	238	07	38.92	50.28	-0.013	-0	01	23.56	-0.520	-0.109
579	5794	ν Librae	3.58	238	58	45.67	50.26	-0.010	-8	30	38.01	-0.420	+0.001
1402	5695	δ Lupi	3.22	239	01	35.19	50.21	-0.008	-21	25	45.42	-0.450	-0.029
626	6220	η Herculis	3.53	239	09	41.25	50.78	+0.116	+60	17	10.42	-0.500	-0.070
609	6095	γ Herculis	3.75	239	35	07.47	50.40	-0.072	+40	00	17.51	-0.390	+0.032
538	5460	α Centauri cg	var.	239	48	41.01	45.21	-4.885	-42	36	20.49	-1.290	-0.857
401	4174	γ Chamaeleonti	4.11	240	47	15.34	49.77	-0.049	-68	05	15.52	-0.470	-0.040
558	5649	ζ Lupi	3.41	241	07	34.29	50.07	-0.099	-32	50	07.69	-0.530	-0.104
618	6148	β Herculis	2.77	241	27	42.72	50.34	-0.127	+42	41	56.26	-0.460	-0.034
613	6117	ω Herculis	4.57	241	56	49.40	50.49	+0.067	+35	09	53.33	-0.480	-0.050
603	6056	δ Ophiuchi	2.74	242	40	21.53	50.34	-0.018	+17	14	12.86	-0.590	-0.149
539	5463	α Circini	3.19	242	43	50.55	50.01	-0.104	-46	12	28.54	-0.720	-0.292
594	5953	δ Scorpii*	2.32	242	56	29.03	50.29	-0.001	-1	59	22.37	-0.470	-0.038
592	5944	π Scorpii	2.89	243	18	35.83	50.28	-0.006	-5	28	43.60	-0.460	-0.027
597	5984	β Scorpii pr	2.62	243	33	36.89	50.29	-0.002	+1	00	15.95	-0.460	-0.020
605	6075	ε Ophiuchi	3.24	243	52	52.43	50.42	+0.079	+16	26	12.74	-0.380	+0.055
459	4674	β Chamaeleonti	4.26	245	48	18.37	49.90	-0.083	-63	35	52.02	-0.480	-0.034
411	4234	δ' Chamaeleonti	4.45	246	01	24.04	49.89	-0.030	-67	47	39.56	-0.490	-0.048
607	6084	σ Scorpii	2.89	248	10	10.94	50.28	-0.007	-4	02	27.16	-0.470	-0.022
634	6324	ε Herculis	3.92	248	41	52.61	50.39	-0.085	+53	14	42.60	-0.430	+0.019
622	6175	ζ Ophiuchi	2.56	249	35	58.87	50.33	+0.010	+11	23	17.46	-0.430	+0.028
560	5671	γ Tr. Austrini	2.89	249	45	43.15	50.08	-0.082	-48	06	23.96	-0.510	-0.056
616	6134	α Scorpii cg*	var.	250	07	56.33	50.28	-0.006	-4	34	24.43	-0.480	-0.022
620	6165	τ Scorpii	2.82	251	49	37.31	50.28	-0.005	-6	07	26.28	-0.480	-0.023
633	6299	κ Ophiuchi	3.20	252	11	22.93	50.02	-0.339	+31	49	56.81	-0.500	-0.046
589	5897	β Tr. Australis	2.85	252	12	35.88	50.10	-0.101	-41	57	08.95	-0.890	-0.434
653	6536	β Draconis	2.79	252	20	20.18	50.62	-0.072	+75	16	28.32	-0.450	+0.011
643	6418	π Herculis	3.16	252	26	19.03	50.42	-0.051	+59	32	50.71	-0.460	+0.000
542	5470	α Apodis	3.83	254	47	56.32	50.16	-0.002	-58	14	18.44	-0.480	-0.019
641	6410	δ Herculis	3.14	255	08	03.76	50.38	-0.004	+47	40	51.76	-0.620	-0.158
628	6241	ε Scorpii	2.29	255	42	03.35	49.69	-0.588	-11	44	39.76	-0.800	-0.326
1439	6247	μ' Scorpii	3.08v	256	31	32.34	50.27	-0.008	-15	25	36.47	-0.490	-0.026
1435	6229	η Arae	3.76	259	16	28.52	50.31	+0.051	-36	16	48.15	-0.490	-0.023
631	6285	ζ Arae	3.13	260	11	37.75	50.25	-0.018	-33	05	43.37	-0.510	-0.038
663	6588	ι Herculis	3.80	260	15	36.41	50.38	-0.015	+69	15	43.60	-0.470	+0.005
638	6380	η Scorpii	3.33	261	06	48.30	50.34	+0.052	-20	11	20.59	-0.750	-0.284

* No. 594 : *Dschubba*, AnuradhaNo. 616 : *Antares*, Jyestha, Mag. 0.9 to 1.8.

Annual rate of Precession in longitude for the middle of the year = 50".29

LONGITUDE AND LATITUDE OF STARS, 2026.5
MEAN PLACES FOR JULY 2^d.375 TERRESTRIAL TIME

Cat. No. FK5	BS= HR No.	Star	Mag.	Longitude			Annual Variation	Annual Proper Motion	Latitude			Annual Variation	Annual Proper Motion
				°	'	"	"	"	°	'	"	"	"
625	6217	α Tr. Austr.	1.92	261	15	57.60	50.29	+0.028	-46	09	18.25	-0.500	-0.031
644	6453	θ Ophiuchi	3.27	261	45	54.25	50.29	-0.002	-1	50	49.55	-0.490	-0.020
656	6556	α Ophiuchi	2.08	262	49	12.63	50.47	+0.162	+35	49	48.46	-0.690	-0.220
611	6102	γ Apodis	3.89	263	04	19.64	50.08	-0.192	-56	00	40.83	-0.580	-0.106
649	6508	ν Scorpii	2.69	264	22	58.48	50.29	+0.000	-14	00	43.33	-0.500	-0.031
645	6461	β Arae	2.85	264	34	33.62	50.29	-0.008	-32	16	07.00	-0.490	-0.026
658	6561	ξ Serpentis	3.54	264	54	57.56	50.26	-0.040	+7	55	50.91	-0.530	-0.060
652	6527	λ Scorpii*	1.63	264	57	21.51	50.30	+0.000	-13	47	31.66	-0.500	-0.029
671	6688	ξ Draconis	3.75	265	07	45.83	50.81	+0.525	+80	16	46.73	-0.380	+0.085
651	6510	α Arae	2.95	265	18	15.50	50.27	-0.031	-26	33	52.61	-0.540	-0.072
667	6623	μ Herculis	3.42	265	35	29.35	49.85	-0.453	+51	05	41.13	-1.230	-0.761
665	6603	β Ophiuchi	2.77	265	42	23.71	50.25	-0.051	+27	56	14.70	-0.320	+0.158
648	6500	δ Arae	3.62	265	55	35.02	50.24	-0.067	-37	21	36.42	-0.570	-0.099
654	6553	θ Scorpii	1.87	265	58	11.40	50.31	+0.016	-19	38	54.97	-0.470	-0.001
660	6580	κ Scorpii	2.41	266	50	22.78	50.29	-0.005	-15	38	52.95	-0.500	-0.027
668	6629	γ Ophiuchi	3.75	267	00	09.18	50.26	-0.023	+26	06	25.82	-0.550	-0.074
666	6615	ι' Scorpii	3.03	267	53	34.04	50.31	+0.000	-16	43	04.69	-0.470	-0.008
669	6630	G Scorpii	3.21	268	17	18.75	50.35	+0.050	-13	37	31.95	-0.430	+0.034
676	6705	γ Draconis	2.23	268	20	16.79	50.17	-0.028	+74	55	07.12	-0.490	-0.020
661	6582	η Pavonis	3.62	268	20	37.16	50.31	-0.017	-41	18	48.58	-0.520	-0.055
672	6695	θ Herculis	3.86	268	50	48.75	50.25	+0.009	+60	40	53.22	-0.460	+0.006
674	6703	ξ Herculis	3.70	269	33	59.82	50.39	+0.139	+52	40	55.39	-0.490	-0.017
673	6698	ν Ophiuchi	3.34	270	07	23.89	50.28	-0.007	+13	39	40.07	-0.590	-0.116
1471	6743	θ Arae	3.66	271	33	37.16	50.31	-0.012	-26	39	45.57	-0.480	-0.014
679	6746	γ Sagittarii	2.99	271	37	52.69	50.24	-0.056	-6	59	45.45	-0.660	-0.184
680	6771	72 Ophiuchi	3.73	272	31	47.11	50.19	-0.070	+32	59	11.46	-0.380	+0.081
681	6779	ο Herculis	3.83	273	03	58.14	50.21	+0.002	+52	10	50.79	-0.460	+0.009
682	6812	μ Sagittarii	3.86	273	35	01.40	50.30	+0.002	+2	20	19.18	-0.460	+0.001
683	6832	η Sagittarii	3.11	273	59	49.60	50.18	-0.138	-13	22	57.09	-0.620	-0.162
687	6859	δ Sagittarii*	2.70	274	57	05.25	50.34	+0.034	-6	28	33.30	-0.490	-0.029
691	6897	α Telescopii	3.51	275	26	38.05	50.31	-0.021	-22	39	05.98	-0.510	-0.053
689	6879	ε Sagittarii	1.85	275	26	54.90	50.27	-0.045	-11	03	22.13	-0.590	-0.122
688	6869	η Serpentis	3.26	276	02	40.60	49.65	-0.614	+20	25	37.58	-1.140	-0.677
692	6913	λ Sagittarii	2.81	276	41	13.08	50.25	-0.053	-2	08	25.35	-0.640	-0.183
697	6951	θ Coronae Aust.	4.64	276	54	52.96	50.36	+0.031	-19	04	00.81	-0.490	-0.024
1482	6973	α Scuti	3.85	279	23	10.58	50.23	-0.037	+14	54	52.22	-0.770	-0.310
214	1953	γ Mensae	5.19	279	56	20.33	50.82	+1.085	-79	59	23.78	-0.750	+0.238
1487	7039	φ Sagittarii	3.17	280	33	07.30	50.36	+0.053	-3	57	26.59	-0.460	-0.004
1489	7063	β Scuti	4.22	282	44	59.72	50.25	-0.006	+18	10	57.25	-0.470	-0.016
706	7121	σ Sagittarii*	2.02	282	45	20.38	50.31	+0.008	-3	27	11.67	-0.500	-0.055
710	7150	ξ ⁻ Sagittarii	3.51	283	49	17.55	50.32	+0.032	+1	39	28.21	-0.460	-0.015

* No. 652 : *Schaula*, Mula.No. 706 : *Nunki*, Uttarasadha.No. 687 : *Purvasadha-1*.

Annual rate of Precession in longitude for the middle of the year = 50".29

LONGITUDE AND LATITUDE OF STARS, 2026.5
MEAN PLACES FOR JULY 2^d.375 TERRESTRIAL TIME

Cat. No. FK5	BS= HR No.	Star	Mag.	Longitude			Annual Variation	Annual Proper Motion	Latitude			Annual Variation	Annual Proper Motion
				°	'	"	"	"	°	'	"	"	"
1496	7234	τ Sagittarii	3.32	285	12	14.43	50.23	-0.083	-5	05	38.11	-0.680	-0.242
699	7001	α Lyrae	0.03	285	41	16.86	50.50	+0.505	61	43	53.29	-0.190	+0.256
720	7264	π Sagittarii	2.89	286	37	19.11	50.29	-0.004	+1	26	00.85	-0.470	-0.035
717	7236	λ Aquilae	3.44	287	42	06.97	50.21	-0.029	+17	33	42.87	-0.520	-0.087
754	7665	δ Pavonis	3.56	287	59	35.46	51.63	+1.141	-44	42	47.57	-1.870	-1.445
712	7176	ε Aquilae	4.02	288	37	50.48	50.07	-0.075	+37	33	49.16	-0.490	-0.066
705	7106	β Lyrae	var.	289	15	06.83	50.02	+0.005	+55	58	51.47	-0.430	-0.003
810	8254	ν Octantis	3.76	290	03	34.93	50.40	-0.212	-57	47	02.81	-0.640	-0.217
716	7235	ζ Aquilae	2.99	290	09	53.99	50.13	-0.023	+36	10	54.66	-0.520	-0.094
713	7178	γ Lyrae	3.24	292	17	25.04	49.99	-0.003	+55	00	35.63	-0.410	+0.003
775	7913	β Pavonis	3.42	292	51	56.25	50.46	-0.055	-45	57	26.90	-0.390	+0.028
730	7377	δ Aquilae	3.36	294	00	33.65	50.49	+0.294	+24	48	51.52	-0.370	+0.039
764	7790	α Pavonis	1.94	294	11	19.41	50.44	-0.025	-36	16	16.74	-0.500	-0.087
751	7623	θ' Sagittarii	4.37	295	14	26.50	50.36	+0.001	-14	23	20.09	-0.430	-0.027
785	7986	β Indi	3.65	298	09	26.71	50.52	+0.008	-39	09	36.69	-0.420	-0.030
769	7869	α Indi	3.11	299	28	33.74	50.51	+0.078	-27	45	22.22	-0.340	+0.048
1508	7405	α Vulpeculae	4.44	299	52	27.28	49.81	-0.209	+45	51	17.69	-0.460	-0.076
746	7570	η Aquilae	var.	300	48	11.67	50.20	+0.010	+21	31	13.38	-0.390	-0.009
741	7525	γ Aquilae	2.72	301	18	29.14	50.15	+0.020	+31	14	26.65	-0.390	-0.005
11	98	β Hydri	2.80	301	21	55.37	53.53	+2.670	-64	48	06.63	-2.320	-1.957
1513	7488	β Sagittae	4.37	301	34	28.64	50.08	+0.003	+38	12	54.34	-0.410	-0.033
732	7417	β Cygni p	3.08	301	37	10.62	49.98	+0.002	+48	57	53.56	-0.380	-0.002
745	7557	α Aquilae*	0.77	302	09	02.21	50.84	+0.697	+29	18	09.52	-0.110	+0.262
749	7602	β Aquilae	3.71	302	47	32.49	50.09	-0.064	+26	39	10.25	-0.850	-0.481
743	7536	δ Sagittae	3.82	303	45	20.81	50.07	+0.011	+38	54	36.55	-0.360	+0.006
761	7754	α' Capricorni	3.57	304	13	44.52	50.33	+0.063	+6	55	38.65	-0.370	-0.011
762	7776	β Capricorni	3.08	304	25	03.89	50.31	+0.042	+4	35	09.26	-0.370	-0.008
756	7710	θ Aquilae	3.23	305	40	55.43	50.22	+0.041	+20	19	27.91	-0.360	-0.005
752	7635	γ Sagittae	3.47	307	24	45.41	50.13	+0.090	+39	11	15.75	-0.340	+0.006
1550	8039	γ Microscopii	4.67	308	48	08.33	50.38	+0.000	-14	40	04.00	-0.330	+0.006
841	8502	α Tucanae	2.86	310	02	35.45	50.52	-0.120	-45	24	22.47	-0.330	+0.000
146	1208	γ Hydri	3.24	310	51	22.80	52.14	+0.537	-76	45	35.74	-0.410	-0.010
781	7950	ε Aquarii	3.77	312	05	35.75	50.28	+0.024	+8	04	40.32	-0.360	-0.042
1547	7990	μ Aquarii	4.73	313	25	41.53	50.28	+0.035	+8	14	14.54	-0.360	-0.041
768	7852	ε Delphini	4.03	314	25	47.56	50.10	+0.007	+29	04	14.57	-0.330	-0.024
726	7328	κ Cygni	3.77	315	16	56.06	49.45	+0.396	+73	48	02.27	-0.220	+0.080
829	8425	α Gruis	1.74	316	16	46.04	50.60	+0.064	-32	55	00.75	-0.490	-0.191
(771)	7882	β Delphini m*	3.64	316	42	37.39	50.14	+0.070	+31	54	55.03	-0.360	-0.069
806	8204	ζ Capricorni	3.74	317	18	27.13	50.35	+0.008	-6	59	34.51	-0.260	+0.022
774	7906	α Delphini	3.77	317	44	58.42	50.13	+0.074	+33	01	12.02	-0.300	-0.022
822	8353	γ Gruis	3.01	317	47	29.05	50.55	+0.095	-23	03	10.20	-0.340	-0.058

* No. 745 : *Altair* , *Sravana*.No. 771 : *Rotanev* , *Dhanistha-1*.

Annual rate of Precession in longitude for the middle of the year = 50".29

LONGITUDE AND LATITUDE OF STARS, 2026.5
MEAN PLACES FOR JULY 2^d.375 TERRESTRIAL TIME

Cat. No. FK5	BS= HR No.	Star	Mag.	Longitude			Annual Variation	Annual Proper Motion	Latitude			Annual Variation	Annual Proper Motion
				°	'	"	"	"	°	'	"	"	"
733	7420	ι Cygni	3.79	318	19	56.47	49.43	+0.252	+71	26	59.12	-0.180	+0.104
778	7928	δ Delphini	4.43	318	29	04.15	50.02	-0.037	+31	56	28.63	-0.320	-0.035
1541	7948	γ Delphini sq	4.27	319	44	10.09	49.94	-0.110	+32	41	56.36	-0.450	-0.177
860	8675	ε Gruis	3.49	321	06	11.27	50.70	+0.077	-39	47	26.14	-0.370	-0.115
846	8556	δ' Gruis	3.97	321	58	28.83	50.56	+0.027	-31	20	58.06	-0.270	-0.017
812	8278	γ Capricorni	3.68	322	09	44.63	50.49	+0.172	-2	33	35.35	-0.340	-0.084
856	8636	β Gruis	2.11v	322	42	02.46	50.72	+0.145	-35	26	04.23	-0.320	-0.071
800	8131	α Equulei	3.92	323	29	11.78	50.18	+0.029	+20	07	09.37	-0.350	-0.102
808	8232	β Aquarii	2.91	323	45	53.96	50.25	+0.017	+8	36	47.10	-0.260	-0.015
819	8322	δ Capricorni	2.87	323	54	50.47	50.46	+0.149	-2	36	22.29	-0.610	-0.368
1569	8264	ξ Aquarii	4.69	324	29	21.08	50.36	+0.103	+5	57	19.62	-0.300	-0.062
765	7796	γ Cygni	2.20	325	12	25.77	49.67	+0.007	+57	07	21.66	-0.240	-0.001
780	7949	ε Cygni	2.46	328	07	02.71	50.51	+0.705	+49	25	18.54	-0.060	+0.154
815	8308	ε Pegasi	var.	332	15	14.67	50.15	+0.031	+22	05	54.31	-0.190	-0.011
849	8592	ν Aquarii	5.20	332	54	51.79	50.54	+0.154	-10	54	13.93	-0.400	-0.218
797	8115	ζ Cygni	3.20	333	24	30.05	49.85	-0.031	+43	41	35.03	-0.230	-0.051
827	8414	α Aquarii	2.96	333	57	14.60	50.22	+0.015	+11	15	28.87	-0.180	-0.016
867	8728	α PsA	1.16	334	14	01.00	50.72	+0.253	-21	08	20.38	-0.460	-0.287
777	7924	α Cygni	1.25	335	41	37.98	49.54	+0.007	+59	54	18.05	-0.150	+0.001
842	8518	γ Aquarii	3.84	337	05	04.97	50.36	+0.126	+8	14	01.56	-0.180	-0.042
834	8450	θ Pegasi	3.53	337	12	15.80	50.44	+0.278	+16	20	20.30	-0.220	-0.077
861	8679	τ Aquarii	4.01	338	57	58.01	50.32	-0.026	-5	39	56.57	-0.160	-0.030
866	8709	δ Aquarii	3.27	339	14	37.80	50.32	-0.047	-8	11	32.49	-0.140	-0.008
3	25	ε Phoenicis	3.88	340	01	17.01	50.71	+0.011	-41	57	30.94	-0.340	-0.220
850	8597	η Aquarii	4.02	340	51	44.41	50.30	+0.064	+8	21	47.66	-0.200	-0.087
792	8079	ξ Cygni	3.72	341	09	53.08	49.62	+0.014	+56	34	52.19	-0.110	-0.003
864	8698	λ Aquarii*	3.74	341	56	47.43	50.32	+0.025	-0	23	13.93	-0.080	+0.030
72	591	α Hydri	2.86	342	29	54.20	51.67	+0.420	-64	14	39.63	-0.290	-0.194
831	8430	ι Pegasi	3.76	344	46	44.77	50.32	+0.339	34	15	14.65	-0.190	-0.104
54	472	α Eridani	0.46	345	41	16.66	51.16	+0.084	-59	22	45.77	-0.170	-0.092
12	99	α Phoenicis	2.39	345	51	59.52	50.65	-0.042	-40	38	12.95	-0.520	-0.444
855	8634	ζ Pegasi	3.40	346	31	16.70	50.22	+0.072	+17	40	42.94	-0.110	-0.043
141	1175	β Reticuli	3.85	351	47	05.44	52.98	+0.797	-76	05	24.68	-0.290	-0.260
878	8852	γ Piscium	3.69	351	49	41.71	50.95	+0.713	+7	15	17.24	-0.310	-0.285
871	8781	α Pegasi	2.49	353	51	17.73	50.17	+0.043	+19	24	19.62	-0.070	-0.065
1044	440	δ Phoenicis	3.95	353	59	57.44	51.25	+0.337	-52	34	56.90	0.020	+0.035
862	8684	μ Pegasi	3.48	354	45	18.60	50.16	+0.130	+29	23	09.94	-0.110	-0.102
857	8650	η Pegasi	2.94	356	04	51.81	49.97	+0.002	+35	06	28.85	-0.020	-0.029
68	566	χ Eridani	3.70	356	37	57.04	52.33	+1.309	-57	01	07.98	-0.190	-0.210
49	429	γ Phoenicis	3.41	358	30	58.15	50.63	-0.186	-47	35	09.90	-0.140	-0.167
870	8775	β Pegasi*	2.42v	359	44	39.59	50.28	+0.270	+31	08	27.85	0.070	+0.037

* No. 864 : Satabhisaj.

No. 870 : Scheat, Purva Bhadrapada-2.

BS = Bright Star Catalogue

HR = Havard Revised Catalogue

FK5 = Fifth Fundamental Catalogue

MEAN PLACES OF STARS, J 2026.5
 FOR JULY 2^d.375 TERRESTRIAL TIME
 (The Annual Variations are for the middle of the year)

Cat. No. FK5	BS =HR No.	Star	Mag.	Spect- ral Type	Right Ascension			Annual Variation	Annual Proper motion	Declination			Annual Variation	Annual Proper motion
					h	m	s	s	s (0.0001)	°	'	"	"	" (0.001)
1	15	α Ανδρομεδαι	2.06	B9p Hg Mn	0	09	45.8	+3.118	+104	+29	14	11.95	+19.86	-163
2	21	β Χασσιοπειαι	2.27	F2 III	0	10	36.6	+3.248	+686	+59	17	45.00	19.84	-181
3	25	ε Πηοενιχισ	3.88	K0 III	0	10	44.9	+3.023	+118	-45	37	04.99	19.84	-181
7	39	γ Pegasi*	2.83	B2 IV	0	14	36.2	+3.099	+2	+15	19	50.61	19.99	-12
9	74	ι Χετι	3.56	K1 IIIb	0	20	46.7	+3.056	-9	-8	41	38.03	19.92	-36
11	98	β Ηψορι	2.80	G1 IV	0	27	06.3	+3.048	+6616	-77	07	19.24	20.22	+324
12	99	α Πηοενιχισ	2.39	K0 III b	0	27	35.2	+2.948	+183	-42	10	44.85	+19.50	-396
17	153	ζ Χασσιοπειαι	3.66	B2 IV	0	38	27.8	+3.385	+22	+54	02	32.61	19.75	-9
20	165	δ Andromedae	3.27	K3 III	0	40	45.2	+3.228	+106	+31	00	20.03	19.63	-92
21	168	α Χασσιοπειαι	2.23	K0- IIIa	0	42	01.7	+3.452	+64	+56	40	56.14	19.67	-32
22	188	β Χετι*	2.04	CH-1 CN 0	0	44	55.1	+3.008	+164	-17	51	29.72	19.69	+32
33	269	μ Ανδρομεδαι	3.87	A5 IV-V	0	58	14.1	+3.357	+130	+38	38	32.95	19.43	+33
32	264	γ Cassiopeiae*	2.50	IVnp(shell)	0	58	19.8	+3.682	+36	+60	51	34.52	+19.39	-5
35	280	α Σχυλπτορις	4.31	B4 Vp	0	59	52.8	+2.884	+17	-29	13	53.33	19.36	+4
40	334	η Χετι	3.45	K2-III CN0.	1	09	55.4	+3.019	+147	-10	03	32.79	18.98	-138
42	337	β Ανδρομεδαι	2.06	M0+IIIa	1	11	13.5	+3.384	+146	+35	45	37.14	18.97	-114
###	361	ζ Πισχυμ*	5.24	F0Vn	1	15	07.2	+3.143	+97	+7	42	53.04	18.92	-56
47	402	θ Ceti	3.60	K0 IIIb	1	25	20.9	+3.001	-53	-8	03	50.82	18.45	-218
48	403	δ Cassiopeiae	2.68	A5 IV	1	27	34.4	+3.992	+401	+60	22	19.16	+18.54	-52
49	429	γ Phoenicis	3.41	M0- IIIa	1	29	30.8	+2.597	-13	-43	11	59.57	18.32	-208
###	440	δ Phoenicis	3.95	G9 III	1	32	21.1	+2.489	+144	-48	57	08.69	18.59	+151
50	437	η Πισχυμ	3.62	G7 IIIa	1	32	54.4	+3.223	+19	+15	28	53.38	18.41	-6
54	472	α Εριδανι*	0.46	B3Vnp(shell)	1	38	41.9	+2.225	+117	-57	07	10.01	18.18	-35
52	464	51 Andromedae	3.57	K3- III	1	39	38.1	+3.724	+65	+48	45	41.05	18.06	-113
59	509	τ Χετι	3.50	G8 V	1	45	18.0	+2.789	-1190	-15	48	55.50	+18.82	+859
62	539	ζ Χετι	3.73	K0 III	1	52	46.2	+2.965	+28	-10	13	18.42	17.62	-39
64	544	α Τριανγυλι	3.41	F6 IV	1	54	36.0	+3.442	+8	+29	42	24.52	17.35	-235
66	553	β Αριετις*	2.64	A4 V	1	56	06.6	+3.330	+68	+20	56	11.10	17.41	-111
63	542	ε Χασσιοπειαι	3.38	B3 IV:p(shell)	1	56	19.9	+4.400	+48	+63	47	56.96	17.49	-21
68	566	χ Εριδανι	3.70	I-IVCN-0.5	1	56	59.2	+2.328	+729	-51	29	40.27	17.78	+291
72	591	α Ηψορι	2.86	F0n III-IV	1	59	36.3	+1.889	+368	-61	27	29.83	+17.40	+26
71	585	ν Χετι	4.00	M0 IIIb	2	01	15.2	+2.827	+97	-20	58	01.61	17.28	-24
73	580	50 Cassiopeiae	3.98	A1 Va	2	05	32.3	+3.716	+40	+42	27	20.01	17.06	-52
70	603	γ Andromed.*	2.26	K3- Iib	2	05	45.4	+5.282	-99	+72	32	51.82	17.12	+22
74	617	α Αριετις*	2.00	K2 IIIab	2	08	40.4	+3.400	+138	+23	35	11.23	16.82	-149
75	622	β Τριανγυλι	3.00	A5 IV	2	11	07.8	+3.596	+122	+35	06	40.68	16.81	-41
82	674	φ Eridani	3.56	B8 V	2	17	27.4	+2.141	+102	-51	24	25.72	+16.52	-27
79	664	γ Trianguli	4.01	A0 IV-Vn	2	18	54.0	+3.592	+38	+33	58	06.20	16.42	-51
91	779	δ Χετι	4.07	B2 IV	2	40	50.6	+3.083	+9	+0	26	29.09	+15.30	-4

*
 No. 1 : *Alpheratz*, Uttara Bhadrapada - 2
 No. 2 : *Caph*
 No. 7 : *Algenib*, Uttara Bhadrapada - 1
 No. 21 : *Schedar* . Mag. 2.1 to 2.6
 No. 22 : *Deneb Kaitos* or *Diphda*
 No. 32 : *Cih* . Mag. 1.6 to 3.2

No. 42 : *Mirach*
 No. 1033 : *Revati*
 No. 54 : *Achernar*
 No. 66 : *Sheratan*, Asvini
 No. 73 : *Almach*, Mag. f. 5.1
 No. 74 : *Hamal*

MEAN PLACES OF STARS, J 2026.5
 FOR JULY 2^d.375 TERRESTRIAL TIME
 (The Annual Variations are for the middle of the year)

Cat. No. FK5	BS =HR No.	Star	Mag.	Spect- ral Type	Right Ascension			Annual Variation	Annual Proper motion	Declination			Annual Variation	Annual Proper motion
					h	m	s	s	^s (0.0001)	°	'	"	"	["] (0.001)
###	794	ι Eridani	4.11	O.5 IIIb Fe-C	2	41	42.8	+2.367	+119	-39	45	35.30	+15.22	-32
94	801	35 Arietis	4.66	B3 V	2	45	00.9	+3.541	+6	+27	49	05.85	15.05	-12
101	841	β Fornacis	4.46	8.5 III Fe-0	2	50	12.0	+2.512	+71	-32	18	45.16	14.92	+155
100	838	41 Arietis*	3.63	B8 Vn	2	51	33.1	+3.551	+50	+27	22	05.07	14.57	-118
99	834	η Persei	3.76	K3 Ib-IIa	2	52	39.0	+4.433	+20	+56	00	12.37	14.60	-14
103	854	τ Persei	3.95	5 III + A4	2	56	09.3	+4.302	-0	+52	52	08.13	14.40	-5
104	874	η Eridani	3.89	K1 IIIb	2	57	43.4	+2.936	+53	-8	48	38.90	+14.09	-220
106	897	θ Eridani* p	3.25	A5 IV	2	59	16.0	+2.276	-39	-40	12	58.88	14.24	+20
###	919	τ Eridani	4.09	A4 V	3	03	33.7	+2.647	-105	-23	32	18.77	13.90	-53
107	911	α Ceti*	2.53	M1.5 IIIa	3	03	40.1	+3.145	-6	+4	11	31.51	13.86	-78
907	424	α Ursae Mins.*	2.02	F5-8 Ib	3	06	42.0	+92.155	+2174	+89	22	24.04	13.73	-21
108	915	γ Persei	2.93	5 III + A2	3	06	44.0	+4.394	-0	+53	36	29.15	13.74	-5
109	921	ρ Persei*	3.4	M4 II	3	06	53.1	+3.873	+111	+38	56	27.75	+13.63	-106
111	936	β Persei*	2.1	B8 V + F:	3	09	54.2	+3.933	+3	+41	03	20.86	13.54	-1
120	1017	α Persei*	1.79	F5 Ib	3	26	13.8	+4.323	+25	+49	57	11.62	12.44	-25
121	1030	ο Tauri	3.60	G6 IIIa Fe-1	3	26	14.6	+3.239	-45	+9	07	13.28	12.38	-78
123	1038	ξ Tauri	3.74	B9 Vn	3	28	36.6	+3.262	+40	+9	49	23.88	12.26	-39
127	1084	ε Eridani	3.73	K2 V	3	34	10.9	+2.832	-658	-9	23	12.39	11.93	+23
135	1136	δ Eridani	3.54	K0 IV	3	44	31.2	+2.880	-61	-9	41	31.29	+11.91	+745
141	1175	β Reticuli	3.85	K2 III	3	44	32.4	+0.775	+489	-64	44	26.80	11.24	+74
131	1122	δ Persei	3.01	B5 III	3	44	49.5	+4.306	+28	+47	52	11.63	11.11	-34
136	1142	17 Tauri	3.70	B6 III	3	46	27.3	+3.578	+14	+24	11	40.57	10.98	-46
146	1208	γ Hydri	3.24	M2 III	3	46	51.5	+0.849	+117	-74	10	26.14	11.11	+114
134	1135	ν Persei	3.77	F5 II	3	47	00.3	+4.104	-13	+42	39	35.61	10.99	-2
139	1165	η Tauri*	2.87	B7 IIIIn	3	49	03.9	+3.582	+14	+24	11	05.89	+10.79	-46
142	1178	27 Tauri	3.63	B8 III	3	50	44.6	+3.583	+13	+24	07	56.46	10.67	-47
144	1203	ζ Persei	2.85	B1 Ib	3	55	48.3	+3.790	+4	+31	57	36.33	10.33	-10
149	1231	γ Eridani	2.95	O.5 IIIb Ca	3	59	16.0	+2.804	+42	-13	27	05.40	09.96	-112
147	1220	ε Persei	2.89	B 0.5 IV	3	59	38.5	+4.050	+16	+40	05	04.10	10.02	-26
148	1228	ξ Persei	4.04	O 7.5 IIIf	4	00	41.5	+3.914	+2	+35	51	53.49	09.97	+0
150	1239	λ Tauri	3.47	B3 V	4	02	09.1	+3.334	-4	+12	33	47.62	+09.84	-12
151	1251	ν Tauri	3.91	A1 Va	4	04	34.1	+3.200	+3	+6	03	39.16	09.67	-3
152	1273	48 Persei	4.04	B3 Ve	4	10	35.8	+4.385	+20	+47	46	50.28	09.18	-31
156	1336	α Reticuli	3.35	G8II-III	4	14	46.4	+0.790	+65	-62	25	28.92	08.93	+45
155	1326	α Horologii	3.86	K2 III	4	14	52.9	+1.992	+41	-42	14	49.46	08.66	-209
159	1346	γ Tauri	3.65	5 IIIab CN	4	21	18.3	+3.424	+80	+15	41	22.05	08.34	-25
162	1373	δ Tauri	3.76	9.5 III CN 0	4	24	28.0	+3.471	+75	+17	36	08.85	+08.08	-30
###	1393	43 Eridani	3.96	K3.5 IIIb	4	25	02.0	+2.257	+56	-33	58	24.53	08.12	+50
164	1409	ε Tauri	3.54	9.5 III CN 0	4	30	10.1	+3.514	+76	+19	14	13.01	07.62	-38
171	1465	α Doradus	3.27	A0p Si	4	34	34.3	+1.305	+60	-54	60	28.27	07.29	-4
170	1464	ν Eridani	3.82	G8.5 IIIa	4	36	34.9	+2.336	-35	-30	31	34.55	+07.12	-12

*
 No. 907 : (Nb) : *Polaris*, *Dhruva*
 No. 100 : *Bharani*
 No. 106 : *Acamar*.
 No. 107 : *Menkar*
 No. 109 : *Mag. 3.3 to 4.0.*

No. 111 : *Algol*, *Mag. 2.1 to 3.4.*
 No. 120 : *Mirphak*.
 No. 139 : *Alcyone*, *Krittika*.

MEAN PLACES OF STARS, J 2026.5
 FOR JULY 2^d.375 TERRESTRIAL TIME
 (The Annual Variations are for the middle of the year)

Cat. No. FK5	BS =HR No.	Star	Mag.	Spect- ral Type	Right Ascension			Annual Variation	Annual Proper motion	Declination			Annual Variation	Annual Proper motion
					h	m	s	s	^s (0.0001)	°	'	"	"	["] (0.001)
168	1457	α Tauri*	0.85	K5 III	4	37	26.7	+3.452	+44	+16	33	37.22	+06.87	-190
172	1481	53 Eridani	3.87	K1.5IIIb	4	39	23.7	+2.752	-52	-14	16	13.96	06.75	-155
###	1502	α Caeli	4.45	F1 V	4	41	25.0	+1.937	-126	-41	49	52.27	06.66	-77
###	1543	π Orionis	3.19	F6 V	4	51	16.9	+3.264	+313	+7	00	19.30	05.93	+10
179	1552	π Orionis	3.69	B2 III	4	52	37.2	+3.202	-1	+5	38	53.80	05.81	+1
180	1567	π Orionis	3.72	B2 III	4	55	38.0	+3.131	+0	+2	28	55.08	05.55	-0
178	1542	α Camelopardi	4.29	O9.5 Ia	4	56	42.2	+6.015	-1	+66	23	01.57	+05.47	+6
181	1577	ι Aurigae	2.69	K3 II	4	58	43.4	+3.919	+3	+33	12	19.70	05.28	-18
183	1605	ϵ Aurigae*	1.99V	A9 Ia	5	03	52.6	+4.321	-1	+43	51	34.64	04.86	-4
###	1612	ζ Aurigae	3.8	K5II + B5 V	5	04	20.1	+4.208	+8	+41	06	42.20	04.80	-22
182	1603	β Camelopardi	4	G1 Ib-Ia	5	05	47.2	+5.368	-9	+60	28	38.75	04.68	-16
186	1654	ϵ Leporis	3.2	K4 III	5	06	35.0	+2.543	+18	-22	21	13.82	04.55	-74
185	1641	η Aurigae	3.2	B3 V	5	08	22.7	+4.221	+26	+41	16	03.08	+04.41	-68
188	1666	β Eridani*	2.8	A3 IVn	5	09	09.2	+2.954	-63	-5	04	15.03	04.33	-81
###	1702	μ Leporis	3.3	B9p Hg Mn	5	14	07.4	+2.699	+30	-16	11	33.70	03.96	-26
194	1713	β Orionis*	0.12	B8 Ia	5	15	48.8	+2.887	+0	-8	11	22.80	03.84	-1
193	1708	α Aurigae*	0.08	6 III + G2 I	5	18	39.1	+4.445	+71	+46	01	19.18	03.17	-425
195	1735	τ Orionis	3.60	B5 III	5	18	53.7	+2.917	-10	-6	50	03.86	03.57	-8
###	1765	22 Orionis	4.73	B2 IV-V	5	23	07.5	+3.085	-0	+0	24	23.69	+03.21	-1
201	1790	γ Orionis*	1.64	B2 III	5	26	33.2	+3.222	-6	+6	22	17.24	02.90	-14
202	1791	β Tauri*	1.65	B7 III	5	27	58.2	+3.799	+17	+28	37	37.94	02.62	-175
204	1829	β Leporis	2.84	G5 II	5	29	22.9	+2.574	-3	-20	45	24.39	02.58	-89
214	1953	γ Mensae	5.19	K2 III	5	30	50.8	+2.337	+322	-76	20	13.99	02.82	+281
206	1852	δ Orionis*	2.23	O9.5 II	5	33	22.1	+3.083	+1	+0	18	59.97	02.32	-2
212	1922	β Doradus	3.76v	F7-G2 Ib	5	33	51.5	+0.529	+3	-62	29	22.53	+02.29	+9
207	1865	α Leporis*	2.58	F0 Ib	5	33	54.0	+2.649	+1	-17	49	18.51	02.28	+2
(GC)	1879	λ Orionis*	3.5	O8 IIIf	5	36	35.9	+3.309	-1	+9	56	58.74	02.04	-2
209	1899	ι Orionis	2.77	O9 III	5	36	43.8	+2.938	+0	-5	54	40.25	02.03	+1
210	1903	ϵ Orionis*	1.70	B0 Ia	5	37	33.6	+3.048	+1	-1	12	13.61	01.96	-2
211	1910	ζ Tauri	3.00	2 IIIpe (she)	5	39	13.8	+3.590	+0	+21	09	22.40	01.79	-21
215	1956	α Columbae*	2.64	B7 IV	5	40	36.6	+2.176	+5	-34	04	41.71	+01.67	-26
###	2015	δ Doradus	4.35	A7 V n	5	44	49.4	+0.114	-49	-65	44	32.53	01.33	+8
217	1983	γ Leporis	3.60	F7 V	5	45	34.1	+2.504	-212	-22	27	29.40	00.89	-369
219	1998	ζ Leporis	3.55	A2 Van	5	48	09.4	+2.721	-11	-14	49	50.31	01.03	-1
220	2004	κ Orionis*	2.06	B0.5 Ia	5	49	00.9	+2.848	+1	-9	40	43.91	00.96	-2
223	2040	β Columbae	3.12	K1.5 III	5	51	53.7	+2.119	+49	-35	46	35.70	01.11	+401
222	2035	δ Leporis	3.81	II Fe 1.5 CF	5	52	27.7	+2.582	+161	-20	53	43.31	+00.01	-650
224	2061	α Orionis*	0.5	M1 M2 Ia Ia	5	56	36.4	+3.251	+17	+7	24	35.10	+00.31	+9

* No. 168 : *Aldebaran*, Rohini
 No. 183 : Mag. 2.9 to 3.8.
 No. 188 : *Cursa*.
 No. 194 : *Rigel*.
 No. 193 : *Capella*, Brahmahridaya.
 No. 201 : *Bellatrix*.
 No. 202 : *El Nath*, Agni.
 No. 206 : *Mintaka*.

No. 207 : *Arneb*.
 No. GC : *Mrgasiras*.
 No. 210 : *Alnilam*.
 No. 215 : *Phakt*.
 No. 220 : *Saiph*.
 No. 224 : *Betelgeuse*, Mag. 0.4 to 1.3 Ard

MEAN PLACES OF STARS, J 2026.5
 FOR JULY, 2^d.375 TERRESTRIAL TIME
 (The Annual Variations are for the middle of the year)

Cat. No. FK5	BS =HR No.	Star	Mag.	Spect- ral Type	Right Ascension			Annual Variation	Annual Proper motion	Declination			Annual Variation	Annual Proper motion
					h	m	s	s	^s (0.0001)	°	'	"	"	" (0.001)
226	2085	η Leporis	3.71	F1 V	5	57	36.8	+2.735	-28	-14	10	53.25	+00.35	+139
229	2120	η Columbae	3.96	G8/K1 II	5	59	57.5	+1.840	+20	-42	49	54.18	-00.01	-14
227	2088	β Aurigae*	1.90	A1 IV	6	01	28.4	+4.404	-54	+44	56	49.63	00.13	+1
225	2077	δ Aurigae*	3.72	K0 III	6	01	42.6	+4.943	+92	+54	17	00.19	00.28	-126
###	2134	1 Geminorum	4.16	G5 III-IV	6	05	43.9	+3.649	-6	+23	15	34.09	00.60	-100
###	2219	κ Aurigae	4.35	G9 IIIb	6	17	04.0	+3.823	-57	+29	29	08.44	01.75	-262
240	2282	ζ Canis Maj.	3.02	B2.5 V	6	21	19.9	+2.306	+7	-30	05	36.38	-01.86	+3
243	2294	β Canis Maj.*	1.98	B1 II-III	6	23	52.0	+2.644	-4	-17	59	15.23	02.08	+0
245	2326	α Carinae*	-0.7	A9 II	6	24	32.5	+1.333	+25	-52	43	40.04	02.12	+21
241	2286	μ Geminorum	2.88	M3 IIIab	6	24	33.8	+3.630	+39	+22	29	50.88	02.25	-111
244	2298	8ε Monocerotis	4.4	A6 IV	6	25	10.4	+3.181	-12	+4	34	37.93	02.19	+11
###	2343	ν Geminorum	4.2	B6 III	6	30	32.2	+3.562	-5	+20	11	34.44	02.68	-14
252	2451	ν Puppis	3.2	B8 IIIIn	6	38	34.4	+1.838	+2	-43	14	13.70	-03.36	-6
251	2421	γ Geminorum*	1.9	A1 IVs	6	39	14.6	+3.465	+29	+16	22	27.58	03.46	-42
254	2473	ε Geminorum	3	G8 Ib	6	45	33.7	+3.689	-4	+25	06	08.52	03.97	-13
257	2491	α Canis Maj.* c	-1.5	A0m A1 Va	6	46	18.9	+2.643	-387	-16	46	15.19	05.23	-1204
256	2484	ξ Geminorum	3.4	F5 IV	6	46	46.6	+3.366	-79	+12	51	52.99	04.25	-191
262	2550	α Pictoris	3.3	A6 Vn	6	48	27.7	+0.612	-96	-61	59	12.99	03.94	+269
263	2553	τ Puppis	2.9	K1 III	6	50	35.6	+1.490	+38	-50	39	50.14	-04.46	-70
###	2538	κ Canis Maj.	4	B1.5 Ive	6	50	49.9	+2.243	-5	-32	33	26.21	04.40	+4
261	2540	θ Geminorum	3.60	A3 III-IV	6	54	32.0	+3.949	-2	+33	55	35.94	04.77	-48
268	2618	ε Canis Maj.*	1.50	B2 II	6	59	40.1	+2.360	+3	-29	01	34.98	05.16	+3
###	2646	σ Canis Maj.	3.5	K7 IB	7	02	46.5	+2.392	-4	-27	59	27.81	05.42	+5
270	2653	ο Canis Maj.	3	B3 Ia	7	04	07.9	+2.507	-3	-23	53	25.33	05.53	+3
269	2650	ζ Geminorum*	3.79v	F9 Ib (var)	7	05	40.7	+3.555	-6	+20	31	44.60	-05.67	-0
###	2736	γ Volantis	3.8	G9 III	7	08	30.8	+0.534	+48	-70	33	30.20	05.80	+106
273	2693	δ Canis Maj.	1.9	F8 Ia	7	09	28.2	+2.441	-2	-26	27	12.78	05.98	+4
###	2714	22δ Monocerot	4.2	A1 III	7	13	13.6	+3.085	-1	+0	26	48.81	06.29	+5
281	2803	δ Volantis	4	F9 Ib	7	16	48.6	+0.049	-12	-68	01	20.61	06.59	+5
278	2773	π Puppis	2.70	K3 Ib	7	18	04.7	+2.121	-8	-37	09	47.41	06.69	+4
277	2763	λ Geminorum	3.58	A4 IV	7	19	36.9	+3.444	-33	+16	29	25.19	-06.86	-36
279	2777	δ Geminorum	3.53	F0 V	7	21	42.2	+3.578	-19	+21	55	52.33	07.01	-12
283	2827	η Canis Maj.	2.45	B5 Ia	7	25	08.6	+2.375	-3	-29	22	22.76	07.27	+5
282	2821	ι Geminorum	3.79	G9 IIIb	7	27	22.2	+3.718	-93	+27	44	34.87	07.54	-86
285	2845	β Canis Min.*	2.90	B8 V	7	28	35.2	+3.251	-35	+8	14	01.81	07.59	-38
###	2878	ρ Puppis	3.25	K5 III	7	30	04.3	+1.905	-49	-43	22	22.84	07.49	+187
287	2891	α Gemino.* cg	1.95	Alm A2 Va	7	36	17.3	+3.819	-135	+31	49	41.08	-08.27	-98
291	2943	α C. Min.* cg	0.38	F5 IV-V	7	40	41.3	+3.137	-477	+5	09	18.53	09.55	-1021
297	3024	ζ Volantis	3.95	G9 III	7	41	28.6	+0.786	+67	-72	41	09.27	-08.57	+18

*
 No. 225 : Prajapati.
 No. 227 : Menkalinam .
 No. 243 : Mirzam.
 No. 245 : Canopus , Agastya.
 No. 251 : Alhena .

No. 257 : Sirius , Lubdhaka Mag. - 1.46.
 No. 268 : Adhara.
 No. 269 : Mekbuda Mag. 3.7 to 4.1.
 No. 285 : Gomeisa.
 No. 287 : Castor, Punarvasu-2, Mag. 1.95
 No. 291 : Procyon , Mag. 0.38 & 11.3.

MEAN PLACES OF STARS, J 2026.5
 FOR JULY 2^d.375 TERRESTRIAL TIME
 (The Annual Variations are for the middle of the year)

Cat. No. FK5	BS =HR No.	Star	Mag.	Spect- ral Type	Right Ascension			Annual Variation	Annual Proper motion	Declination			Annual Variation	Annual Proper motion
					h	m	s	s	^s (0.0001)	°	'	"	"	" (0.001)
293	2970	26α Monocerot	3.93	G9 III Fe-1	7	42	30.8	+2.866	-49	-9	37	53.10	-08.69	-19
294	2985	κ Geminorum	3.57	G8 III	7	46	02.6	+3.614	-24	+24	19	55.92	09.00	-52
295	2990	β Geminorum*	1.14	K0 IIIb	7	46	56.0	+3.661	-474	+27	57	35.83	09.06	-44
###	3045	ξ Puppis	3.34	G6 Iab-Ib	7	50	24.6	+2.525	-2	-24	56	40.29	09.29	-2
301	3080	213 G. Puppis	3.73	K1/2 II + A	7	53	07.7	+2.065	-8	-40	39	43.73	09.49	+3
303	3117	χ Carinae	3.47	B3p Si	7	57	27.1	+1.524	-32	-53	04	15.62	09.81	+21
306	3165	ζ Puppis	2.25	O5 Iafn	8	04	31.0	+2.111	-24	-40	05	44.96	-10.35	+12
308	3185	ρ Puppis	2.81	F5 (Ib-II)p	8	08	40.4	+2.557	-61	-24	23	55.80	10.62	+49
309	3207	γ ⁻ Velorum	1.78	WC8 + O9I	8	10	21.0	+1.850	-4	-47	25	57.00	10.79	+6
312	3249	β Cancri	3.52	K4 III Ba 0.	8	17	57.0	+3.249	-30	+9	06	07.25	11.40	-49
315	3307	ε Carinae	1.86	B: III + B2:	8	23	03.3	+1.224	-35	-59	36	44.02	11.70	+15
319	3347	β Volantis	3.77	K2 III	8	26	01.0	+0.631	-61	-66	14	32.81	12.08	-155
316	3314	Br 1197 Hydrae	3.90	A0 Va	8	26	59.0	+2.996	-44	-3	60	40.27	-12.01	-23
317	3323	ο Ursae Maj.	3.36	G5 III	8	32	26.7	+4.925	-182	+60	37	36.80	12.48	-107
321	3366	η Cancri	5.33	K3 III	8	34	14.2	+3.460	-34	+20	20	57.33	12.54	-43
###	3410	δ Hydrae	4.16	A1 Ivnn	8	39	03.4	+3.172	-44	+5	36	34.79	12.83	-7
###	3418	σ Hydrae	4.44	K1 III	8	40	08.5	+3.132	-12	+3	14	48.08	12.91	-18
###	3447	ο Velorum	3.62	B3 IV	8	41	03.2	+1.719	-24	-53	02	01.17	12.93	+20
###	3445	53 G. Velorum	3.84	F0 Ia	8	41	30.4	+1.994	+0	-46	45	38.77	-12.98	+3
327	3468	α Pyxidis	3.68	B1.5 III	8	44	39.5	+2.414	-9	-33	17	59.39	13.18	+11
###	3449	γ Cancri	4.66	A1 Va	8	44	48.9	+3.461	-76	+21	22	16.95	13.24	-39
326	3461	δ Cancri*	3.94	K0 IIIb	8	46	11.2	+3.400	-13	+18	03	18.46	13.52	-228
(329)	3482	ε Hydrae* m	3.38	G5: III + A:	8	48	10.5	+3.170	-155	+6	19	12.17	13.46	-40
328	3475	ι Cancri	4.02	G8 II-III	8	48	17.7	+3.616	-19	+28	39	40.05	13.47	-42
336	3571	108 G. Carinae	3.84	B7 II-III	8	55	38.7	+1.354	-28	-60	45	47.57	-13.86	+38
334	3547	ζ Hydrae	3.11	G9 IIIa	8	56	47.6	+3.167	-66	+5	50	35.17	13.96	+15
337	3572	α Cancri*	4.25	A5m	8	59	56.0	+3.274	+23	+11	45	12.71	14.20	-31
335	3569	ι Ursae Maj.	3.14	A7 Ivnn	9	01	00.5	+4.073	-442	+47	56	08.38	14.46	-225
342	3614	97 G. Velorum	3.75	K2 III	9	05	04.2	+2.074	-44	-47	13	15.38	14.49	-13
341	3594	κ Ursae Maj.	3.60	A0 IIIIn	9	05	25.3	+4.063	-32	+47	02	59.24	14.56	-54
345	3634	λ Velorum	2.21	K4.5 Ib	9	08	58.4	+2.212	-17	-43	33	26.24	-14.70	+13
###	3627	ξ Cancri	5.14	IIIa Fe-0.5 C	9	10	52.7	+3.438	+1	+21	56	11.93	14.82	+5
348	3685	β Carinae	1.68	A1 III	9	13	28.7	+0.629	-311	-69	50	35.85	14.87	+109
347	3665	θ Hydrae	3.88	B9.5 IV (C I	9	15	44.5	+3.118	+86	+2	12	03.62	15.42	-310
351	3699	ι Carinae	2.25	A7 Ib	9	17	47.9	+1.605	-26	-59	24	13.86	15.22	+8
352	3705	α Lyncis	3.13	K7 IIIab	9	22	39.7	+3.635	-179	+34	16	44.08	15.48	+19
###	3718	θ Pyxidis	4.72	M0.5 III	9	22	40.1	+2.660	-8	-26	05	45.82	-15.51	-8
353	3734	κ Velorum*	2.50	B2 IV-V	9	22	56.1	+1.861	-10	-55	08	28.96	15.51	+9
354	3748	α Hydrae*	1.98	K3 II-III	9	28	53.4	+2.948	-9	-8	47	29.14	15.81	+33
361	3803	N Velorum	3.13	K5 III	9	32	01.7	+1.826	-39	-57	10	07.39	16.00	+4
355	3757	23 Ursae Maj.	3.67	F0 IV	9	33	35.3	+4.651	+160	+62	56	38.49	16.06	+27
358	3775	θ Ursae Maj.	3.17	F6 IV	9	34	36.8	+3.971	-1024	+51	33	17.75	-16.67	-529

* No. 295 : *Pollux*, Punarvasu-1.
 No. 326 : *Pusya*.
 No. 329 : *Aslesa*.

No. 337 : *Acubens*. (Aslesa.)
 No. 353 : *Markeb*.
 No. 354 : *Alphard*.

MEAN PLACES OF STARS, J 2026.5
 FOR JULY 2^d.375 TERRESTRIAL TIME
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Cat. No. FK5	BS =HR No.	Star	Mag.	Spect- ral Type	Right Ascension			Annual Variation	Annual Proper motion	Declination			Annual Variation	Annual Proper motion
					h	m	s	s	s	°	'	"	"	"
									(0.0001)					(0.001)
###	3845	ι Hydrae	3.91	K2.5 III	9	41	12.5	+3.062	+32	-1	16	51.84	-16.54	-64
364	3849	κ Hydrae	5.06	B5 V	9	41	34.6	+2.878	-19	-14	28	13.23	16.51	-20
365	3852	ο Leonis	3.52	F5 II + A5?	9	42	33.8	+3.196	-96	+9	46	13.81	16.58	-36
367	3873	ε Leonis	2.98	G1 II	9	47	21.0	+3.392	-34	+23	39	03.27	16.79	-11
368	3888	ν Ursae Maj.	3.80	F0 IV	9	52	51.1	+4.205	-379	+58	54	45.14	17.19	-150
371	3905	μ Leonis	3.88	2 III CN I C	9	54	15.9	+3.397	-160	+25	52	51.18	17.16	-56
375	3940	φ Velorum	3.54	B5 Ib	9	57	47.8	+2.115	-12	-54	42	40.91	-17.26	+3
###	3970	ν ⁻ Hydrae	4.60	B8 V	10	06	24.9	+2.924	-25	-13	12	38.88	17.61	+18
379	3975	η Leonis	3.52	A0 Ib	10	08	46.4	+3.262	-1	+16	37	56.53	17.73	-0
380	3982	α Leonis*	1.35	B7 Vn	10	09	46.8	+3.188	-169	+11	50	11.95	17.76	+7
381	3994	λ Hydrae	3.61	K0 III CN 0.	10	11	52.8	+2.927	-138	-12	30	09.48	17.94	-88
385	4037	ω Carinae	3.32	B8 III n	10	14	21.9	+1.420	-76	-70	11	11.75	17.94	+7
382	4023	191 G. Velorum	3.85	A2 Va	10	15	51.2	+2.530	-131	-42	16	14.78	-17.96	+45
###	4050	187 G. Carinae	3.40	K2.5 II	10	17	58.3	+2.014	-34	-61	28	55.15	18.08	+5
384	4031	ζ Leonis	3.44	F0 III	10	18	09.6	+3.324	+13	+23	17	03.27	18.10	-7
383	4033	λ Ursae Maj.	3.45	A1 IV	10	18	41.0	+3.589	-149	+42	46	51.55	18.15	-38
###	4080	204 G. Velorum	4.83	K1 III	10	23	28.1	+2.585	-20	-41	48	02.89	18.23	+56
386	4069	μ Ursae Maj.	3.05	M0 III	10	23	53.9	+3.547	-72	+41	21	54.82	18.27	+35
391	4102	ι Carinae	4.00	F2 V	10	24	54.8	+1.171	-52	-74	11	00.30	-18.37	-26
389	4094	μ Hydrae	3.81	K4 III	10	27	22.4	+2.906	-89	-16	59	20.70	18.51	-80
392	4104	α Antliae	4.25	K4.5 III	10	28	22.1	+2.755	-58	-31	13	12.50	18.45	+11
393	4114	196 G. Carinae	3.82	F0 Ib	10	28	51.4	+2.217	-17	-58	53	31.33	18.48	-0
###	4116	δ Sextantis	5.21	B9.5 V	10	30	49.4	+3.047	-32	-2	53	32.02	18.56	-14
397	4140	203 G. Carinae	3.32	B4 Vne	10	32	58.3	+2.148	-27	-61	50	19.96	18.60	+9
396	4133	ρ Leonis	3.85	B1 Iab	10	34	12.3	+3.154	-4	+9	10	09.85	-18.66	-3
401	4174	γ Chamaeleonti	4.11	M0 III	10	35	45.5	+0.648	-144	-78	45	43.11	18.69	+14
406	4199	θ Carinae	2.76	B0.5 Vp	10	43	54.5	+2.158	-35	-64	33	01.56	18.94	+10
411	4234	δ ⁻ Chamaeleonti	4.45	B2.5 IV	10	45	59.7	+0.472	-201	-80	41	48.03	19.00	+8
410	4232	ν Hydrae	3.11	1.5 IIIb Hδ-c	10	50	56.1	+2.966	+66	-16	20	58.68	18.94	+200
412	4247	46 Leonis Min.	3.83	K0 III-IV	10	54	47.2	+3.336	+70	+34	04	16.89	19.51	-279
###	4287	α Crateris	4.08	K0 III	11	01	04.1	+2.930	-323	-18	27	25.46	-19.25	+130
416	4295	β Ursae Maj.*	2.37	A1 IV-V	11	03	25.4	+3.574	+98	+56	14	22.99	19.40	+34
417	4301	α Ursae Maj.*	1.80	K0 IIIa	11	05	20.5	+3.643	-167	+61	36	25.83	19.54	-66
###	4337	260 G. Carinae	3.91	G4 0-Ia	11	09	43.9	+2.588	-9	-59	08	08.34	19.56	-0
420	4335	ψ Ursae Maj.	3.01	K1 III	11	11	08.6	+3.346	-60	+44	21	15.14	19.61	-28
422	4357	δ Leonis*	2.56	A4 IV	11	15	30.8	+3.181	+101	+20	22	41.04	19.79	-130
423	4359	θ Leonis*	3.34	A2 IV (Kvar)	11	15	37.7	+3.141	-42	+15	17	03.40	-19.74	-79
425	4377	ν Ursae Maj.	3.48	K3 III	11	19	54.3	+3.224	-20	+32	56	57.48	19.71	+28
426	4382	δ Crateris	3.56	9 IIIb CH 0	11	20	40.1	+3.006	-84	-14	56	20.38	19.54	+208
433	4434	λ Draconis	3.84	M0 III Ca-1	11	32	56.9	+3.482	-73	+69	11	04.21	19.92	-17
434	4450	ξ Hydrae	3.54	G7 III	11	34	18.7	+2.966	-162	-32	01	16.16	19.95	-39
436	4467	λ Centauri	3.13	B9.5 Iin	11	37	01.0	+2.805	-61	-63	10	59.75	-19.95	-5

* No. 380 : *Regulus*, Magha.
 No. 416 : *Merak*, Pulaha.

No. 417 : *Dubhe*, Kratu.
 No. 422 : *Zosma*, Purva Phalguni-1.
 No. 423 : *Purva Phalguni-2*.

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 FOR JULY 2^d.375 TERRESTRIAL TIME
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					h	m	s	s	s (0.0001)	°	'	"	"	" (0.001)
442	4520	λ Muscae	3.64	A7 IV	11	46	52.5	+2.879	-174	-66	53	32.64	-19.97	+37
441	4518	χ Ursae Maj.	3.71	K0.5 IIIb	11	47	26.4	+3.142	-136	+47	37	56.46	19.98	+30
###	4527	93 Leonis*	4.53v	III-IV + A7	11	49	21.0	+3.088	-106	+20	04	17.57	20.02	-3
444	4534	β Leonis*	2.14	A3 Va	11	50	24.6	+3.056	-342	+14	25	25.75	20.14	-114
445	4540	β Virginis	3.61	F9 V	11	52	04.6	+3.126	+495	+1	36	54.94	20.30	-271
447	4554	γ Ursae Maj.*	2.44	A0 Van	11	55	12.8	+3.124	+107	+53	32	50.48	20.02	+12
452	4621	δ Centauri	2.60	B2 IVne	12	09	44.6	+3.142	-36	-50	53	11.66	-20.03	-8
453	4630	ε Corvi	3.00	K2.5 IIIa	12	11	29.5	+3.098	-51	-22	47	01.31	20.00	+13
455	4656	δ Crucis	2.80	B2 IV	12	16	34.1	+3.230	-53	-58	54	46.16	20.00	-9
456	4660	δ Ursae Maj.*	3.31	A2 Van	12	16	43.6	+2.939	+126	+56	53	07.86	19.98	+9
457	4662	γ Corvi*	2.59	B8p Hg Mn	12	17	10.4	+3.096	-112	-17	42	20.09	19.96	+23
459	4674	β Chamaeleont	4.26	B5 Vn	12	19	57.5	+3.682	-175	-79	28	32.73	19.95	+17
460	4689	η Virginis	3.89	A1 IV	12	21	15.7	+3.070	-42	+0	31	11.06	-19.97	-18
462	4730	α Crucis*A	1.33	B0.5 IV	12	28	05.6	+3.394	-53	-63	15	44.24	19.90	-12
465	4757	δ Corvi*	2.95	B9.5 IV n	12	31	14.4	+3.115	-146	-16	40	45.63	19.99	-138
468	4763	γ Crucis	1.63v	M3.5 III	12	32	39.1	+3.373	+29	-57	16	40.42	20.10	-262
469	4773	γ Muscae	3.87	B5 V	12	34	05.1	+3.682	-127	-72	17	44.22	19.82	-2
472	4787	κ Draconis	3.87v	B6 IIIpe	12	34	36.0	+2.523	-112	+69	38	32.67	19.80	+12
471	4786	β Corvi	2.65	G5 IIb	12	35	47.1	+3.166	+2	-23	33	34.64	-19.85	-54
474	4798	α Muscae	2.69	B2 IV-V	12	38	47.6	+3.661	-90	-69	17	52.13	19.77	-13
475	4813	χ Virginis	4.66	K2 III CN 1.	12	40	37.0	+3.104	-51	-8	09	27.96	19.75	-25
###	4828	ρ Virginis	4.88	A0 Va(λ Boc)	12	43	13.5	+3.037	+57	+10	05	23.76	19.78	-90
481	4853	β Crucis	1.25	B0.5 III	12	49	17.3	+3.560	-63	-59	50	59.08	19.59	-14
483	4905	ε Ursae Maj.*	1.77	A0p Cr	12	55	11.3	+2.620	+132	+55	48	59.21	19.47	-6
484	4910	δ Virginis*	3.38	M3 III	12	56	56.4	+3.025	-313	+3	15	14.13	-19.48	-54
485	4915	α CVn sq*	2.90	A0p Si Eu	12	57	15.8	+2.796	-198	+38	10	32.73	19.36	+56
488	4932	ε Virginis*	2.83	G8 IIIab	13	03	29.8	+2.987	-185	+10	49	02.13	19.26	+20
487	4923	δ Muscae	3.62	K2 III	13	04	08.2	+4.245	+544	-71	42	27.47	19.28	-20
492	4983	β Com	4.26	F9.5 V	13	13	06.5	+2.795	-604	+27	44	39.99	18.15	+881
495	5020	γ Hydrae	3.00	G8 IIIa	13	20	22.1	+3.278	+47	-23	19	38.21	18.87	-45
496	5028	ι Centauri	2.75	A2 Va	13	22	05.8	+3.398	-284	-36	52	04.59	-18.85	-86
497	5054	ζ Ursae Maj.*p	2.27	A1 Va (Si)	13	24	59.3	+2.403	+141	+54	47	15.40	18.70	-20
498	5056	α Virginis*	0.98	B1 V	13	26	35.6	+3.171	-28	-11	18	55.71	18.66	-28
501	5107	ζ Virginis	3.37	A2 IV	13	36	02.4	+3.052	-190	+0	27	40.71	18.26	+42
504	5132	ε Centauri	2.30	B1 III	13	41	35.0	+3.849	-32	-53	37	00.06	18.12	-17
509	5191	η Ursae Maj.*	1.86	B3 V	13	48	34.9	+2.357	-125	+49	10	54.50	17.84	-11
508	5193	μ Centauri	3.04	IV-Vpne(sh	13	51	13.5	+3.647	-21	-42	37	16.71	-17.75	-20
513	5235	η Bootis	2.68	G0 IV	13	55	56.8	+2.857	-44	+18	15	56.94	17.89	-358
512	5231	ζ Centauri	2.55	B2.5 IV	13	57	12.4	+3.781	-56	-47	26	03.35	-17.52	-43

* No. 1304 : Uttara Phalguni-2.
 No. 444 : Denebola, Uttara Phalguni-1.
 No. 447 : Phecda or Phad, Pulastya.
 No. 456 : Megrez, Atri.
 No. 457 : Minkar.
 No. 462 : Acrux.
 No. 465 : Algorel, Hasta.

No. 483 : Alioth, Angira.
 No. 484 : Minelauva.
 No. 485 : 12 Canum Venaticorum, Mag. 1
 No. 488 : Vindemiatrix.
 No. 497 : Mizar, Vasista. Mag. f. 4.0.
 No. 498 : Spica, Citra.
 No. 509 : Alkaid, Benetnasch, Marichi.

MEAN PLACES OF STARS, J 2026.5
 FOR JULY 2^d.375 TERRESTRIAL TIME
 (The Annual Variations are for the middle of the year)

Cat. No. FK5	BS =HR No.	Star	Mag.	Spec- tral Type	Right Ascension			Annual Variation	Annual Proper motion	Declination			Annual Variation	Annual Proper motion
					h	m	s	s	^s (0.0001)	°	'	"	"	" (0.001)
521	5291	α Draconis*	3.65	A0 III	14	05	06.5	+1.629	-84	+64	14	59.18	-17.11	+18
518	5267	β Centauri*	0.61	B1 III	14	05	43.1	+4.303	-43	-60	30	57.63	17.12	-19
519	5287	π Hydrae	3.27	K2 III Fe-0.	14	07	53.3	+3.436	+33	-26	49	31.67	17.14	-139
520	5288	θ Centauri	2.06	K0 IIIb	14	08	15.1	+3.557	-429	-36	30	56.86	17.50	-520
523	5315	κ Virginis	4.19	2.5 III Fe-0	14	14	18.8	+3.212	+5	-10	24	45.11	16.56	+140
526	5340	α Bootis*	-0.04	1.5 III Fe-0	14	16	52.3	+2.739	-769	+19	02	43.76	18.57	-2000
525	5338	ι Virginis	4.08	F7 III-IV	14	17	24.5	+3.156	-2	-6	08	32.87	-16.98	-432
###	5359	λ Virginis	4.52	A5m:	14	20	32.9	+3.259	-11	-13	30	30.48	16.36	+30
531	5404	θ Bootis	4.05	F7 V	14	26	05.9	+2.042	-253	+51	43	44.81	16.50	-398
534	5429	ρ Bootis	3.58	K3 III	14	32	58.3	+2.585	-77	+30	15	22.33	15.62	+119
535	5435	γ Bootis	3.03	A7 IV	14	33	08.7	+2.415	-97	+38	11	36.15	15.58	+153
537	5440	η Centauri	2.31	5 IVpne(sh	14	37	12.1	+3.842	-31	-42	17	21.54	15.54	-35
538	5460	α Centauri* cg	0.00	K1 V	14	41	25.1	+4.132	-5002	-60	57	35.13	-14.58	+690
541	5469	α Lupi	2.30	B1.5 III	14	43	42.4	+4.029	-21	-47	31	00.62	15.16	-18
545	5487	μ Virginis	3.88	F2 V	14	44	27.6	+3.172	+73	-5	47	19.13	15.41	-316
539	5463	α Circini	3.19	A 7p Sr Eu	14	44	40.9	+4.939	-302	-65	06	18.11	15.32	-233
544	5485	371 G.Cen	4.05	K3 IIIb	14	45	17.2	+3.695	-52	-35	18	10.26	15.23	-180
547	5511	109 Virginis	3.72	A0 Ivn	14	47	35.5	+3.040	-76	+1	46	57.09	14.94	-27
550	5563	β Ursae Min.*	2.08	K4 III	14	50	39.4	+0.100	-76	+74	02	49.59	-14.72	+12
542	5470	α Apodis	3.83	K3 III CN 0.	14	51	17.0	+7.811	-40	-79	10	13.81	14.72	-16
548	5531	α Librae*	2.75	A3 III-IV	14	52	21.0	+3.332	-73	-16	10	01.23	14.70	-67
552	5571	β Lupi	2.68	B2 IV	15	00	16.8	+3.962	-32	-43	15	19.97	14.19	-39
553	5576	κ Centauri	3.13	B2 V	15	00	53.8	+3.934	-17	-42	13	31.52	14.14	-24
555	5602	β Bootis	3.50	B8 IIIa Fe-0.	15	02	56.7	+2.261	-35	+40	17	13.84	14.02	-28
556	5603	σ Librae	3.29	M2.5 III	15	05	37.7	+3.529	-54	-25	24	03.78	-13.86	-43
559	5652	ι Librae*	4.54	B9p Si	15	13	44.2	+3.435	-25	-19	54	24.99	13.34	-39
558	5649	ζ Lupi	3.41	G8 III	15	14	12.3	+4.354	-122	-52	12	52.55	13.34	-73
563	5681	δ Bootis	3.47	G8 III Fe-I	15	16	34.3	+2.421	+69	+33	13	01.96	13.22	-112
564	5685	β Librae*	2.61	B8 IIIIn	15	18	26.2	+3.239	-65	-9	29	44.47	13.01	-19
569	5735	γ Ursae Min.	3.05	A 3 III	15	20	42.4	+0.039	-40	+71	44	22.91	12.81	+20
560	5671	γ Tr. Austrini	2.89	A1 III	15	21	25.4	+5.711	-132	-68	47	28.30	-12.82	-31
###	5695	δ Lupi	3.22	B1.5 IVn	15	23	07.3	+3.966	-13	-40	45	29.47	12.70	-26
566	5705	ϕ Lupi	3.56	K4 III	15	23	29.8	+3.831	-74	-36	22	19.93	12.73	-85
571	5744	ι Draconis	3.29	K2 III	15	25	31.4	+1.346	-12	+58	52	26.26	12.49	+17
572	5747	β Cr. Borealis	3.68	F0p Cr Eu	15	28	55.3	+2.476	-137	+29	00	56.57	12.19	+86
578	5793	α Cr.Borealis*	2.23	A0 IV	15	35	48.7	+2.543	+91	+26	37	37.01	11.88	-88
577	5787	γ Librae	3.91	G8.5 III	15	37	00.8	+3.368	+45	-14	53	33.84	-11.70	+9
579	5794	ν Librae	3.58	K3.5 III	15	38	38.4	+3.660	-7	-28	14	14.81	11.59	+3
###	5838	κ Librae	4.74	M0 IIIb	15	43	28.7	+3.470	-26	-19	46	46.08	11.35	-103
582	5854	α Serpentis*	2.65	K2 IIIb CN	15	45	34.5	+2.961	+92	+6	20	38.33	-11.05	+47

* No. 518 : *Agena*.
 No. 521 : *Thuban*.
 No. 526 : *Arcturus*, Svati.
 No. 538 : *Rigel Kentaurus* Mag. 0.33 & 1.70.
 No. 548 : *Zuben el Genubi*, Visakha.

No. 550 : *Kochab*.
 No. 559 : *Visakha*.
 No. 564 : *Zuben es Chamali*.
 No. 578 : *Margarita*, *Alphecca*.
 No. 582 : *Unukalhal*.

MEAN PLACES OF STARS, J 2026.5
 FOR JULY 2^d.375 TERRESTRIAL TIME
 (The Annual Variations are for the middle of the year)

Cat. No. FK5	BS =HR No.	Star	Mag.	Spect- ral Type	Right Ascension			Annual Variation	Annual Proper motion	Declination			Annual Variation	Annual Proper motion
					h	m	s	s	s (0.0001)	°	'	"	"	" (0.001)
583	5867	β Serpentis	3.67	A2 IV	15	47	24.7	+2.773	+46	+15	20	25.78	-11.00	-45
585	5881	μ Serpentis	3.54	A0 III	15	51	00.4	+3.139	-57	-3	31	34.20	10.72	-24
588	5892	ε Serpentis	3.71	A5m	15	52	08.4	+2.997	+86	+4	23	59.04	10.55	+63
589	5897	β Tr. Australis	2.85	F0 IV	15	57	30.1	+5.354	-283	-63	31	33.82	10.61	-399
591	5933	γ Serpentis	3.85	F6 V	15	57	40.7	+2.777	+218	+15	34	36.51	11.48	-1281
592	5944	π Scorpii	2.89	B1 V + B2 V	16	00	27.6	+3.644	-8	-26	12	17.67	10.01	-26
594	5953	δ Scorpii*	2.32	B0.3 IV	16	01	54.3	+3.561	-8	-22	42	41.94	-09.90	-22
597	5984	β Scorpii*pr	2.62	B0.5 V	16	06	58.9	+3.501	-4	-19	53	33.00	09.51	-19
603	6056	δ Ophiuchi	2.74	M0.5 III	16	15	44.2	+3.151	-29	-3	46	38.16	08.95	-143
605	6075	ε Ophiuchi	3.24	9.5 IIb Fe-C	16	19	43.6	+3.182	+57	-4	46	18.41	08.45	+41
608	6092	τ Herculis	3.89	B5 IV	16	20	32.3	+1.808	-11	+46	15	05.11	08.39	+40
607	6084	σ Scorpii	2.89	B1 III	16	22	48.2	+3.660	-8	-25	40	14.98	08.27	-21
609	6095	γ Herculis	3.75	A9 IIIbn	16	23	05.4	+2.650	-33	+19	05	33.16	-08.18	+43
613	6117	ω Herculis	4.57	B9 p Cr	16	26	38.4	+2.773	+30	+13	58	26.46	08.00	-59
616	6134	α Scorpii* cg	0.96	M1.5 Iab-Ib	16	31	02.2	+3.691	-7	-26	30	18.46	07.61	-20
618	6148	β Herculis	2.77	7 III a Fe-0	16	31	21.6	+2.583	-70	+21	26	00.62	07.57	-15
620	6165	τ Scorpii	2.82	B0 V	16	37	32.2	+3.747	-6	-28	17	07.10	07.08	-22
611	6102	γ Apodis	3.89	G8/K0 III	16	37	36.1	+9.435	-452	-78	58	03.05	07.13	-77
622	6175	ζ Ophiuchi	2.56	O9.5 Vn	16	38	37.3	+3.311	+9	-10	38	07.10	-06.94	+26
626	6220	η Herculis	3.53	G7 III Fe-1	16	43	48.4	+2.061	+32	+38	52	23.78	06.62	-82
###	6243	20 Ophiuchi	4.65	F7 III	16	51	18.2	+3.326	+65	-10	50	39.82	06.01	-92
625	6217	α Tr. Austr.*	1.92	K2 IIb-IIIa	16	51	29.6	+6.417	+26	-69	05	20.25	05.94	-34
628	6241	ε Scorpii	2.29	K2 III	16	51	53.1	+3.899	-493	-34	21	19.96	06.13	-257
###	6229	η Arae	3.76	K5 III	16	52	05.2	+5.214	+49	-59	06	07.52	05.88	-28
###	6247	μ' Scorpii	3.08	B1.5 IVn	16	53	40.3	+4.078	-9	-38	06	24.96	-05.74	-25
633	6299	κ Ophiuchi	3.20	K2 III	16	58	55.5	+2.844	-197	+9	20	08.53	05.29	-11
631	6285	ζ Arae	3.13	K4 III	17	00	49.3	+4.990	-23	-56	02	43.55	05.15	-36
634	6324	ε Herculis	3.92	A0 IV	17	01	18.3	+2.299	-36	+30	53	20.15	05.05	+27
635	6355	60 Herculis	4.91	A4 IV	17	06	36.5	+2.786	+35	+12	42	22.76	04.64	-10
639	6396	ζ Draconis	3.17	B6 III	17	08	52.1	+0.189	-33	+65	40	55.76	04.41	+22
638	6380	η Scorpii	3.33	F2 V:p(Cr)	17	14	03.4	+4.310	+23	-43	17	16.51	-04.28	-287
643	6418	π Herculis	3.16	K3 II	17	15	58.3	+2.093	-22	+36	46	50.65	03.82	+4
641	6410	δ Herculis	3.14	A1 Vann	17	16	07.3	+2.468	-15	+24	48	34.71	03.97	-157
644	6453	θ Ophiuchi	3.27	B2 IV	17	23	38.4	+3.691	-3	-25	02	24.55	03.19	-20
645	6461	β Arae	2.85	K3 Ib-IIa	17	27	30.5	+5.003	-9	-55	34	05.86	02.86	-25
###	6486	44 Ophiuchi	4.17	A9m:	17	27	59.5	+3.670	+0	-24	12	50.01	02.91	-116
653	6536	β Draconis	2.79	G2 Ib-IIa	17	31	02.0	+1.360	-17	+52	16	57.87	-02.51	+15
649	6508	ν Scorpii	2.69	B2 IV	17	32	34.1	+4.086	-1	-37	19	51.35	02.42	-31
648	6500	δ Arae	3.62	B8 Vn	17	33	29.8	+5.433	-79	-60	43	08.29	02.41	-97
651	6510	α Arae	2.95	B2 Vne	17	33	53.6	+4.648	-32	-49	54	38.88	02.35	-70
652	6527	λ Scorpii*	1.63	B1.5 IV	17	35	24.6	+4.081	-1	-37	08	13.44	02.18	-29
656	6556	α Ophiuchi*	2.08	A5 Vnn	17	36	09.9	+2.788	+83	+12	32	33.59	-02.31	-226

* No. 594 : *Dschubba*, Anuradha
 No. 597 : *Graffias*, Mag. 2.9, 5.1
 No. 616 : *Antares*, Jyestha, Mag. 0.9 to 1.8.

No. 625 : *Atria*.
 No. 652 : *Schaula*, Mula.
 No. 656 : *Ras Alhague*.

MEAN PLACES OF STARS, J 2026.5
 FOR JULY 2^d.375 TERRESTRIAL TIME
 (The Annual Variations are for the middle of the year)

Cat. No. FK5	BS =HR No.	Star	Mag.	Spect- ral Type	Right Ascension			Annual Variation	Annual Proper motion	Declination			Annual Variation	Annual Proper motion
					h	m	s	s	s (0.0001)	°	'	"	"	" (0.001)
658	6561	ξ Serpentis	3.54	F0 IIIb	17	39	06.3	+3.439	-29	-15	25	46.43	-01.88	-58
654	6553	θ Scorpis	1.87	F1 III	17	39	13.6	+4.318	+14	-43	01	42.53	01.82	-2
663	6588	ι Herculis	3.80	B3 IV	17	40	12.8	+1.697	-5	+45	59	36.38	01.72	+5
660	6580	κ Scorpis	2.41	B1.5 III	17	44	19.4	+4.156	-5	-39	03	27.22	01.40	-27
665	6603	β Ophiuchi	2.77	K2 III CN 0.	17	44	47.0	+2.966	-27	+4	33	29.73	01.17	+159
667	6623	μ Herculis	3.42	G5IV	17	47	29.8	+2.352	-232	+27	42	24.27	01.84	-752
661	6582	η Pavonis	3.62	K1 IIIa CN	17	48	20.3	+5.900	-21	-64	44	57.24	-01.07	-54
668	6629	γ Ophiuchi	3.75	A0 Van	17	49	13.3	+3.011	-14	+2	41	57.73	01.02	-74
666	6615	ι' Scorpis	3.03	F2 Ia	17	49	26.4	+4.201	-0	-40	09	04.19	00.93	-8
669	6630	G Scorpis	3.21	K2 III	17	51	39.8	+4.087	+41	-37	03	56.38	00.70	+33
671	6688	ξ Draconis	3.75	K2 III	17	53	59.3	+1.040	+114	+56	52	09.22	00.45	+80
672	6695	θ Herculis	3.86	K1 IIa CN2	17	57	09.8	+2.060	+4	+37	14	54.44	00.24	+6
676	6705	γ Draconis*	2.23	K5 III	17	57	13.3	+1.396	-8	+51	29	12.54	-00.26	-19
674	6703	ξ Herculis	3.70	G8.5 III	17	58	47.7	+2.334	+64	+29	14	48.03	00.12	-17
673	6698	ν Ophiuchi	3.34	G 9 IIIa	18	00	29.2	+3.305	-4	-9	47	28.73	-00.07	-116
677	6714	67 Ophiuchi	3.97	B5 Ib	18	01	58.4	+3.007	+1	+2	55	56.41	+00.16	-8
679	6746	γ Sagittarii	2.99	K0' III	18	07	30.7	+3.855	-41	-30	26	16.17	00.47	-185
681	6779	o Herculis	3.83	A0 II-III	18	08	34.6	+2.343	+1	+28	46	03.94	00.76	+10
680	6771	72 Ophiuchi	3.73	A5 IV-V	18	08	36.4	+2.846	-41	+9	34	10.47	+00.83	+80
###	6743	θ Arae	3.66	B2 Ib	18	08	41.6	+4.670	-10	-50	06	12.19	00.75	-14
682	6812	μ Sagittarii	3.86	B9 Ia	18	15	20.9	+3.589	+1	-21	03	58.05	01.34	+1
683	6832	η Sagittarii	3.11	M3.5 IIIab	18	19	25.2	+4.059	-106	-36	46	03.70	01.53	-167
695	6927	χ Draconis	3.57	F7 V	18	20	34.6	+1.088	+1201	+72	44	37.30	01.45	-345
688	6869	η Serpentis	3.26	K0 III-IV	18	22	40.9	+3.106	-364	-2	54	23.42	01.28	-702
687	6859	δ Sagittarii*	2.70	K2.5 IIIa CN 0	18	22	41.4	+3.840	+27	-29	49	51.53	+01.95	-28
690	6895	109 Herculis	3.84	K2 IIIab	18	24	49.7	+2.559	+141	+21	47	00.79	01.93	-242
689	6879	ε Sagittarii*	1.85	A0 II n(shell)	18	25	55.8	+3.980	-31	-34	23	10.08	02.14	-124
691	6897	α Telescopii	3.51	B3 IV	18	28	56.2	+4.444	-15	-45	58	03.23	02.47	-54
692	6913	λ Sagittarii	2.81	K1 IIIb	18	29	36.3	+3.702	-32	-25	25	16.52	02.40	-185
697	6951	θ Coronae Aust.	4.64	G8 III	18	35	23.6	+4.279	+28	-42	18	26.15	03.06	-22
###	6973	α Scuti	3.85	K3 III	18	36	39.0	+3.265	-10	-8	14	23.98	+02.88	-312
699	7001	α Lyrae*	0.03	A0 Va	18	37	50.2	+2.033	+172	+38	48	35.02	03.58	+287
###	7039	φ Sagittarii	3.17	B8 III	18	47	18.6	+3.745	+40	-26	58	39.82	04.11	+1
###	7063	β Scuti	4.22	G4 IIa	18	48	34.8	+3.183	-3	-4	44	02.65	04.20	-16
705	7106	β Lyrae*	3.45	B7 Vpe(shell)	18	51	03.5	+2.217	+3	+33	23	41.81	04.43	-3
706	7121	σ Sagittarii*	2.02	B3 IV	18	56	54.4	+3.715	+10	-26	16	40.98	04.87	-54
710	7150	ξ ⁻ Sagittarii	3.51	K1 III	18	59	18.6	+3.575	+24	-21	05	10.13	+05.12	-12
713	7178	γ Lyrae	3.24	B9 II	18	59	56.1	+2.246	-2	+32	43	38.69	05.18	+2
712	7176	ε Aquilae	4.02	K1 III CN 0.	19	00	49.5	+2.724	-35	+15	06	21.82	05.18	-74
716	7235	ζ Aquilae	2.99	A0 Vann	19	06	37.7	+2.758	-3	+13	54	16.77	05.65	-96
717	7236	λ Aquilae	3.44	IVp(wk 44	19	07	39.3	+3.183	-11	-4	51	26.57	05.74	-90
###	7234	τ Sagittarii	3.32	K1.5 IIIb	19	08	35.5	+3.740	-40	-27	38	45.45	+05.66	-251

No. 676 : *Eltanin*.No. 687 : *Purvasadha-1*.No. 689 : *Kaus Australis*, *Purvasadha-2*.No. 699 : *Vega*, *Abhijit*.No. 705 : *Sheliak* Mag. 3.3 to 4.3.No. 706 : *Nunki*, *Uttarasadha*.

MEAN PLACES OF STARS, J 2026.5
 FOR JULY 2^d.375 TERRESTRIAL TIME
 (The Annual Variations are for the middle of the year)

Cat. No. FK5	BS =HR No.	Star	Mag.	Spect- ral Type	Right Ascension			Annual Variation	Annual Proper motion	Declination			Annual Variation	Annual Proper motion
					h	m	s	s	^s (0.0001)	°	'	"	"	["] (0.001)
720	7264	π Sagittarii	2.89	F2 II-III	19	11	20.3	+3.563	-0	-20	59	45.07	+06.10	-35
723	7310	δ Draconis	3.07	G9 III	19	12	33.2	+0.005	+164	+67	42	29.38	06.33	+93
726	7328	κ Cygni	3.77	G9 III	19	17	42.8	+1.384	+65	+53	25	05.85	06.79	+125
730	7377	δ Aquilae	3.36	F2 IV-V	19	26	50.0	+3.024	+171	+3	10	10.37	07.50	+83
###	7405	α Vulpeculae	4.44	M0.5 IIIb	19	29	48.5	+2.498	-92	+24	43	12.50	07.55	-106
733	7420	ι Cygni	3.79	A4 V	19	30	22.4	+1.511	+21	+51	47	14.03	07.83	+130
732	7417	β Cygni*p	3.08	3 II + B9.5	19	31	47.5	+2.421	+2	+28	01	00.72	+07.81	-2
###	7488	β Sagittae	4.37	8 IIIa CN 0	19	42	14.4	+2.695	+7	+17	32	20.81	08.62	-32
741	7525	γ Aquilae	2.72	K3 II	19	47	31.2	+2.852	+12	+10	40	46.55	09.06	-2
743	7536	δ Sagittae	3.82	12 II + A0	19	48	34.2	+2.676	+5	+18	36	04.64	09.15	+8
745	7557	α Aquilae*	0.77	A7 Vnn	19	52	04.6	+2.926	+362	+8	56	24.46	09.80	+388
746	7570	η Aquilae	3.90V	F6-G1 Ib	19	53	49.3	+3.054	+7	+1	04	31.87	09.54	-7
749	7602	β Aquilae*	3.71	G8 IV	19	56	36.9	+2.946	+33	+6	28	28.94	+09.28	-482
752	7635	γ Sagittae	3.47	M0 III	19	59	56.2	+2.669	+46	+19	33	56.66	10.04	+24
751	7623	θ Sagittarii	4.37	B2.5 IV	20	01	27.3	+3.889	+5	-35	13	08.68	10.10	-26
754	7665	δ Pavonis	3.56	G6/8 IV	20	11	17.9	+5.810	+1998	-66	07	39.95	09.74	-1124
756	7710	θ Aquilae	3.23	B9.5 III	20	12	39.4	+3.060	+26	+0	54	06.64	10.97	+4
757	7735	31 o Cygni	3.79	K2 II+ B4 V	20	14	28.0	+1.890	+4	+46	49	22.17	11.10	+3
761	7754	α Capricorni*	3.57	G9III	20	19	31.3	+3.322	+44	-12	28	39.00	+11.46	+4
762	7776	β Capricorni	3.08	II: + A5n:	20	22	29.8	+3.363	+29	-14	42	44.99	11.67	+2
765	7796	γ Cygni	2.20	F8 Ib	20	23	10.8	+2.155	+4	+40	20	33.89	11.72	+0
764	7790	α Pavonis	1.94	B2.5 V	20	27	43.6	+4.699	+9	-56	39	51.54	11.95	-89
768	7852	ε Delphini	4.03	B6 III	20	34	28.7	+2.866	+9	+11	23	41.58	12.49	-22
(771)	7882	β Delphini*m	3.64	F5 IV	20	38	47.5	+2.814	+82	+14	41	19.18	12.75	-47
769	7869	α Indi	3.11	K0 III CN-1	20	39	25.2	+4.188	+52	-47	12	48.96	+12.91	+66
774	7906	α Delphini*	3.77	B9 IV	20	40	52.2	+2.787	+46	+16	00	25.07	12.94	-2
777	7924	α Cygni*	1.25	A2 Ia	20	42	20.2	+2.048	+3	+45	22	34.10	13.04	+2
778	7928	δ Delphini	4.43	F0m	20	44	41.8	+2.801	-13	+15	10	15.85	13.15	-43
783	7957	η Cephei	3.43	K0 IV	20	45	49.5	+1.209	+119	+61	56	32.50	14.09	+819
780	7949	ε Cygni	2.46	K0 III	20	47	17.1	+2.431	+286	+34	04	14.84	13.69	+329
775	7913	β Pavonis	3.42	A6 IV	20	47	18.7	+5.315	-75	-66	07	18.98	+13.38	+11
###	7948	γ Delphini sq	4.27	K1 IV	20	47	53.3	+2.784	-22	+16	13	16.34	13.21	-197
781	7950	ε Aquarii	3.77	A1 III	20	49	06.5	+3.241	+24	-9	24	49.59	13.45	-34
###	7990	μ Aquarii	4.73	F2m	20	54	04.9	+3.230	+30	-8	53	56.20	13.77	-30
785	7986	β Indi	3.65	K1 II	20	56	51.6	+4.631	+21	-58	22	07.02	13.95	-26
###	8039	γ Microscopii	4.67	G8 III	21	02	54.6	+3.662	-2	-32	10	08.81	14.36	+5
792	8079	ξ Cygni	3.72	K4.5 Ib-II	21	05	53.8	+2.187	+8	+44	02	04.63	+14.53	+1
797	8115	ζ Cygni	3.20	III-IIIa Ba	21	14	03.9	+2.558	+1	+30	20	12.60	14.96	-56
800	8131	α Equulei	3.92	II-III + A4	21	17	08.9	+2.998	+40	+5	21	31.50	15.10	-88
803	8162	α Cephei*	2.44	A7 V n	21	19	12.6	+1.427	+219	+62	41	54.60	15.36	+50
806	8204	ζ Capricorni	3.74	G4 Ib: Ba 2	21	28	10.5	+3.412	+1	-22	18	42.50	+15.83	+23

* No. 732 : *Albireo* ., Mag. *f.* 5.4.
 No. 745 : *Altair* , *Sravana*.
 No. 749 : *Alshain* .
 No. 761 : *Giedi or Algedi*.

No. 771 : *Rotanev* , *Dhanistha-1*.
 No. 774 : *Saulocin* , *Dhanistha-2*.
 No. 777 : *Deneb*.
 No. 803 : *Alderamin*.

MEAN PLACES OF STARS, J 2026.5
 FOR JULY 2^d.375 TERRESTRIAL TIME
 (The Annual Variations are for the middle of the year)

Cat. No. FK5	BS =HR No.	Star	Mag.	Spect- ral Type	Right Ascension			Annual Variation	Annual Proper motion	Declination			Annual Variation	Annual Proper motion
					h	m	s	s	s (0.0001)	°	'	"	"	" (0.001)
809	8238	β Cephei	3.23	B1 III	21	28	59.5	+0.745	+21	+70	40	38.49	+15.85	+7
808	8232	β Aquarii*	2.91	G0 Ib	21	32	57.1	+3.153	+14	-5	28	11.95	16.05	-8
###	8264	ξ Aquarii	4.69	A5 Vn	21	39	09.6	+3.188	+78	-7	45	02.87	16.35	-25
812	8278	γ Capricorni	3.68	A7 m:	21	41	33.3	+3.314	+132	-16	33	28.87	16.47	-23
810	8254	ν Octantis	3.76	K0 III	21	44	19.1	+6.390	+141	-77	17	11.67	16.39	-240
815	8308	ε Pegasi*	2.34	K2 Ib-II	21	45	29.3	+2.947	+21	+9	59	51.30	16.69	-1
819	8322	δ Capricorni	2.87	F2m	21	48	30.0	+3.302	+183	-16	01	20.99	+16.54	-296
822	8353	γ Gruis	3.01	B8 IV-Vs	21	55	31.5	+3.609	+86	-37	15	20.43	17.14	-21
827	8414	α Aquarii*	2.96	G2 Ib	22	07	08.5	+3.072	+13	+0	26	58.48	17.65	-10
831	8430	ι Pegasi	3.76	F5 V	22	08	14.8	+2.799	+220	+25	28	31.52	17.73	+25
829	8425	α Gruis*	1.74	B7 Vn	22	09	53.4	+3.746	+126	-46	50	53.49	17.62	-151
834	8450	θ Pegasi	3.53	K2m AI IV-V	22	11	32.2	+3.026	+185	+6	19	45.01	17.87	+27
836	8465	ζ Cephei	3.35	K1.5 Ib	22	11	46.7	+2.092	+19	+58	19	57.11	+17.85	+4
841	8502	α Tucanae	2.86	K3 III	22	20	17.6	+4.046	-96	-60	08	34.98	18.13	-43
842	8518	γ Aquarii	3.84	B9.5 III-IV	22	23	01.4	+3.096	+88	-1	16	10.64	18.28	+7
846	8556	δ' Gruis	3.97	G6/8 III	22	30	50.6	+3.557	+26	-43	22	33.53	18.54	-5
848	8585	α Lacertae	3.77	A1 Va	22	32	23.3	+2.487	+144	+50	25	09.85	18.61	+19
849	8592	ν Aquarii	5.20	F5 V	22	36	08.4	+3.271	+158	-20	35	18.03	18.57	-144
850	8597	η Aquarii	4.02	B9 IV-V:n	22	36	43.0	+3.079	+61	+0	15	17.37	+18.68	-56
855	8634	ζ Pegasi	3.40	B8.5 III	22	42	47.1	+2.995	+55	+10	58	13.26	18.90	-12
856	8636	β Gruis	2.10	M4.5 III	22	44	14.3	+3.550	+133	-46	45	43.15	18.95	-8
857	8650	η Pegasi	2.94	G8 II + F0V	22	44	14.9	+2.823	+11	+30	21	37.74	18.93	-25
860	8675	ε Gruis	3.49	A2 Va	22	50	08.5	+3.585	+115	-51	11	36.55	19.05	-71
863	8694	ι Cephei	3.52	K0' III	22	50	37.9	+2.156	-108	+66	20	24.83	19.00	-125
861	8679	τ Aquarii	4.01	M0 III	22	50	59.5	+3.169	-8	-13	28	07.71	+19.10	-38
862	8684	μ Pegasi	3.48	G8' III	22	51	17.1	+2.904	+108	+24	44	31.57	19.10	-42
864	8698	λ Aquarii*	3.74	M2.5 III Fe-0	22	53	59.7	+3.126	+8	-7	27	16.84	19.25	+37
866	8709	δ Aquarii	3.27	A3 IV-V	22	56	03.2	+3.176	-28	-15	41	45.50	19.24	-25
867	8728	α PsA*	1.16	A3 Va	22	59	06.6	+3.299	+255	-29	29	52.43	19.17	-164
869	8762	ο Andromedae	3.62	B6 pe (shell)	23	03	08.8	+2.777	+20	+42	28	07.84	19.42	-6
870	8775	β Pegasi*	2.42	M2.5 II-III	23	05	03.8	+2.919	+143	+28	13	37.31	+19.61	+138
871	8781	α Pegasi*	2.49	A0 III-IV	23	06	05.0	+2.994	+44	+15	20	53.90	19.45	-42
873	8812	88 Aquarii	3.66	K1.5 III	23	10	51.3	+3.189	+40	-21	02	41.20	19.61	+31
878	8852	γ Piscium	3.69	G9 III: Fe-2	23	18	32.4	+3.112	+509	+3	25	38.79	19.73	+17
890	8961	λ Andromedae	3.82v	G8 III-IV	23	38	52.2	+2.961	+157	+46	36	06.99	19.53	-421
893	8974	γ Cephei	3.21	I III-IV CN	23	40	27.5	+2.529	-213	+77	46	49.87	20.12	+151
902	9072	ω Piscium	4.01	F4V	0	00	40.5	+3.086	+103	+7	00	35.88	+19.93	-115

BS = Bright Star Catalogue HR = Harvard Revised Catalogue FK5 = Fifth Fundamental Catalogue

* No. 808 : *Sadalsuud*.
 No. 815 : *Enif*. Mag. 0.7 to 3.5.
 No. 827 : *Sadalmelik*.
 No. 829 : *Al Nair*.

No. 864 : *Satabhisaj*.
 No. 867 : *Fomalhaut*.
 No. 870 : *Scheat*, Purva Bhadrapada-2.
 No. 871 : *Markab*, Purva Bhadrapada-1.

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name	γ Pegasi (HR39)						α Phoenicis (HR 99)						β Ceti (HR 188)						β Andromedae (HR 337)							
Mag.Spect.	2.83			B2 IV			2.39			K0 III b			2.04			G9 III CH-1- CN 0.5 C ₀ 1			2.06			M0 ⁺ IIIa				
U.T.	Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination				
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"		
Jan.	1	0	14	35	+15	19	47	0	27	35	-42	10	06	0	44	54	-17	50	44	1	11	12	+35	45	43	
	11	0	14	35		15	19	47	0	27	34		42	10	05	0	44	54		17	50	44		35	45	43
	21	0	14	35		15	19	46	0	27	34		42	10	04	0	44	54		17	50	44		35	45	42
	31	0	14	34		15	19	45	0	27	34		42	10	03	0	44	54		17	50	44		35	45	41
Feb.	10	0	14	34		15	19	44	0	27	34		42	10	02	0	44	54		17	50	44		35	45	40
	20	0	14	34		15	19	43	0	27	34		42	10	00	0	44	54		17	50	43		35	45	38
Mar.	2	0	14	34	+15	19	42	0	27	34	-42	09	58	0	44	54	-17	50	42	1	11	11	+35	45	37	
	12	0	14	34		15	19	41	0	27	34		42	09	56	0	44	54		17	50	41		35	45	35
	22	0	14	34		15	19	41	0	27	34		42	09	53	0	44	54		17	50	40		35	45	34
Apr.	1	0	14	34		15	19	40	0	27	34		42	09	50	0	44	54		17	50	38		35	45	32
	11	0	14	35		15	19	40	0	27	34		42	09	47	0	44	54		17	50	36		35	45	31
	21	0	14	35		15	19	40	0	27	34		42	09	44	0	44	54		17	50	34		35	45	30
May	1	0	14	35	+15	19	41	0	27	34	-42	09	41	0	44	54	-17	50	32	1	11	11	+35	45	29	
	11	0	14	35		15	19	42	0	27	35		42	09	38	0	44	54		17	50	30		35	45	29
	21	0	14	35		15	19	43	0	27	35		42	09	34	0	44	54		17	50	27		35	45	29
	31	0	14	36		15	19	44	0	27	35		42	09	32	0	44	55		17	50	25		35	45	29
June	10	0	14	36		15	19	46	0	27	35		42	09	29	0	44	55		17	50	23		35	45	29
	20	0	14	36		15	19	48	0	27	36		42	09	27	0	44	55		17	50	20		35	45	31
July	30	0	14	37	+15	19	50	0	27	36	-42	09	25	0	44	56	-17	50	18	1	11	13	+35	45	32	
	10	0	14	37		15	19	52	0	27	37		42	09	24	0	44	56		17	50	16		35	45	33
	20	0	14	37		15	19	55	0	27	37		42	09	23	0	44	56		17	50	14		35	45	35
	30	0	14	38		15	19	57	0	27	37		42	09	22	0	44	57		17	50	13		35	45	38
Aug.	9	0	14	38		15	19	59	0	27	38		42	09	22	0	44	57		17	50	12		35	45	40
	19	0	14	38		15	20	01	0	27	38		42	09	23	0	44	57		17	50	11		35	45	42
Sept.	29	0	14	38	+15	20	03	0	27	38	-42	09	23	0	44	57	-17	50	11	1	11	15	+35	45	45	
	8	0	14	38		15	20	05	0	27	38		42	09	25	0	44	58		17	50	11		35	45	47
	18	0	14	39		15	20	06	0	27	39		42	09	26	0	44	58		17	50	11		35	45	50
	28	0	14	39		15	20	07	0	27	39		42	09	28	0	44	58		17	50	12		35	45	52
Oct.	8	0	14	39		15	20	09	0	27	39		42	09	30	0	44	58		17	50	13		35	45	54
	18	0	14	39		15	20	10	0	27	39		42	09	33	0	44	58		17	50	14		35	45	56
Nov.	28	0	14	39	+15	20	10	0	27	39	-42	09	35	0	44	58	-17	50	15	1	11	16	+35	45	58	
	7	0	14	39		15	20	11	0	27	39		42	09	37	0	44	58		17	50	16		35	46	00
	17	0	14	39		15	20	11	0	27	39		42	09	39	0	44	58		17	50	18		35	46	01
	27	0	14	39		15	20	11	0	27	38		42	09	41	0	44	58		17	50	19		35	46	02
Dec.	7	0	14	38		15	20	11	0	27	38		42	09	42	0	44	58		17	50	20		35	46	03
	17	0	14	38		15	20	10	0	27	38		42	09	43	0	44	58		17	50	21		35	46	03
	27	0	14	38	+15	20	10	0	27	38	-42	09	44	0	44	57	-17	50	22	1	11	16	+35	46	04	
	37	0	14	38	+15	20	09	0	27	38	-42	09	44	0	44	57	-17	50	22	1	11	16	+35	46	03	

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

FOR 0 PERKESKAL TIME																									
Name Mag.Spect.		ζ Ceti (HR 539) 3.73 K0 III						ν Ceti (HR 585) 4.00 M0 IIIb						α Arietis (HR 617) 2.00 K2 IIIab						α Ceti (HR 911) 2.53 M1.5 IIIa					
U.T.		Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination		
		h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"
Jan.	1	1	52	46	-10	12	26	2	01	15	-20	57	13	2	08	39	+23	35	15	3	03	40	+4	11	32
	11	1	52	45	10	12	27	2	01	15	20	57	14	2	08	39	23	35	15	3	03	40	4	11	31
	21	1	52	45	10	12	28	2	01	15	20	57	14	2	08	39	23	35	15	3	03	39	4	11	31
	31	1	52	45	10	12	28	2	01	14	20	57	14	2	08	39	23	35	14	3	03	39	4	11	30
Feb.	10	1	52	45	10	12	28	2	01	14	20	57	14	2	08	39	23	35	13	3	03	39	4	11	29
	20	1	52	45	10	12	28	2	01	14	20	57	14	2	08	39	23	35	13	3	03	39	4	11	29
Mar.	2	1	52	45	-10	12	28	2	01	14	-20	57	13	2	08	39	+23	35	12	3	03	39	+4	11	29
	12	1	52	45	10	12	27	2	01	14	20	57	12	2	08	39	23	35	11	3	03	39	4	11	29
	22	1	52	45	10	12	27	2	01	14	20	57	11	2	08	38	23	35	10	3	03	39	4	11	29
Apr.	1	1	52	45	10	12	25	2	01	14	20	57	09	2	08	38	23	35	09	3	03	39	4	11	29
	11	1	52	45	10	12	24	2	01	14	20	57	07	2	08	38	23	35	09	3	03	39	4	11	29
	21	1	52	45	10	12	23	2	01	14	20	57	05	2	08	39	23	35	08	3	03	39	4	11	30
May	1	1	52	45	-10	12	21	2	01	14	-20	57	03	2	08	39	+23	35	08	3	03	39	+4	11	31
	11	1	52	45	10	12	19	2	01	14	20	57	00	2	08	39	23	35	08	3	03	39	4	11	32
	21	1	52	45	10	12	17	2	01	14	20	56	58	2	08	39	23	35	08	3	03	39	4	11	33
	31	1	52	45	10	12	14	2	01	14	20	56	55	2	08	39	23	35	08	3	03	39	4	11	34
June	10	1	52	46	10	12	12	2	01	15	20	56	52	2	08	39	23	35	09	3	03	39	4	11	36
	20	1	52	46	10	12	10	2	01	15	20	56	50	2	08	40	23	35	11	3	03	39	4	11	38
July	30	1	52	46	-10	12	08	2	01	15	-20	56	48	2	08	40	+23	35	12	3	03	40	+4	11	39
	10	1	52	47	10	12	06	2	01	16	20	56	45	2	08	40	23	35	13	3	03	40	4	11	41
	20	1	52	47	10	12	04	2	01	16	20	56	43	2	08	41	23	35	15	3	03	40	4	11	43
	30	1	52	47	10	12	02	2	01	16	20	56	42	2	08	41	23	35	17	3	03	41	4	11	44
Aug.	9	1	52	47	10	12	00	2	01	17	20	56	40	2	08	42	23	35	18	3	03	41	4	11	46
	19	1	52	48	10	11	59	2	01	17	20	56	40	2	08	42	23	35	20	3	03	41	4	11	47
Sept.	29	1	52	48	-10	11	58	2	01	17	-20	56	39	2	08	42	+23	35	22	3	03	42	+4	11	48
	8	1	52	48	10	11	58	2	01	17	20	56	39	2	08	42	23	35	24	3	03	42	4	11	49
	18	1	52	48	10	11	58	2	01	18	20	56	39	2	08	43	23	35	25	3	03	42	4	11	50
	28	1	52	49	10	11	58	2	01	18	20	56	40	2	08	43	23	35	27	3	03	42	4	11	50
Oct.	8	1	52	49	10	11	58	2	01	18	20	56	41	2	08	43	23	35	28	3	03	43	4	11	51
	18	1	52	49	10	11	59	2	01	18	20	56	43	2	08	43	23	35	29	3	03	43	4	11	51
Nov.	28	1	52	49	-10	12	00	2	01	18	-20	56	44	2	08	43	+23	35	30	3	03	43	+4	11	50
	7	1	52	49	10	12	01	2	01	18	20	56	46	2	08	43	23	35	31	3	03	43	4	11	50
	17	1	52	49	10	12	02	2	01	18	20	56	48	2	08	43	23	35	32	3	03	43	4	11	49
	27	1	52	49	10	12	04	2	01	18	20	56	49	2	08	43	23	35	33	3	03	43	4	11	49
Dec.	7	1	52	49	10	12	05	2	01	18	20	56	51	2	08	43	23	35	33	3	03	43	4	11	48
	17	1	52	49	10	12	06	2	01	18	20	56	52	2	08	43	23	35	33	3	03	43	4	11	47
	27	1	52	49	-10	12	07	2	01	18	-20	56	54	2	08	43	+23	35	33	3	03	43	+4	11	47
	37	1	52	49	-10	12	08	2	01	18	-20	56	55	2	08	43	+23	35	33	3	03	43	+4	11	46

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name	η Tauri (HR 1165)	α Tauri (HR 1457)	β Eridani (HR 1666)	γ Orionis (HR 1790)
Mag.Spect.	2.87 B7 IIIIn	0.85 K5 ⁺ III	2.79 A3 IVn	1.64 B2 III
U.T.	Right Declination	Right Declination	Right Declination	Right Declination
	Ascension	Ascension	Ascension	Ascension
	h m s ° ' "	h m s ° ' "	h m s ° ' "	h m s ° ' "
Jan. 1	3 49 04 +24 11 13	4 37 27 +16 33 44	5 09 09 -5 03 11	5 26 33 +6 22 23
11	3 49 03 24 11 13	4 37 26 16 33 44	5 09 09 5 03 12	5 26 33 6 22 23
21	3 49 03 24 11 13	4 37 26 16 33 43	5 09 09 5 03 13	5 26 33 6 22 22
31	3 49 03 24 11 13	4 37 26 16 33 43	5 09 09 5 03 15	5 26 33 6 22 21
Feb. 10	3 49 03 24 11 13	4 37 26 16 33 43	5 09 09 5 03 15	5 26 33 6 22 21
20	3 49 03 24 11 13	4 37 26 16 33 43	5 09 09 5 03 16	5 26 33 6 22 21
Mar. 2	3 49 03 +24 11 12	4 37 26 +16 33 42	5 09 09 -5 03 16	5 26 33 +6 22 20
12	3 49 03 24 11 11	4 37 26 16 33 42	5 09 09 5 03 17	5 26 33 6 22 20
22	3 49 02 24 11 11	4 37 26 16 33 42	5 09 09 5 03 17	5 26 33 6 22 20
Apr. 1	3 49 02 24 11 11	4 37 25 16 33 42	5 09 08 5 03 16	5 26 32 6 22 20
11	3 49 02 24 11 10	4 37 25 16 33 41	5 09 08 5 03 16	5 26 32 6 22 20
21	3 49 02 24 11 09	4 37 25 16 33 41	5 09 08 5 03 15	5 26 32 6 22 20
May 1	3 49 02 +24 11 09	4 37 25 +16 33 41	5 09 08 -5 03 14	5 26 32 +6 22 21
11	3 49 02 24 11 09	4 37 25 16 33 42	5 09 08 5 03 13	5 26 32 6 22 21
21	3 49 02 24 11 09	4 37 25 16 33 42	5 09 08 5 03 12	5 26 32 6 22 22
31	3 49 03 24 11 08	4 37 25 16 33 42	5 09 08 5 03 10	5 26 32 6 22 23
June 10	3 49 03 24 11 09	4 37 25 16 33 43	5 09 08 5 03 08	5 26 32 6 22 24
20	3 49 03 24 11 09	4 37 26 16 33 43	5 09 08 5 03 07	5 26 32 6 22 25
30	3 49 03 +24 11 10	4 37 26 +16 33 44	5 09 08 -5 03 05	5 26 32 +6 22 26
July 10	3 49 04 24 11 10	4 37 26 16 33 45	5 09 09 5 03 03	5 26 33 6 22 27
20	3 49 04 24 11 12	4 37 26 16 33 46	5 09 09 5 03 01	5 26 33 6 22 28
30	3 49 04 24 11 13	4 37 27 16 33 47	5 09 09 5 03 00	5 26 33 6 22 29
Aug. 9	3 49 05 24 11 13	4 37 27 16 33 47	5 09 09 5 02 59	5 26 33 6 22 30
19	3 49 05 24 11 15	4 37 27 16 33 48	5 09 10 5 02 57	5 26 34 6 22 31
29	3 49 05 +24 11 16	4 37 28 +16 33 49	5 09 10 -5 02 56	5 26 34 +6 22 32
Sept. 8	3 49 06 24 11 17	4 37 28 16 33 50	5 09 10 5 02 56	5 26 34 6 22 32
18	3 49 06 24 11 18	4 37 28 16 33 50	5 09 11 5 02 55	5 26 35 6 22 33
28	3 49 06 24 11 19	4 37 29 16 33 51	5 09 11 5 02 55	5 26 35 6 22 33
Oct. 8	3 49 06 24 11 20	4 37 29 16 33 51	5 09 11 5 02 56	5 26 35 6 22 33
18	3 49 07 24 11 21	4 37 29 16 33 51	5 09 11 5 02 57	5 26 35 6 22 32
28	3 49 07 +24 11 21	4 37 29 +16 33 51	5 09 12 -5 02 58	5 26 36 +6 22 32
Nov. 7	3 49 07 24 11 22	4 37 30 16 33 51	5 09 12 5 02 59	5 26 36 6 22 31
17	3 49 07 24 11 22	4 37 30 16 33 51	5 09 12 5 03 00	5 26 36 6 22 30
27	3 49 07 24 11 23	4 37 30 16 33 51	5 09 12 5 03 02	5 26 36 6 22 29
Dec. 7	3 49 07 24 11 23	4 37 30 16 33 51	5 09 12 5 03 03	5 26 37 6 22 28
17	3 49 07 24 11 24	4 37 30 16 33 51	5 09 13 5 03 05	5 26 37 6 22 27
27	3 49 08 +24 11 24	4 37 30 +16 33 50	5 09 13 -5 03 07	5 26 37 +6 22 26
37	3 49 07 +24 11 24	4 37 30 +16 33 50	5 09 13 -5 03 08	5 26 37 +6 22 25

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name Mag.Spect.	β Leporis (HR 1829) 2.84 G5 II						ι Orionis (HR 1899) 2.77 O9 III						α Columbae (HR 1956) 2.64 B7 IV						κ Orionis (HR 2004) 2.06 B0.5 Ia						
U.T.	Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	
Jan.	1	5	29	23	-20	44	21	5	36	44	-5	53	35	5	40	37	-34	03	38	5	49	01	-9	39	38
	11	5	29	23	20	44	23	5	36	44	5	53	37	5	40	37	34	03	41	5	49	01	9	39	40
	21	5	29	23	20	44	25	5	36	44	5	53	38	5	40	37	34	03	43	5	49	01	9	39	42
	31	5	29	23	20	44	27	5	36	44	5	53	39	5	40	37	34	03	46	5	49	01	9	39	43
Feb.	10	5	29	23	20	44	28	5	36	44	5	53	40	5	40	37	34	03	47	5	49	01	9	39	44
	20	5	29	23	20	44	29	5	36	44	5	53	41	5	40	37	34	03	49	5	49	01	9	39	45
Mar.	2	5	29	23	-20	44	30	5	36	44	-5	53	41	5	40	37	-34	03	50	5	49	01	-9	39	46
	12	5	29	23	20	44	30	5	36	43	5	53	42	5	40	36	34	03	50	5	49	01	9	39	46
	22	5	29	22	20	44	30	5	36	43	5	53	42	5	40	36	34	03	50	5	49	00	9	39	46
Apr.	1	5	29	22	20	44	29	5	36	43	5	53	41	5	40	36	34	03	49	5	49	00	9	39	46
	11	5	29	22	20	44	29	5	36	43	5	53	41	5	40	36	34	03	49	5	49	00	9	39	45
	21	5	29	22	20	44	28	5	36	43	5	53	41	5	40	35	34	03	47	5	49	00	9	39	45
May	1	5	29	22	-20	44	26	5	36	43	-5	53	40	5	40	35	-34	03	46	5	49	00	-9	39	44
	11	5	29	22	20	44	24	5	36	43	5	53	38	5	40	35	34	03	44	5	49	00	9	39	43
	21	5	29	22	20	44	23	5	36	43	5	53	37	5	40	35	34	03	41	5	49	00	9	39	41
	31	5	29	22	20	44	21	5	36	43	5	53	36	5	40	35	34	03	39	5	49	00	9	39	40
June	10	5	29	22	20	44	18	5	36	43	5	53	34	5	40	35	34	03	36	5	49	00	9	39	38
	20	5	29	22	20	44	16	5	36	43	5	53	33	5	40	35	34	03	33	5	49	00	9	39	36
July	30	5	29	22	-20	44	13	5	36	43	-5	53	31	5	40	35	-34	03	30	5	49	00	-9	39	34
	10	5	29	22	20	44	11	5	36	43	5	53	29	5	40	36	34	03	27	5	49	00	9	39	32
	20	5	29	22	20	44	09	5	36	43	5	53	27	5	40	36	34	03	25	5	49	00	9	39	30
	30	5	29	23	20	44	07	5	36	44	5	53	26	5	40	36	34	03	22	5	49	01	9	39	29
Aug.	9	5	29	23	20	44	05	5	36	44	5	53	25	5	40	36	34	03	20	5	49	01	9	39	27
	19	5	29	23	20	44	03	5	36	44	5	53	23	5	40	37	34	03	18	5	49	01	9	39	26
Sept.	29	5	29	23	-20	44	02	5	36	44	-5	53	22	5	40	37	-34	03	17	5	49	01	-9	39	25
	8	5	29	24	20	44	01	5	36	45	5	53	22	5	40	37	34	03	16	5	49	02	9	39	24
	18	5	29	24	20	44	01	5	36	45	5	53	21	5	40	37	34	03	15	5	49	02	9	39	24
	28	5	29	24	20	44	01	5	36	45	5	53	21	5	40	38	34	03	15	5	49	02	9	39	24
Oct.	8	5	29	25	20	44	01	5	36	46	5	53	22	5	40	38	34	03	16	5	49	03	9	39	24
	18	5	29	25	20	44	03	5	36	46	5	53	23	5	40	38	34	03	18	5	49	03	9	39	25
Nov.	28	5	29	25	-20	44	04	5	36	46	-5	53	24	5	40	39	-34	03	19	5	49	03	-9	39	26
	7	5	29	25	20	44	06	5	36	46	5	53	25	5	40	39	34	03	21	5	49	03	9	39	28
	17	5	29	26	20	44	08	5	36	47	5	53	26	5	40	39	34	03	24	5	49	04	9	39	30
	27	5	29	26	20	44	11	5	36	47	5	53	28	5	40	39	34	03	27	5	49	04	9	39	32
Dec.	7	5	29	26	20	44	13	5	36	47	5	53	30	5	40	40	34	03	30	5	49	04	9	39	34
	17	5	29	26	20	44	15	5	36	47	5	53	32	5	40	40	34	03	33	5	49	04	9	39	35
	27	5	29	26	-20	44	18	5	36	47	-5	53	33	5	40	40	-34	03	36	5	49	04	-9	39	38
	37	5	29	26	-20	44	20	5	36	47	-5	53	35	5	40	40	-34	03	39	5	49	04	-9	39	40

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name Mag.Spect.	α Orionis (HR 2061) 0.4 - 1.3 M1 M2 Ia Ia b						Canis Majoris (HR 2282) 3.02 B2.5V						α Carinae (HR 2326) -0.72 A9 II						γ Geminorum (HR 2421) 1.93 A1 IVs						
U.T.	Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	
Jan.	1	5	56	37	+7	24	42	6	21	21	-30	04	30	6	24	34	-52	42	33	6	39	15	+16	22	35
	11	5	56	37	7	24	41	6	21	21	30	04	32	6	24	34	52	42	36	6	39	15	16	22	34
	21	5	56	37	7	24	41	6	21	21	30	04	35	6	24	34	52	42	40	6	39	15	16	22	34
	31	5	56	37	7	24	40	6	21	21	30	04	37	6	24	34	52	42	43	6	39	15	16	22	34
Feb.	10	5	56	36	7	24	39	6	21	20	30	04	39	6	24	34	52	42	45	6	39	15	16	22	34
	20	5	56	36	7	24	39	6	21	20	30	04	41	6	24	33	52	42	47	6	39	15	16	22	34
Mar.	2	5	56	36	+7	24	39	6	21	20	-30	04	42	6	24	33	-52	42	49	6	39	15	+16	22	34
	12	5	56	36	7	24	38	6	21	20	30	04	43	6	24	33	52	42	50	6	39	14	16	22	33
	22	5	56	36	7	24	39	6	21	20	30	04	43	6	24	32	52	42	50	6	39	14	16	22	34
Apr.	1	5	56	36	7	24	39	6	21	19	30	04	43	6	24	32	52	42	50	6	39	14	16	22	34
	11	5	56	36	7	24	39	6	21	19	30	04	43	6	24	32	52	42	50	6	39	14	16	22	34
	21	5	56	35	7	24	39	6	21	19	30	04	42	6	24	31	52	42	49	6	39	14	16	22	34
May	1	5	56	35	+7	24	39	6	21	19	-30	04	41	6	24	31	-52	42	48	6	39	14	+16	22	34
	11	5	56	35	7	24	40	6	21	19	30	04	39	6	24	31	52	42	46	6	39	13	16	22	34
	21	5	56	35	7	24	40	6	21	19	30	04	37	6	24	31	52	42	43	6	39	13	16	22	34
	31	5	56	35	7	24	41	6	21	19	30	04	35	6	24	30	52	42	41	6	39	13	16	22	34
June	10	5	56	35	7	24	42	6	21	19	30	04	33	6	24	30	52	42	38	6	39	13	16	22	35
	20	5	56	35	7	24	43	6	21	19	30	04	30	6	24	30	52	42	35	6	39	14	16	22	35
July	30	5	56	36	+7	24	43	6	21	19	-30	04	28	6	24	30	-52	42	32	6	39	14	+16	22	35
	10	5	56	36	7	24	45	6	21	19	30	04	25	6	24	30	52	42	28	6	39	14	16	22	35
	20	5	56	36	7	24	46	6	21	19	30	04	22	6	24	31	52	42	25	6	39	14	16	22	36
	30	5	56	36	7	24	46	6	21	19	30	04	20	6	24	31	52	42	22	6	39	14	16	22	36
Aug.	9	5	56	36	7	24	47	6	21	19	30	04	18	6	24	31	52	42	20	6	39	14	16	22	36
	19	5	56	37	7	24	48	6	21	20	30	04	16	6	24	31	52	42	17	6	39	15	16	22	36
Sept.	29	5	56	37	+7	24	49	6	21	20	-30	04	14	6	24	32	-52	42	15	6	39	15	+16	22	37
	8	5	56	37	7	24	49	6	21	20	30	04	13	6	24	32	52	42	14	6	39	15	16	22	36
	18	5	56	38	7	24	49	6	21	21	30	04	12	6	24	33	52	42	13	6	39	16	16	22	36
	28	5	56	38	7	24	49	6	21	21	30	04	12	6	24	33	52	42	13	6	39	16	16	22	36
Oct.	8	5	56	38	7	24	49	6	21	21	30	04	13	6	24	33	52	42	13	6	39	16	16	22	36
	18	5	56	39	7	24	48	6	21	21	30	04	14	6	24	34	52	42	14	6	39	16	16	22	35
Nov.	28	5	56	39	+7	24	48	6	21	22	-30	04	15	6	24	34	-52	42	16	6	39	17	+16	22	34
	7	5	56	39	7	24	47	6	21	22	30	04	17	6	24	34	52	42	18	6	39	17	16	22	34
	17	5	56	39	7	24	46	6	21	22	30	04	20	6	24	35	52	42	21	6	39	17	16	22	33
	27	5	56	40	7	24	45	6	21	23	30	04	22	6	24	35	52	42	24	6	39	18	16	22	32
Dec.	7	5	56	40	7	24	44	6	21	23	30	04	25	6	24	35	52	42	27	6	39	18	16	22	31
	17	5	56	40	7	24	43	6	21	23	30	04	28	6	24	35	52	42	31	6	39	18	16	22	31
	27	5	56	40	+7	24	42	6	21	23	-30	04	31	6	24	36	-52	42	35	6	39	18	+16	22	30
	37	5	56	40	+7	24	41	6	21	23	-30	04	34	6	24	36	-52	42	38	6	39	18	+16	22	29

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name Mag.Spect.	α Canis Majoris A (HR 2491) -1.46 A0m A1 Va		σ^2 Canis Majoris (HR 2653) 3.02 B3 Ia		β Canis Minoris (HR 2845) 2.90 B8 V		α Canis Minoris A (HR 2943) 0.38 F5 IV-V	
U.T.	Right Ascension		Right Ascension		Right Ascension		Right Ascension	
	h m s	° ' "	h m s	° ' "	h m s	° ' "	h m s	° ' "
Jan.	1	6 46 19 -16 45 07	7 04 08 -23 52 16	7 28 35 +8 14 10	7 40 41 +5 09 27			
	11	6 46 19 16 45 09	7 04 08 23 52 18	7 28 35 8 14 09	7 40 42 5 09 26			
	21	6 46 19 16 45 12	7 04 09 23 52 21	7 28 36 8 14 08	7 40 42 5 09 25			
	31	6 46 19 16 45 14	7 04 08 23 52 24	7 28 36 8 14 07	7 40 42 5 09 24			
Feb.	10	6 46 19 16 45 15	7 04 08 23 52 26	7 28 36 8 14 07	7 40 42 5 09 23			
	20	6 46 19 16 45 17	7 04 08 23 52 27	7 28 36 8 14 06	7 40 42 5 09 22			
Mar.	2	6 46 19 -16 45 18	7 04 08 -23 52 29	7 28 36 +8 14 06	7 40 42 +5 09 22			
	12	6 46 19 16 45 19	7 04 08 23 52 30	7 28 35 8 14 06	7 40 41 5 09 21			
	22	6 46 19 16 45 19	7 04 08 23 52 30	7 28 35 8 14 06	7 40 41 5 09 21			
Apr.	1	6 46 19 16 45 19	7 04 08 23 52 31	7 28 35 8 14 06	7 40 41 5 09 21			
	11	6 46 18 16 45 19	7 04 07 23 52 31	7 28 35 8 14 06	7 40 41 5 09 21			
	21	6 46 18 16 45 19	7 04 07 23 52 30	7 28 35 8 14 06	7 40 41 5 09 22			
May	1	6 46 18 -16 45 18	7 04 07 -23 52 29	7 28 35 +8 14 07	7 40 41 +5 09 22			
	11	6 46 18 16 45 16	7 04 07 23 52 28	7 28 35 8 14 07	7 40 41 5 09 22			
	21	6 46 18 16 45 15	7 04 07 23 52 27	7 28 34 8 14 07	7 40 41 5 09 23			
	31	6 46 18 16 45 14	7 04 07 23 52 25	7 28 34 8 14 08	7 40 40 5 09 23			
June	10	6 46 18 16 45 12	7 04 07 23 52 23	7 28 34 8 14 09	7 40 40 5 09 24			
	20	6 46 18 16 45 10	7 04 07 23 52 21	7 28 34 8 14 09	7 40 40 5 09 25			
July	30	6 46 18 -16 45 08	7 04 07 -23 52 19	7 28 34 +8 14 09	7 40 40 +5 09 25			
	10	6 46 18 16 45 06	7 04 07 23 52 17	7 28 34 8 14 10	7 40 41 5 09 26			
	20	6 46 18 16 45 04	7 04 07 23 52 14	7 28 35 8 14 11	7 40 41 5 09 27			
	30	6 46 18 16 45 02	7 04 07 23 52 12	7 28 35 8 14 11	7 40 41 5 09 28			
Aug.	9	6 46 19 16 45 00	7 04 07 23 52 10	7 28 35 8 14 12	7 40 41 5 09 28			
	19	6 46 19 16 44 59	7 04 08 23 52 08	7 28 35 8 14 12	7 40 41 5 09 29			
Sept.	29	6 46 19 -16 44 58	7 04 08 -23 52 07	7 28 35 +8 14 12	7 40 41 +5 09 29			
	8	6 46 19 16 44 57	7 04 08 23 52 06	7 28 36 8 14 12	7 40 42 5 09 29			
	18	6 46 20 16 44 56	7 04 08 23 52 05	7 28 36 8 14 12	7 40 42 5 09 29			
Oct.	28	6 46 20 16 44 56	7 04 09 23 52 04	7 28 36 8 14 12	7 40 42 5 09 28			
	8	6 46 20 16 44 57	7 04 09 23 52 05	7 28 37 8 14 11	7 40 42 5 09 28			
	18	6 46 21 16 44 58	7 04 09 23 52 06	7 28 37 8 14 10	7 40 43 5 09 27			
Nov.	28	6 46 21 -16 44 59	7 04 10 -23 52 07	7 28 37 +8 14 09	7 40 43 +5 09 26			
	7	6 46 21 16 45 01	7 04 10 23 52 09	7 28 37 8 14 08	7 40 43 5 09 24			
	17	6 46 21 16 45 03	7 04 10 23 52 11	7 28 38 8 14 07	7 40 44 5 09 23			
	27	6 46 22 16 45 05	7 04 10 23 52 13	7 28 38 8 14 05	7 40 44 5 09 21			
Dec.	7	6 46 22 16 45 08	7 04 11 23 52 16	7 28 38 8 14 04	7 40 44 5 09 20			
	17	6 46 22 16 45 10	7 04 11 23 52 19	7 28 39 8 14 03	7 40 45 5 09 18			
	27	6 46 22 -16 45 13	7 04 11 -23 52 22	7 28 39 +8 14 01	7 40 45 +5 09 16			
	37	6 46 22 -16 45 15	7 04 11 -23 52 25	7 28 39 +8 14 00	7 40 45 +5 09 15			

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name Mag.Spect.	β Geminorum(HR 2990) 1.14 K0 IIIb						ξ Puppis(HR 3045) 3.34 G6 Iab-Ib						ρ Puppis(HR 3185) 2.81 F5 (Ib-II)p						ζ Hydrae(HR 3547) 3.11 G9 IIIa						
U.T.	Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	
Jan.	1	7	46	56	+27	57	42	7	50	25	-24	55	28	8	08	41	-24	22	43	8	56	48	+5	50	44
	11	7	46	56	27	57	43	7	50	25	24	55	31	8	08	41	24	22	46	8	56	48	5	50	42
	21	7	46	57	27	57	43	7	50	25	24	55	34	8	08	41	24	22	49	8	56	48	5	50	41
	31	7	46	57	27	57	43	7	50	25	24	55	37	8	08	41	24	22	52	8	56	48	5	50	40
Feb.	10	7	46	57	27	57	44	7	50	25	24	55	39	8	08	41	24	22	54	8	56	48	5	50	39
	20	7	46	57	27	57	44	7	50	25	24	55	41	8	08	41	24	22	56	8	56	48	5	50	38
Mar.	2	7	46	57	+27	57	45	7	50	25	-24	55	43	8	08	41	-24	22	58	8	56	48	+5	50	38
	12	7	46	56	27	57	45	7	50	25	24	55	44	8	08	41	24	23	00	8	56	48	5	50	37
	22	7	46	56	27	57	46	7	50	25	24	55	45	8	08	41	24	23	01	8	56	48	5	50	37
Apr.	1	7	46	56	27	57	47	7	50	24	24	55	46	8	08	40	24	23	02	8	56	48	5	50	37
	11	7	46	56	27	57	47	7	50	24	24	55	46	8	08	40	24	23	02	8	56	48	5	50	37
	21	7	46	56	27	57	47	7	50	24	24	55	46	8	08	40	24	23	02	8	56	48	5	50	38
May	1	7	46	56	+27	57	47	7	50	24	-24	55	46	8	08	40	-24	23	02	8	56	47	+5	50	38
	11	7	46	55	27	57	47	7	50	24	24	55	45	8	08	40	24	23	01	8	56	47	5	50	38
	21	7	46	55	27	57	47	7	50	24	24	55	44	8	08	40	24	23	00	8	56	47	5	50	39
	31	7	46	55	27	57	47	7	50	24	24	55	42	8	08	39	24	22	59	8	56	47	5	50	39
June	10	7	46	55	27	57	46	7	50	23	24	55	41	8	08	39	24	22	57	8	56	47	5	50	40
	20	7	46	55	27	57	46	7	50	23	24	55	39	8	08	39	24	22	56	8	56	47	5	50	40
July	30	7	46	55	+27	57	45	7	50	23	-24	55	37	8	08	39	-24	22	54	8	56	47	+5	50	41
	10	7	46	55	27	57	45	7	50	23	24	55	35	8	08	39	24	22	51	8	56	47	5	50	42
	20	7	46	55	27	57	44	7	50	24	24	55	32	8	08	39	24	22	49	8	56	47	5	50	42
	30	7	46	56	27	57	44	7	50	24	24	55	30	8	08	40	24	22	47	8	56	47	5	50	42
Aug.	9	7	46	56	27	57	43	7	50	24	24	55	28	8	08	40	24	22	45	8	56	47	5	50	43
	19	7	46	56	27	57	42	7	50	24	24	55	26	8	08	40	24	22	43	8	56	47	5	50	43
Sept.	29	7	46	56	+27	57	41	7	50	24	-24	55	24	8	08	40	-24	22	42	8	56	48	+5	50	43
	8	7	46	57	27	57	40	7	50	24	24	55	23	8	08	40	24	22	40	8	56	48	5	50	43
	18	7	46	57	27	57	39	7	50	25	24	55	22	8	08	40	24	22	40	8	56	48	5	50	43
	28	7	46	57	27	57	39	7	50	25	24	55	22	8	08	41	24	22	39	8	56	48	5	50	42
Oct.	8	7	46	58	27	57	38	7	50	25	24	55	22	8	08	41	24	22	39	8	56	48	5	50	41
	18	7	46	58	27	57	36	7	50	26	24	55	23	8	08	41	24	22	39	8	56	49	5	50	40
Nov.	28	7	46	58	+27	57	35	7	50	26	-24	55	24	8	08	42	-24	22	40	8	56	49	+5	50	39
	7	7	46	59	27	57	35	7	50	26	24	55	25	8	08	42	24	22	42	8	56	49	5	50	38
	17	7	46	59	27	57	34	7	50	27	24	55	27	8	08	42	24	22	44	8	56	50	5	50	36
	27	7	46	59	27	57	33	7	50	27	24	55	30	8	08	43	24	22	46	8	56	50	5	50	34
Dec.	7	7	47	00	27	57	32	7	50	27	24	55	32	8	08	43	24	22	49	8	56	50	5	50	32
	17	7	47	00	27	57	32	7	50	27	24	55	35	8	08	43	24	22	51	8	56	51	5	50	30
	27	7	47	00	+27	57	31	7	50	28	-24	55	38	8	08	43	-24	22	54	8	56	51	+5	50	28
	37	7	47	00	+27	57	31	7	50	28	-24	55	41	8	08	44	-24	22	57	8	56	51	+5	50	27

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name Mag.Spect.		λ Velorum(HR 3634) 2.21 K4.5 Ib			α Hydrae(HR 3748) 1.98 K3 II-III			α Leonis(HR 3982) 1.35 B7 Vn			α Antliae(HR 4104) 4.25 K4.5 III		
U.T.		Right Ascension			Right Ascension			Right Ascension			Right Ascension		
		Declination			Declination			Declination			Declination		
		h	m	s	°	'	"	h	m	s	°	'	"
Jan.	1	9	08	59	-43	32	07	9	28	53	-8	46	17
	11	9	08	59	43	32	11	9	28	53	8	46	19
	21	9	08	59	43	32	14	9	28	54	8	46	22
	31	9	08	59	43	32	18	9	28	54	8	46	24
Feb.	10	9	08	59	43	32	21	9	28	54	8	46	26
	20	9	08	59	43	32	25	9	28	54	8	46	27
Mar.	2	9	08	59	-43	32	28	9	28	54	-8	46	29
	12	9	08	59	43	32	30	9	28	54	8	46	30
	22	9	08	59	43	32	32	9	28	54	8	46	31
Apr.	1	9	08	59	43	32	34	9	28	54	8	46	31
	11	9	08	58	43	32	36	9	28	54	8	46	32
	21	9	08	58	43	32	37	9	28	53	8	46	32
May	1	9	08	58	-43	32	37	9	28	53	-8	46	32
	11	9	08	58	43	32	37	9	28	53	8	46	32
	21	9	08	58	43	32	37	9	28	53	8	46	31
	31	9	08	57	43	32	36	9	28	53	8	46	31
June	10	9	08	57	43	32	35	9	28	53	8	46	30
	20	9	08	57	43	32	33	9	28	53	8	46	29
July	30	9	08	57	-43	32	31	9	28	53	-8	46	28
	10	9	08	57	43	32	29	9	28	53	8	46	27
	20	9	08	57	43	32	26	9	28	53	8	46	25
	30	9	08	57	43	32	24	9	28	53	8	46	24
Aug.	9	9	08	57	43	32	21	9	28	53	8	46	23
	19	9	08	57	43	32	19	9	28	53	8	46	22
Sept.	29	9	08	57	-43	32	16	9	28	53	-8	46	21
	8	9	08	57	43	32	14	9	28	53	8	46	21
	18	9	08	57	43	32	12	9	28	53	8	46	20
	28	9	08	58	43	32	11	9	28	54	8	46	20
Oct.	8	9	08	58	43	32	10	9	28	54	8	46	21
	18	9	08	58	43	32	10	9	28	54	8	46	21
Nov.	28	9	08	59	-43	32	10	9	28	54	-8	46	22
	7	9	08	59	43	32	10	9	28	55	8	46	24
	17	9	09	00	43	32	12	9	28	55	8	46	25
	27	9	09	00	43	32	14	9	28	55	8	46	27
Dec.	7	9	09	00	43	32	16	9	28	56	8	46	29
	17	9	09	01	43	32	19	9	28	56	8	46	32
	27	9	09	01	-43	32	23	9	28	56	-8	46	34
	37	9	09	01	-43	32	26	9	28	57	-8	46	37

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name	ν Hydrae(HR 4232)						ξ Hydrae(HR 4450)						β Leonis (HR 4534)						γ Corvi(HR 4662)						
Mag.Spect.	3.11		K1.5 IIIb Hδ-0.5				3.54		G7 III				2.14		A3 Va				2.59		B8p Hg Mn				
U.T.	Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	
Jan.	1	10	50	55	-16	19	45	11	34	18	-31	59	58	11	50	24	+14	25	28	12	17	09	-17	41	08
	11	10	50	56	16	19	48	11	34	18	32	00	01	11	50	24	14	25	26	12	17	09	17	41	10
	21	10	50	56	16	19	50	11	34	18	32	00	04	11	50	24	14	25	24	12	17	10	17	41	13
	31	10	50	56	16	19	53	11	34	19	32	00	07	11	50	25	14	25	23	12	17	10	17	41	15
Feb.	10	10	50	56	16	19	55	11	34	19	32	00	09	11	50	25	14	25	22	12	17	10	17	41	17
	20	10	50	57	16	19	57	11	34	19	32	00	12	11	50	25	14	25	21	12	17	11	17	41	20
Mar.	2	10	50	57	-16	19	59	11	34	19	-32	00	15	11	50	25	+14	25	21	12	17	11	-17	41	22
	12	10	50	57	16	20	01	11	34	19	32	00	18	11	50	25	14	25	21	12	17	11	17	41	23
	22	10	50	57	16	20	02	11	34	19	32	00	20	11	50	26	14	25	22	12	17	11	17	41	25
Apr.	1	10	50	57	16	20	04	11	34	19	32	00	22	11	50	26	14	25	22	12	17	11	17	41	26
	11	10	50	57	16	20	05	11	34	19	32	00	24	11	50	26	14	25	23	12	17	11	17	41	28
	21	10	50	57	16	20	05	11	34	19	32	00	26	11	50	26	14	25	24	12	17	11	17	41	28
May	1	10	50	56	-16	20	06	11	34	19	-32	00	27	11	50	25	+14	25	25	12	17	11	-17	41	29
	11	10	50	56	16	20	06	11	34	19	32	00	28	11	50	25	14	25	26	12	17	11	17	41	30
	21	10	50	56	16	20	06	11	34	19	32	00	29	11	50	25	14	25	26	12	17	11	17	41	30
	31	10	50	56	16	20	05	11	34	19	32	00	29	11	50	25	14	25	27	12	17	11	17	41	30
June	10	10	50	56	16	20	05	11	34	19	32	00	29	11	50	25	14	25	28	12	17	11	17	41	30
	20	10	50	56	16	20	04	11	34	19	32	00	29	11	50	25	14	25	29	12	17	11	17	41	29
July	30	10	50	56	-16	20	03	11	34	18	-32	00	28	11	50	25	+14	25	29	12	17	11	-17	41	29
	10	10	50	56	16	20	02	11	34	18	32	00	27	11	50	25	14	25	30	12	17	10	17	41	28
	20	10	50	56	16	20	01	11	34	18	32	00	26	11	50	25	14	25	30	12	17	10	17	41	27
	30	10	50	56	16	20	00	11	34	18	32	00	24	11	50	25	14	25	30	12	17	10	17	41	26
Aug.	9	10	50	56	16	19	59	11	34	18	32	00	22	11	50	25	14	25	29	12	17	10	17	41	25
	19	10	50	56	16	19	57	11	34	18	32	00	21	11	50	25	14	25	29	12	17	10	17	41	24
Sept.	29	10	50	56	-16	19	56	11	34	18	-32	00	19	11	50	25	+14	25	28	12	17	10	-17	41	23
	8	10	50	56	16	19	55	11	34	18	32	00	17	11	50	25	14	25	27	12	17	10	17	41	23
	18	10	50	56	16	19	55	11	34	18	32	00	16	11	50	25	14	25	26	12	17	10	17	41	22
	28	10	50	56	16	19	54	11	34	18	32	00	14	11	50	25	14	25	25	12	17	10	17	41	21
Oct.	8	10	50	56	16	19	54	11	34	18	32	00	13	11	50	25	14	25	24	12	17	10	17	41	21
	18	10	50	56	16	19	54	11	34	18	32	00	12	11	50	25	14	25	22	12	17	10	17	41	20
Nov.	28	10	50	57	-16	19	54	11	34	19	-32	00	12	11	50	25	+14	25	20	12	17	11	-17	41	20
	7	10	50	57	16	19	55	11	34	19	32	00	12	11	50	25	14	25	18	12	17	11	17	41	21
	17	10	50	57	16	19	57	11	34	19	32	00	13	11	50	26	14	25	15	12	17	11	17	41	22
	27	10	50	57	16	19	58	11	34	20	32	00	14	11	50	26	14	25	13	12	17	11	17	41	23
Dec.	7	10	50	58	16	20	00	11	34	20	32	00	15	11	50	26	14	25	11	12	17	12	17	41	25
	17	10	50	58	16	20	03	11	34	20	32	00	17	11	50	27	14	25	09	12	17	12	17	41	27
	27	10	50	59	-16	20	05	11	34	21	-32	00	19	11	50	27	+14	25	06	12	17	12	-17	41	29
	37	10	50	59	-16	20	08	11	34	21	-32	00	22	11	50	27	+14	25	04	12	17	13	-17	41	31

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name Mag.Spect.	β Corvi (HR 4786) 2.65 G5 I Ib					δ Virginis(HR 4910) 3.38 M3 III					ε Virginis(HR4932) 2.83 G8 IIIab					ι Centauri (HR 5028) 2.75 A2 Va									
U.T.	Right Ascension		Declination			Right Ascension		Declination			Right Ascension		Declination			Right Ascension		Declination							
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	
Jan.	1	12	35	46	-23	32	21	12	56	55	+3	15	17	13	03	29	+10	49	02	13	22	04	-36	50	49
	11	12	35	46	23	32	24	12	56	55	3	15	15	13	03	29	10	49	00	13	22	04	36	50	51
	21	12	35	46	23	32	26	12	56	56	3	15	13	13	03	29	10	48	58	13	22	05	36	50	53
	31	12	35	47	23	32	28	12	56	56	3	15	11	13	03	30	10	48	56	13	22	05	36	50	55
Feb.	10	12	35	47	23	32	31	12	56	56	3	15	10	13	03	30	10	48	55	13	22	05	36	50	57
	20	12	35	47	23	32	33	12	56	57	3	15	09	13	03	30	10	48	54	13	22	06	36	51	00
Mar.	2	12	35	47	-23	32	36	12	56	57	+3	15	08	13	03	30	+10	48	54	13	22	06	-36	51	03
	12	12	35	48	23	32	37	12	56	57	3	15	07	13	03	30	10	48	54	13	22	06	36	51	05
	22	12	35	48	23	32	39	12	56	57	3	15	07	13	03	31	10	48	54	13	22	06	36	51	07
	1	12	35	48	23	32	41	12	56	57	3	15	07	13	03	31	10	48	54	13	22	06	36	51	10
Apr.	11	12	35	48	23	32	43	12	56	57	3	15	07	13	03	31	10	48	55	13	22	07	36	51	12
	21	12	35	48	23	32	44	12	56	57	3	15	07	13	03	31	10	48	56	13	22	07	36	51	14
May	1	12	35	48	-23	32	45	12	56	57	+3	15	08	13	03	31	+10	48	57	13	22	07	-36	51	16
	11	12	35	48	23	32	46	12	56	57	3	15	08	13	03	31	10	48	58	13	22	07	36	51	17
	21	12	35	48	23	32	46	12	56	57	3	15	09	13	03	31	10	48	58	13	22	07	36	51	19
	31	12	35	48	23	32	46	12	56	57	3	15	10	13	03	31	10	49	00	13	22	07	36	51	19
June	10	12	35	48	23	32	46	12	56	57	3	15	10	13	03	31	10	49	01	13	22	07	36	51	20
	20	12	35	47	23	32	46	12	56	57	3	15	11	13	03	31	10	49	01	13	22	06	36	51	21
July	30	12	35	47	-23	32	46	12	56	57	+3	15	12	13	03	31	+10	49	02	13	22	06	-36	51	21
	10	12	35	47	23	32	45	12	56	57	3	15	13	13	03	30	10	49	03	13	22	06	36	51	21
	20	12	35	47	23	32	45	12	56	57	3	15	13	13	03	30	10	49	03	13	22	06	36	51	20
	30	12	35	47	23	32	44	12	56	57	3	15	13	13	03	30	10	49	03	13	22	06	36	51	20
Aug.	9	12	35	47	23	32	43	12	56	57	3	15	14	13	03	30	10	49	03	13	22	06	36	51	19
	19	12	35	47	23	32	41	12	56	57	3	15	14	13	03	30	10	49	03	13	22	06	36	51	17
Sept.	29	12	35	47	-23	32	40	12	56	56	+3	15	14	13	03	30	+10	49	03	13	22	05	-36	51	16
	8	12	35	47	23	32	39	12	56	56	3	15	13	13	03	30	10	49	02	13	22	05	36	51	15
	18	12	35	47	23	32	38	12	56	56	3	15	13	13	03	30	10	49	02	13	22	05	36	51	13
	28	12	35	47	23	32	37	12	56	56	3	15	13	13	03	30	10	49	01	13	22	05	36	51	11
Oct.	8	12	35	47	23	32	36	12	56	56	3	15	12	13	03	30	10	48	59	13	22	05	36	51	10
	18	12	35	47	23	32	36	12	56	57	3	15	11	13	03	30	10	48	58	13	22	05	36	51	09
Nov.	28	12	35	47	-23	32	35	12	56	57	+3	15	09	13	03	30	+10	48	56	13	22	05	-36	51	07
	7	12	35	47	23	32	36	12	56	57	3	15	08	13	03	30	10	48	54	13	22	06	36	51	07
	17	12	35	48	23	32	36	12	56	57	3	15	06	13	03	30	10	48	52	13	22	06	36	51	06
	27	12	35	48	23	32	37	12	56	57	3	15	04	13	03	31	10	48	50	13	22	06	36	51	06
Dec.	7	12	35	48	23	32	38	12	56	58	3	15	02	13	03	31	10	48	47	13	22	07	36	51	06
	17	12	35	49	23	32	40	12	56	58	3	15	00	13	03	31	10	48	45	13	22	07	36	51	07
	27	12	35	49	-23	32	42	12	56	58	+3	14	57	13	03	32	+10	48	42	13	22	07	-36	51	09
	37	12	35	49	-23	32	44	12	56	59	+3	14	55	13	03	32	+10	48	40	13	22	08	-36	51	10

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name Mag.Spect.		α Virginis(HR 5056) 0.98 B1 V						θ Centauri (HR 5288) 2.06 K0 IIIb						α^2 Librae (HR 5531) 2.75 A3 III-IV						β Lupi (HR 5571) 2.68 B2 IV					
U.T.		Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination		
		h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"
Jan.	1	13	26	34	-11	17	49	14	08	13	-36	29	44	14	52	19	-16	08	58	15	00	14	-43	14	09
	11	13	26	34	11	17	51	14	08	13	36	29	45	14	52	19	16	08	59	15	00	14	43	14	10
	21	13	26	35	11	17	53	14	08	14	36	29	47	14	52	19	16	09	01	15	00	15	43	14	11
	31	13	26	35	11	17	55	14	08	14	36	29	49	14	52	20	16	09	03	15	00	15	43	14	12
Feb.	10	13	26	35	11	17	57	14	08	14	36	29	51	14	52	20	16	09	04	15	00	15	43	14	13
	20	13	26	36	11	17	59	14	08	15	36	29	53	14	52	20	16	09	06	15	00	16	43	14	15
Mar.	2	13	26	36	-11	18	01	14	08	15	-36	29	55	14	52	21	-16	09	07	15	00	16	-43	14	17
	12	13	26	36	-11	18	02	14	08	15	36	29	57	14	52	21	16	09	08	15	00	17	43	14	19
	22	13	26	36	-11	18	03	14	08	15	36	29	59	14	52	21	16	09	09	15	00	17	43	14	21
Apr.	1	13	26	36	-11	18	04	14	08	16	36	30	02	14	52	22	16	09	10	15	00	17	43	14	23
	11	13	26	36	-11	18	05	14	08	16	36	30	03	14	52	22	16	09	11	15	00	18	43	14	25
	21	13	26	36	-11	18	05	14	08	16	36	30	05	14	52	22	16	09	12	15	00	18	43	14	27
May	1	13	26	37	-11	18	05	14	08	16	-36	30	07	14	52	22	-16	09	12	15	00	18	-43	14	29
	11	13	26	37	11	18	05	14	08	16	36	30	09	14	52	22	16	09	12	15	00	18	43	14	31
	21	13	26	37	11	18	05	14	08	16	36	30	10	14	52	22	16	09	12	15	00	18	43	14	32
	31	13	26	36	11	18	05	14	08	16	36	30	11	14	52	22	16	09	12	15	00	18	43	14	34
June	10	13	26	36	11	18	05	14	08	16	36	30	12	14	52	22	16	09	12	15	00	18	43	14	35
	20	13	26	36	11	18	05	14	08	16	36	30	13	14	52	22	16	09	12	15	00	18	43	14	37
July	30	13	26	36	-11	18	04	14	08	16	-36	30	13	14	52	22	-16	09	12	15	00	18	-43	14	37
	10	13	26	36	11	18	04	14	08	16	36	30	13	14	52	22	16	09	12	15	00	18	43	14	38
	20	13	26	36	11	18	03	14	08	16	36	30	13	14	52	22	16	09	12	15	00	18	43	14	39
	30	13	26	36	11	18	03	14	08	16	36	30	13	14	52	22	16	09	11	15	00	18	43	14	39
Aug.	9	13	26	36	11	18	02	14	08	15	36	30	12	14	52	22	16	09	11	15	00	18	43	14	38
	19	13	26	36	11	18	01	14	08	15	36	30	11	14	52	22	16	09	10	15	00	17	43	14	38
Sept.	29	13	26	36	-11	18	01	14	08	15	-36	30	10	14	52	22	-16	09	10	15	00	17	-43	14	37
	8	13	26	36	11	18	00	14	08	15	36	30	09	14	52	21	16	09	09	15	00	17	43	14	36
	18	13	26	36	11	18	00	14	08	15	36	30	08	14	52	21	16	09	09	15	00	17	43	14	35
	28	13	26	36	11	18	00	14	08	15	36	30	06	14	52	21	16	09	08	15	00	17	43	14	34
Oct.	8	13	26	36	11	18	00	14	08	15	36	30	05	14	52	21	16	09	08	15	00	17	43	14	32
	18	13	26	36	11	18	00	14	08	15	36	30	04	14	52	21	16	09	08	15	00	17	43	14	30
Nov.	28	13	26	36	-11	18	00	14	08	15	-36	30	02	14	52	21	-16	09	08	15	00	17	-43	14	29
	7	13	26	36	11	18	01	14	08	15	36	30	02	14	52	21	16	09	08	15	00	17	43	14	28
	17	13	26	36	11	18	02	14	08	15	36	30	01	14	52	21	16	09	08	15	00	17	43	14	26
	27	13	26	36	11	18	03	14	08	15	36	30	01	14	52	21	16	09	09	15	00	17	43	14	25
Dec.	7	13	26	37	11	18	04	14	08	16	36	30	01	14	52	22	16	09	10	15	00	17	43	14	24
	17	13	26	37	11	18	06	14	08	16	36	30	01	14	52	22	16	09	11	15	00	18	43	14	24
	27	13	26	37	-11	18	08	14	08	17	-36	30	02	14	52	22	-16	09	12	15	00	18	-43	14	24
	37	13	26	38	-11	18	10	14	08	17	-36	30	03	14	52	23	-16	09	14	15	00	18	-43	14	24

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

FORU TERRESTRIAL TIME																									
Name Mag.Spect.	β Librae(HR 5685) 2.61 B8 IIIIn						α Serpentis (HR 5854) 2.65 K2 IIIb CN I						δ Scorpii (HR 5953) 2.32 B0.3 IV						δ Ophiuchi (HR 6056) 2.74 M0.5 III						
U.T.	Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			Right Ascension			Declination			
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	
Jan.	1	15	18	24	-9	28	44	15	45	32	+6	20	33	16	01	52	-22	41	42	16	15	42	-3	45	43
	11	15	18	24	9	28	46	15	45	33	6	20	30	16	01	52	22	41	43	16	15	42	3	45	44
	21	15	18	25	9	28	48	15	45	33	6	20	28	16	01	52	22	41	44	16	15	42	3	45	46
	31	15	18	25	9	28	49	15	45	33	6	20	27	16	01	53	22	41	45	16	15	43	3	45	47
Feb.	10	15	18	25	9	28	51	15	45	34	6	20	25	16	01	53	22	41	46	16	15	43	3	45	49
	20	15	18	26	9	28	52	15	45	34	6	20	24	16	01	53	22	41	47	16	15	43	3	45	50
Mar.	2	15	18	26	-9	28	53	15	45	34	+6	20	23	16	01	54	-22	41	48	16	15	44	-3	45	51
	12	15	18	26	9	28	54	15	45	35	6	20	23	16	01	54	22	41	49	16	15	44	3	45	51
	22	15	18	26	9	28	55	15	45	35	6	20	23	16	01	54	22	41	50	16	15	44	3	45	52
Apr.	1	15	18	27	9	28	56	15	45	35	6	20	23	16	01	55	22	41	51	16	15	45	3	45	52
	11	15	18	27	9	28	56	15	45	35	6	20	23	16	01	55	22	41	51	16	15	45	3	45	52
	21	15	18	27	9	28	56	15	45	35	6	20	24	16	01	55	22	41	52	16	15	45	3	45	51
May	1	15	18	27	-9	28	56	15	45	36	+6	20	25	16	01	55	-22	41	53	16	15	45	-3	45	51
	11	15	18	27	9	28	56	15	45	36	6	20	26	16	01	56	22	41	53	16	15	45	3	45	50
	21	15	18	27	9	28	55	15	45	36	6	20	28	16	01	56	22	41	53	16	15	46	3	45	49
	31	15	18	28	9	28	55	15	45	36	6	20	29	16	01	56	22	41	54	16	15	46	3	45	48
June	10	15	18	28	9	28	55	15	45	36	6	20	30	16	01	56	22	41	54	16	15	46	3	45	48
	20	15	18	28	9	28	54	15	45	36	6	20	32	16	01	56	22	41	54	16	15	46	3	45	47
July	30	15	18	28	-9	28	53	15	45	36	+6	20	33	16	01	56	-22	41	54	16	15	46	-3	45	46
	10	15	18	27	9	28	53	15	45	36	6	20	34	16	01	56	22	41	54	16	15	46	3	45	45
	20	15	18	27	9	28	53	15	45	36	6	20	35	16	01	56	22	41	54	16	15	46	3	45	44
	30	15	18	27	9	28	52	15	45	36	6	20	36	16	01	56	22	41	54	16	15	46	3	45	44
Aug.	9	15	18	27	9	28	52	15	45	36	6	20	36	16	01	56	22	41	54	16	15	46	3	45	43
	19	15	18	27	9	28	51	15	45	36	6	20	37	16	01	55	22	41	54	16	15	45	3	45	43
Sept.	29	15	18	27	-9	28	51	15	45	35	+6	20	37	16	01	55	-22	41	54	16	15	45	-3	45	43
	8	15	18	27	9	28	51	15	45	35	6	20	37	16	01	55	22	41	53	16	15	45	3	45	42
	18	15	18	27	9	28	50	15	45	35	6	20	37	16	01	55	22	41	52	16	15	45	3	45	42
	28	15	18	27	9	28	50	15	45	35	6	20	36	16	01	55	22	41	52	16	15	45	3	45	42
Oct.	8	15	18	26	9	28	50	15	45	35	6	20	36	16	01	55	22	41	52	16	15	45	3	45	43
	18	15	18	26	9	28	50	15	45	35	6	20	35	16	01	55	22	41	51	16	15	45	3	45	43
Nov.	28	15	18	26	-9	28	51	15	45	35	+6	20	34	16	01	55	-22	41	51	16	15	45	-3	45	43
	7	15	18	26	9	28	51	15	45	35	6	20	32	16	01	55	22	41	50	16	15	45	3	45	44
	17	15	18	27	9	28	52	15	45	35	6	20	31	16	01	55	22	41	50	16	15	45	3	45	45
	27	15	18	27	9	28	53	15	45	35	6	20	29	16	01	55	22	41	50	16	15	45	3	45	46
Dec.	7	15	18	27	9	28	54	15	45	35	6	20	27	16	01	55	22	41	50	16	15	45	3	45	47
	17	15	18	27	9	28	55	15	45	35	6	20	25	16	01	55	22	41	51	16	15	45	3	45	49
	27	15	18	27	-9	28	57	15	45	36	+6	20	23	16	01	55	-22	41	51	16	15	45	-3	45	51
	37	15	18	28	-9	28	58	15	45	36	+6	20	21	16	01	56	-22	41	52	16	15	45	-3	45	52

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name Mag.Spect.		α Scorpii A (HR 6134) 0.9 - 1.8 M1.5 Iab-Ib		ζ Ophiuchi (HR 6175) 2.56 O9.5 Vn		ϵ Scorpii (HR 6241) 2.29 K2 III		θ Ophiuchi (HR 6453) 3.27 B2 IV	
U.T.		Right Ascension		Declination		Right Ascension		Declination	
		h m s		° ' "		h m s		° ' "	
Jan.	1	16 30 59	-26 29 20	16 38 35	-10 37 11	16 51 50	-34 20 21	17 23 35	-25 01 30
	11	16 31 00	26 29 20	16 38 35	10 37 13	16 51 50	34 20 21	17 23 36	25 01 30
	21	16 31 00	26 29 21	16 38 35	10 37 14	16 51 51	34 20 21	17 23 36	25 01 31
	31	16 31 00	26 29 21	16 38 36	10 37 15	16 51 51	34 20 21	17 23 36	25 01 31
Feb.	10	16 31 01	26 29 22	16 38 36	10 37 16	16 51 51	34 20 22	17 23 37	25 01 31
	20	16 31 01	26 29 23	16 38 36	10 37 17	16 51 52	34 20 22	17 23 37	25 01 32
Mar.	2	16 31 01	-26 29 24	16 38 37	-10 37 18	16 51 52	-34 20 23	17 23 37	-25 01 32
	12	16 31 02	26 29 24	16 38 37	10 37 19	16 51 52	34 20 23	17 23 38	25 01 32
	22	16 31 02	26 29 25	16 38 37	10 37 19	16 51 53	34 20 24	17 23 38	25 01 33
	1	16 31 02	26 29 26	16 38 37	10 37 20	16 51 53	34 20 25	17 23 38	25 01 33
Apr.	11	16 31 03	26 29 27	16 38 38	10 37 19	16 51 54	34 20 26	17 23 39	25 01 33
	21	16 31 03	26 29 27	16 38 38	10 37 19	16 51 54	34 20 26	17 23 39	25 01 33
May	1	16 31 03	-26 29 28	16 38 38	-10 37 19	16 51 54	-34 20 27	17 23 39	-25 01 33
	11	16 31 03	26 29 28	16 38 38	10 37 19	16 51 54	34 20 28	17 23 39	25 01 34
	21	16 31 04	26 29 29	16 38 39	10 37 18	16 51 55	34 20 29	17 23 40	25 01 34
	31	16 31 04	26 29 29	16 38 39	10 37 17	16 51 55	34 20 29	17 23 40	25 01 34
June	10	16 31 04	26 29 30	16 38 39	10 37 17	16 51 55	34 20 30	17 23 40	25 01 34
	20	16 31 04	26 29 30	16 38 39	10 37 17	16 51 55	34 20 31	17 23 40	25 01 34
July	30	16 31 04	-26 29 30	16 38 39	-10 37 16	16 51 55	-34 20 32	17 23 40	-25 01 34
	10	16 31 04	26 29 30	16 38 39	10 37 15	16 51 55	34 20 32	17 23 40	25 01 34
	20	16 31 04	26 29 31	16 38 39	10 37 15	16 51 55	34 20 33	17 23 40	25 01 35
	30	16 31 04	26 29 31	16 38 39	10 37 14	16 51 55	34 20 34	17 23 40	25 01 35
Aug.	9	16 31 04	26 29 31	16 38 39	10 37 14	16 51 55	34 20 34	17 23 40	25 01 35
	19	16 31 04	26 29 31	16 38 39	10 37 14	16 51 55	34 20 34	17 23 40	25 01 35
Sept.	29	16 31 03	-26 29 31	16 38 38	-10 37 14	16 51 55	-34 20 34	17 23 40	-25 01 35
	8	16 31 03	26 29 30	16 38 38	10 37 13	16 51 54	34 20 34	17 23 40	25 01 35
	18	16 31 03	26 29 30	16 38 38	10 37 13	16 51 54	34 20 34	17 23 40	25 01 35
	28	16 31 03	26 29 30	16 38 38	10 37 13	16 51 54	34 20 33	17 23 39	25 01 35
Oct.	8	16 31 03	26 29 29	16 38 38	10 37 13	16 51 54	34 20 33	17 23 39	25 01 34
	18	16 31 03	26 29 28	16 38 38	10 37 13	16 51 54	34 20 32	17 23 39	25 01 34
Nov.	28	16 31 03	-26 29 28	16 38 38	10 37 13	16 51 54	-34 20 31	17 23 39	-25 01 34
	7	16 31 03	26 29 27	16 38 38	10 37 13	16 51 54	34 20 30	17 23 39	25 01 33
	17	16 31 03	26 29 27	16 38 38	10 37 14	16 51 54	34 20 29	17 23 39	25 01 33
	27	16 31 03	26 29 27	16 38 38	10 37 14	16 51 54	34 20 28	17 23 39	25 01 32
Dec.	7	16 31 03	26 29 26	16 38 38	10 37 15	16 51 54	34 20 28	17 23 39	25 01 32
	17	16 31 03	26 29 26	16 38 38	10 37 16	16 51 54	34 20 27	17 23 39	25 01 32
	27	16 31 03	-26 29 27	16 38 38	-10 37 17	16 51 54	-34 20 27	17 23 39	-25 01 32
	37	16 31 04	-26 29 27	16 38 38	-10 37 18	16 51 54	-34 20 26	17 23 40	-25 01 32

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name	λ Scorpii (HR 6527)						α Ophiuchi(HR 6556)						β Ophiuchi (HR 6603)						δ Sagittarii (HR 6859)						
Mag.Spect.	1.63			B1.5 IV			2.08			A5 Vnn			2.77			K2 III CN 0.5			2.70			K2.5 IIIa			
U.T.	Right			Declination			Right			Declination			Right			Declination			Right			Declination			
	Ascension						Ascension						Ascension						Ascension						
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	
Jan.	1	17	35	21	-37	07	18	17	36	07	+12	32	24	17	44	44	+4	33	20	18	22	38	-29	49	01
	11	17	35	22	37	07	18	17	36	08	12	32	22	17	44	45	4	33	18	18	22	39	29	49	00
	21	17	35	22	37	07	18	17	36	08	12	32	19	17	44	45	4	33	17	18	22	39	29	49	00
	31	17	35	22	37	07	17	17	36	08	12	32	18	17	44	45	4	33	15	18	22	39	29	49	00
Feb.	10	17	35	23	37	07	17	17	36	08	12	32	16	17	44	45	4	33	14	18	22	39	29	48	59
	20	17	35	23	37	07	17	17	36	09	12	32	14	17	44	46	4	33	12	18	22	40	29	48	59
Mar.	2	17	35	23	-37	07	17	17	36	09	+12	32	14	17	44	46	+4	33	12	18	22	40	-29	48	59
	12	17	35	24	37	07	17	17	36	09	12	32	13	17	44	46	4	33	11	18	22	40	29	48	59
	22	17	35	24	37	07	17	17	36	10	12	32	13	17	44	47	4	33	11	18	22	41	29	48	58
Apr.	1	17	35	25	37	07	18	17	36	10	12	32	13	17	44	47	4	33	11	18	22	41	29	48	58
	11	17	35	25	37	07	18	17	36	10	12	32	14	17	44	47	4	33	12	18	22	41	29	48	58
	21	17	35	25	37	07	18	17	36	11	12	32	15	17	44	47	4	33	13	18	22	42	29	48	58
May	1	17	35	26	-37	07	19	17	36	11	+12	32	17	17	44	48	+4	33	14	18	22	42	-29	48	58
	11	17	35	26	37	07	20	17	36	11	12	32	18	17	44	48	4	33	15	18	22	42	29	48	57
	21	17	35	26	37	07	20	17	36	11	12	32	20	17	44	48	4	33	17	18	22	43	29	48	57
	31	17	35	26	37	07	21	17	36	11	12	32	22	17	44	48	4	33	19	18	22	43	29	48	57
June	10	17	35	27	37	07	22	17	36	12	12	32	24	17	44	49	4	33	20	18	22	43	29	48	58
	20	17	35	27	37	07	23	17	36	12	12	32	26	17	44	49	4	33	22	18	22	43	29	48	58
July	30	17	35	27	-37	07	23	17	36	12	+12	32	28	17	44	49	+4	33	24	18	22	44	-29	48	58
	10	17	35	27	37	07	24	17	36	12	12	32	30	17	44	49	4	33	25	18	22	44	29	48	58
	20	17	35	27	37	07	25	17	36	12	12	32	31	17	44	49	4	33	26	18	22	44	29	48	59
	30	17	35	27	37	07	26	17	36	12	12	32	33	17	44	49	4	33	27	18	22	44	29	48	59
Aug.	9	17	35	27	37	07	26	17	36	12	12	32	34	17	44	49	4	33	29	18	22	44	29	49	00
	19	17	35	27	37	07	27	17	36	11	12	32	35	17	44	49	4	33	29	18	22	44	29	49	00
Sept.	29	17	35	26	-37	07	27	17	36	11	+12	32	36	17	44	48	+4	33	30	18	22	43	-29	49	01
	8	17	35	26	37	07	27	17	36	11	12	32	36	17	44	48	4	33	30	18	22	43	29	49	01
	18	17	35	26	37	07	27	17	36	11	12	32	37	17	44	48	4	33	31	18	22	43	29	49	01
	28	17	35	26	37	07	27	17	36	11	12	32	36	17	44	48	4	33	30	18	22	43	29	49	01
Oct.	8	17	35	26	37	07	27	17	36	11	12	32	36	17	44	48	4	33	30	18	22	43	29	49	01
	18	17	35	26	37	07	26	17	36	10	12	32	35	17	44	48	4	33	30	18	22	43	29	49	01
Nov.	28	17	35	25	-37	07	25	17	36	10	+12	32	34	17	44	47	+4	33	29	18	22	42	-29	49	01
	7	17	35	25	37	07	25	17	36	10	12	32	33	17	44	47	4	33	28	18	22	42	29	49	00
	17	17	35	25	37	07	24	17	36	10	12	32	32	17	44	47	4	33	27	18	22	42	29	49	00
	27	17	35	25	37	07	23	17	36	10	12	32	30	17	44	47	4	33	26	18	22	42	29	48	59
Dec.	7	17	35	25	37	07	22	17	36	10	12	32	28	17	44	47	4	33	24	18	22	42	29	48	59
	17	17	35	25	37	07	21	17	36	10	12	32	26	17	44	47	4	33	23	18	22	42	29	48	58
	27	17	35	26	-37	07	20	17	36	10	+12	32	24	17	44	48	+4	33	21	18	22	43	-29	48	58
	37	17	35	26	-37	07	19	17	36	11	+12	32	22	17	44	48	+4	33	19	18	22	43	-29	48	57

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name	ε Sagittarii (HR 6879)						σ Sagittarii (HR 7121)						ζ Aquilae (HR 7235)						γ Aquilae(HR 7525)						
Mag.Spect.	1.85			A0 II n(shell)			2.02			B3 IV			2.99			A0 Vann			2.72			K3 II			
U.T.	Right			Declination			Right			Declination			Right			Declination			Right			Declination			
	Ascension						Ascension						Ascension						Ascension						
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	
Jan.	1	18	25	53	-34	22	19	18	56	51	-26	15	53	19	06	35	+13	54	06	19	47	29	+10	40	35
	11	18	25	53	34	22	19	18	56	52	26	15	53	19	06	35	13	54	04	19	47	29	10	40	34
	21	18	25	53	34	22	18	18	56	52	26	15	52	19	06	35	13	54	02	19	47	29	10	40	32
	31	18	25	53	34	22	17	18	56	52	26	15	52	19	06	36	13	54	00	19	47	29	10	40	30
Feb.	10	18	25	54	34	22	17	18	56	52	26	15	51	19	06	36	13	53	58	19	47	29	10	40	29
	20	18	25	54	34	22	17	18	56	53	26	15	51	19	06	36	13	53	57	19	47	29	10	40	27
Mar.	2	18	25	54	-34	22	16	18	56	53	-26	15	51	19	06	36	+13	53	56	19	47	30	+10	40	27
	12	18	25	55	34	22	16	18	56	53	26	15	50	19	06	37	13	53	55	19	47	30	10	40	26
	22	18	25	55	34	22	15	18	56	54	26	15	50	19	06	37	13	53	55	19	47	30	10	40	26
Apr.	1	18	25	55	34	22	15	18	56	54	26	15	49	19	06	37	13	53	55	19	47	30	10	40	26
	11	18	25	56	34	22	15	18	56	54	26	15	48	19	06	37	13	53	56	19	47	31	10	40	27
	21	18	25	56	34	22	15	18	56	55	26	15	48	19	06	38	13	53	57	19	47	31	10	40	28
May	1	18	25	57	-34	22	15	18	56	55	-26	15	47	19	06	38	+13	53	58	19	47	31	+10	40	29
	11	18	25	57	34	22	15	18	56	55	26	15	47	19	06	38	13	54	00	19	47	32	10	40	30
	21	18	25	57	34	22	15	18	56	56	26	15	46	19	06	39	13	54	02	19	47	32	10	40	32
	31	18	25	57	34	22	15	18	56	56	26	15	46	19	06	39	13	54	04	19	47	32	10	40	34
June	10	18	25	58	34	22	16	18	56	56	26	15	46	19	06	39	13	54	06	19	47	32	10	40	36
	20	18	25	58	34	22	16	18	56	56	26	15	46	19	06	39	13	54	09	19	47	33	10	40	39
July	30	18	25	58	-34	22	16	18	56	57	-26	15	45	19	06	39	+13	54	11	19	47	33	+10	40	41
	10	18	25	58	34	22	17	18	56	57	26	15	46	19	06	40	13	54	13	19	47	33	10	40	43
	20	18	25	58	34	22	18	18	56	57	26	15	46	19	06	40	13	54	15	19	47	33	10	40	45
	30	18	25	58	34	22	18	18	56	57	26	15	46	19	06	40	13	54	17	19	47	33	10	40	47
Aug.	9	18	25	58	34	22	19	18	56	57	26	15	46	19	06	40	13	54	19	19	47	33	10	40	49
	19	18	25	58	34	22	20	18	56	57	26	15	47	19	06	40	13	54	20	19	47	33	10	40	50
Sept.	29	18	25	58	-34	22	20	18	56	57	-26	15	47	19	06	39	+13	54	21	19	47	33	+10	40	52
	8	18	25	58	34	22	21	18	56	57	26	15	47	19	06	39	13	54	23	19	47	33	10	40	53
	18	18	25	58	34	22	21	18	56	56	26	15	48	19	06	39	13	54	23	19	47	33	10	40	54
	28	18	25	57	34	22	21	18	56	56	26	15	48	19	06	39	13	54	23	19	47	33	10	40	54
Oct.	8	18	25	57	34	22	21	18	56	56	26	15	48	19	06	39	13	54	24	19	47	33	10	40	54
	18	18	25	57	34	22	21	18	56	56	26	15	48	19	06	39	13	54	24	19	47	32	10	40	54
Nov.	28	18	25	57	-34	22	21	18	56	56	-26	15	48	19	06	38	+13	54	23	19	47	32	+10	40	54
	7	18	25	57	34	22	20	18	56	56	26	15	48	19	06	38	13	54	22	19	47	32	10	40	53
	17	18	25	57	34	22	19	18	56	55	26	15	48	19	06	38	13	54	21	19	47	32	10	40	53
	27	18	25	57	34	22	18	18	56	55	26	15	47	19	06	38	13	54	20	19	47	32	10	40	52
Dec.	7	18	25	57	34	22	18	18	56	55	26	15	47	19	06	38	13	54	18	19	47	32	10	40	50
	17	18	25	57	34	22	17	18	56	55	26	15	47	19	06	38	13	54	16	19	47	32	10	40	49
	27	18	25	57	-34	22	16	18	56	56	-26	15	46	19	06	38	+13	54	15	19	47	32	+10	40	47
	37	18	25	57	-34	22	15	18	56	56	-26	15	46	19	06	38	+13	54	13	19	47	32	+10	40	46

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name Mag.Spect.		α Aquilae (HR 7557) 0.77 A7 Vnn			γ Cygni (HR 7796) 2.20 F8 Ib			α Cygni (HR 7924) 1.25 A2 Ia			β Aquarii (HR 8232) 2.91 G0 Ib		
U.T.		Right Ascension			Right Ascension			Right Ascension			Right Ascension		
		h	m	s	°	'	"	h	m	s	°	'	"
Jan.	1	19	52	02	+8	56	13	20	23	08	+40	20	27
	11	19	52	02	8	56	11	20	23	08	40	20	25
	21	19	52	02	8	56	10	20	23	08	40	20	22
	31	19	52	02	8	56	08	20	23	08	40	20	19
Feb.	10	19	52	03	8	56	07	20	23	08	40	20	16
	20	19	52	03	8	56	05	20	23	08	40	20	13
Mar.	2	19	52	03	+8	56	05	20	23	09	+40	20	11
	12	19	52	03	8	56	04	20	23	09	40	20	10
	22	19	52	03	8	56	04	20	23	09	40	20	08
	1	19	52	04	8	56	04	20	23	10	40	20	08
Apr.	11	19	52	04	8	56	05	20	23	10	40	20	08
	21	19	52	04	8	56	06	20	23	10	40	20	08
May	1	19	52	05	+8	56	07	20	23	11	+40	20	09
	11	19	52	05	8	56	09	20	23	11	40	20	11
	21	19	52	05	8	56	11	20	23	11	40	20	13
	31	19	52	06	8	56	13	20	23	12	40	20	15
June	10	19	52	06	8	56	15	20	23	12	40	20	18
	20	19	52	06	8	56	17	20	23	12	40	20	21
July	30	19	52	06	+8	56	19	20	23	12	+40	20	24
	10	19	52	06	8	56	21	20	23	13	40	20	27
	20	19	52	07	8	56	23	20	23	13	40	20	31
	30	19	52	07	8	56	25	20	23	13	40	20	34
Aug.	9	19	52	07	8	56	27	20	23	13	40	20	37
	19	19	52	07	8	56	28	20	23	13	40	20	40
Sept.	29	19	52	07	+8	56	29	20	23	13	+40	20	43
	8	19	52	06	8	56	31	20	23	13	40	20	45
	18	19	52	06	8	56	31	20	23	12	40	20	47
	28	19	52	06	8	56	32	20	23	12	40	20	48
Oct.	8	19	52	06	8	56	32	20	23	12	40	20	50
	18	19	52	06	8	56	32	20	23	12	40	20	51
Nov.	28	19	52	06	+8	56	32	20	23	12	+40	20	51
	7	19	52	06	8	56	31	20	23	11	40	20	50
	17	19	52	05	8	56	30	20	23	11	40	20	50
	27	19	52	05	8	56	30	20	23	11	40	20	49
Dec.	7	19	52	05	8	56	28	20	23	11	40	20	47
	17	19	52	05	8	56	27	20	23	11	40	20	45
	27	19	52	05	+8	56	26	20	23	11	+40	20	43
	37	19	52	05	+8	56	24	20	23	10	+40	20	40

APPARENT PLACES OF STARS, 2026

FOR 0^h TERRESTRIAL TIME

Name	ε Pegasi (HR 8308)						α Aquarii (HR 8414))						δ Aquarii (HR 8709)						α Pegasi (HR 8781)							
Mag.Spect.	0.7 - 3.5			K2 Ib-II			2.96			G2 Ib			3.27			A3 IV-V			2.49			A0 III-IV				
U.T.	Right			Declination			Right			Declination			Right			Declination			Right			Declination				
	Ascension						Ascension						Ascension						Ascension							
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"		
Jan.	1	21	45	27	+9	59	42	22	07	07	-0	11	37	22	56	01	-15	41	02	23	06	03	+15	20	48	
	11	21	45	27		9	59	40	22	07	07	0	11	38	22	56	01	15	41	02	23	06	03	15	20	47
	21	21	45	27		9	59	39	22	07	07	0	11	38	22	56	01	15	41	02	23	06	03	15	20	46
Feb.	31	21	45	27		9	59	38	22	07	07	0	11	39	22	56	01	15	41	02	23	06	03	15	20	45
	10	21	45	27		9	59	37	22	07	07	0	11	39	22	56	01	15	41	01	23	06	03	15	20	43
	20	21	45	27		9	59	36	22	07	07	0	11	40	22	56	01	15	41	01	23	06	03	15	20	42
Mar.	2	21	45	27	+9	59	35	22	07	07	-0	11	40	22	56	01	-15	41	00	23	06	03	+15	20	41	
	12	21	45	27		9	59	34	22	07	07	0	11	40	22	56	01	15	40	59	23	06	03	15	20	40
	22	21	45	28		9	59	34	22	07	07	0	11	40	22	56	02	15	40	58	23	06	03	15	20	40
Apr.	1	21	45	28		9	59	34	22	07	07	0	11	39	22	56	02	15	40	56	23	06	03	15	20	39
	11	21	45	28		9	59	35	22	07	07	0	11	38	22	56	02	15	40	54	23	06	03	15	20	40
	21	21	45	28		9	59	35	22	07	08	0	11	37	22	56	02	15	40	52	23	06	04	15	20	40
May	1	21	45	29	+9	59	36	22	07	08	-0	11	36	22	56	02	-15	40	51	23	06	04	+15	20	41	
	11	21	45	29		9	59	38	22	07	08	0	11	34	22	56	03	15	40	48	23	06	04	15	20	42
	21	21	45	29		9	59	40	22	07	09	0	11	32	22	56	03	15	40	46	23	06	05	15	20	43
	31	21	45	30		9	59	42	22	07	09	0	11	30	22	56	03	15	40	44	23	06	05	15	20	45
June	10	21	45	30		9	59	44	22	07	09	0	11	28	22	56	04	15	40	42	23	06	05	15	20	47
	20	21	45	30		9	59	46	22	07	10	0	11	26	22	56	04	15	40	40	23	06	05	15	20	49
July	30	21	45	31	+9	59	48	22	07	10	-0	11	24	22	56	04	-15	40	39	23	06	06	+15	20	51	
	10	21	45	31		9	59	50	22	07	10	0	11	22	22	56	05	15	40	37	23	06	06	15	20	54
	20	21	45	31		9	59	53	22	07	10	0	11	20	22	56	05	15	40	36	23	06	06	15	20	56
	30	21	45	31		9	59	55	22	07	11	0	11	19	22	56	05	15	40	35	23	06	07	15	20	58
Aug.	9	21	45	31		9	59	57	22	07	11	0	11	17	22	56	05	15	40	34	23	06	07	15	21	01
	19	21	45	31		9	59	59	22	07	11	0	11	16	22	56	06	15	40	33	23	06	07	15	21	03
Sept.	29	21	45	31	+10	00	00	22	07	11	-0	11	15	22	56	06	-15	40	33	23	06	07	+15	21	05	
	8	21	45	31		10	00	02	22	07	11	0	11	14	22	56	06	15	40	33	23	06	07	15	21	07
	18	21	45	31		10	00	03	22	07	11	0	11	14	22	56	06	15	40	34	23	06	07	15	21	08
	28	21	45	31		10	00	04	22	07	11	0	11	13	22	56	06	15	40	34	23	06	07	15	21	09
Oct.	8	21	45	31		10	00	04	22	07	11	0	11	13	22	56	06	15	40	35	23	06	07	15	21	11
	18	21	45	31		10	00	05	22	07	11	0	11	13	22	56	06	15	40	35	23	06	07	15	21	11
Nov.	28	21	45	31	+10	00	05	22	07	11	-0	11	13	22	56	06	-15	40	36	23	06	07	+15	21	12	
	7	21	45	31		10	00	05	22	07	11	0	11	13	22	56	06	15	40	37	23	06	07	15	21	12
	17	21	45	31		10	00	05	22	07	10	0	11	14	22	56	05	15	40	38	23	06	07	15	21	12
	27	21	45	31		10	00	04	22	07	10	0	11	14	22	56	05	15	40	39	23	06	07	15	21	12
Dec.	7	21	45	30		10	00	03	22	07	10	0	11	15	22	56	05	15	40	39	23	06	07	15	21	12
	17	21	45	30		10	00	02	22	07	10	0	11	16	22	56	05	15	40	40	23	06	07	15	21	11
	27	21	45	30	+10	00	01	22	07	10	-0	11	16	22	56	05	-15	40	40	23	06	06	+15	21	10	
	37	21	45	30	+10	00	00	22	07	10	-0	11	17	22	56	05	-15	40	40	23	06	06	+15	21	09	

BESSELIAN DAY NUMBERS, 2026.5
FOR 0^h TERRESTRIAL TIME

Date	τ	A	B	C	D	E s (0.0001)	d ψ	d ϵ	
		"	"	"	"				
Jan.	0	-0.5027	-7.983	-8.110	-3.200	+20.527	+7	-0.311	-0.040
	1	0.5000	7.865	8.059	3.528	20.463	7	0.215	0.095
	2	0.4973	7.726	8.033	3.854	20.392	7	-0.064	0.127
	3	0.4945	7.579	8.040	4.179	20.315	8	+0.106	0.125
	4	0.4918	7.443	8.079	4.503	20.233	8	0.251	0.093
	5	0.4890	7.330	8.141	4.826	20.145	8	0.338	-0.038
	6	-0.4863	-7.246	-8.208	-5.147	+20.051	+8	+0.353	+0.022
	7	0.4836	7.189	8.267	5.467	19.951	8	0.301	0.072
	8	0.4808	7.150	8.308	5.786	19.845	8	0.204	0.104
	9	0.4781	7.120	8.326	6.104	19.733	8	+0.085	0.113
	10	0.4754	7.090	8.323	6.420	19.615	8	-0.030	0.099
	11	0.4726	7.052	8.303	6.734	19.491	8	0.125	0.069
	12	-0.4699	-7.000	-8.272	-7.046	+19.360	+8	-0.186	+0.027
	13	0.4671	6.933	8.239	7.356	19.223	8	0.207	-0.019
	14	0.4644	6.851	8.209	7.665	19.080	8	0.188	0.060
	15	0.4617	6.755	8.190	7.971	18.930	8	0.133	0.092
	16	0.4589	6.650	8.188	8.274	18.775	8	-0.053	0.108
	17	0.4562	6.541	8.205	8.575	18.613	9	+0.037	0.105
	18	-0.4535	-6.435	-8.241	-8.873	+18.445	+9	+0.119	-0.082
	19	0.4507	6.340	8.294	9.169	18.271	9	0.177	-0.044
	20	0.4480	6.262	8.357	9.461	18.091	9	0.195	+0.005
	21	0.4452	6.202	8.423	9.750	17.905	9	0.166	0.055
	22	0.4425	6.162	8.479	10.036	17.713	9	+0.090	0.096
	23	0.4398	6.136	8.518	10.318	17.516	9	-0.019	0.119
	24	-0.4370	-6.115	-8.532	-10.596	+17.313	+9	-0.140	+0.117
	25	0.4343	6.089	8.520	10.871	17.105	9	0.246	0.089
	26	0.4316	6.047	8.488	11.142	16.892	9	0.311	+0.039
	27	0.4288	5.981	8.444	11.408	16.674	9	0.314	-0.021
	28	0.4261	5.888	8.404	11.671	16.451	9	0.248	0.078
	29	0.4233	5.773	8.382	11.930	16.224	9	-0.123	0.117
Feb.	30	-0.4206	-5.646	-8.389	-12.185	+15.992	+9	+0.033	-0.127
	31	0.4179	5.522	8.427	12.436	15.756	9	0.183	0.107
	1	0.4151	5.414	8.491	12.684	15.515	10	0.292	0.061
	2	0.4124	5.334	8.567	12.927	15.271	10	0.336	-0.002
	3	0.4097	5.281	8.641	13.167	15.022	10	0.312	+0.054
	4	0.4069	5.251	8.699	13.403	14.768	10	0.231	0.095
	5	-0.4042	-5.235	-8.735	-13.635	+14.511	+9	+0.118	+0.114
	6	0.4014	5.223	8.747	13.863	14.249	9	-0.002	0.108
	7	0.3987	5.204	8.739	14.087	13.983	9	0.106	0.083
	8	0.3960	5.174	8.716	14.307	13.712	9	0.178	+0.043
	9	0.3932	5.128	8.688	14.523	13.437	9	0.211	-0.003
	10	0.3905	5.067	8.660	14.734	13.158	9	0.202	0.048
	11	-0.3877	-4.992	-8.641	-14.941	+12.874	+9	-0.156	-0.084
	12	0.3850	4.906	8.637	15.144	12.587	9	-0.083	0.105
	13	0.3823	4.815	8.650	15.341	12.295	9	+0.006	0.108
14	0.3795	4.725	8.683	15.534	11.999	10	0.094	0.092	
15	-0.3768	-4.643	-8.733	-15.722	+11.700	+10	+0.164	-0.058	

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Date	τ	A	B	C	D	E s (0.0001)	d ψ	d ε		
		"	"	"	"					
Feb.	15	-0.3768	-4.643	-8.733	-15.722	+11.700	+10	+0.164	-0.058	
	16	0.3741	4.575	8.796	15.905	11.396	10	0.199	-0.011	
	17	0.3713	4.526	8.863	16.082	11.089	10	0.187	+0.041	
	18	0.3686	4.498	8.924	16.255	10.779	10	0.126	0.087	
	19	0.3658	4.486	8.968	16.422	10.465	9	+0.025	0.116	
	20	0.3631	4.482	8.987	16.583	10.148	9	-0.096	0.121	
	21	-0.3604	-4.476	-8.978	-16.739	+9.828	+9	-0.209	+0.099	
	22	0.3576	4.456	8.946	16.889	9.505	9	0.284	+0.053	
	23	0.3549	4.413	8.900	17.033	9.180	9	0.301	-0.006	
	24	0.3522	4.344	8.854	17.172	8.853	9	0.252	0.064	
	25	0.3494	4.252	8.823	17.305	8.523	9	0.145	0.108	
	26	0.3467	4.147	8.817	17.433	8.192	9	-0.002	0.125	
Mar.	27	-0.3439	-4.041	-8.840	-17.555	+7.859	+9	+0.143	-0.114	
	28	0.3412	3.947	8.888	17.672	7.524	10	0.259	0.076	
	1	0.3385	3.876	8.952	17.783	7.188	10	0.321	-0.021	
	2	0.3357	3.830	9.019	17.890	6.850	10	0.318	+0.036	
	3	0.3330	3.809	9.075	17.991	6.511	9	0.255	0.083	
	4	0.3303	3.805	9.111	18.087	6.170	9	0.151	0.110	
	5	-0.3275	-3.807	-9.122	-18.178	+5.827	+9	+0.031	+0.114	
	6	0.3248	3.806	9.110	18.264	5.483	9	-0.082	0.095	
	7	0.3220	3.796	9.081	18.344	5.137	9	0.167	0.059	
	8	0.3193	3.770	9.041	18.419	4.790	9	0.214	+0.014	
	9	0.3166	3.727	9.000	18.489	4.442	9	0.218	-0.033	
	10	0.3138	3.669	8.965	18.554	4.092	9	0.183	0.073	
	11	-0.3111	-3.599	-8.942	-18.612	+3.740	+9	-0.117	-0.099	
	12	0.3084	3.522	8.935	18.666	3.388	9	-0.033	0.109	
	13	0.3056	3.443	8.947	18.713	3.034	9	+0.055	0.099	
	14	0.3029	3.370	8.977	18.755	2.680	9	0.132	0.071	
	15	0.3001	3.307	9.021	18.791	2.324	9	0.180	-0.028	
	16	0.2974	3.262	9.073	18.821	1.968	9	0.187	+0.023	
	17	-0.2947	-3.235	-9.122	-18.846	+1.611	+9	+0.146	+0.073	
	18	0.2919	3.227	9.159	18.864	1.254	9	+0.059	0.110	
	19	0.2892	3.231	9.171	18.876	0.896	8	-0.058	0.124	
	20	0.2864	3.236	9.155	18.883	0.538	8	0.178	0.110	
	21	0.2837	3.229	9.111	18.883	+0.181	8	0.267	0.069	
	22	0.2810	3.199	9.049	18.876	-0.176	8	0.299	+0.011	
	23	-0.2782	-3.142	-8.983	-18.864	-0.532	+8	-0.262	-0.051	
	24	0.2755	3.059	8.929	18.846	0.888	8	0.162	0.100	
	25	0.2728	2.960	8.899	18.823	1.242	8	-0.022	0.124	
	26	0.2700	2.859	8.898	18.793	1.595	8	+0.125	0.119	
	27	0.2673	2.767	8.923	18.758	1.947	9	0.248	0.087	
	28	0.2645	2.695	8.966	18.718	2.298	9	0.320	-0.036	
	29	-0.2618	-2.648	-9.013	-18.672	-2.647	+9	+0.331	+0.020	
	30	0.2591	2.624	9.054	18.622	2.995	8	0.282	0.070	
	31	0.2563	2.617	9.078	18.566	3.341	8	0.188	0.103	
	Apr.	1	0.2536	2.620	9.078	18.505	3.686	8	+0.070	0.114
		2	-0.2509	-2.623	-9.055	-18.439	-4.030	+8	-0.047	+0.102

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Date	τ	A	B	C	D	E s (0.0001)	d ψ	d ε	
		"	"	"	"				
Apr.	1	-0.2536	-2.620	-9.078	-18.505	-3.686	+8	+0.070	+0.114
	2	0.2509	2.623	9.055	18.439	4.030	8	-0.047	0.102
	3	0.2481	2.617	9.013	18.368	4.372	8	0.144	0.072
	4	0.2454	2.597	8.958	18.292	4.713	8	0.205	+0.029
	5	0.2426	2.559	8.899	18.211	5.053	8	0.224	-0.018
	6	0.2399	2.505	8.843	18.124	5.391	8	0.201	0.060
	7	-0.2372	-2.437	-8.798	-18.033	-5.727	+8	-0.145	-0.091
	8	0.2344	2.360	8.768	17.936	6.062	8	-0.067	0.107
	9	0.2317	2.280	8.756	17.835	6.395	8	+0.020	0.103
	10	0.2290	2.202	8.763	17.728	6.727	8	0.098	0.082
	11	0.2262	2.132	8.784	17.616	7.056	8	0.154	-0.044
	12	0.2235	2.077	8.815	17.498	7.383	8	0.174	+0.004
	13	-0.2207	-2.039	-8.849	-17.376	-7.709	+8	+0.150	+0.054
	14	0.2180	2.018	8.874	17.248	8.032	8	+0.080	0.097
	15	0.2153	2.012	8.881	17.115	8.353	8	-0.027	0.122
	16	0.2125	2.012	8.860	16.976	8.671	7	0.149	0.120
	17	0.2098	2.004	8.810	16.833	8.986	7	0.254	0.088
	18	0.2070	1.976	8.736	16.683	9.298	7	0.310	+0.033
	19	-0.2043	-1.919	-8.652	-16.529	-9.607	+7	-0.294	-0.031
	20	0.2016	1.832	8.575	16.370	9.913	7	0.204	0.088
	21	0.1988	1.724	8.521	16.206	10.214	7	-0.062	0.122
	22	0.1961	1.609	8.498	16.037	10.512	8	+0.097	0.125
	23	0.1934	1.501	8.504	15.864	10.807	8	0.235	0.098
	24	0.1906	1.412	8.531	15.686	11.097	8	0.324	-0.050
	25	-0.1879	-1.348	-8.566	-15.504	-11.384	+8	+0.350	+0.006
	26	0.1851	1.308	8.596	15.319	11.666	8	0.313	0.058
	27	0.1824	1.288	8.612	15.129	11.945	8	0.228	0.095
	28	0.1797	1.277	8.606	14.935	12.220	8	+0.114	0.111
	29	0.1769	1.269	8.579	14.738	12.492	8	-0.006	0.105
	30	0.1742	1.254	8.531	14.537	12.759	7	0.110	0.080
May	1	-0.1715	-1.226	-8.469	-14.332	-13.023	+7	-0.182	+0.040
	2	0.1687	1.181	8.401	14.123	13.283	7	0.214	-0.005
	3	0.1660	1.118	8.335	13.911	13.540	7	0.205	0.049
	4	0.1632	1.041	8.278	13.695	13.792	7	0.158	0.083
	5	0.1605	0.953	8.236	13.475	14.041	7	0.086	0.103
	6	0.1578	0.860	8.211	13.252	14.286	8	-0.002	0.105
	7	-0.1550	-0.767	-8.205	-13.025	-14.527	+8	+0.077	-0.089
	8	0.1523	0.682	8.215	12.794	14.764	8	0.137	0.056
	9	0.1496	0.609	8.237	12.560	14.997	8	0.165	-0.012
	10	0.1468	0.552	8.263	12.322	15.226	8	0.153	+0.037
	11	0.1441	0.512	8.286	12.080	15.450	8	+0.096	0.082
	12	0.1413	0.487	8.296	11.835	15.670	8	0.000	0.113
	13	-0.1386	-0.470	-8.283	-11.586	-15.886	+8	-0.118	+0.123
	14	0.1359	0.451	8.243	11.334	16.097	7	0.234	0.104
	15	0.1331	0.418	8.175	11.078	16.303	7	0.315	+0.058
	16	0.1304	0.359	8.091	10.818	16.505	7	0.331	-0.005
	17	-0.1277	-0.268	-8.006	-10.556	-16.701	+8	-0.268	-0.068

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Date	τ	A	B	C	D	E s (0.0001)	d ψ	d ε	
		"	"	"	"				
May	17	-0.1277	-0.268	-8.006	-10.556	-16.701	+8	-0.268	-0.068
	18	0.1249	0.149	7.939	10.290	16.891	8	-0.136	0.115
	19	0.1222	-0.015	7.902	10.021	17.076	8	+0.032	0.130
	20	0.1194	+0.117	7.900	9.750	17.256	8	0.194	0.112
	21	0.1167	0.232	7.925	9.476	17.430	8	0.310	0.068
	22	0.1140	0.320	7.962	9.199	17.598	9	0.360	-0.010
	23	-0.1112	+0.382	-7.998	-8.921	-17.761	+9	+0.341	+0.045
	24	0.1085	0.422	8.021	8.641	17.919	9	0.267	0.087
	25	0.1057	0.449	8.024	8.358	18.071	8	0.157	0.108
	26	0.1030	0.471	8.004	8.074	18.218	8	+0.038	0.107
27	0.1003	0.499	7.965	7.788	18.360	8	-0.071	0.086	
28	0.0975	0.538	7.911	7.500	18.497	8	0.152	0.049	
June	29	-0.0948	+0.593	-7.849	-7.211	-18.628	+8	-0.195	+0.005
	30	0.0921	0.665	7.789	6.920	18.755	8	0.196	-0.039
	31	0.0893	0.752	7.736	6.627	18.876	8	0.159	0.076
	1	0.0866	0.851	7.697	6.333	18.993	9	0.093	0.099
	2	0.0838	0.957	7.675	6.037	19.104	9	-0.012	0.106
	3	0.0811	1.062	7.672	5.739	19.210	9	+0.069	0.094
	4	-0.0784	+1.162	-7.686	-5.440	-19.311	+9	+0.134	-0.065
	5	0.0756	1.250	7.714	5.139	19.407	9	0.168	-0.024
	6	0.0729	1.323	7.748	4.837	19.498	9	0.164	+0.023
	7	0.0702	1.378	7.781	4.534	19.583	9	0.117	0.069
8	0.0674	1.419	7.804	4.229	19.664	9	+0.030	0.104	
9	0.0647	1.449	7.809	3.922	19.738	9	-0.083	0.120	
	10	-0.0619	+1.477	-7.790	-3.615	-19.807	+9	-0.203	+0.112
	11	0.0592	1.513	7.745	3.305	19.871	9	0.301	0.078
	12	0.0565	1.570	7.679	2.995	19.929	9	0.349	+0.022
	13	0.0537	1.656	7.606	2.683	19.981	9	0.323	-0.042
	14	0.0510	1.773	7.541	2.371	20.026	9	0.221	0.098
	15	0.0483	1.913	7.503	2.057	20.066	10	-0.061	0.128
	16	-0.0455	+2.059	-7.499	-1.743	-20.099	+10	+0.114	-0.125
	17	0.0428	2.194	7.528	1.429	20.126	10	0.262	0.088
	18	0.0400	2.304	7.579	1.115	20.147	10	0.346	-0.032
	19	0.0373	2.384	7.634	0.800	20.161	10	0.355	+0.029
20	0.0346	2.438	7.678	0.486	20.170	10	0.298	0.078	
21	0.0318	2.475	7.702	-0.172	20.173	10	0.196	0.106	
	22	-0.0291	+2.504	-7.702	+0.141	-20.170	+10	+0.077	+0.110
	23	0.0264	2.535	7.682	0.454	20.162	10	-0.036	0.093
	24	0.0236	2.577	7.645	0.766	20.148	10	0.124	0.059
	25	0.0209	2.633	7.600	1.078	20.128	10	0.175	+0.015
	26	0.0181	2.705	7.553	1.390	20.104	10	0.185	-0.030
	27	0.0154	2.793	7.513	1.700	20.073	10	0.156	0.069
	28	-0.0127	+2.893	-7.486	+2.010	-20.038	+10	-0.096	-0.096
	29	0.0099	3.001	7.476	2.319	19.997	11	-0.017	0.106
	30	0.0072	3.110	7.485	2.628	19.951	11	+0.066	0.099
	1	0.0044	3.213	7.512	2.936	19.900	11	0.136	0.074
2	-0.0017	+3.306	-7.553	+3.243	-19.843	+11	+0.179	-0.035	

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Date	τ	A	B	C	D	E s (0.0001)	d ψ	d ε	
		"	"	"	"				
July	1	-0.0044	+3.213	-7.512	+2.936	-19.900	+11	+0.136	-0.074
	2	-0.0017	3.306	7.553	3.243	19.843	11	0.179	-0.035
	3	+0.0010	3.383	7.602	3.549	19.781	11	0.183	+0.012
	4	0.0038	3.443	7.652	3.855	19.714	11	0.145	0.058
	5	0.0065	3.487	7.694	4.159	19.642	11	+0.066	0.096
	6	0.0092	3.518	7.719	4.463	19.564	11	-0.043	0.117
	7	+0.0120	+3.545	-7.723	+4.766	-19.481	+11	-0.163	+0.115
	8	+0.0147	3.576	7.703	5.068	19.392	11	0.271	0.090
	9	0.0175	3.623	7.661	5.369	19.298	11	0.339	+0.042
	10	0.0202	3.694	7.608	5.669	19.198	11	0.345	-0.018
	11	0.0229	3.793	7.556	5.968	19.093	11	0.279	0.076
	12	0.0257	3.919	7.523	6.265	18.981	11	-0.147	0.118
	13	+0.0284	+4.058	-7.520	+6.561	-18.864	+12	+0.022	-0.129
	14	0.0311	4.195	7.551	6.855	18.740	12	0.185	0.106
	15	0.0339	4.314	7.610	7.147	18.611	12	0.302	-0.056
	16	0.0366	4.403	7.681	7.436	18.476	12	0.346	+0.006
	17	0.0394	4.461	7.748	7.724	18.336	12	0.316	0.063
	18	0.0421	4.497	7.796	8.008	18.190	12	0.228	0.101
	19	+0.0448	+4.521	-7.820	+8.290	-18.039	+12	+0.112	+0.114
	20	0.0476	4.544	7.819	8.570	17.883	12	-0.005	0.102
	21	0.0503	4.575	7.800	8.846	17.722	12	0.101	0.071
	22	0.0530	4.619	7.768	9.120	17.556	12	0.162	+0.028
	23	0.0558	4.680	7.734	9.391	17.385	12	0.181	-0.018
	24	0.0585	4.756	7.704	9.660	17.210	12	0.160	0.060
	25	+0.0613	+4.845	-7.686	+9.925	-17.030	+12	-0.106	-0.091
	26	0.0640	4.942	7.684	10.188	16.846	12	-0.029	0.107
	27	0.0667	5.042	7.700	10.448	16.657	12	+0.056	0.104
	28	0.0695	5.138	7.735	10.705	16.464	12	0.132	0.082
	29	0.0722	5.224	7.784	10.959	16.266	12	0.185	0.046
	30	0.0749	5.295	7.844	11.210	16.064	13	0.201	-0.001
Aug.	31	+0.0777	+5.348	-7.906	+11.459	-15.858	+13	+0.174	+0.047
	1	0.0804	5.384	7.961	11.704	15.647	12	0.104	0.088
	2	0.0832	5.406	8.001	11.947	15.433	12	+0.001	0.114
	3	0.0859	5.420	8.019	12.186	15.213	12	-0.119	0.118
	4	0.0886	5.437	8.013	12.423	14.990	12	0.232	0.097
	5	0.0914	5.466	7.986	12.656	14.762	12	0.313	+0.056
	6	+0.0941	+5.516	-7.945	+12.887	-14.530	+12	-0.339	0.000
	7	0.0969	5.592	7.902	13.114	14.293	12	0.300	-0.058
	8	0.0996	5.693	7.871	13.338	14.051	12	0.196	0.104
	9	0.1023	5.811	7.864	13.559	13.805	12	-0.048	0.125
	10	0.1051	5.933	7.889	13.776	13.555	13	+0.112	0.115
	11	0.1078	6.043	7.943	13.989	13.299	13	0.245	-0.076
	12	+0.1105	+6.130	-8.015	+14.198	-13.040	+13	+0.318	-0.018
	13	0.1133	6.187	8.090	14.402	12.776	13	0.318	+0.042
	14	0.1160	6.216	8.152	14.602	12.508	13	0.252	0.090
	15	0.1188	6.229	8.191	14.798	12.236	13	0.144	0.114
16	+0.1215	+6.236	-8.202	+14.989	-11.961	+13	+0.023	+0.111	

BESSELIAN DAY NUMBERS, 2026.5
FOR 0^h TERRESTRIAL TIME

Date	τ	A	B	C	D	E s (0.0001)	d ψ	d ε	
		"	"	"	"				
Aug.	16	+0.1215	+6.236	-8.202	+14.989	-11.961	+13	+0.023	+0.111
	17	0.1242	6.248	8.190	15.176	11.682	12	-0.082	0.086
	18	0.1270	6.273	8.163	15.358	11.400	12	0.155	+0.044
	19	0.1297	6.315	8.129	15.536	11.115	12	0.185	-0.003
	20	0.1324	6.372	8.097	15.708	10.826	12	0.174	0.048
	21	0.1352	6.443	8.074	15.877	10.535	12	0.126	0.084
	22	+0.1379	+6.524	-8.067	+16.041	-10.241	+12	-0.053	-0.105
	23	0.1407	6.609	8.077	16.200	9.944	13	+0.033	0.107
	24	0.1434	6.693	8.105	16.355	9.645	13	0.114	0.091
	25	0.1461	6.768	8.149	16.505	9.343	13	0.177	0.059
	26	0.1489	6.830	8.205	16.651	9.038	13	0.207	-0.015
	27	0.1516	6.874	8.265	16.792	8.731	13	0.194	+0.034
	28	+0.1543	+6.900	-8.320	+16.928	-8.422	+13	+0.137	+0.078
	29	0.1571	6.911	8.361	17.061	8.110	12	+0.042	0.109
Sept.	30	0.1598	6.912	8.381	17.189	7.795	12	-0.076	0.119
	31	0.1626	6.913	8.376	17.312	7.479	12	0.192	0.105
	1	0.1653	6.924	8.348	17.431	7.160	12	0.282	0.067
	2	0.1680	6.955	8.303	17.545	6.838	12	0.322	+0.013
	3	+0.1708	+7.010	-8.253	+17.655	-6.514	+12	-0.299	-0.045
	4	0.1735	7.090	8.212	17.760	6.187	12	0.214	0.093
	5	0.1762	7.188	8.192	17.860	5.858	12	-0.082	0.121
	6	0.1790	7.293	8.200	17.955	5.527	12	+0.069	0.119
	7	0.1817	7.392	8.236	18.045	5.193	12	0.203	0.089
	8	0.1845	7.471	8.293	18.130	4.857	12	0.291	-0.038
	9	+0.1872	+7.525	-8.358	+18.209	-4.519	+12	+0.313	+0.022
	10	0.1899	7.551	8.415	18.283	4.179	12	0.269	0.075
	11	0.1927	7.557	8.452	18.351	3.837	12	0.174	0.108
	12	0.1954	7.553	8.463	18.413	3.494	12	+0.055	0.116
Oct.	13	0.1982	7.551	8.448	18.470	3.149	12	-0.060	0.098
	14	0.2009	7.560	8.414	18.521	2.804	12	0.146	0.062
	15	+0.2036	+7.585	-8.368	+18.566	-2.458	+12	-0.191	+0.015
	16	0.2064	7.627	8.321	18.606	2.111	12	0.192	-0.033
	17	0.2091	7.685	8.281	18.640	1.763	12	0.153	0.073
	18	0.2118	7.755	8.254	18.668	1.415	12	0.085	0.099
	19	0.2146	7.830	8.244	18.692	1.067	12	-0.002	0.108
	20	0.2173	7.906	8.253	18.709	0.718	12	+0.083	0.098
	21	+0.2201	+7.977	-8.278	+18.721	-0.369	+12	+0.153	-0.071
	22	0.2228	8.036	8.315	18.728	-0.020	12	0.195	-0.030
	23	0.2255	8.079	8.360	18.730	+0.328	12	0.198	+0.018
	24	0.2283	8.105	8.402	18.726	0.677	12	0.158	0.065
	25	0.2310	8.114	8.434	18.717	1.025	11	+0.075	0.102
	26	0.2337	8.112	8.446	18.703	1.374	11	-0.037	0.120
27	+0.2365	+8.106	-8.433	+18.683	+1.722	+11	-0.157	+0.113	
28	0.2392	8.109	8.393	18.659	2.070	11	0.257	0.081	
29	0.2420	8.130	8.334	18.630	2.417	11	0.311	+0.029	
30	0.2447	8.176	8.266	18.595	2.765	11	0.302	-0.031	
1	+0.2474	+8.249	-8.204	+18.556	+3.112	+11	-0.227	-0.084	

BESSELIAN DAY NUMBERS, 2026.5
FOR 0^h TERRESTRIAL TIME

Date	τ	A	B	C	D	E s (0.0001)	d ψ	d ε	
		"	"	"	"				
Oct.	1	+0.2474	+8.249	-8.204	+18.556	+3.112	+11	-0.227	-0.084
	2	0.2502	8.342	8.161	18.511	3.460	11	-0.101	0.117
	3	0.2529	8.444	8.145	18.460	3.807	11	+0.047	0.122
	4	0.2556	8.542	8.158	18.404	4.153	11	0.185	0.099
	5	0.2584	8.623	8.192	18.343	4.500	11	0.281	-0.052
	6	0.2611	8.681	8.237	18.276	4.845	11	0.316	+0.005
	7	+0.2639	+8.714	-8.279	+18.203	+5.190	+11	+0.288	+0.059
	8	0.2666	8.725	8.304	18.124	5.534	11	0.205	0.098
	9	0.2693	8.725	8.306	18.039	5.877	11	+0.091	0.114
	10	0.2721	8.722	8.283	17.949	6.218	11	-0.027	0.106
	11	0.2748	8.728	8.237	17.852	6.558	11	0.126	0.075
	12	0.2775	8.750	8.177	17.750	6.895	11	0.187	+0.031
	13	+0.2803	+8.789	-8.113	+17.643	+7.231	+10	-0.203	-0.017
	14	0.2830	8.846	8.053	17.529	7.564	10	0.177	0.060
	15	0.2858	8.917	8.004	17.410	7.896	11	0.117	0.091
	16	0.2885	8.996	7.971	17.286	8.224	11	-0.036	0.106
	17	0.2912	9.078	7.956	17.157	8.550	11	+0.049	0.102
	18	0.2940	9.155	7.959	17.022	8.874	11	0.123	0.081
	19	+0.2967	+9.224	-7.975	+16.882	+9.195	+11	+0.174	-0.044
	20	0.2995	9.280	8.001	16.737	9.513	11	0.190	+0.001
	21	0.3022	9.319	8.028	16.588	9.828	11	0.164	0.049
	22	0.3049	9.342	8.048	16.433	10.140	11	+0.096	0.090
	23	0.3077	9.352	8.053	16.274	10.449	11	-0.006	0.115
	24	0.3104	9.356	8.035	16.110	10.755	10	0.125	0.119
25	+0.3131	+9.364	-7.990	+15.941	+11.058	+10	-0.236	+0.096	
26	0.3159	9.387	7.921	15.768	11.358	10	0.309	+0.049	
27	0.3186	9.435	7.838	15.591	11.656	10	0.321	-0.011	
28	0.3214	9.513	7.756	15.409	11.950	10	0.260	0.070	
29	0.3241	9.616	7.691	15.222	12.241	10	-0.138	0.112	
30	0.3268	9.732	7.654	15.031	12.530	10	+0.017	0.126	
Nov.	31	+0.3296	+9.847	-7.647	+14.835	+12.815	+11	+0.168	-0.109
	1	0.3323	9.948	7.666	14.634	13.097	11	0.279	0.066
	2	0.3350	10.024	7.698	14.429	13.376	11	0.330	-0.010
	3	0.3378	10.075	7.730	14.219	13.652	11	0.314	+0.046
	4	0.3405	10.104	7.748	14.004	13.924	11	0.241	0.089
	5	0.3433	10.120	7.746	13.784	14.192	11	0.133	0.110
	6	+0.3460	+10.132	-7.719	+13.559	+14.456	+11	+0.014	+0.108
	7	0.3487	10.149	7.670	13.330	14.715	10	-0.092	0.084
	8	0.3515	10.181	7.605	13.096	14.970	10	0.166	+0.044
	9	0.3542	10.229	7.534	12.858	15.221	10	0.198	-0.003
	10	0.3569	10.296	7.464	12.615	15.467	10	0.185	0.048
	11	0.3597	10.378	7.405	12.369	15.707	10	0.135	0.083
	12	+0.3624	+10.471	-7.360	+12.118	+15.943	+11	-0.061	-0.103
	13	0.3652	10.569	7.334	11.863	16.174	11	+0.023	0.104
	14	0.3679	10.664	7.326	11.604	16.400	11	0.101	0.088
	15	0.3706	10.752	7.334	11.342	16.620	11	0.158	0.056
16	+0.3734	+10.827	-7.352	+11.076	+16.836	+11	+0.182	-0.014	

BESSELIAN DAY NUMBERS, 2026.5
FOR 0^h TERRESTRIAL TIME

Date	τ	A	B	C	D	E s (0.0001)	d ψ	d ε	
		"	"	"	"				
Nov.	16	+0.3734	+10.827	-7.352	+11.076	+16.836	+11	+0.182	-0.014
	17	0.3761	10.888	7.375	10.807	17.046	11	0.167	+0.033
	18	0.3789	10.933	7.394	10.534	17.250	11	0.112	0.075
	19	0.3816	10.964	7.402	10.259	17.449	11	+0.020	0.107
	20	0.3843	10.987	7.391	9.980	17.643	11	-0.094	0.119
	21	0.3871	11.009	7.357	9.699	17.831	11	0.211	0.107
	22	+0.3898	+11.042	-7.297	+9.415	+18.015	+11	-0.304	+0.071
	23	0.3925	11.096	7.219	9.128	18.192	11	0.344	+0.015
	24	0.3953	11.179	7.135	8.839	18.365	11	0.313	-0.048
	25	0.3980	11.292	7.061	8.547	18.533	11	0.207	0.100
	26	0.4008	11.426	7.013	8.253	18.695	11	-0.051	0.127
	27	0.4035	11.566	6.999	7.956	18.852	11	+0.118	0.120
Dec.	28	+0.4062	+11.694	-7.016	+7.656	+19.005	+12	+0.257	-0.083
	29	0.4090	11.798	7.052	7.353	19.151	12	0.335	-0.027
	30	0.4117	11.874	7.092	7.048	19.293	12	0.340	+0.032
	1	0.4144	11.925	7.121	6.740	19.429	12	0.280	0.080
	2	0.4172	11.959	7.129	6.430	19.559	12	0.177	0.107
	3	0.4199	11.987	7.114	6.117	19.683	12	+0.058	0.109
	4	+0.4227	+12.018	-7.077	+5.801	+19.801	+12	-0.052	+0.089
	5	0.4254	12.061	7.024	5.483	19.913	12	0.135	0.053
	6	0.4281	12.121	6.962	5.163	20.019	12	0.178	+0.007
	7	0.4309	12.198	6.901	4.842	20.118	12	0.177	-0.038
	8	0.4336	12.291	6.849	4.518	20.210	12	0.138	0.076
	9	0.4363	12.395	6.811	4.192	20.296	12	-0.070	0.099
	10	+0.4391	+12.506	-6.791	+3.866	+20.376	+12	+0.012	-0.106
	11	0.4418	12.615	6.790	3.537	20.449	12	0.091	0.094
	12	0.4446	12.719	6.805	3.208	20.515	13	0.153	0.066
	13	0.4473	12.810	6.833	2.877	20.574	13	0.185	-0.026
14	0.4500	12.886	6.868	2.546	20.627	13	0.179	+0.019	
15	0.4528	12.947	6.901	2.214	20.673	13	0.133	0.063	
16	+0.4555	+12.993	-6.926	+1.882	+20.712	+13	+0.050	+0.097	
17	0.4582	13.029	6.935	1.549	20.745	13	-0.060	0.116	
18	0.4610	13.061	6.925	1.216	20.772	13	0.178	0.113	
19	0.4637	13.099	6.891	0.883	20.791	13	0.284	0.087	
20	0.4665	13.152	6.837	0.550	20.805	13	0.350	+0.040	
21	0.4692	13.231	6.771	+0.217	20.812	13	0.354	-0.020	
22	+0.4719	+13.338	-6.708	-0.116	+20.813	+13	-0.284	-0.078	
23	0.4747	13.472	6.663	0.448	20.808	13	-0.148	0.118	
24	0.4774	13.621	6.650	0.780	20.798	13	+0.026	0.127	
25	0.4802	13.766	6.672	1.112	20.781	14	0.191	0.102	
26	0.4829	13.892	6.722	1.444	20.758	14	0.306	-0.050	
27	0.4856	13.987	6.782	1.776	20.730	14	0.346	+0.012	
28	+0.4884	+14.052	-6.837	-2.107	+20.695	+14	+0.310	+0.068	
29	0.4911	14.095	6.872	2.439	20.654	14	0.218	0.103	
30	0.4938	14.128	6.881	2.770	20.607	14	+0.100	0.112	
31	0.4966	14.161	6.867	3.100	20.554	14	-0.014	0.096	
32	+0.4993	+14.204	-6.834	-3.430	+20.493	+14	-0.104	+0.062	

SECOND-ORDER DAY NUMBERS, 2026
J FOR NORTHERN DECLINATIONS
FOR 0^h TT AND EQUINOX J 2026.5

Date	RIGHT ASCENSION												
	0 ^h 12 ^h	1 ^h 13 ^h	2 ^h 14 ^h	3 ^h 15 ^h	4 ^h 16 ^h	5 ^h 17 ^h	6 ^h 18 ^h	7 ^h 19 ^h	8 ^h 20 ^h	9 ^h 21 ^h	10 ^h 22 ^h	11 ^h 23 ^h	12 ^h 24 ^h
Jan. -3	-11	-3	+5	+12	+16	+15	+10	+2	-6	-13	-17	-16	-11
7	-15	-7	+3	+11	+17	+17	+14	+6	-4	-12	-18	-18	-15
17	-17	-10	-1	+9	+16	+19	+16	+9	0	-10	-17	-20	-17
27	-19	-13	-4	+6	+15	+19	+18	+12	+3	-7	-16	-20	-19
Feb. 6	-20	-16	-8	+2	+12	+18	+19	+15	+7	-3	-13	-19	-20
16	-21	-18	-11	-1	+9	+17	+20	+17	+10	+0	-10	-18	-21
26	-20	-19	-14	-5	+6	+14	+19	+18	+13	+4	-7	-15	-20
Mar. 8	-18	-19	-15	-7	+2	+11	+17	+18	+14	+6	-3	-12	-18
18	-15	-18	-16	-10	-1	+7	+14	+17	+15	+9	0	-8	-15
28	-12	-16	-15	-11	-4	+4	+11	+15	+14	+10	+3	-5	-12
Apr. 7	-9	-13	-14	-11	-5	+2	+8	+12	+13	+10	+4	-3	-9
17	-6	-11	-12	-11	-7	-1	+5	+10	+11	+10	+6	0	-6
27	-4	-8	-10	-10	-7	-2	+3	+7	+9	+9	+6	+1	-4
May 7	-2	-6	-8	-8	-6	-3	+1	+5	+7	+7	+5	+2	-2
17	-1	-4	-6	-6	-5	-3	0	+3	+5	+5	+4	+2	-1
27	0	-3	-4	-5	-4	-3	-1	+2	+3	+4	+3	+2	0
June 6	0	-2	-3	-3	-3	-2	-1	+1	+2	+2	+2	+1	0
16	0	-1	-2	-2	-2	-1	-1	0	+1	+1	+1	0	0
26	-1	-1	-1	-1	-1	-1	0	0	0	0	0	0	-1
July 6	-1	-1	-1	-1	-1	0	0	0	0	0	0	-1	-1
16	-1	-1	0	0	0	0	0	0	-1	-1	-1	-1	-1
26	0	0	0	0	0	0	-1	-1	-1	-1	-1	-1	0
Aug. 5	+1	+1	+1	+1	0	-1	-2	-2	-2	-2	-1	0	+1
15	+2	+2	+2	+1	0	-2	-3	-3	-3	-2	-1	+1	+2
25	+3	+4	+4	+3	0	-2	-4	-5	-5	-4	-1	+1	+3
Sept. 4	+5	+6	+6	+4	+1	-3	-6	-7	-7	-5	-2	+2	+5
14	+6	+9	+9	+7	+2	-3	-7	-10	-10	-8	-3	+2	+6
24	+7	+11	+12	+10	+4	-2	-8	-12	-13	-11	-5	+1	+7
Oct. 4	+8	+14	+16	+13	+7	-1	-9	-15	-17	-14	-8	0	+8
14	+9	+17	+20	+18	+11	+1	-10	-18	-21	-19	-12	-2	+9
24	+8	+18	+23	+22	+15	+3	-9	-19	-24	-23	-16	-4	+8
Nov. 3	+6	+19	+27	+27	+20	+7	-7	-20	-28	-28	-21	-8	+6
13	+4	+20	+30	+32	+25	+12	-5	-21	-31	-33	-26	-13	+4
23	+1	+19	+32	+36	+31	+17	-2	-20	-33	-37	-32	-18	+1
Dec. 3	-10	+13	+31	+42	+41	+28	+9	-14	-32	-43	-42	-29	-10
13	-10	+13	+31	+42	+41	+28	+9	-14	-32	-43	-42	-29	-10
23	-15	+8	+30	+43	+44	+34	+14	-9	-31	-44	-45	-35	-15
33	-21	+3	+26	+42	+47	+38	+20	-4	-27	-43	-48	-39	-21

The second-order day number J given in this table in units of 0^s.00001

The apparent right ascension of a star is given by:

$$\alpha = \alpha_1 + \tau\mu_\alpha/100 + Aa + Bb + Cc + Dd + E + J \tan^2 \delta_1$$

Where the position (α_1 , δ_1) and centennial proper motion in right ascension (μ_α) are referred to the mean equator and equinox of J 2026.5

SECOND-ORDER DAY NUMBERS, 2026
J' FOR NORTHERN DECLINATIONS
FOR 0^h TT AND EQUINOX J 2026.5

Date	RIGHT ASCENSION												
	0 ^h 12 ^h	1 ^h 13 ^h	2 ^h 14 ^h	3 ^h 15 ^h	4 ^h 16 ^h	5 ^h 17 ^h	6 ^h 18 ^h	7 ^h 19 ^h	8 ^h 20 ^h	9 ^h 21 ^h	10 ^h 22 ^h	11 ^h 23 ^h	12 ^h 24 ^h
Jan.	-3	-2	0	-1	-5	-11	-18	-23	-24	-24	-20	-14	-8
	7	-4	0	0	-4	-9	-16	-23	-27	-28	-25	-19	-11
	17	-8	-3	0	-1	-7	-14	-22	-28	-30	-28	-22	-15
	27	-11	-4	-1	-1	-6	-13	-20	-27	-30	-30	-25	-18
Feb.	6	-13	-6	-2	-1	-4	-10	-18	-25	-30	-31	-27	-21
	16	-16	-9	-3	-1	-2	-8	-15	-23	-28	-31	-29	-24
	26	-18	-11	-4	-1	-1	-5	-12	-20	-26	-29	-29	-25
Mar.	8	-19	-12	-6	-1	-1	-3	-9	-16	-23	-27	-28	-25
	18	-20	-14	-7	-3	-1	-2	-6	-13	-19	-24	-26	-25
	28	-20	-15	-9	-4	-1	-1	-4	-10	-16	-21	-24	-24
Apr.	7	-19	-15	-9	-4	-1	-1	-3	-7	-13	-17	-21	-21
	17	-17	-14	-9	-5	-2	-1	-2	-5	-9	-14	-17	-18
	27	-15	-13	-9	-5	-2	-1	-1	-3	-7	-11	-14	-15
May	7	-12	-11	-8	-5	-2	-1	-1	-2	-5	-8	-11	-12
	17	-9	-9	-7	-5	-2	-1	-1	-1	-3	-5	-8	-9
	27	-7	-7	-5	-4	-2	-1	-1	-1	-2	-4	-5	-7
June	6	-5	-5	-4	-3	-2	-1	-1	-1	-1	-3	-4	-5
	16	-3	-3	-2	-2	-1	-1	-1	-1	-1	-2	-2	-3
	26	-2	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-2
July	6	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
	16	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
	26	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Aug.	5	-1	-1	-2	-2	-3	-3	-2	-1	-1	-1	-1	-1
	15	-1	-2	-3	-4	-5	-5	-4	-3	-2	-1	-1	-1
	25	-2	-3	-5	-7	-7	-7	-6	-5	-3	-1	-1	-2
Sept.	4	-2	-5	-7	-10	-11	-11	-9	-7	-4	-2	-1	-1
	14	-3	-6	-10	-13	-15	-15	-13	-10	-6	-3	-1	-1
	24	-3	-7	-12	-16	-19	-20	-18	-14	-9	-4	-1	-1
Oct.	4	-2	-7	-13	-20	-24	-25	-23	-19	-12	-6	-2	-1
	14	-2	-7	-15	-23	-29	-31	-30	-24	-17	-9	-3	-1
	24	-2	-7	-16	-25	-33	-37	-36	-30	-22	-12	-5	-1
Nov.	3	-1	-6	-16	-27	-37	-42	-42	-37	-28	-17	-7	-1
	13	-1	-6	-16	-28	-40	-48	-49	-44	-34	-22	-10	-2
	23	-1	-5	-15	-29	-42	-52	-55	-51	-41	-27	-13	-4
Dec.	3	-1	-3	-13	-28	-43	-55	-60	-57	-48	-33	-18	-6
	13	-1	-2	-11	-26	-43	-57	-64	-64	-55	-40	-23	-9
	23	-2	-1	-9	-24	-41	-57	-67	-68	-61	-46	-28	-12
	33	-4	-1	-7	-21	-39	-56	-68	-71	-65	-51	-33	-16

The second-order day number J' given in this table in units of 0".0001

The apparent declination of a star is given by:

$$\delta = \delta_1 + \tau\mu_\delta/100 + Aa' + Bb' + Cc' + J' \tan \delta_1$$

Where the declination (δ_1) and centennial proper motion in declination (μ_δ) are referred to the mean equator and equinox of J 2026.5

SECOND-ORDER DAY NUMBERS, 2026
J FOR SOUTHERN DECLINATIONS
FOR 0^h TT AND EQUINOX J 2026.5

Date		RIGHT ASCENSION												
		0 ^h	1 ^h	2 ^h	3 ^h	4 ^h	5 ^h	6 ^h	7 ^h	8 ^h	9 ^h	10 ^h	11 ^h	12 ^h
		12 ^h	13 ^h	14 ^h	15 ^h	16 ^h	17 ^h	18 ^h	19 ^h	20 ^h	21 ^h	22 ^h	23 ^h	24 ^h
Jan.	-3 7 17 27	+2 0 0 -1	+2 +1 0 -1	+2 +1 0 -1	+1 +1 0 0	0 0 0 0	-2 -1 0 0	-3 -1 0 0	-3 -2 -1 0	-3 -2 -1 -1	-2 -1 -1 -1	-1 0 -1 -1	+1 0 -1 -1	+2 0 0 -1
Feb.	6 16 26	-1 -1 0	-1 -1 +1	-1 -1 0	-1 -1 -1	-1 -1 -2	0 -1 -2	0 -1 -2	0 0 -2	0 0 -1	0 0 0	0 0 +1	-1 0 +1	-1 -1 +1
Mar.	8 18 28	+2 +3 +5	+2 +4 +6	+1 +3 +5	0 +1 +3	-2 -1 0	-3 -3 -3	-3 -4 -6	-3 -5 -7	-2 -4 -6	-1 -2 -4	-1 0 -1	+1 +2 +2	+2 +3 +5
Apr.	7 17 27	+5 +6 +5	+8 +9 +10	+8 +9 +10	+6 +9 +12	+2 +4 +8	-2 -1 +1	-6 -7 -6	-9 -10 -11	-9 -10 -14	-7 -10 -13	-3 -5 -9	+1 0 -2	+5 +6 +5
May	7 17 27	+3 +1 -2	+11 +11 +10	+15 +17 +18	+16 +19 +21	+11 +15 +19	+4 +7 +11	-4 -2 +1	-12 -12 -11	-16 -18 -19	-17 -20 -22	-12 -16 -20	-5 -8 -12	+3 +1 -2
June	6 16 26	-5 -9 -13	+7 +4 +1	+18 +17 +15	+23 +25 +25	+23 +26 +28	+16 +20 +23	+4 +8 +12	-8 -5 -2	-19 -18 -16	-24 -26 -26	-24 -27 -29	-17 -21 -24	-5 -9 -13
July	6 16 26	-18 -22 -25	-3 -8 -12	+12 +8 +4	+24 +22 +19	+29 +30 +29	+27 +29 +31	+17 +21 +24	+2 +7 +11	-13 -9 -5	-25 -23 -20	-30 -31 -30	-28 -30 -32	-18 -22 -25
Aug.	5 15 25	-27 -29 -29	-15 -19 -21	0 -4 -8	+16 +11 +7	+27 +24 +20	+31 +30 +28	+26 +28 +28	+14 +18 +20	-1 +3 +7	-17 -12 -8	-28 -25 -21	-32 -31 -29	-27 -29 -29
Sept.	4 14 24	-28 -26 -24	-22 -22 -22	-11 -13 -14	+3 0 -3	+17 +13 +9	+25 +22 +18	+27 +25 +23	+21 +21 +21	+10 +12 +13	-4 -1 +2	-18 -14 -10	-26 -23 -19	-28 -26 -24
Oct.	4 14 24	-21 -17 -14	-20 -18 -15	-14 -14 -12	-5 -6 -6	+6 +3 +1	+15 +11 +8	+20 +16 +13	+19 +17 +14	+13 +13 +11	+4 +5 +5	-7 -4 -2	-16 -12 -9	-21 -17 -14
Nov.	3 13 23	-11 -9 -7	-12 -10 -7	-11 -8 -6	-6 -5 -3	0 0 0	+6 +5 +3	+10 +8 +6	+11 +9 +6	+10 +7 +5	+5 +4 +2	-1 -1 -1	-7 -6 -4	-11 -9 -7
Dec.	3 13 23 33	-5 -4 -3 -2	-5 -4 -2 -1	-4 -3 -1 0	-2 -1 0 +2	0 +1 +2 +2	+3 +3 +2 +2	+4 +3 +2 +1	+4 +3 +1 -1	+3 +2 0 -3	+1 0 -1 -3	-1 -2 -3 -3	-4 -4 -3 -3	-5 -4 -3 -2

The second-order day number J given in this table in units of 0^s.00001

The apparent right ascension of a star is given by:

$$\alpha = \alpha_1 + \tau\mu_\alpha/100 + Aa + Bb + Cc + Dd + E + J \tan^2\delta_1$$

Where the position (α_1, δ_1) and centennial proper motion in right ascension (μ_α) are referred to the mean equator and equinox of J 2026.5

SECOND-ORDER DAY NUMBERS, 2026
J' FOR SOUTHERN DECLINATIONS
FOR 0^h TT AND EQUINOX J 2026.5

Date	RIGHT ASCENSION												
	0 ^h 12 ^h	1 ^h 13 ^h	2 ^h 14 ^h	3 ^h 15 ^h	4 ^h 16 ^h	5 ^h 17 ^h	6 ^h 18 ^h	7 ^h 19 ^h	8 ^h 20 ^h	9 ^h 21 ^h	10 ^h 22 ^h	11 ^h 23 ^h	12 ^h 24 ^h
Jan.	-3	-1	-2	-3	-4	-4	-3	-2	-2	-1	-1	-1	-1
	7	-1	-1	-2	-2	-3	-3	-2	-2	-1	-1	-1	-1
	17	-1	-1	-1	-1	-1	-2	-2	-1	-1	-1	-1	-1
	27	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Feb.	6	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
	16	-2	-2	-2	-1	-1	-1	-1	-1	-1	-1	-1	-2
	26	-2	-3	-3	-3	-2	-2	-1	-1	-1	-1	-1	-2
Mar.	8	-2	-3	-4	-5	-4	-4	-3	-2	-1	-1	-1	-2
	18	-3	-4	-6	-7	-7	-6	-5	-3	-2	-1	-1	-3
	28	-2	-5	-7	-9	-10	-9	-8	-6	-3	-1	-1	-2
Apr.	7	-2	-5	-8	-11	-13	-13	-12	-9	-5	-3	-1	-2
	17	-2	-5	-9	-13	-16	-17	-16	-12	-8	-4	-1	-2
	27	-1	-5	-9	-15	-19	-21	-20	-17	-12	-7	-3	-1
May	7	-1	-4	-9	-16	-21	-25	-25	-22	-16	-10	-4	-1
	17	-1	-3	-9	-16	-23	-28	-29	-27	-21	-13	-6	-1
	27	-1	-2	-8	-16	-24	-31	-33	-31	-26	-18	-9	-1
June	6	-1	-1	-7	-15	-25	-32	-37	-36	-31	-22	-13	-5
	16	-2	-1	-5	-14	-24	-34	-39	-40	-36	-27	-17	-2
	26	-3	-1	-4	-12	-23	-34	-41	-43	-40	-32	-21	-3
July	6	-5	-1	-3	-10	-21	-32	-41	-45	-43	-36	-25	-5
	16	-7	-1	-1	-8	-18	-30	-40	-46	-46	-40	-29	-7
	26	-9	-2	-1	-6	-16	-28	-39	-46	-47	-42	-33	-9
Aug.	5	-12	-3	-1	-4	-13	-24	-36	-44	-47	-44	-35	-12
	15	-14	-5	-1	-2	-10	-21	-32	-42	-46	-44	-37	-14
	25	-17	-7	-1	-1	-7	-17	-28	-38	-44	-44	-38	-17
Sept.	4	-18	-8	-2	-1	-5	-14	-24	-34	-41	-42	-38	-18
	14	-19	-10	-3	-1	-3	-10	-20	-29	-36	-39	-36	-19
	24	-20	-11	-4	-1	-2	-8	-16	-25	-32	-35	-34	-20
Oct.	4	-19	-11	-5	-1	-1	-5	-13	-20	-27	-31	-31	-19
	14	-18	-11	-5	-1	-1	-4	-10	-16	-23	-26	-27	-18
	24	-16	-10	-5	-1	-1	-3	-7	-13	-18	-21	-22	-16
Nov.	3	-14	-9	-5	-1	-1	-2	-5	-10	-14	-17	-18	-14
	13	-11	-7	-4	-1	-1	-2	-4	-8	-11	-14	-15	-11
	23	-8	-5	-3	-1	-1	-1	-3	-6	-9	-10	-11	-8
Dec.	3	-5	-4	-2	-1	-1	-1	-3	-5	-7	-8	-7	-5
	13	-3	-2	-1	-1	-1	-2	-3	-4	-6	-6	-5	-3
	23	-2	-1	-1	-1	-1	-2	-3	-4	-5	-5	-4	-2
	33	-1	-1	-1	-1	-2	-3	-4	-4	-4	-4	-3	-1

The second-order day number J' given in this table in units of 0".0001

The apparent declination of a star is given by:

$$\delta = \delta_1 + \tau\mu_\delta/100 + Aa' + Bb' + Cc' + J' \tan \delta_1$$

Where the declination (δ_1) and centennial proper motion in declination (μ_δ) are referred to the mean equator and equinox of J 2026.5

POSITION AND VELOCITY OF THE EARTH, 2026
 ORIGIN AT SOLAR SYSTEM BARYCENTRE
 MEAN EQUATOR AND EQUINOX J 2000.0

Date 0 ^h T.D.B.	X	Y	Z	\dot{X}	\dot{Y}	\dot{Z}
Jan. 0	-0.160 124 06	+0.885 518 02	+0.383 997 68	-1724 9883	-258 3951	-112 0364
1	0.177 348 10	0.882 796 30	0.382 817 69	1719 7372	285 9308	123 9552
2	0.194 517 16	0.879 799 76	0.381 518 74	1713 9940	313 3602	135 8272
3	0.211 626 36	0.876 529 44	0.380 101 29	1707 7654	340 6861	147 6553
4	0.228 670 86	0.872 986 37	0.378 565 77	1701 0529	367 9120	159 4423
5	0.245 645 80	0.869 171 53	0.376 912 57	1693 8532	395 0404	171 1903
6	-0.262 546 28	+0.865 085 89	+0.375 142 09	-1686 1602	-422 0710	-182 8997
7	0.279 367 33	0.860 730 44	0.373 254 71	1677 9660	449 0003	194 5693
8	0.296 103 90	0.856 106 24	0.371 250 85	1669 2627	475 8214	206 1959
9	0.312 750 87	0.851 214 41	0.369 130 95	1660 0441	502 5251	217 7751
10	0.329 303 05	0.846 056 17	0.366 895 52	1650 3057	529 1009	229 3020
11	0.345 755 24	0.840 632 86	0.364 545 10	1640 0444	555 5371	240 7711
12	-0.362 102 19	+0.834 945 93	+0.362 080 31	-1629 2583	-581 8220	-252 1767
13	0.378 338 66	0.828 996 96	0.359 501 80	1617 9472	607 9438	263 5130
14	0.394 459 39	0.822 787 64	0.356 810 30	1606 1112	633 8902	274 7743
15	0.410 459 13	0.816 319 78	0.354 006 58	1593 7513	659 6489	285 9549
16	0.426 332 67	0.809 595 33	0.351 091 49	1580 8690	685 2074	297 0487
17	0.442 074 78	0.802 616 35	0.348 065 92	1567 4666	710 5527	308 0493
18	-0.457 680 28	+0.795 385 03	+0.344 930 83	-1553 5476	-735 6712	-318 9506
19	0.473 144 02	0.787 903 72	0.341 687 26	1539 1165	760 5489	329 7455
20	0.488 460 92	0.780 174 90	0.338 336 30	1524 1798	785 1717	340 4274
21	0.503 625 96	0.772 201 19	0.334 879 11	1508 7456	809 5256	350 9898
22	0.518 634 21	0.763 985 33	0.331 316 93	1492 8241	833 5970	361 4262
23	0.533 480 86	0.755 530 23	0.327 651 03	1476 4271	857 3733	371 7311
24	-0.548 161 21	+0.746 838 89	+0.323 882 76	-1459 5683	-880 8436	-381 8994
25	0.562 670 73	0.737 914 41	0.320 013 51	1442 2628	903 9982	391 9272
26	0.577 005 03	0.728 760 00	0.316 044 69	1424 5262	926 8301	401 8118
27	0.591 159 88	0.719 378 90	0.311 977 76	1406 3746	949 3344	411 5516
28	0.605 131 19	0.709 774 41	0.307 814 14	1387 8239	971 5090	421 1467
29	0.618 915 07	0.699 949 82	0.303 555 30	1368 8881	993 3540	430 5983
30	-0.632 507 71	+0.689 908 42	+0.299 202 65	-1349 5791	-1014 8723	-439 9086
Feb. 31	0.645 905 44	0.679 653 45	0.294 757 59	1329 9057	1036 0679	449 0809
1	0.659 104 63	0.669 188 12	0.290 221 48	1309 8721	1056 9454	458 1179
2	0.672 101 68	0.658 515 59	0.285 595 67	1289 4793	1077 5079	467 0220
3	0.684 893 01	0.647 639 01	0.280 881 48	1268 7254	1097 7565	475 7942
4	0.697 474 98	0.636 561 52	0.276 080 23	1247 6074	1117 6892	484 4335
5	-0.709 843 93	+0.625 286 29	+0.271 193 26	-1226 1223	-1137 3013	-492 9378
6	0.721 996 19	0.613 816 58	0.266 221 94	1204 2681	1156 5858	501 3035
7	0.733 928 06	0.602 155 70	0.261 167 67	1182 0444	1175 5342	509 5265
8	0.745 635 85	0.590 307 05	0.256 031 90	1159 4529	1194 1373	517 6022
9	0.757 115 90	0.578 274 13	0.250 816 13	1136 4964	1212 3858	525 5258
10	0.768 364 58	0.566 060 55	0.245 521 91	1113 1792	1230 2699	533 2926
11	-0.779 378 30	+0.553 669 98	+0.240 150 81	-1089 5059	-1247 7804	-540 8982
12	0.790 153 53	0.541 106 22	0.234 704 49	1065 4820	1264 9080	548 3378
13	0.800 686 79	0.528 373 13	0.229 184 63	1041 1137	1281 6430	555 6067
14	0.810 974 68	0.515 474 70	0.223 592 94	1016 4076	1297 9758	562 7002
15	-0.821 013 84	+0.502 414 99	+0.217 931 22	-991 3711	-1313 8959	-569 6132

\dot{X} , \dot{Y} , \dot{Z} are in units of 10^{-9} a.u. per day

FRAME BIAS, PRECESSION AND NUTATION, 2026
MATRIX ELEMENTS FOR CONVERSION FROM
GCRS TO TRUE EQUINOX OF DATE

Date	M ₁₁ - 1	M ₁₂	M ₁₃	M ₂₁	M ₂₂ - 1	M ₂₃	M ₃₁	M ₃₂	M ₃₃ - 1
0 ^h TT									
Jan. 0	-2025	-583 698	-253 596	+583 688	-1704	-4669	+253 619	+3188	-322
1	2026	583 830	253 653	583 820	1704	4644	253 676	3163	322
2	2027	583 986	253 721	583 976	1705	4632	253 743	3150	322
3	2028	584 150	253 792	584 140	1706	4636	253 814	3153	322
4	2029	584 302	253 858	584 292	1707	4655	253 881	3172	322
5	2030	584 429	253 913	584 419	1708	4685	253 936	3201	322
6	-2031	-584 522	-253 953	+584 512	-1708	-4718	+253 977	+3234	-323
7	2031	584 586	253 981	584 576	1709	4747	254 005	3262	323
8	2032	584 629	254 000	584 619	1709	4767	254 023	3282	323
9	2032	584 662	254 014	584 652	1709	4776	254 038	3291	323
10	2032	584 696	254 029	584 686	1709	4774	254 052	3289	323
11	2032	584 739	254 047	584 728	1710	4765	254 071	3279	323
12	-2033	-584 796	-254 072	+584 786	-1710	-4750	+254 096	+3264	-323
13	2033	584 871	254 105	584 861	1710	4734	254 128	3248	323
14	2034	584 963	254 145	584 953	1711	4720	254 168	3233	323
15	2035	585 070	254 191	585 060	1712	4711	254 214	3224	323
16	2035	585 188	254 242	585 178	1712	4710	254 266	3222	323
17	2036	585 309	254 295	585 299	1713	4718	254 318	3230	323
18	-2037	-585 427	-254 346	+585 417	-1714	-4736	+254 370	+3247	-324
19	2038	585 533	254 392	585 523	1714	4762	254 416	3273	324
20	2038	585 621	254 430	585 611	1715	4793	254 454	3303	324
21	2039	585 687	254 459	585 677	1715	4825	254 483	3335	324
22	2039	585 732	254 479	585 722	1715	4853	254 503	3362	324
23	2039	585 761	254 491	585 751	1716	4871	254 516	3381	324
24	-2040	-585 784	-254 501	+585 774	-1716	-4878	+254 526	+3387	-324
25	2040	585 813	254 514	585 803	1716	4873	254 538	3382	324
26	2040	585 860	254 534	585 850	1716	4857	254 558	3366	324
27	2041	585 934	254 566	585 923	1717	4836	254 590	3344	324
28	2041	586 037	254 611	586 027	1717	4817	254 635	3325	324
29	2042	586 166	254 667	586 156	1718	4807	254 691	3314	324
30	-2043	-586 308	-254 729	+586 298	-1719	-4810	+254 753	+3317	-325
31	2044	586 447	254 789	586 436	1720	4829	254 813	3335	325
Feb. 1	2045	586 567	254 841	586 556	1720	4860	254 865	3365	325
2	2046	586 657	254 880	586 647	1721	4897	254 905	3402	325
3	2046	586 716	254 906	586 705	1721	4933	254 931	3438	325
4	2046	586 749	254 920	586 738	1721	4962	254 945	3466	325
5	-2046	-586 767	-254 928	+586 756	-1722	-4979	+254 953	+3483	-325
6	2047	586 781	254 934	586 770	1722	4985	254 959	3489	325
7	2047	586 801	254 943	586 790	1722	4981	254 968	3485	325
8	2047	586 835	254 958	586 824	1722	4970	254 982	3474	325
9	2047	586 885	254 980	586 875	1722	4956	255 004	3460	325
10	2048	586 954	255 009	586 943	1723	4943	255 034	3446	325
11	-2048	-587 038	-255 046	+587 027	-1723	-4934	+255 070	+3437	-325
12	2049	587 134	255 088	587 123	1724	4932	255 112	3434	325
13	2050	587 236	255 132	587 225	1724	4939	255 156	3440	326
14	2050	587 336	255 175	587 326	1725	4955	255 200	3456	326
15	-2051	-587 428	-255 215	+587 417	-1725	-4979	+255 240	+3480	-326

POSITION AND VELOCITY OF THE EARTH, 2026
 ORIGIN AT SOLAR SYSTEM BARYCENTRE
 MEAN EQUATOR AND EQUINOX J 2000.0

Date		X	Y	Z	\dot{X}	\dot{Y}	\dot{Z}
0 ^h T.D.B.							
Feb.	15	-0.821 013 84	+0.502 414 99	+0.217 931 22	-991 3711	-1313 8959	-569 6132
	16	0.830 801 03	0.489 198 19	0.212 201 30	966 0131	1329 3926	576 3403
	17	0.840 333 07	0.475 828 59	0.206 405 06	940 3440	1344 4551	582 8762
	18	0.849 606 91	0.462 310 57	0.200 544 43	914 3766	1359 0724	589 2156
	19	0.858 619 65	0.448 648 65	0.194 621 41	888 1258	1373 2348	595 3539
	20	0.867 368 54	0.434 847 42	0.188 638 04	861 6085	1386 9338	601 2873
	21	-0.875 851 00	+0.420 911 54	+0.182 596 36	-834 8433	-1400 1632	-607 0133
	22	0.884 064 65	0.406 845 74	0.176 498 47	807 8497	1412 9194	612 5307
	23	0.892 007 29	0.392 654 74	0.170 346 44	780 6467	1425 2018	617 8399
	24	0.899 676 94	0.378 343 27	0.164 142 36	753 2523	1437 0124	622 9426
Mar.	25	0.907 071 76	0.363 916 05	0.157 888 27	725 6831	1448 3552	627 8417
	26	0.914 190 07	0.349 377 71	0.151 586 19	697 9525	1459 2361	632 5410
	27	-0.921 030 31	+0.334 732 84	+0.145 238 10	-670 0714	-1469 6621	-637 0444
	28	0.927 591 02	0.319 985 96	0.138 845 94	642 0480	1479 6403	641 3560
	1	0.933 870 81	0.305 141 51	0.132 411 60	613 8869	1489 1773	645 4798
	2	0.939 868 31	0.290 203 86	0.125 936 96	585 5904	1498 2786	649 4183
	3	0.945 582 17	0.275 177 38	0.119 423 85	557 1593	1506 9473	653 1734
	4	0.951 011 04	0.260 066 36	0.112 874 10	528 5929	1515 1844	656 7454
	5	-0.956 153 57	+0.244 875 13	+0.106 289 55	-499 8911	-1522 9887	-660 1334
	6	0.961 008 41	0.229 608 04	0.099 672 05	471 0545	1530 3569	663 3358
	7	0.965 574 22	0.214 269 46	0.093 023 47	442 0852	1537 2847	666 3497
	8	0.969 849 69	0.198 863 83	0.086 345 70	412 9866	1543 7666	669 1724
	9	0.973 833 54	0.183 395 63	0.079 640 67	383 7638	1549 7971	671 8008
	10	0.977 524 57	0.167 869 41	0.072 910 34	354 4226	1555 3708	674 2319
	11	-0.980 921 62	+0.152 289 76	+0.066 156 70	-324 9700	-1560 4821	-676 4628
	12	0.984 023 62	0.136 661 33	0.059 381 76	295 4134	1565 1259	678 4907
	13	0.986 829 57	0.120 988 82	0.052 587 57	265 7607	1569 2968	680 3127
	14	0.989 338 54	0.105 276 98	0.045 776 20	236 0202	1572 9892	681 9257
	15	0.991 549 71	0.089 530 65	0.038 949 76	206 2010	1576 1972	683 3269
	16	0.993 462 34	0.073 754 68	0.032 110 38	176 3136	1578 9145	684 5125
	17	-0.995 075 80	+0.057 954 02	+0.025 260 24	-146 3696	-1581 1342	-685 4792
	18	0.996 389 59	0.042 133 67	0.018 401 54	116 3835	1582 8501	686 2238
	19	0.997 403 38	0.026 298 71	0.011 536 52	86 3718	1584 0564	686 7433
	20	0.998 117 00	+0.010 454 25	0.004 667 43	56 3535	1584 7495	687 0362
	21	0.998 530 50	-0.005 394 57	0.002 203 45	-26 3492	1584 9287	687 1025
	22	0.998 644 10	0.021 242 62	0.009 073 87	+3 6201	1584 5967	686 9441
	23	-0.998 458 28	-0.037 084 82	-0.015 941 60	+33 5346	-1583 7596	-686 5646
	24	0.997 973 65	0.052 916 16	0.022 804 44	63 3774	1582 4265	685 9689
	25	0.997 191 02	0.068 731 73	0.029 660 28	93 1343	1580 6081	685 1631
	26	0.996 111 29	0.084 526 74	0.036 507 03	122 7948	1578 3160	684 1532
Apr.	27	0.994 735 47	0.100 296 51	0.043 342 68	152 3519	1575 5612	682 9450
	28	0.993 064 61	0.116 036 45	0.050 165 28	181 8009	1572 3542	681 5439
	29	-0.991 099 82	-0.131 742 11	-0.056 972 93	+211 1393	-1568 7039	-679 9542
	30	0.988 842 20	0.147 409 08	0.063 763 75	240 3663	1564 6174	678 1792
	31	0.986 292 86	0.163 033 02	0.070 535 90	269 4817	1560 1004	676 2213
	1	0.983 452 93	0.178 609 66	0.077 287 57	298 4855	1555 1561	674 0819
	2	-0.980 323 52	-0.194 134 73	-0.084 016 94	+327 3778	-1549 7865	-671 7615

\dot{X} , \dot{Y} , \dot{Z} are in units of 10^{-9} a.u. per day

FRAME BIAS, PRECESSION AND NUTATION, 2026
MATRIX ELEMENTS FOR CONVERSION FROM
GCRS TO TRUE EQUINOX OF DATE

	Date	M ₁₁ - 1	M ₁₂	M ₁₃	M ₂₁	M ₂₂ - 1	M ₂₃	M ₃₁	M ₃₂	M ₃₃ - 1
	0 ^h TT									
Feb.	15	-2051	-587 428	-255 215	+587 417	-1725	-4979	+255 240	+3480	-326
	16	2052	587 504	255 248	587 493	1726	5010	255 273	3510	326
	17	2052	587 558	255 272	587 547	1726	5043	255 297	3543	326
	18	2052	587 590	255 286	587 579	1726	5072	255 311	3572	326
	19	2052	587 603	255 291	587 592	1726	5094	255 317	3593	326
	20	2052	587 607	255 293	587 596	1726	5103	255 319	3603	326
	21	-2052	-587 613	-255 296	+587 602	-1727	-5099	+255 322	+3598	-326
	22	2053	587 636	255 306	587 625	1727	5083	255 331	3583	326
	23	2053	587 684	255 327	587 673	1727	5061	255 352	3560	326
	24	2053	587 761	255 360	587 750	1727	5039	255 385	3538	326
Mar.	25	2054	587 863	255 405	587 852	1728	5024	255 430	3522	326
	26	2055	587 981	255 456	587 970	1729	5021	255 481	3519	326
	27	-2056	-588 099	-255 507	+588 088	-1729	-5032	+255 532	+3530	-327
	28	2056	588 204	255 552	588 193	1730	5056	255 578	3553	327
	1	2057	588 284	255 587	588 273	1730	5087	255 613	3584	327
	2	2057	588 335	255 609	588 324	1731	5120	255 635	3616	327
	3	2058	588 359	255 620	588 348	1731	5147	255 646	3643	327
	4	2058	588 364	255 622	588 353	1731	5164	255 648	3660	327
	5	-2058	-588 361	-255 621	+588 350	-1731	-5170	+255 647	+3666	-327
	6	2058	588 361	255 621	588 350	1731	5164	255 647	3660	327
	7	2058	588 373	255 626	588 362	1731	5150	255 652	3646	327
	8	2058	588 402	255 639	588 391	1731	5131	255 664	3626	327
	9	2058	588 449	255 659	588 438	1731	5111	255 685	3606	327
	10	2059	588 514	255 687	588 503	1732	5094	255 713	3589	327
	11	-2059	-588 592	-255 721	+588 581	-1732	-5083	+255 747	+3578	-327
	12	2060	588 679	255 759	588 668	1733	5080	255 784	3574	327
	13	2060	588 767	255 797	588 756	1733	5086	255 823	3580	327
	14	2061	588 849	255 833	588 838	1734	5100	255 858	3594	327
	15	2061	588 919	255 863	588 907	1734	5122	255 889	3615	327
	16	2062	588 969	255 885	588 958	1735	5147	255 911	3640	328
	17	-2062	-588 999	-255 898	+588 987	-1735	-5171	+255 924	+3664	-328
	18	2062	589 008	255 902	588 996	1735	5189	255 928	3682	328
	19	2062	589 003	255 900	588 992	1735	5195	255 926	3688	328
	20	2062	588 998	255 898	588 986	1735	5187	255 924	3680	328
	21	2062	589 005	255 901	588 994	1735	5166	255 927	3659	328
	22	2062	589 038	255 915	589 027	1735	5136	255 941	3628	328
	23	-2063	-589 102	-255 943	+589 091	-1735	-5104	+255 969	+3596	-328
	24	2063	589 195	255 983	589 184	1736	5078	256 009	3570	328
	25	2064	589 305	256 031	589 294	1736	5063	256 056	3555	328
	26	2065	589 418	256 080	589 407	1737	5063	256 106	3554	328
	27	2066	589 521	256 125	589 510	1738	5075	256 150	3565	328
	28	2066	589 601	256 160	589 590	1738	5096	256 185	3586	328
Apr.	29	-2067	-589 655	-256 183	+589 643	-1739	-5120	+256 209	+3609	-328
	30	2067	589 682	256 195	589 670	1739	5140	256 220	3629	328
	31	2067	589 688	256 198	589 677	1739	5151	256 224	3640	328
	1	2067	589 685	256 196	589 674	1739	5151	256 222	3641	328
	2	-2067	-589 682	-256 195	+589 671	-1739	-5140	+256 221	+3630	-328

POSITION AND VELOCITY OF THE EARTH, 2026
 ORIGIN AT SOLAR SYSTEM BARYCENTRE
 MEAN EQUATOR AND EQUINOX J 2000.0

Date		X	Y	Z	\dot{X}	\dot{Y}	\dot{Z}
0^h T.D.B.							
Apr.	1	-0.983 452 93	-0.178 609 66	-0.077 287 57	+298 4855	-1555 1561	-674 0819
	2	0.980 323 52	0.194 134 73	0.084 016 94	327 3778	1549 7865	671 7615
	3	0.976 905 75	0.209 603 98	0.090 722 19	356 1577	1543 9922	669 2596
	4	0.973 200 75	0.225 013 15	0.097 401 52	384 8230	1537 7722	666 5754
	5	0.969 209 68	0.240 358 00	0.104 053 09	413 3704	1531 1251	663 7077
	6	0.964 933 75	0.255 634 23	0.110 675 06	441 7956	1524 0495	660 6550
	7	-0.960 374 20	-0.270 837 55	-0.117 265 57	+470 0931	-1516 5434	-657 4162
	8	0.955 532 33	0.285 963 66	0.123 822 76	498 2568	1508 6051	653 9898
	9	0.950 409 53	0.301 008 21	0.130 344 74	526 2797	1500 2330	650 3745
	10	0.945 007 23	0.315 966 87	0.136 829 62	554 1544	1491 4258	646 5693
	11	0.939 326 96	0.330 835 27	0.143 275 49	581 8732	1482 1813	642 5727
	12	0.933 370 32	0.345 609 03	0.149 680 43	609 4277	1472 4977	638 3834
	13	-0.927 138 99	-0.360 283 75	-0.156 042 51	+636 8080	-1462 3726	-633 9997
	14	0.920 634 78	0.374 855 00	0.162 359 77	664 0032	1451 8031	629 4201
	15	0.913 859 59	0.389 318 32	0.168 630 25	691 0003	1440 7869	624 6429
	16	0.906 815 48	0.403 669 24	0.174 851 97	717 7832	1429 3224	619 6672
	17	0.899 504 70	0.417 903 28	0.181 022 93	744 3337	1417 4099	614 4935
	18	0.891 929 65	0.432 015 96	0.187 141 18	770 6322	1405 0531	609 1235
	19	-0.884 092 96	-0.446 002 88	-0.193 204 76	+796 6586	-1392 2599	-603 5616
	20	0.875 997 44	0.459 859 74	0.199 211 79	822 3950	1379 0421	597 8142
	21	0.867 646 07	0.473 582 36	0.205 160 45	847 8272	1365 4142	591 8889
	22	0.859 041 95	0.487 166 71	0.211 049 01	872 9454	1351 3924	585 7941
	23	0.850 188 23	0.500 608 95	0.216 875 80	897 7445	1336 9928	579 5378
	24	0.841 088 13	0.513 905 36	0.222 639 25	922 2224	1322 2294	573 1267
	25	-0.831 744 85	-0.527 052 36	-0.228 337 84	+946 3797	-1307 1147	-566 5670
	26	0.822 161 60	0.540 046 51	0.233 970 11	970 2183	1291 6589	559 8633
	27	0.812 341 54	0.552 884 43	0.239 534 63	993 7401	1275 8700	553 0187
	28	0.802 287 84	0.565 562 82	0.245 030 02	1016 9474	1259 7544	546 0363
	29	0.792 003 64	0.578 078 45	0.250 454 90	1039 8419	1243 3173	538 9175
	30	0.781 492 04	0.590 428 11	0.255 807 92	1062 4248	1226 5621	531 6635
May	1	-0.770 756 18	-0.602 608 64	-0.261 087 73	+1084 6966	-1209 4914	-524 2751
	2	0.759 799 15	0.614 616 89	0.266 292 98	1106 6567	1192 1073	516 7524
	3	0.748 624 09	0.626 449 74	0.271 422 33	1128 3037	1174 4111	509 0955
	4	0.737 234 13	0.638 104 08	0.276 474 44	1149 6352	1156 4037	501 3039
	5	0.725 632 45	0.649 576 78	0.281 447 96	1170 6478	1138 0860	493 3778
	6	0.713 822 25	0.660 864 77	0.286 341 54	1191 3374	1119 4587	485 3168
	7	-0.701 806 79	-0.671 964 93	-0.291 153 84	+1211 6993	-1100 5227	-477 1206
	8	0.689 589 37	0.682 874 19	0.295 883 50	1231 7280	1081 2787	468 7893
	9	0.677 173 36	0.693 589 48	0.300 529 18	1251 4177	1061 7277	460 3225
	10	0.664 562 17	0.704 107 72	0.305 089 50	1270 7616	1041 8699	451 7201
	11	0.651 759 31	0.714 425 86	0.309 563 13	1289 7518	1021 7060	442 9820
	12	0.638 768 34	0.724 540 82	0.313 948 69	1308 3797	1001 2362	434 1077
	13	-0.625 592 96	-0.734 449 56	-0.318 244 83	+1326 6339	-980 4610	-425 0972
	14	0.612 236 95	0.744 149 03	0.322 450 18	1344 5011	959 3819	415 9511
	15	0.598 704 28	0.753 636 20	0.326 563 40	1361 9659	938 0024	406 6711
	16	0.584 999 04	0.762 908 10	0.330 583 17	1379 0109	916 3295	397 2609
	17	-0.571 125 51	-0.771 961 85	-0.334 508 21	+1395 6193	-894 3741	-387 7263

\dot{X} , \dot{Y} , \dot{Z} are in units of 10^{-9} a.u. per day

FRAME BIAS, PRECESSION AND NUTATION, 2026
MATRIX ELEMENTS FOR CONVERSION FROM
GCRS TO TRUE EQUINOX OF DATE

Date 0 ^h TT		M ₁₁ - 1	M ₁₂	M ₁₃	M ₂₁	M ₂₂ - 1	M ₂₃	M ₃₁	M ₃₂	M ₃₃ - 1
Apr.	1	-2067	-589 685	-256 196	+589 674	-1739	-5151	+256 222	+3641	-328
	2	2067	589 682	256 195	589 671	1739	5140	256 221	3630	328
	3	2067	589 688	256 198	589 677	1739	5120	256 224	3609	328
	4	2067	589 711	256 208	589 700	1739	5093	256 233	3582	328
	5	2067	589 753	256 226	589 742	1739	5065	256 251	3553	328
	6	2068	589 813	256 252	589 802	1739	5038	256 277	3526	328
	7	-2068	-589 889	-256 285	+589 878	-1740	-5016	+256 310	+3504	-329
	8	2069	589 975	256 322	589 964	1740	5001	256 347	3489	329
	9	2070	590 065	256 362	590 054	1741	4996	256 387	3483	329
	10	2070	590 153	256 399	590 142	1741	4999	256 424	3486	329
	11	2071	590 230	256 433	590 219	1742	5010	256 458	3496	329
	12	2071	590 292	256 460	590 281	1742	5025	256 485	3511	329
	13	-2071	-590 334	-256 478	+590 323	-1743	-5041	+256 504	+3527	-329
	14	2072	590 357	256 488	590 346	1743	5054	256 514	3539	329
	15	2072	590 364	256 491	590 353	1743	5057	256 517	3543	329
	16	2072	590 364	256 491	590 353	1743	5047	256 517	3533	329
	17	2072	590 373	256 495	590 362	1743	5023	256 520	3509	329
	18	2072	590 404	256 509	590 393	1743	4988	256 534	3473	329
	19	-2072	-590 467	-256 536	+590 456	-1743	-4947	+256 561	+3432	-329
	20	2073	590 564	256 578	590 553	1744	4909	256 603	3394	329
	21	2074	590 685	256 631	590 674	1745	4883	256 655	3367	329
	22	2075	590 814	256 687	590 803	1745	4872	256 711	3356	330
	23	2076	590 934	256 739	590 924	1746	4875	256 763	3358	330
	24	2076	591 033	256 782	591 023	1747	4889	256 806	3371	330
	25	-2077	-591 105	-256 813	+591 094	-1747	-4906	+256 837	+3388	-330
	26	2077	591 149	256 832	591 138	1747	4921	256 857	3403	330
	27	2077	591 172	256 842	591 162	1747	4929	256 867	3410	330
	28	2077	591 184	256 847	591 173	1748	4926	256 872	3408	330
	29	2077	591 193	256 851	591 182	1748	4913	256 876	3394	330
	30	2078	591 210	256 859	591 199	1748	4890	256 883	3371	330
May	1	-2078	-591 241	-256 873	+591 231	-1748	-4860	+256 897	+3341	-330
	2	2078	591 291	256 894	591 281	1748	4827	256 918	3308	330
	3	2079	591 361	256 924	591 351	1749	4795	256 948	3275	330
	4	2079	591 447	256 962	591 437	1749	4767	256 986	3248	330
	5	2080	591 546	257 005	591 535	1750	4747	257 028	3227	330
	6	2081	591 650	257 050	591 639	1750	4735	257 073	3214	330
	7	-2081	-591 753	-257 095	+591 743	-1751	-4733	+257 118	+3211	-331
	8	2082	591 848	257 136	591 838	1751	4738	257 159	3216	331
	9	2083	591 930	257 171	591 919	1752	4748	257 195	3226	331
	10	2083	591 993	257 199	591 983	1752	4762	257 223	3239	331
	11	2083	592 038	257 219	592 028	1753	4773	257 242	3250	331
	12	2084	592 066	257 231	592 056	1753	4777	257 255	3254	331
	13	-2084	-592 085	-257 239	+592 075	-1753	-4771	+257 263	+3248	-331
	14	2084	592 105	257 248	592 095	1753	4752	257 271	3229	331
	15	2084	592 142	257 264	592 132	1753	4720	257 287	3196	331
	16	2085	592 208	257 292	592 197	1754	4679	257 315	3155	331
	17	-2085	-592 309	-257 336	+592 299	-1754	-4638	+257 359	+3114	-331

POSITION AND VELOCITY OF THE EARTH, 2026
 ORIGIN AT SOLAR SYSTEM BARYCENTRE
 MEAN EQUATOR AND EQUINOX J 2000.0

Date 0 ^h T.D.B.		X	Y	Z	\dot{X}	\dot{Y}	\dot{Z}
May	17	-0.571 125 51	-0.771 961 85	-0.334 508 21	+1395 6193	-894 3741	-387 7263
	18	0.557 088 15	0.780 794 69	0.338 337 31	1411 7766	872 1516	378 0752
	19	0.542 891 52	0.789 404 05	0.342 069 35	1427 4724	849 6804	368 3170
	20	0.528 540 26	0.797 787 54	0.345 703 32	1442 7020	826 9798	358 4615
	21	0.514 039 03	0.805 942 94	0.349 238 29	1457 4660	804 0681	348 5177
	22	0.499 392 48	0.813 868 25	0.352 673 41	1471 7681	780 9615	338 4931
	23	-0.484 605 19	-0.821 561 57	-0.356 007 90	+1485 6144	-757 6727	-328 3934
	24	0.469 681 69	0.829 021 13	0.359 241 04	1499 0111	734 2117	318 2231
	25	0.454 626 45	0.836 245 25	0.362 372 14	1511 9643	710 5865	307 9851
	26	0.439 443 87	0.843 232 33	0.365 400 52	1524 4790	686 8031	297 6818
	27	0.424 138 31	0.849 980 81	0.368 325 56	1536 5597	662 8665	287 3147
	28	0.408 714 11	0.856 489 17	0.371 146 61	1548 2097	638 7809	276 8852
June	29	-0.393 175 55	-0.862 755 94	-0.373 863 06	+1559 4311	-614 5498	-266 3941
	30	0.377 526 91	0.868 779 69	0.376 474 29	1570 2260	590 1760	255 8423
	31	0.361 772 45	0.874 558 99	0.378 979 70	1580 5954	565 6623	245 2303
	1	0.345 916 42	0.880 092 47	0.381 378 70	1590 5391	541 0109	234 5583
	2	0.329 963 08	0.885 378 76	0.383 670 67	1600 0568	516 2237	223 8270
	3	0.313 916 71	0.890 416 50	0.385 855 04	1609 1468	491 3028	213 0363
	4	-0.297 781 58	-0.895 204 37	-0.387 931 20	+1617 8072	-466 2499	-202 1867
	5	0.281 562 01	0.899 741 06	0.389 898 58	1626 0347	441 0668	191 2785
	6	0.265 262 34	0.904 025 28	0.391 756 58	1633 8259	415 7556	180 3120
	7	0.248 886 96	0.908 055 75	0.393 504 62	1641 1761	390 3179	169 2878
	8	0.232 440 31	0.911 831 23	0.395 142 14	1648 0797	364 7558	158 2063
	9	0.215 926 88	0.915 350 46	0.396 668 56	1654 5298	339 0715	147 0683
	10	-0.199 351 25	-0.918 612 26	-0.398 083 32	+1660 5180	-313 2675	-135 8748
	11	0.182 718 09	0.921 615 43	0.399 385 88	1666 0339	287 3476	124 6276
	12	0.166 032 19	0.924 358 84	0.400 575 71	1671 0653	261 3179	113 3296
	13	0.149 298 44	0.926 841 45	0.401 652 32	1675 5989	235 1872	101 9855
	14	0.132 521 91	0.929 062 29	0.402 615 28	1679 6222	208 9684	90 6021
	15	0.115 707 74	0.931 020 58	0.403 464 26	1683 1249	182 6785	79 1880
	16	-0.098 861 16	-0.932 715 69	-0.404 198 97	+1686 1016	-156 3369	-67 7531
	17	0.081 987 46	0.934 147 21	0.404 819 28	1688 5524	129 9643	56 3077
	18	0.065 091 85	0.935 314 94	0.405 325 12	1690 4827	103 5798	44 8610
	19	0.048 179 51	0.936 218 82	0.405 716 52	1691 9018	77 1991	33 4202
	20	0.031 255 48	0.936 858 97	0.405 993 57	1692 8203	50 8347	21 9907
	21	-0.014 324 73	0.937 235 60	0.406 156 39	1693 2491	-24 4957	-10 5761
	22	+0.002 607 90	-0.937 348 99	-0.406 205 15	+1693 1980	+1 8117	+00 8214
	23	0.019 537 66	0.937 199 49	0.406 140 02	1692 6751	28 0824	12 2002
	24	0.036 459 85	0.936 787 48	0.405 961 21	1691 6870	54 3125	23 5591
	25	0.053 369 86	0.936 113 39	0.405 668 91	1690 2397	80 4983	34 8972
	26	0.070 263 13	0.935 177 67	0.405 263 34	1688 3379	106 6369	46 2139
	27	0.087 135 12	0.933 980 81	0.404 744 71	1685 9855	132 7255	57 5084
July	28	+0.103 981 35	-0.932 523 33	-0.404 113 24	+1683 1860	+158 7614	+68 7803
	29	0.120 797 36	0.930 805 77	0.403 369 18	1679 9422	184 7421	80 0289
	30	0.137 578 72	0.928 828 68	0.402 512 74	1676 2561	210 6660	91 2541
	1	0.154 321 01	0.926 592 65	0.401 544 17	1672 1289	236 5310	102 4555
	2	+0.171 019 83	-0.924 098 26	-0.400 463 71	+1667 5611	+262 3353	+113 6329

\dot{X} , \dot{Y} , \dot{Z} are in units of 10^{-9} a.u. per day

FRAME BIAS, PRECESSION AND NUTATION, 2026
MATRIX ELEMENTS FOR CONVERSION FROM
GCRS TO TRUE EQUINOX OF DATE

	Date	M ₁₁ - 1	M ₁₂	M ₁₃	M ₂₁	M ₂₂ - 1	M ₂₃	M ₃₁	M ₃₂	M ₃₃ - 1
	0 ^h TT									
May	17	-2085	-592 309	-257 336	+592 299	-1754	-4638	+257 359	+3114	-331
	18	2086	592 442	257 394	592 432	1755	4605	257 417	3080	331
	19	2087	592 592	257 459	592 582	1756	4588	257 482	3062	332
	20	2088	592 740	257 523	592 730	1757	4587	257 546	3061	332
	21	2089	592 868	257 579	592 858	1758	4599	257 602	3072	332
	22	2090	592 967	257 622	592 957	1758	4618	257 645	3090	332
	23	-2090	-593 036	-257 652	+593 026	-1759	-4636	+257 675	+3108	-332
	24	2091	593 080	257 671	593 070	1759	4647	257 694	3119	332
	25	2091	593 110	257 684	593 100	1759	4648	257 707	3120	332
	26	2091	593 135	257 695	593 125	1759	4639	257 718	3111	332
	27	2091	593 166	257 708	593 156	1759	4620	257 731	3091	332
	28	2092	593 209	257 727	593 200	1760	4594	257 750	3065	332
	29	-2092	-593 271	-257 754	+593 261	-1760	-4564	+257 776	+3035	-332
	30	2093	593 351	257 789	593 341	1760	4535	257 811	3005	332
	31	2093	593 448	257 831	593 438	1761	4509	257 853	2979	332
June	1	2094	593 559	257 879	593 549	1762	4491	257 901	2960	333
	2	2095	593 677	257 930	593 667	1762	4480	257 952	2949	333
	3	2096	593 795	257 981	593 785	1763	4479	258 003	2947	333
	4	-2097	-593 906	-258 029	+593 896	-1764	-4487	+258 052	+2954	-333
	5	2097	594 004	258 072	593 994	1764	4500	258 094	2967	333
	6	2098	594 085	258 107	594 076	1765	4517	258 130	2984	333
	7	2098	594 148	258 135	594 138	1765	4533	258 157	2999	333
	8	2099	594 193	258 154	594 183	1765	4545	258 177	3011	333
	9	2099	594 226	258 169	594 217	1766	4547	258 191	3013	333
	10	-2099	-594 257	-258 182	+594 247	-1766	-4538	+258 205	+3003	-333
	11	2099	594 298	258 200	594 288	1766	4516	258 222	2982	333
	12	2100	594 361	258 227	594 351	1766	4485	258 249	2950	334
	13	2100	594 457	258 269	594 447	1767	4449	258 291	2914	334
	14	2101	594 587	258 325	594 578	1768	4418	258 347	2882	334
	15	2102	594 743	258 393	594 734	1769	4400	258 415	2863	334
	16	-2104	-594 907	-258 464	+594 897	-1770	-4399	+258 486	+2861	-334
	17	2105	595 058	258 530	595 048	1771	4413	258 551	2875	334
	18	2106	595 181	258 583	595 171	1771	4438	258 605	2899	334
	19	2106	595 270	258 622	595 261	1772	4465	258 644	2925	335
	20	2107	595 330	258 648	595 321	1772	4486	258 670	2946	335
	21	2107	595 370	258 665	595 361	1772	4498	258 688	2958	335
	22	-2107	-595 403	-258 679	+595 393	-1773	-4499	+258 702	+2958	-335
	23	2107	595 438	258 695	595 428	1773	4489	258 717	2948	335
	24	2108	595 484	258 715	595 475	1773	4471	258 737	2930	335
	25	2108	595 547	258 742	595 537	1773	4449	258 764	2908	335
	26	2109	595 628	258 777	595 618	1774	4427	258 799	2885	335
	27	2109	595 726	258 820	595 716	1775	4408	258 841	2866	335
July	28	-2110	-595 837	-258 868	+595 828	-1775	-4395	+258 890	+2852	-335
	29	2111	595 957	258 920	595 948	1776	4390	258 942	2847	335
	30	2112	596 079	258 973	596 070	1777	4395	258 995	2851	335
	1	2113	596 195	259 023	596 185	1777	4408	259 045	2864	336
	2	-2113	-596 298	-259 068	+596 289	-1778	-4428	+259 090	+2883	-336

POSITION AND VELOCITY OF THE EARTH, 2026
 ORIGIN AT SOLAR SYSTEM BARYCENTRE
 MEAN EQUATOR AND EQUINOX J 2000.0

Date		X	Y	Z	\dot{X}	\dot{Y}	\dot{Z}
0 ^h T.D.B.							
July	1	+0.154 321 01	-0.926 592 65	-0.401 544 17	+1672 1289	+236 5310	+102 4555
	2	0.171 019 83	0.924 098 26	0.400 463 71	1667 5611	262 3353	113 6329
	3	0.187 670 76	0.921 346 15	0.399 271 60	1662 5520	288 0774	124 7860
	4	0.204 269 39	0.918 336 93	0.397 968 08	1657 1002	313 7554	135 9143
	5	0.220 811 28	0.915 071 26	0.396 553 40	1651 2031	339 3674	147 0172
	6	0.237 291 96	0.911 549 81	0.395 027 82	1644 8569	364 9107	158 0939
	7	+0.253 706 91	-0.907 773 28	-0.393 391 61	+1638 0568	+390 3825	+169 1430
	8	0.270 051 56	0.903 742 41	0.391 645 06	1630 7967	415 7784	180 1626
	9	0.286 321 28	0.899 457 99	0.389 788 47	1623 0691	441 0932	191 1500
	10	0.302 511 36	0.894 920 85	0.387 822 18	1614 8657	466 3194	202 1016
	11	0.318 616 98	0.890 131 93	0.385 746 57	1606 1780	491 4463	213 0115
	12	0.334 633 28	0.885 092 30	0.383 562 11	1596 9981	516 4604	223 8728
	13	+0.350 555 29	-0.879 803 15	-0.381 269 31	+1587 3214	+541 3450	+234 6771
	14	0.366 378 04	0.874 265 89	0.378 868 79	1577 1473	566 0808	245 4144
	15	0.382 096 59	0.868 482 10	0.376 361 27	1566 4805	590 6485	256 0751
	16	0.397 706 05	0.862 453 54	0.373 747 57	1555 3310	615 0300	266 6511
	17	0.413 201 65	0.856 182 17	0.371 028 56	1543 7121	639 2110	277 1355
	18	0.428 578 77	0.849 670 03	0.368 205 18	1531 6385	663 1806	287 5240
	19	+0.443 832 95	-0.842 919 28	-0.365 278 41	+1519 1244	+686 9318	+297 8139
	20	0.458 959 84	0.835 932 14	0.362 249 23	1506 1828	710 4598	308 0038
	21	0.473 955 22	0.828 710 84	0.359 118 67	1492 8248	733 7616	318 0933
	22	0.488 814 97	0.821 257 67	0.355 887 70	1479 0595	756 8350	328 0820
	23	0.503 535 08	0.813 574 91	0.352 557 36	1464 8950	779 6780	337 9697
	24	0.518 111 57	0.805 664 88	0.349 128 65	1450 3383	802 2890	347 7564
	25	+0.532 540 56	-0.797 529 91	-0.345 602 57	+1435 3956	+824 6661	+357 4418
	26	0.546 818 21	0.789 172 34	0.341 980 15	1420 0726	846 8077	367 0257
	27	0.560 940 76	0.780 594 54	0.338 262 39	1404 3744	868 7126	376 5082
	28	0.574 904 46	0.771 798 88	0.334 450 32	1388 3055	890 3797	385 8894
	29	0.588 705 64	0.762 787 74	0.330 544 94	1371 8698	911 8083	395 1693
	30	0.602 340 65	0.753 563 51	0.326 547 27	1355 0700	932 9976	404 3482
Aug.	31	+0.615 805 84	-0.744 128 59	-0.322 458 31	+1337 9076	+953 9474	+413 4264
	1	0.629 097 59	0.734 485 37	0.318 279 08	1320 3831	974 6570	422 4038
	2	0.642 212 29	0.724 636 25	0.314 010 58	1302 4954	995 1250	431 2798
	3	0.655 146 28	0.714 583 68	0.309 653 82	1284 2424	1015 3492	440 0539
	4	0.667 895 91	0.704 330 09	0.305 209 84	1265 6210	1035 3266	448 7244
	5	0.680 457 46	0.693 877 98	0.300 679 69	1246 6271	1055 0526	457 2887
	6	+0.692 827 19	-0.683 229 90	-0.296 064 43	+1227 2562	+1074 5207	+465 7437
	7	0.705 001 31	0.672 388 46	0.291 365 19	1207 5038	1093 7220	474 0847
	8	0.716 975 98	0.661 356 38	0.286 583 14	1187 3660	1112 6457	482 3060
	9	0.728 747 34	0.650 136 51	0.281 719 50	1166 8408	1131 2785	490 4005
	10	0.740 311 51	0.638 731 84	0.276 775 58	1145 9291	1149 6044	498 3601
	11	0.751 664 65	0.627 145 50	0.271 752 77	1124 6358	1167 6068	506 1765
	12	+0.762 802 99	-0.615 380 84	-0.266 652 55	+1102 9701	+1185 2691	+513 8416
	13	0.773 722 86	0.603 441 31	0.261 476 47	1080 9454	1202 6764	521 3484
	14	0.784 420 75	0.591 330 53	0.256 226 13	1058 5781	1219 5169	528 6916
	15	0.794 893 33	0.579 052 22	0.250 903 19	1035 8855	1236 0828	535 8681
	16	+0.805 137 44	-0.566 610 14	-0.245 509 33	+1012 8847	+1252 2693	+542 8765

\dot{X} , \dot{Y} , \dot{Z} are in units of 10^{-9} a.u. per day

FRAME BIAS, PRECESSION AND NUTATION, 2026
MATRIX ELEMENTS FOR CONVERSION FROM
GCRS TO TRUE EQUINOX OF DATE

Date		M ₁₁ - 1	M ₁₂	M ₁₃	M ₂₁	M ₂₂ - 1	M ₂₃	M ₃₁	M ₃₂	M ₃₃ - 1
0 ^h TT										
July	1	-2113	-596 195	-259 023	+596 185	-1777	-4408	+259 045	+2864	-336
	2	2113	596 298	259 068	596 289	1778	4428	259 090	2883	336
	3	2114	596 384	259 106	596 375	1778	4453	259 128	2907	336
	4	2115	596 451	259 135	596 442	1779	4477	259 157	2931	336
	5	2115	596 500	259 156	596 490	1779	4497	259 178	2951	336
	6	2115	596 535	259 171	596 525	1779	4510	259 193	2964	336
	7	-2115	-596 564	-259 184	+596 554	-1780	-4512	+259 206	+2965	-336
	8	2116	596 599	259 199	596 589	1780	4502	259 221	2955	336
	9	2116	596 651	259 221	596 641	1780	4482	259 244	2935	336
	10	2117	596 730	259 256	596 720	1780	4456	259 278	2909	336
	11	2117	596 841	259 304	596 831	1781	4431	259 326	2884	336
	12	2118	596 981	259 365	596 971	1782	4416	259 386	2867	336
	13	-2119	-597 137	-259 432	+597 127	-1783	-4414	+259 454	+2865	-337
	14	2120	597 290	259 499	597 281	1784	4430	259 521	2880	337
	15	2121	597 422	259 556	597 413	1785	4459	259 578	2908	337
	16	2122	597 522	259 599	597 512	1785	4494	259 622	2943	337
	17	2123	597 587	259 628	597 577	1786	4526	259 650	2975	337
	18	2123	597 627	259 645	597 617	1786	4550	259 668	2998	337
	19	-2123	-597 653	-259 656	+597 643	-1786	-4562	+259 679	+3010	-337
	20	2123	597 678	259 667	597 668	1786	4561	259 690	3009	337
	21	2123	597 713	259 682	597 703	1786	4552	259 705	3000	337
	22	2124	597 762	259 704	597 752	1787	4537	259 726	2984	337
	23	2124	597 830	259 733	597 820	1787	4520	259 756	2967	337
	24	2125	597 915	259 770	597 905	1788	4506	259 792	2953	338
	25	-2126	-598 014	-259 813	+598 004	-1788	-4497	+259 836	+2944	-338
	26	2126	598 123	259 860	598 113	1789	4497	259 883	2942	338
	27	2127	598 234	259 909	598 224	1789	4505	259 931	2950	338
	28	2128	598 341	259 955	598 331	1790	4522	259 978	2966	338
	29	2129	598 437	259 997	598 427	1791	4546	260 020	2990	338
	30	2129	598 516	260 031	598 507	1791	4575	260 054	3019	338
Aug.	31	-2130	-598 576	-260 057	+598 566	-1792	-4606	+260 080	+3049	-338
	1	2130	598 616	260 075	598 606	1792	4632	260 098	3075	338
	2	2130	598 640	260 085	598 630	1792	4652	260 108	3095	338
	3	2130	598 656	260 092	598 646	1792	4661	260 115	3104	338
	4	2130	598 675	260 100	598 665	1792	4658	260 124	3101	338
	5	2131	598 707	260 114	598 697	1792	4645	260 138	3087	338
	6	-2131	-598 763	-260 139	+598 753	-1793	-4625	+260 162	+3067	-338
	7	2132	598 847	260 175	598 837	1793	4604	260 198	3046	339
	8	2132	598 960	260 224	598 950	1794	4589	260 247	3031	339
	9	2133	599 092	260 281	599 082	1795	4586	260 304	3027	339
	10	2134	599 228	260 341	599 218	1795	4599	260 363	3039	339
	11	2135	599 352	260 394	599 342	1796	4625	260 417	3065	339
	12	-2136	-599 448	-260 436	+599 438	-1797	-4661	+260 459	+3100	-339
	13	2136	599 511	260 464	599 501	1797	4697	260 487	3136	339
	14	2137	599 545	260 478	599 534	1797	4728	260 502	3166	339
	15	2137	599 558	260 484	599 548	1797	4746	260 508	3184	339
	16	-2137	-599 566	-260 487	+599 556	-1797	-4752	+260 511	+3190	-339

POSITION AND VELOCITY OF THE EARTH, 2026
 ORIGIN AT SOLAR SYSTEM BARYCENTRE
 MEAN EQUATOR AND EQUINOX J 2000.0

Date		X	Y	Z	\dot{X}	\dot{Y}	\dot{Z}
0 ^h T.D.B.							
Aug.	16	+0.805 137 44	-0.566 610 14	-0.245 509 33	+1012 8847	+1252 2693	+542 8765
	17	0.815 150 05	0.554 008 10	0.240 046 22	989 5910	1268 0742	549 7166
	18	0.824 928 32	0.541 249 93	0.234 515 56	966 0177	1283 4968	556 3890
	19	0.834 469 51	0.528 339 44	0.228 919 00	942 1763	1298 5375	562 8945
	20	0.843 770 99	0.515 280 45	0.223 258 22	918 0769	1313 1967	569 2339
	21	0.852 830 22	0.502 076 78	0.217 534 87	893 7282	1327 4748	575 4081
	22	+0.861 644 75	-0.488 732 23	-0.211 750 61	+869 1385	+1341 3721	+581 4179
	23	0.870 212 21	0.475 250 60	0.205 907 06	844 3154	1354 8892	587 2638
	24	0.878 530 30	0.461 635 71	0.200 005 87	819 2661	1368 0264	592 9467
	25	0.886 596 80	0.447 891 34	0.194 048 67	793 9970	1380 7850	598 4676
	26	0.894 409 53	0.434 021 27	0.188 037 06	768 5141	1393 1661	603 8274
	27	0.901 966 39	0.420 029 27	0.181 972 65	742 8221	1405 1713	609 0272
	28	+0.909 265 29	-0.405 919 09	-0.175 857 04	+716 9244	+1416 8024	+614 0683
	29	0.916 304 19	0.391 694 46	0.169 691 81	690 8226	1428 0607	618 9513
	30	0.923 081 06	0.377 359 11	0.163 478 54	664 5172	1438 9469	623 6766
	31	0.929 593 86	0.362 916 77	0.157 218 81	638 0071	1449 4603	628 2439
Sept.	1	0.935 840 52	0.348 371 16	0.150 914 20	611 2900	1459 5985	632 6518
	2	0.941 818 96	0.333 726 06	0.144 566 31	584 3637	1469 3572	636 8975
	3	+0.947 527 08	-0.318 985 30	-0.138 176 80	+557 2260	+1478 7296	+640 9775
	4	0.952 962 77	0.304 152 79	0.131 747 33	529 8762	1487 7069	644 8869
	5	0.958 123 90	0.289 232 52	0.125 279 65	502 3150	1496 2786	648 6201
	6	0.963 008 38	0.274 228 61	0.118 775 54	474 5460	1504 4324	652 1706
	7	0.967 614 15	0.259 145 30	0.112 236 87	446 5757	1512 1552	655 5317
	8	0.971 939 25	0.243 986 98	0.105 665 56	418 4138	1519 4339	658 6968
	9	+0.975 981 84	-0.228 758 15	-0.099 063 60	+390 0739	+1526 2565	+661 6602
	10	0.979 740 19	0.213 463 41	0.092 433 04	361 5722	1532 6128	664 4170
	11	0.983 212 80	0.198 107 47	0.085 775 96	332 9267	1538 4956	666 9643
	12	0.986 398 31	0.182 695 09	0.079 094 46	304 1562	1543 9005	669 3006
	13	0.989 295 57	0.167 231 06	0.072 390 65	275 2791	1548 8266	671 4260
	14	0.991 903 59	0.151 720 15	0.065 666 64	246 3118	1553 2748	673 3419
	15	+0.994 221 55	-0.136 167 14	-0.058 924 51	+217 2693	+1557 2477	+675 0501
	16	0.996 248 77	0.120 576 77	0.052 166 32	188 1645	1560 7486	676 5527
	17	0.997 984 67	0.104 953 73	0.045 394 13	159 0087	1563 7811	677 8521
	18	0.999 428 81	0.089 302 70	0.038 609 95	129 8120	1566 3491	678 9506
	19	1.000 580 81	0.073 628 29	0.031 815 78	100 5839	1568 4557	679 8500
	20	1.001 440 41	0.057 935 11	0.025 013 61	71 3330	1570 1044	680 5525
	21	+1.002 007 42	-0.042 227 71	-0.018 205 38	+42 0675	+1571 2990	+681 0600
	22	1.002 281 74	0.026 510 63	0.011 393 05	12 7954	1572 0434	681 3746
	23	1.002 263 33	0.010 788 33	0.004 578 53	16 4764	1572 3416	681 4987
	24	1.001 952 23	0.004 934 73	0.002 236 30	45 7421	1572 1986	681 4349
	25	1.001 348 52	0.020 654 19	0.009 049 55	74 9975	1571 6193	681 1851
	26	1.000 452 32	0.036 365 68	0.015 859 39	104 2398	1570 6078	680 7519
	27	+0.999 263 77	+0.052 064 91	+0.022 663 99	-133 4685	+1569 1681	+680 1368
	28	0.997 782 99	0.067 747 62	0.029 461 52	162 6848	1567 3022	679 3401
	29	0.996 010 11	0.083 409 54	0.036 250 18	191 8904	1565 0093	678 3611
	30	0.993 945 22	0.099 046 37	0.043 028 13	221 0873	1562 2864	677 1977
Oct.	1	+0.991 588 39	+0.114 653 81	+0.049 793 51	-250 2758	+1559 1277	+675 8462

\dot{X} , \dot{Y} , \dot{Z} are in units of 10^{-9} a.u. per day

FRAME BIAS, PRECESSION AND NUTATION, 2026
MATRIX ELEMENTS FOR CONVERSION FROM
GCRS TO TRUE EQUINOX OF DATE

Date		M ₁₁ - 1	M ₁₂	M ₁₃	M ₂₁	M ₂₂ - 1	M ₂₃	M ₃₁	M ₃₂	M ₃₃ - 1
0 ^h TT										
Aug.	16	-2137	-599 566	-260 487	+599 556	-1797	-4752	+260 511	+3190	-339
	17	2137	599 579	260 493	599 569	1798	4746	260 517	3184	339
	18	2137	599 607	260 505	599 597	1798	4733	260 529	3171	339
	19	2137	599 653	260 525	599 643	1798	4716	260 549	3154	339
	20	2138	599 717	260 553	599 707	1798	4701	260 577	3139	340
	21	2138	599 797	260 588	599 787	1799	4691	260 611	3127	340
	22	-2139	-599 887	-260 627	+599 877	-1799	-4687	+260 650	+3123	-340
	23	2140	599 983	260 668	599 972	1800	4692	260 692	3128	340
	24	2140	600 076	260 709	600 065	1801	4706	260 732	3141	340
	25	2141	600 159	260 745	600 149	1801	4728	260 769	3163	340
	26	2141	600 228	260 775	600 218	1801	4755	260 799	3190	340
	27	2142	600 278	260 796	600 267	1802	4784	260 821	3219	340
	28	-2142	-600 307	-260 809	+600 296	-1802	-4811	+260 833	+3245	-340
	29	2142	600 318	260 814	600 308	1802	4831	260 839	3265	340
	30	2142	600 320	260 815	600 309	1802	4841	260 839	3275	340
	31	2142	600 321	260 815	600 310	1802	4838	260 840	3272	340
Sept.	1	2142	600 333	260 821	600 322	1802	4824	260 845	3259	340
	2	2142	600 367	260 836	600 357	1802	4803	260 860	3237	340
	3	-2143	-600 429	-260 862	+600 419	-1803	-4779	+260 886	+3212	-340
	4	2143	600 518	260 901	600 508	1803	4759	260 925	3192	340
	5	2144	600 628	260 949	600 618	1804	4749	260 973	3182	341
	6	2145	600 746	261 000	600 735	1805	4754	261 024	3186	341
	7	2146	600 856	261 048	600 845	1805	4771	261 072	3203	341
	8	2147	600 945	261 086	600 934	1806	4799	261 110	3230	341
	9	-2147	-601 004	-261 112	+600 993	-1806	-4831	+261 136	+3262	-341
	10	2147	601 033	261 125	601 023	1806	4859	261 149	3289	341
	11	2147	601 040	261 128	601 029	1806	4877	261 152	3307	341
	12	2147	601 035	261 126	601 025	1806	4882	261 151	3313	341
	13	2147	601 033	261 125	601 022	1806	4875	261 149	3306	341
	14	2147	601 042	261 129	601 032	1806	4858	261 153	3289	341
	15	-2147	-601 070	-261 141	+601 059	-1806	-4836	+261 165	+3267	-341
	16	2148	601 117	261 161	601 106	1807	4814	261 186	3244	341
	17	2148	601 182	261 190	601 171	1807	4795	261 214	3224	341
	18	2149	601 260	261 223	601 249	1808	4782	261 247	3211	341
	19	2149	601 344	261 260	601 334	1808	4777	261 284	3206	341
	20	2150	601 429	261 297	601 419	1809	4781	261 321	3210	341
	21	-2151	-601 508	-261 331	+601 497	-1809	-4794	+261 355	+3222	-342
	22	2151	601 574	261 360	601 563	1810	4812	261 384	3240	342
	23	2151	601 622	261 381	601 611	1810	4834	261 405	3261	342
	24	2152	601 651	261 393	601 640	1810	4854	261 418	3282	342
	25	2152	601 661	261 398	601 650	1810	4870	261 422	3297	342
	26	2152	601 658	261 397	601 648	1810	4876	261 421	3303	342
	27	-2152	-601 652	-261 394	+601 642	-1810	-4869	+261 419	+3297	-342
	28	2152	601 655	261 395	601 644	1810	4850	261 420	3278	342
	29	2152	601 678	261 405	601 668	1810	4822	261 430	3249	342
	30	2152	601 730	261 428	601 719	1810	4789	261 452	3216	342
Oct.	1	-2153	-601 811	-261 463	+601 800	-1811	-4759	+261 487	+3185	-342

POSITION AND VELOCITY OF THE EARTH, 2026
 ORIGIN AT SOLAR SYSTEM BARYCENTRE
 MEAN EQUATOR AND EQUINOX J 2000.0

Date		X	Y	Z	\dot{X}	\dot{Y}	\dot{Z}
0 ^h T.D.B.							
Oct.	1	+0.991 588 39	+0.114 653 81	+0.049 793 51	-250 2758	+1559 1277	+675 8462
	2	0.988 939 73	0.130 227 45	0.056 544 41	279 4542	1555 5253	674 3020
	3	0.985 999 36	0.145 762 81	0.063 278 89	308 6177	1551 4700	672 5600
	4	0.982 767 46	0.161 255 31	0.069 994 93	337 7582	1546 9519	670 6150
	5	0.979 244 31	0.176 700 27	0.076 690 49	366 8646	1541 9621	668 4623
	6	0.975 430 32	0.192 092 95	0.083 363 47	395 9231	1536 4923	666 0977
	7	+0.971 326 06	+0.207 428 50	+0.090 011 73	-424 9177	+1530 5363	+663 5183
	8	0.966 932 24	0.222 702 04	0.096 633 12	453 8306	1524 0900	660 7222
	9	0.962 249 78	0.237 908 66	0.103 225 45	482 6433	1517 1520	657 7091
	10	0.957 279 77	0.253 043 44	0.109 786 58	511 3375	1509 7230	654 4802
	11	0.952 023 49	0.268 101 50	0.116 314 34	539 8953	1501 8064	651 0369
	12	0.946 482 37	0.283 077 96	0.122 806 61	568 3007	1493 4073	647 3827
	13	+0.940 658 03	+0.297 968 05	+0.129 261 30	-596 5389	+1484 5322	+643 5210
	14	0.934 552 19	0.312 767 04	0.135 676 36	624 5972	1475 1883	639 4557
	15	0.928 166 72	0.327 470 28	0.142 049 75	652 4646	1465 3828	635 1907
	16	0.921 503 57	0.342 073 19	0.148 379 52	680 1307	1455 1236	630 7297
	17	0.914 564 81	0.356 571 26	0.154 663 71	707 5867	1444 4178	626 0766
	18	0.907 352 57	0.370 960 08	0.160 900 42	734 8242	1433 2729	621 2350
	19	+0.899 869 08	+0.385 235 28	+0.167 087 79	-761 8355	+1421 6962	+616 2083
	20	0.892 116 64	0.399 392 59	0.173 223 98	788 6132	1409 6954	611 0005
	21	0.884 097 61	0.413 427 80	0.179 307 21	815 1511	1397 2784	605 6152
	22	0.875 814 43	0.427 336 80	0.185 335 71	841 4437	1384 4535	600 0563
	23	0.867 269 57	0.441 115 54	0.191 307 77	867 4875	1371 2294	594 3280
	24	0.858 465 52	0.454 760 08	0.197 221 71	893 2806	1357 6142	588 4337
	25	+0.849 404 79	+0.468 266 55	+0.203 075 90	-918 8235	+1343 6151	+582 3764
	26	0.840 089 88	0.481 631 13	0.208 868 70	944 1187	1329 2376	576 1581
	27	0.830 523 23	0.494 850 05	0.214 598 52	969 1693	1314 4839	569 7791
	28	0.820 707 29	0.507 919 55	0.220 263 75	993 9785	1299 3532	563 2378
	29	0.810 644 46	0.520 835 84	0.225 862 73	1018 5471	1283 8412	556 5310
	30	0.800 337 16	0.533 595 08	0.231 393 80	1042 8722	1267 9417	549 6552
Nov.	31	+0.789 787 85	+0.546 193 36	+0.236 855 25	-1066 9472	+1251 6477	+542 6058
	1	0.778 999 09	0.558 626 70	0.242 245 33	1090 7616	1234 9528	535 3792
	2	0.767 973 54	0.570 891 06	0.247 562 24	1114 3018	1217 8523	527 9731
	3	0.756 714 02	0.582 982 38	0.252 804 19	1137 5520	1200 3439	520 3863
	4	0.745 223 52	0.594 896 58	0.257 969 36	1160 4957	1182 4279	512 6187
	5	0.733 505 18	0.606 629 59	0.263 055 96	1183 1160	1164 1064	504 6716
	6	+0.721 562 33	+0.618 177 37	+0.268 062 21	-1205 3960	+1145 3843	+496 5478
	7	0.709 398 45	0.629 535 96	0.272 986 34	1227 3201	1126 2682	488 2505
	8	0.697 017 17	0.640 701 45	0.277 826 65	1248 8735	1106 7659	479 7838
	9	0.684 422 26	0.651 670 03	0.282 581 47	1270 0427	1086 8873	471 1529
	10	0.671 617 63	0.662 437 98	0.287 249 18	1290 8158	1066 6426	462 3627
	11	0.658 607 30	0.673 001 69	0.291 828 21	1311 1825	1046 0429	453 4188
	12	+0.645 395 37	+0.683 357 69	+0.296 317 06	-1331 1340	+1025 0996	+444 3268
	13	0.631 986 03	0.693 502 58	0.300 714 27	1350 6626	1003 8241	435 0921
	14	0.618 383 55	0.703 433 10	0.305 018 44	1369 7618	982 2277	425 7201
	15	0.604 592 24	0.713 146 10	0.309 228 23	1388 4258	960 3217	416 2160
	16	+0.590 616 50	+0.722 638 54	+0.313 342 34	-1406 6499	+938 1171	+406 5850

\dot{X} , \dot{Y} , \dot{Z} are in units of 10^{-9} a.u. per day

FRAME BIAS, PRECESSION AND NUTATION, 2026
MATRIX ELEMENTS FOR CONVERSION FROM
GCRS TO TRUE EQUINOX OF DATE

Date		M ₁₁ - 1	M ₁₂	M ₁₃	M ₂₁	M ₂₂ - 1	M ₂₃	M ₃₁	M ₃₂	M ₃₃ - 1
0 ^h TT										
Oct.	1	-2153	-601 811	-261 463	+601 800	-1811	-4759	+261 487	+3185	-342
	2	2153	601 915	261 508	601 904	1812	4738	261 532	3164	342
	3	2154	602 029	261 558	602 019	1812	4731	261 581	3156	342
	4	2155	602 138	261 605	602 128	1813	4737	261 629	3162	342
	5	2156	602 230	261 645	602 219	1813	4754	261 669	3179	342
	6	2156	602 295	261 673	602 284	1814	4776	261 697	3200	342
	7	-2156	-602 331	-261 689	+602 320	-1814	-4797	+261 713	+3220	-343
	8	2157	602 344	261 695	602 333	1814	4809	261 719	3233	343
	9	2157	602 343	261 694	602 332	1814	4810	261 718	3234	343
	10	2157	602 340	261 693	602 330	1814	4799	261 717	3222	343
	11	2157	602 347	261 696	602 336	1814	4777	261 720	3200	343
	12	2157	602 370	261 706	602 360	1814	4748	261 730	3171	343
	13	-2157	-602 414	-261 725	+602 404	-1815	-4716	+261 749	+3140	-343
	14	2157	602 478	261 753	602 468	1815	4687	261 776	3110	343
	15	2158	602 557	261 787	602 547	1815	4664	261 811	3086	343
	16	2159	602 645	261 826	602 635	1816	4648	261 849	3070	343
	17	2159	602 737	261 865	602 727	1817	4641	261 889	3063	343
	18	2160	602 824	261 903	602 814	1817	4643	261 926	3064	343
	19	-2161	-602 901	-261 937	+602 891	-1818	-4651	+261 960	+3072	-343
	20	2161	602 963	261 963	602 952	1818	4664	261 987	3084	343
	21	2161	603 006	261 983	602 996	1818	4677	262 006	3097	343
	22	2161	603 032	261 994	603 022	1818	4687	262 017	3107	343
	23	2162	603 043	261 999	603 033	1818	4689	262 022	3109	343
	24	2162	603 047	262 000	603 037	1818	4680	262 024	3100	343
	25	-2162	-603 056	-262 004	+603 046	-1818	-4659	+262 027	+3078	-343
	26	2162	603 082	262 015	603 072	1819	4625	262 039	3045	343
	27	2162	603 136	262 039	603 126	1819	4585	262 062	3005	343
	28	2163	603 223	262 077	603 213	1819	4546	262 099	2965	344
	29	2164	603 337	262 126	603 328	1820	4515	262 149	2933	344
	30	2165	603 468	262 183	603 458	1821	4497	262 205	2915	344
Nov.	31	-2166	-603 596	-262 239	+603 587	-1822	-4494	+262 261	+2911	-344
	1	2166	603 708	262 287	603 699	1822	4504	262 310	2920	344
	2	2167	603 794	262 325	603 784	1823	4519	262 347	2935	344
	3	2167	603 851	262 349	603 841	1823	4535	262 372	2951	344
	4	2168	603 884	262 364	603 874	1823	4544	262 386	2959	344
	5	2168	603 901	262 371	603 891	1824	4543	262 394	2958	344
	6	-2168	-603 914	-262 377	+603 904	-1824	-4530	+262 399	+2945	-344
	7	2168	603 934	262 386	603 924	1824	4506	262 408	2922	344
	8	2168	603 968	262 401	603 959	1824	4475	262 423	2890	344
	9	2169	604 023	262 424	604 013	1824	4440	262 446	2855	344
	10	2169	604 097	262 457	604 088	1825	4407	262 478	2821	345
	11	2170	604 189	262 496	604 180	1825	4378	262 518	2792	345
	12	-2171	-604 293	-262 542	+604 284	-1826	-4357	+262 563	+2770	-345
	13	2171	604 402	262 589	604 393	1827	4345	262 610	2757	345
	14	2172	604 509	262 635	604 499	1827	4341	262 657	2753	345
	15	2173	604 607	262 678	604 597	1828	4345	262 699	2757	345
	16	-2173	-604 691	-262 714	+604 682	-1828	-4354	+262 736	+2766	-345

POSITION AND VELOCITY OF THE EARTH, 2026
 ORIGIN AT SOLAR SYSTEM BARYCENTRE
 MEAN EQUATOR AND EQUINOX J 2000.0

Date 0 ^h T.D.B.	X	Y	Z	\dot{X}	\dot{Y}	\dot{Z}
Nov. 16	+0.590 616 50	+0.722 638 54	+0.313 342 34	-1406 6499	+938 1171	+406 5850
17	0.576 460 73	0.731 907 49	0.317 359 53	1424 4298	915 6253	396 8323
18	0.562 129 39	0.740 950 12	0.321 278 60	1441 7622	892 8575	386 9631
19	0.547 626 98	0.749 763 75	0.325 098 42	1458 6447	869 8254	376 9826
20	0.532 958 00	0.758 345 79	0.328 817 90	1475 0766	846 5407	366 8960
21	0.518 126 95	0.766 693 76	0.332 436 00	1491 0592	823 0146	356 7081
22	+0.503 138 30	+0.774 805 31	+0.335 951 74	-1506 5958	+799 2574	+346 4231
23	0.487 996 50	0.782 678 17	0.339 364 15	1521 6918	775 2777	336 0442
24	0.472 705 91	0.790 310 14	0.342 672 31	1536 3540	751 0802	325 5726
25	0.457 270 85	0.797 699 05	0.345 875 29	1550 5882	726 6666	315 0076
26	0.441 695 56	0.804 842 74	0.348 972 14	1564 3980	702 0344	304 3470
27	0.425 984 30	0.811 739 00	0.351 961 90	1577 7829	677 1790	293 5874
28	+0.410 141 34	+0.818 385 56	+0.354 843 55	-1590 7367	+652 0955	+282 7254
29	0.394 171 04	0.824 780 14	0.357 616 06	1603 2493	626 7801	271 7589
30	0.378 077 87	0.830 920 39	0.360 278 38	1615 3075	601 2323	260 6873
Dec. 1	0.361 866 45	0.836 804 02	0.362 829 46	1626 8964	575 4547	249 5119
2	0.345 541 56	0.842 428 74	0.365 268 28	1638 0014	549 4529	238 2356
3	0.329 108 08	0.847 792 35	0.367 593 85	1648 6092	523 2351	226 8624
4	+0.312 571 07	+0.852 892 75	+0.369 805 22	-1658 7073	+496 8109	+215 3971
5	0.295 935 67	0.857 727 92	0.371 901 50	1668 2848	470 1917	203 8454
6	0.279 207 14	0.862 295 98	0.373 881 86	1677 3321	443 3895	192 2132
7	0.262 390 83	0.866 595 14	0.375 745 52	1685 8413	416 4172	180 5068
8	0.245 492 13	0.870 623 80	0.377 491 77	1693 8057	389 2883	168 7326
9	0.228 516 55	0.874 380 43	0.379 119 97	1701 2196	362 0162	156 8970
10	+0.211 469 59	+0.877 863 69	+0.380 629 53	-1708 0792	+334 6153	+145 0070
11	0.194 356 82	0.881 072 36	0.382 019 94	1714 3813	307 0993	133 0687
12	0.177 183 83	0.884 005 34	0.383 290 76	1720 1245	279 4820	121 0888
13	0.159 956 20	0.886 661 70	0.384 441 60	1725 3079	251 7773	109 0736
14	0.142 679 53	0.889 040 64	0.385 472 14	1729 9318	223 9987	97 0290
15	0.125 359 42	0.891 141 48	0.386 382 10	1733 9972	196 1595	84 9611
16	+0.108 001 44	+0.892 963 67	+0.387 171 30	-1737 5063	+168 2727	+72 8760
17	0.090 611 14	0.894 506 82	0.387 839 58	1740 4621	140 3516	60 7790
18	0.073 194 03	0.895 770 63	0.388 386 86	1742 8692	112 4088	48 6759
19	0.055 755 57	0.896 754 96	0.388 813 10	1744 7339	84 4567	36 5717
20	0.038 301 14	0.897 459 77	0.389 118 31	1746 0638	56 5063	24 4708
21	0.020 836 04	0.897 885 12	0.389 302 54	1746 8693	28 5666	12 3765
22	+0.003 365 46	+0.898 031 16	+0.389 365 87	-1747 1607	+0 6438	+0 2906
23	-0.014 105 50	0.897 898 06	0.389 308 38	1746 9485	-27 2600	-11 7874
24	0.031 571 85	0.897 486 02	0.389 130 14	1746 2406	55 1460	23 8596
25	0.049 028 67	0.896 795 19	0.388 831 19	1745 0400	83 0183	35 9289
26	0.066 471 01	0.895 825 68	0.388 411 56	1743 3447	110 8814	47 9983
27	0.083 893 89	0.894 577 58	0.387 871 22	1741 1470	138 7378	60 0696
28	-0.101 292 24	+0.893 050 95	+0.387 210 16	-1738 4366	-166 5864	-72 1421
29	0.118 660 87	0.891 245 90	0.386 428 38	1735 2021	194 4222	84 2133
30	0.135 994 50	0.889 162 58	0.385 525 92	1731 4329	222 2366	96 2789
31	0.153 287 72	0.886 801 27	0.384 502 84	1727 1203	250 0185	108 3331
32	-0.170 535 07	+0.884 162 36	+0.383 359 31	-1722 2579	-277 7554	-120 3698

\dot{X} , \dot{Y} , \dot{Z} are in units of 10^{-9} a.u. per day

FRAME BIAS, PRECESSION AND NUTATION, 2026
MATRIX ELEMENTS FOR CONVERSION FROM
GCRS TO TRUE EQUINOX OF DATE

Date	M ₁₁ - 1	M ₁₂	M ₁₃	M ₂₁	M ₂₂ - 1	M ₂₃	M ₃₁	M ₃₂	M ₃₃ - 1
0 ^h TT									
Nov. 16	-2173	-604 691	-262 714	+604 682	-1828	-4354	+262 736	+2766	-345
17	2174	604 759	262 744	604 749	1829	4365	262 765	2776	345
18	2174	604 809	262 766	604 800	1829	4375	262 787	2786	345
19	2174	604 844	262 781	604 834	1829	4379	262 802	2789	345
20	2175	604 869	262 792	604 860	1829	4374	262 813	2784	345
21	2175	604 894	262 802	604 884	1830	4357	262 824	2767	345
22	-2175	-604 930	-262 818	+604 921	-1830	-4328	+262 840	+2738	-345
23	2176	604 990	262 844	604 981	1830	4291	262 866	2700	346
24	2176	605 084	262 885	605 074	1831	4250	262 906	2659	346
25	2177	605 210	262 940	605 201	1831	4215	262 960	2623	346
26	2178	605 360	263 005	605 351	1832	4192	263 025	2600	346
27	2179	605 516	263 073	605 507	1833	4185	263 093	2592	346
28	-2180	-605 659	-263 135	+605 650	-1834	-4194	+263 155	+2600	-346
29	2181	605 775	263 185	605 766	1835	4212	263 206	2618	346
30	2182	605 860	263 222	605 851	1835	4231	263 243	2636	347
Dec. 1	2182	605 917	263 246	605 907	1836	4245	263 267	2650	347
2	2182	605 955	263 263	605 945	1836	4250	263 284	2654	347
3	2183	605 986	263 276	605 977	1836	4242	263 297	2647	347
4	-2183	-606 021	-263 292	+606 012	-1836	-4225	+263 313	+2629	-347
5	2183	606 069	263 313	606 060	1837	4199	263 333	2603	347
6	2184	606 136	263 342	606 127	1837	4169	263 362	2573	347
7	2184	606 222	263 379	606 213	1838	4140	263 399	2543	347
8	2185	606 325	263 424	606 317	1838	4115	263 444	2517	347
9	2186	606 442	263 475	606 433	1839	4097	263 495	2499	347
10	-2187	-606 565	-263 528	+606 557	-1840	-4087	+263 548	+2489	-347
11	2188	606 688	263 581	606 679	1840	4087	263 601	2488	347
12	2189	606 803	263 631	606 795	1841	4095	263 651	2495	348
13	2189	606 906	263 676	606 897	1842	4109	263 696	2509	348
14	2190	606 991	263 713	606 982	1842	4126	263 733	2525	348
15	2190	607 059	263 742	607 050	1843	4142	263 763	2541	348
16	-2191	-607 110	-263 765	+607 101	-1843	-4155	+263 785	+2553	-348
17	2191	607 150	263 782	607 141	1843	4159	263 802	2558	348
18	2191	607 186	263 798	607 177	1843	4154	263 818	2552	348
19	2192	607 228	263 816	607 219	1844	4138	263 836	2536	348
20	2192	607 287	263 842	607 279	1844	4112	263 862	2509	348
21	2193	607 375	263 880	607 366	1845	4080	263 899	2477	348
22	-2194	-607 495	-263 932	+607 486	-1845	-4050	+263 951	+2446	-348
23	2195	607 645	263 997	607 636	1846	4028	264 016	2424	349
24	2196	607 811	264 069	607 802	1847	4023	264 088	2417	349
25	2197	607 974	264 139	607 965	1848	4034	264 159	2428	349
26	2198	608 114	264 200	608 105	1849	4058	264 220	2451	349
27	2199	608 220	264 246	608 212	1850	4088	264 266	2481	349
28	-2199	-608 293	-264 278	+608 284	-1850	-4114	+264 298	+2507	-349
29	2200	608 341	264 299	608 332	1850	4131	264 319	2523	349
30	2200	608 377	264 314	608 368	1851	4136	264 335	2528	349
31	2200	608 414	264 331	608 405	1851	4129	264 351	2521	349
32	-2201	-608 462	-264 351	+608 453	-1851	-4114	+264 372	+2505	-349

APPARENT PLACES OF POLARIS, 2026

FOR 0^h TERRESTRIAL TIME

α Ursae Minoris							Mag. 2.02							F5-F8 Ib										
	JANUARY						FEBRUARY						MARCH						APRIL					
Date	Right			Declination			Right			Declination			Right			Declination			Right			Declination		
	Ascension						Ascension						Ascension						Ascension					
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"
1	3	06	49	+89	22	41	3	05	58	+89	22	46	3	05	05	+89	22	46	3	04	19	+89	22	40
2	3	06	49	+89	22	41	3	05	56	+89	22	47	3	05	03	+89	22	46	3	04	17	+89	22	39
3	3	06	47	+89	22	42	3	05	54	+89	22	47	3	05	01	+89	22	46	3	04	16	+89	22	39
4	3	06	46	+89	22	42	3	05	52	+89	22	47	3	04	58	+89	22	45	3	04	16	+89	22	39
5	3	06	45	+89	22	42	3	05	49	+89	22	47	3	04	56	+89	22	45	3	04	15	+89	22	38
6	3	06	43	+89	22	43	3	05	47	+89	22	47	3	04	55	+89	22	45	3	04	14	+89	22	38
7	3	06	41	+89	22	43	3	05	45	+89	22	47	3	04	53	+89	22	45	3	04	14	+89	22	38
8	3	06	39	+89	22	43	3	05	43	+89	22	47	3	04	51	+89	22	45	3	04	13	+89	22	38
9	3	06	38	+89	22	43	3	05	42	+89	22	47	3	04	50	+89	22	44	3	04	12	+89	22	37
10	3	06	36	+89	22	43	3	05	40	+89	22	47	3	04	48	+89	22	44	3	04	12	+89	22	37
11	3	06	34	+89	22	44	3	05	38	+89	22	47	3	04	47	+89	22	44	3	04	11	+89	22	37
12	3	06	33	+89	22	44	3	05	36	+89	22	47	3	04	46	+89	22	44	3	04	10	+89	22	37
13	3	06	31	+89	22	44	3	05	35	+89	22	47	3	04	44	+89	22	44	3	04	09	+89	22	36
14	3	06	30	+89	22	44	3	05	33	+89	22	47	3	04	43	+89	22	44	3	04	08	+89	22	36
15	3	06	28	+89	22	44	3	05	31	+89	22	47	3	04	41	+89	22	44	3	04	08	+89	22	36
16	3	06	27	+89	22	44	3	05	29	+89	22	47	3	04	39	+89	22	43	3	04	07	+89	22	35
17	3	06	25	+89	22	45	3	05	27	+89	22	47	3	04	38	+89	22	43	3	04	06	+89	22	35
18	3	06	24	+89	22	45	3	05	24	+89	22	47	3	04	36	+89	22	43	3	04	06	+89	22	35
19	3	06	22	+89	22	45	3	05	22	+89	22	47	3	04	34	+89	22	43	3	04	06	+89	22	34
20	3	06	20	+89	22	45	3	05	20	+89	22	47	3	04	33	+89	22	42	3	04	06	+89	22	34
21	3	06	18	+89	22	45	3	05	18	+89	22	46	3	04	31	+89	22	42	3	04	06	+89	22	34
22	3	06	16	+89	22	45	3	05	16	+89	22	46	3	04	30	+89	22	42	3	04	06	+89	22	33
23	3	06	14	+89	22	46	3	05	14	+89	22	46	3	04	29	+89	22	42	3	04	06	+89	22	33
24	3	06	12	+89	22	46	3	05	13	+89	22	46	3	04	28	+89	22	41	3	04	06	+89	22	33
25	3	06	10	+89	22	46	3	05	11	+89	22	46	3	04	27	+89	22	41	3	04	05	+89	22	33
26	3	06	08	+89	22	46	3	05	10	+89	22	46	3	04	26	+89	22	41	3	04	05	+89	22	32
27	3	06	06	+89	22	46	3	05	08	+89	22	46	3	04	25	+89	22	41	3	04	05	+89	22	32
28	3	06	05	+89	22	46	3	05	07	+89	22	46	3	04	24	+89	22	41	3	04	04	+89	22	32
29	3	06	03	+89	22	46							3	04	23	+89	22	40	3	04	04	+89	22	31
30	3	06	02	+89	22	46							3	04	21	+89	22	40	3	04	04	+89	22	31
31	3	06	00	+89	22	46							3	04	20	+89	22	40						

APPARENT PLACES OF POLARIS, 2026

FOR 0^h TERRESTRIAL TIME

α Ursae Minoris							Mag. 2.02							F5-F8 Ib										
	MAY						JUNE						JULY						AUGUST					
Date	Right			Declination			Right			Declination			Right			Declination			Right			Declination		
	Ascension						Ascension						Ascension						Ascension					
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"
1	3	04	04	+89	22	31	3	04	25	+89	22	22	3	05	11	+89	22	16	3	06	14	+89	22	14
2	3	04	04	+89	22	30	3	04	26	+89	22	22	3	05	13	+89	22	16	3	06	16	+89	22	14
3	3	04	05	+89	22	30	3	04	27	+89	22	21	3	05	15	+89	22	16	3	06	18	+89	22	14
4	3	04	05	+89	22	30	3	04	28	+89	22	21	3	05	16	+89	22	16	3	06	20	+89	22	14
5	3	04	06	+89	22	29	3	04	29	+89	22	21	3	05	18	+89	22	16	3	06	23	+89	22	14
6	3	04	06	+89	22	29	3	04	31	+89	22	21	3	05	19	+89	22	15	3	06	25	+89	22	14
7	3	04	06	+89	22	29	3	04	32	+89	22	20	3	05	21	+89	22	15	3	06	28	+89	22	14
8	3	04	07	+89	22	29	3	04	33	+89	22	20	3	05	23	+89	22	15	3	06	30	+89	22	14
9	3	04	07	+89	22	28	3	04	34	+89	22	20	3	05	25	+89	22	15	3	06	33	+89	22	15
10	3	04	07	+89	22	28	3	04	35	+89	22	20	3	05	27	+89	22	15	3	06	35	+89	22	15
11	3	04	07	+89	22	28	3	04	36	+89	22	19	3	05	30	+89	22	15	3	06	37	+89	22	15
12	3	04	07	+89	22	27	3	04	38	+89	22	19	3	05	32	+89	22	15	3	06	40	+89	22	15
13	3	04	07	+89	22	27	3	04	40	+89	22	19	3	05	35	+89	22	15	3	06	42	+89	22	15
14	3	04	08	+89	22	27	3	04	42	+89	22	19	3	05	37	+89	22	15	3	06	43	+89	22	15
15	3	04	08	+89	22	26	3	04	43	+89	22	19	3	05	39	+89	22	15	3	06	45	+89	22	15
16	3	04	09	+89	22	26	3	04	45	+89	22	18	3	05	41	+89	22	15	3	06	47	+89	22	15
17	3	04	10	+89	22	26	3	04	47	+89	22	18	3	05	43	+89	22	15	3	06	49	+89	22	15
18	3	04	11	+89	22	26	3	04	49	+89	22	18	3	05	44	+89	22	15	3	06	52	+89	22	15
19	3	04	13	+89	22	25	3	04	50	+89	22	18	3	05	46	+89	22	15	3	06	54	+89	22	16
20	3	04	13	+89	22	25	3	04	51	+89	22	18	3	05	48	+89	22	14	3	06	56	+89	22	16
21	3	04	14	+89	22	25	3	04	53	+89	22	18	3	05	50	+89	22	14	3	06	59	+89	22	16
22	3	04	15	+89	22	25	3	04	54	+89	22	17	3	05	53	+89	22	14	3	07	01	+89	22	16
23	3	04	16	+89	22	24	3	04	56	+89	22	17	3	05	55	+89	22	14	3	07	04	+89	22	16
24	3	04	16	+89	22	24	3	04	57	+89	22	17	3	05	57	+89	22	14	3	07	06	+89	22	16
25	3	04	17	+89	22	24	3	04	59	+89	22	17	3	06	00	+89	22	14	3	07	08	+89	22	16
26	3	04	18	+89	22	23	3	05	01	+89	22	17	3	06	02	+89	22	14	3	07	10	+89	22	17
27	3	04	18	+89	22	23	3	05	03	+89	22	16	3	06	04	+89	22	14	3	07	12	+89	22	17
28	3	04	19	+89	22	23	3	05	05	+89	22	16	3	06	07	+89	22	14	3	07	14	+89	22	17
29	3	04	21	+89	22	23	3	05	07	+89	22	16	3	06	09	+89	22	14	3	07	15	+89	22	17
30	3	04	22	+89	22	22	3	05	09	+89	22	16	3	06	11	+89	22	14	3	07	17	+89	22	17
31	3	04	23	+89	22	22							3	06	13	+89	22	14	3	07	19	+89	22	17

APPARENT PLACES OF POLARIS, 2026

FOR 0^h TERRESTRIAL TIME

FOR 6 TERRESTRIAL TIME																								
α Ursae Minoris							Mag. 2.02						F5-F8 Ib											
	SEPTEMBER						OCTOBER						NOVEMBER						DECEMBER					
Date	Right			Declination			Right			Declination			Right			Declination			Right			Declination		
	Ascension						Ascension						Ascension						Ascension					
	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"	h	m	s	°	'	"
1	3	07	21	+89	22	17	3	08	18	+89	22	24	3	08	57	+89	22	35	3	09	04	+89	22	46
2	3	07	24	+89	22	18	3	08	20	+89	22	25	3	08	58	+89	22	35	3	09	04	+89	22	46
3	3	07	26	+89	22	18	3	08	22	+89	22	25	3	08	58	+89	22	36	3	09	03	+89	22	46
4	3	07	28	+89	22	18	3	08	24	+89	22	25	3	08	58	+89	22	36	3	09	02	+89	22	47
5	3	07	31	+89	22	18	3	08	25	+89	22	26	3	08	59	+89	22	36	3	09	02	+89	22	47
6	3	07	33	+89	22	18	3	08	27	+89	22	26	3	08	59	+89	22	37	3	09	02	+89	22	47
7	3	07	35	+89	22	19	3	08	28	+89	22	26	3	09	00	+89	22	37	3	09	01	+89	22	48
8	3	07	37	+89	22	19	3	08	29	+89	22	27	3	09	00	+89	22	37	3	09	01	+89	22	48
9	3	07	39	+89	22	19	3	08	30	+89	22	27	3	09	01	+89	22	38	3	09	01	+89	22	48
10	3	07	41	+89	22	19	3	08	32	+89	22	27	3	09	02	+89	22	38	3	09	00	+89	22	49
11	3	07	42	+89	22	20	3	08	33	+89	22	28	3	09	02	+89	22	38	3	09	00	+89	22	49
12	3	07	44	+89	22	20	3	08	34	+89	22	28	3	09	03	+89	22	39	3	08	59	+89	22	49
13	3	07	46	+89	22	20	3	08	36	+89	22	28	3	09	04	+89	22	39	3	08	58	+89	22	50
14	3	07	48	+89	22	20	3	08	37	+89	22	29	3	09	04	+89	22	40	3	08	58	+89	22	50
15	3	07	50	+89	22	20	3	08	39	+89	22	29	3	09	04	+89	22	40	3	08	56	+89	22	51
16	3	07	52	+89	22	20	3	08	40	+89	22	29	3	09	04	+89	22	40	3	08	55	+89	22	51
17	3	07	54	+89	22	21	3	08	42	+89	22	30	3	09	04	+89	22	41	3	08	54	+89	22	51
18	3	07	56	+89	22	21	3	08	43	+89	22	30	3	09	04	+89	22	41	3	08	53	+89	22	51
19	3	07	58	+89	22	21	3	08	44	+89	22	30	3	09	04	+89	22	41	3	08	52	+89	22	52
20	3	08	00	+89	22	22	3	08	45	+89	22	31	3	09	04	+89	22	42	3	08	51	+89	22	52
21	3	08	02	+89	22	22	3	08	46	+89	22	31	3	09	04	+89	22	42	3	08	51	+89	22	52
22	3	08	04	+89	22	22	3	08	47	+89	22	31	3	09	04	+89	22	42	3	08	50	+89	22	52
23	3	08	05	+89	22	22	3	08	48	+89	22	32	3	09	04	+89	22	43	3	08	49	+89	22	53
24	3	08	07	+89	22	23	3	08	48	+89	22	32	3	09	05	+89	22	43	3	08	49	+89	22	53
25	3	08	08	+89	22	23	3	08	49	+89	22	32	3	09	05	+89	22	43	3	08	48	+89	22	53
26	3	08	10	+89	22	23	3	08	50	+89	22	33	3	09	05	+89	22	44	3	08	47	+89	22	54
27	3	08	11	+89	22	23	3	08	51	+89	22	33	3	09	05	+89	22	44	3	08	45	+89	22	54
28	3	08	13	+89	22	24	3	08	53	+89	22	33	3	09	05	+89	22	45	3	08	44	+89	22	54
29	3	08	15	+89	22	24	3	08	54	+89	22	34	3	09	05	+89	22	45	3	08	42	+89	22	55
30	3	08	16	+89	22	24	3	08	55	+89	22	34	3	09	05	+89	22	45	3	08	41	+89	22	55
31							3	08	56	+89	22	34							3	08	39	+89	22	55
32																			3	08	38	+89	22	55

POLARIS TABLE, 2026

LST	0 ^h		1 ^h		2 ^h		3 ^h		4 ^h		5 ^h	
	<i>a</i> ₀	<i>b</i> ₀	<i>a</i> ₀	<i>b</i> ₀	<i>a</i> ₀	<i>b</i> ₀	<i>a</i> ₀	<i>b</i> ₀	<i>a</i> ₀	<i>b</i> ₀	<i>a</i> ₀	<i>b</i> ₀
m	'	'	'	'	'	'	'	'	'	'	'	'
0	-25.6	+27.5	-31.8	+19.8	-35.9	+10.8	-37.5	+1.1	-36.4	-8.8	-32.9	-18.0
3	26.0	27.1	32.1	19.4	36.0	10.4	37.5	0.6	36.3	9.3	32.7	18.5
6	26.3	26.8	32.4	19.0	36.2	9.9	37.5	+0.1	36.2	9.8	32.4	18.9
9	26.7	26.4	32.6	18.6	36.3	9.4	37.5	-0.4	36.1	10.2	32.2	19.3
12	27.0	26.1	32.8	18.1	36.4	8.9	37.5	0.9	35.9	10.7	31.9	19.7
15	-27.4	+25.7	-33.1	+17.7	-36.5	+8.4	-37.4	-1.4	-35.8	-11.2	-31.7	-20.2
18	27.7	25.4	33.3	17.3	36.6	8.0	37.4	1.9	35.6	11.7	31.4	20.6
21	28.0	25.0	33.5	16.8	36.7	7.5	37.4	2.4	35.5	12.1	31.1	21.0
24	28.3	24.6	33.7	16.4	36.8	7.0	37.4	2.9	35.3	12.6	30.8	21.4
27	28.7	24.2	34.0	15.9	36.9	6.5	37.3	3.4	35.1	13.1	30.6	21.8
30	-29.0	+23.9	-34.2	+15.5	-37.0	+6.0	-37.3	-3.9	-35.0	-13.5	-30.3	-22.2
33	29.3	23.5	34.4	15.0	37.1	5.5	37.2	4.4	34.8	14.0	30.0	22.6
36	29.6	23.1	34.6	14.6	37.1	5.0	37.2	4.9	34.6	14.5	29.7	23.0
39	29.9	22.7	34.7	14.1	37.2	4.5	37.1	5.4	34.4	14.9	29.4	23.4
42	30.2	22.3	34.9	13.7	37.3	4.0	37.0	5.9	34.2	15.4	29.1	23.8
45	-30.5	+21.9	-35.1	+13.2	-37.3	+3.5	-36.9	-6.4	-34.0	-15.8	-28.7	-24.1
48	30.8	21.5	35.3	12.7	37.3	3.0	36.8	6.9	33.8	16.3	28.4	24.5
51	31.0	21.1	35.4	12.3	37.4	2.5	36.8	7.3	33.6	16.7	28.1	24.9
54	31.3	20.7	35.6	11.8	37.4	2.1	36.7	7.8	33.4	17.1	27.8	25.3
57	31.6	20.3	35.7	11.3	37.4	1.6	36.5	8.3	33.1	17.6	27.4	25.6
60	-31.8	+19.8	-35.9	+10.8	-37.5	+1.1	-36.4	-8.8	-32.9	-18.0	-27.1	-26.0
Lat. °	<i>a</i> ₁	<i>b</i> ₁	<i>a</i> ₁	<i>b</i> ₁	<i>a</i> ₁	<i>b</i> ₁	<i>a</i> ₁	<i>b</i> ₁	<i>a</i> ₁	<i>b</i> ₁	<i>a</i> ₁	<i>b</i> ₁
0	-.1	-.2	-.1	-.2	.0	-.1	.0	.0	.0	+1	-.1	+2
10	-.1	-.2	-.1	-.2	.0	-.1	.0	.0	.0	+1	.0	+2
20	-.1	-.2	.0	-.2	.0	-.1	.0	.0	.0	+1	.0	+1
30	-.1	-.1	.0	-.1	.0	-.1	.0	.0	.0	+1	.0	+1
40	.0	-.1	.0	-.1	.0	.0	.0	.0	.0	.0	.0	+1
45	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
55	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
60	+1	+1	.0	+1	.0	+1	.0	.0	.0	.0	.0	-.1
62	+1	+1	.0	+1	.0	+1	.0	.0	.0	-.1	.0	-.1
64	+1	+2	.0	+2	.0	+1	.0	.0	.0	-.1	.0	-.1
66	+1	+2	+1	+2	.0	+1	.0	.0	.0	-.1	.0	-.2
Month	<i>a</i> ₂	<i>b</i> ₂	<i>a</i> ₂	<i>b</i> ₂	<i>a</i> ₂	<i>b</i> ₂	<i>a</i> ₂	<i>b</i> ₂	<i>a</i> ₂	<i>b</i> ₂	<i>a</i> ₂	<i>b</i> ₂
Jan.	+1	-.1	+2	-.1	+2	-.1	+2	.0	+2	+1	+2	+1
Feb.	+1	-.3	+1	-.2	+2	-.2	+2	-.1	+3	-.1	+3	.0
Mar.	-.1	-.3	.0	-.3	+1	-.3	+2	-.3	+2	-.2	+3	-.2
Apr.	-.2	-.3	-.1	-.3	-.1	-.4	+0	-.4	+1	-.3	+2	-.3
May	-.3	-.2	-.3	-.3	-.2	-.3	-.1	-.3	.0	-.4	+1	-.4
June	-.3	.0	-.3	-.1	-.3	-.2	-.2	-.3	-.2	-.3	-.1	-.3
July	-.3	+1	-.3	+1	-.3	.0	-.3	-.1	-.3	-.2	-.2	-.2
Aug.	-.1	+2	-.2	+2	-.2	+1	-.3	+1	-.3	.0	-.3	-.1
Sept.	.0	+3	.0	+3	-.1	+3	-.2	+2	-.2	+2	-.3	+1
Oct.	+2	+3	+2	+3	+1	+4	.0	+4	-.1	+3	-.2	+3
Nov.	+4	+2	+3	+3	+3	+4	+1	+4	.0	+5	-.1	+4
Dec.	+5	+1	+5	+2	+4	+3	+3	+4	+2	+5	+1	+5

Latitude = Corrected observed altitude of *Polaris* + *a*₀ + *a*₁ + *a*₂Azimuth of *Polaris* = (*b*₀ + *b*₁ + *b*₂) / cos (latitude)

POLARIS TABLE, 2026

LST	6 ^h		7 ^h		8 ^h		9 ^h		10 ^h		11 ^h	
	a_0	b_0	a_0	b_0	a_0	b_0	a_0	b_0	a_0	b_0	a_0	b_0
m	'	'	'	'	'	'	'	'	'	'	'	'
0	-27.1	-26.0	-19.5	-32.1	-10.5	-36.0	-0.8	-37.5	+8.9	-36.3	+18.0	-32.8
3	26.8	26.3	19.0	32.4	10.0	36.2	-0.3	37.5	9.4	36.2	18.4	32.5
6	26.4	26.7	18.6	32.6	9.5	36.3	+0.2	37.5	9.9	36.1	18.9	32.3
9	26.1	27.0	18.2	32.9	9.1	36.4	0.7	37.5	10.3	36.0	19.3	32.0
12	25.7	27.4	17.7	33.1	8.6	36.5	1.2	37.4	10.8	35.8	19.7	31.8
15	-25.3	-27.7	-17.3	-33.3	-8.1	-36.6	+1.6	-37.4	+11.3	-35.7	+20.1	-31.5
18	25.0	28.0	16.9	33.6	7.6	36.7	2.1	37.4	11.7	35.5	20.5	31.2
21	24.6	28.4	16.4	33.8	7.1	36.8	2.6	37.4	12.2	35.4	20.9	31.0
24	24.2	28.7	16.0	34.0	6.7	36.9	3.1	37.3	12.7	35.2	21.3	30.7
27	23.9	29.0	15.5	34.2	6.2	37.0	3.6	37.3	13.1	35.0	21.7	30.4
30	-23.5	-29.3	-15.1	-34.4	-5.7	-37.1	+4.1	-37.2	+13.6	-34.8	+22.1	-30.1
33	23.1	29.6	14.6	34.6	5.2	37.1	4.6	37.2	14.0	34.7	22.5	29.8
36	22.7	29.9	14.2	34.8	4.7	37.2	5.1	37.1	14.5	34.5	22.9	29.5
39	22.3	30.2	13.7	34.9	4.2	37.3	5.6	37.0	14.9	34.3	23.3	29.2
42	21.9	30.5	13.3	35.1	3.7	37.3	6.0	36.9	15.4	34.1	23.7	28.9
45	-21.5	-30.8	-12.8	-35.3	-3.3	-37.3	+6.5	-36.9	+15.8	-33.9	+24.1	-28.6
48	21.1	31.1	12.4	35.4	2.8	37.4	7.0	36.8	16.3	33.7	24.4	28.3
51	20.7	31.3	11.9	35.6	2.3	37.4	7.5	36.7	16.7	33.4	24.8	28.0
54	20.3	31.6	11.4	35.8	1.8	37.4	8.0	36.6	17.1	33.2	25.2	27.6
57	19.9	31.9	10.9	35.9	1.3	37.5	8.4	36.5	17.6	33.0	25.5	27.3
60	-19.5	-32.1	-10.5	-36.0	-0.8	-37.5	+8.9	-36.3	+18.0	-32.8	+25.9	-27.0
Lat. °	a_1	b_1	a_1	b_1	a_1	b_1	a_1	b_1	a_1	b_1	a_1	b_1
0	-.1	+2	-.2	+2	-.2	+1	-.2	.0	-.2	-.1	-.2	-.2
10	-.1	+2	-.2	+2	-.2	+1	-.2	.0	-.2	-.1	-.2	-.2
20	-.1	+2	-.1	+2	-.2	+1	-.2	.0	-.2	-.1	-.1	-.1
30	-.1	+1	-.1	+1	-.1	+1	-.1	.0	-.1	-.1	-.1	-.1
40	.0	+1	-.1	+1	-.1	.0	-.1	.0	-.1	.0	-.1	-.1
45	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
55	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
60	+1	-.1	+1	-.1	+1	-.1	+1	.0	+1	.0	+1	+1
62	+1	-.1	+1	-.1	+1	-.1	+1	.0	+1	+1	+1	+1
64	+1	-.2	+1	-.2	+2	-.1	+2	.0	+2	+1	+1	+1
66	+1	-.2	+2	-.2	+2	-.1	+2	.0	+2	+1	+2	+2
Month	a_2	b_2	a_2	b_2	a_2	b_2	a_2	b_2	a_2	b_2	a_2	b_2
Jan.	+1	+1	+1	+1	+1	+2	.0	+2	-.1	+2	-.1	+2
Feb.	+3	+1	+2	+1	+2	+2	+1	+2	+1	+3	.0	+3
Mar.	+3	-.1	+3	-.1	+3	+1	+3	+2	+2	+2	+2	+3
Apr.	+3	-.2	+3	-.2	+4	-.1	+4	.0	+3	+1	+3	+2
May	+2	-.3	+3	-.3	+3	-.2	+4	-.1	+4	.0	+4	+1
June	.0	-.3	+1	-.3	+2	-.3	+3	-.2	+3	-.2	+3	-.1
July	-.1	-.3	-.1	-.3	.0	-.3	+1	-.3	+2	-.3	+2	-.2
Aug.	-.2	-.1	-.2	-.1	-.1	-.2	-.1	-.3	+0	-.3	+1	-.3
Sept.	-.3	.0	-.3	.0	-.3	-.1	-.2	-.2	-.2	-.2	-.1	-.3
Oct.	-.3	+2	-.3	+2	-.4	+1	-.4	.0	-.3	-.1	-.3	-.2
Nov.	-.2	+4	-.3	+4	-.4	+3	-.4	+1	-.5	.0	-.4	-.1
Dec.	-.1	+5	-.2	+5	-.3	+4	-.4	+3	-.5	+2	-.5	+1

Latitude = Corrected observed altitude of *Polaris* + a_0 + a_1 + a_2 Azimuth of *Polaris* = $(b_0 + b_1 + b_2) / \cos(\text{latitude})$

POLARIS TABLE, 2026

LST	12 ^h		13 ^h		14 ^h		15 ^h		16 ^h		17 ^h	
	a_0	b_0	a_0	b_0	a_0	b_0	a_0	b_0	a_0	b_0	a_0	b_0
m	'	'	'	'	'	'	'	'	'	'	'	'
0	+25.9	-27.0	+32.0	-19.4	+35.9	-10.6	+37.5	-1.0	+36.5	+8.6	+33.0	+17.6
3	26.2	26.6	32.2	19.0	36.1	10.1	37.5	0.5	36.3	9.0	32.8	18.0
6	26.6	26.3	32.5	18.6	36.2	9.6	37.5	-0.1	36.2	9.5	32.5	18.5
9	26.9	25.9	32.7	18.2	36.3	9.2	37.5	+0.4	36.1	10.0	32.3	18.9
12	27.2	25.6	33.0	17.7	36.4	8.7	37.5	0.9	36.0	10.4	32.0	19.3
15	+27.6	-25.2	+33.2	-17.3	+36.5	-8.2	+37.4	+1.4	+35.8	+10.9	+31.8	+19.7
18	27.9	24.9	33.4	16.9	36.6	7.8	37.4	1.9	35.7	11.4	31.5	20.1
21	28.2	24.5	33.6	16.4	36.7	7.3	37.4	2.4	35.5	11.8	31.3	20.5
24	28.6	24.1	33.8	16.0	36.8	6.8	37.4	2.8	35.4	12.3	31.0	20.9
27	28.9	23.8	34.0	15.6	36.9	6.3	37.3	3.3	35.2	12.8	30.7	21.3
30	+29.2	-23.4	+34.2	-15.1	+37.0	-5.8	+37.3	+3.8	+35.0	+13.2	+30.4	+21.7
33	29.5	23.0	34.4	14.7	37.1	5.4	37.2	4.3	34.9	13.7	30.1	22.1
36	29.8	22.6	34.6	14.2	37.1	4.9	37.2	4.8	34.7	14.1	29.9	22.5
39	30.1	22.2	34.8	13.8	37.2	4.4	37.1	5.2	34.5	14.6	29.6	22.9
42	30.4	21.8	35.0	13.3	37.3	3.9	37.0	5.7	34.3	15.0	29.3	23.3
45	+30.6	-21.4	+35.2	-12.9	+37.3	-3.4	+36.9	+6.2	+34.1	+15.4	+28.9	+23.7
48	30.9	21.0	35.3	12.4	37.3	3.0	36.9	6.7	33.9	15.9	28.6	24.0
51	31.2	20.6	35.5	12.0	37.4	2.5	36.8	7.2	33.7	16.3	28.3	24.4
54	31.5	20.2	35.6	11.5	37.4	2.0	36.7	7.6	33.5	16.8	28.0	24.8
57	31.7	19.8	35.8	11.0	37.4	1.5	36.6	8.1	33.2	17.2	27.7	25.1
60	+32.0	-19.4	+35.9	-10.6	+37.5	-1.0	+36.5	+8.6	+33.0	+17.6	+27.3	+25.5
Lat. °	a_1	b_1	a_1	b_1	a_1	b_1	a_1	b_1	a_1	b_1	a_1	b_1
0	-.1	-.2	-.1	-.2	.0	-.1	.0	.0	.0	+1	-.1	+2
10	-.1	-.2	-.1	-.2	.0	-.1	.0	.0	.0	+1	.0	+2
20	-.1	-.2	.0	-.1	.0	-.1	.0	.0	.0	+1	.0	+1
30	-.1	-.1	.0	-.1	.0	-.1	.0	.0	.0	+1	.0	+1
40	.0	-.1	.0	-.1	.0	.0	.0	.0	.0	.0	.0	+1
45	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
55	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
60	+1	+1	.0	+1	.0	+1	.0	.0	.0	.0	.0	-.1
62	+1	+1	.0	+1	.0	+1	.0	.0	.0	-.1	.0	-.1
64	+1	+2	.0	+2	.0	+1	.0	.0	.0	-.1	.0	-.1
66	+1	+2	+1	+2	.0	+1	.0	.0	.0	-.1	.0	-.2
Month	a_2	b_2	a_2	b_2	a_2	b_2	a_2	b_2	a_2	b_2	a_2	b_2
Jan.	-.1	+1	-.2	+1	-.2	+1	-.2	.0	-.2	-.1	-.2	-.1
Feb.	-.1	+3	-.1	+2	-.2	+2	-.2	+1	-.3	+1	-.3	.0
Mar.	+1	+3	.0	+3	-.1	+3	-.2	+3	-.2	+2	-.3	+2
Apr.	+2	+3	+1	+3	+1	+4	.0	+4	-.1	+3	-.2	+3
May	+3	+2	+3	+3	+2	+3	+1	+4	+0	+4	-.1	+4
June	+3	.0	+3	+1	+3	+2	+2	+3	+2	+3	+1	+3
July	+3	-.1	+3	-.1	+3	.0	+3	+1	+3	+2	+2	+2
Aug.	+1	-.2	+2	-.2	+2	-.1	+3	-.1	+3	.0	+3	+1
Sept.	.0	-.3	.0	-.3	+1	-.3	+2	-.2	+2	-.2	+3	-.1
Oct.	-.2	-.3	-.2	-.3	-.1	-.4	.0	-.4	+1	-.3	+2	-.3
Nov.	-.4	-.2	-.3	-.3	-.3	-.4	-.1	-.4	.0	-.5	+1	-.4
Dec.	-.5	-.1	-.5	-.2	-.4	-.3	-.3	-.4	-.2	-.5	-.1	-.5

Latitude = Corrected observed altitude of *Polaris* + a_0 + a_1 + a_2 Azimuth of *Polaris* = $(b_0 + b_1 + b_2) / \cos(\text{latitude})$

POLARIS TABLE, 2026

LST	18 ^h		19 ^h		20 ^h		21 ^h		22 ^h		23 ^h	
	a_0	b_0	a_0	b_0	a_0	b_0	a_0	b_0	a_0	b_0	a_0	b_0
m	'	'	'	'	'	'	'	'	'	'	'	'
0	+27.3	+25.5	+19.8	+31.7	+10.9	+35.8	+1.3	+37.4	-8.5	+36.6	-17.6	+33.2
3	27.0	25.9	19.4	32.0	10.5	35.9	0.8	37.5	8.9	36.4	18.1	32.9
6	26.7	26.2	19.0	32.2	10.0	36.1	+0.3	37.5	9.4	36.3	18.5	32.7
9	26.3	26.5	18.5	32.5	9.5	36.2	-0.2	37.5	9.9	36.2	18.9	32.4
12	26.0	26.9	18.1	32.7	9.0	36.3	0.7	37.5	10.4	36.1	19.3	32.2
15	+25.6	+27.2	+17.7	+32.9	+8.6	+36.4	-1.2	+37.5	-10.8	+35.9	-19.8	+31.9
18	25.3	27.6	17.3	33.2	8.1	36.5	1.7	37.4	11.3	35.8	20.2	31.7
21	24.9	27.9	16.8	33.4	7.6	36.6	2.1	37.4	11.8	35.6	20.6	31.4
24	24.5	28.2	16.4	33.6	7.1	36.7	2.6	37.4	12.2	35.5	21.0	31.1
27	24.2	28.5	15.9	33.8	6.6	36.8	3.1	37.4	12.7	35.3	21.4	30.9
30	+23.8	+28.8	+15.5	+34.0	+6.2	+36.9	-3.6	+37.3	-13.2	+35.2	-21.8	+30.6
33	23.4	29.1	15.1	34.2	5.7	37.0	4.1	37.3	13.6	35.0	22.2	30.3
36	23.0	29.4	14.6	34.4	5.2	37.1	4.6	37.2	14.1	34.8	22.6	30.0
39	22.6	29.7	14.2	34.6	4.7	37.1	5.1	37.2	14.5	34.6	23.0	29.7
42	22.2	30.0	13.7	34.8	4.2	37.2	5.6	37.1	15.0	34.4	23.4	29.4
45	+21.8	+30.3	+13.2	+35.0	+3.7	+37.3	-6.0	+37.0	-15.4	+34.2	-23.8	+29.1
48	21.4	30.6	12.8	35.1	3.2	37.3	6.5	36.9	15.9	34.0	24.1	28.8
51	21.0	30.9	12.3	35.3	2.8	37.3	7.0	36.9	16.3	33.8	24.5	28.5
54	20.6	31.2	11.9	35.5	2.3	37.4	7.5	36.8	16.8	33.6	24.9	28.1
57	20.2	31.4	11.4	35.6	1.8	37.4	8.0	36.7	17.2	33.4	25.3	27.8
60	+19.8	+31.7	+10.9	+35.8	+1.3	+37.4	-8.5	+36.6	-17.6	+33.2	-25.6	+27.5
Lat. °	a_1	b_1	a_1	b_1	a_1	b_1	a_1	b_1	a_1	b_1	a_1	b_1
0	-.1	+.2	-.2	+.2	-.2	+.1	-.2	.0	-.2	-.1	-.2	-.2
10	-.1	+.2	-.2	+.2	-.2	+.1	-.2	.0	-.2	-.1	-.2	-.2
20	-.1	+.2	-.1	+.2	-.2	+.1	-.2	.0	-.2	-.1	-.1	-.1
30	-.1	+.1	-.1	+.1	-.1	+.1	-.1	.0	-.1	-.1	-.1	-.1
40	.0	+.1	-.1	+.1	-.1	.0	-.1	.0	-.1	.0	-.1	-.1
45	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
55	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
60	+.1	-.1	+.1	-.1	+.1	-.1	+.1	.0	+.1	.0	+.1	+.1
62	+.1	-.1	+.1	-.1	+.1	-.1	+.1	.0	+.1	+.1	+.1	+.1
64	+.1	-.2	+.1	-.2	+.2	-.1	+.2	.0	+.2	+.1	+.1	+.1
66	+.1	-.2	+.2	-.2	+.2	-.1	+.2	.0	+.2	+.1	+.2	+.2
Month	a_2	b_2	a_2	b_2	a_2	b_2	a_2	b_2	a_2	b_2	a_2	b_2
Jan.	-.1	-.1	-.1	-.2	-.1	-.2	.0	-.2	+.1	-.2	+.1	-.2
Feb.	-.3	-.1	-.2	-.1	-.2	-.2	-.1	-.2	-.1	-.3	.0	-.3
Mar.	-.3	+.1	-.3	.0	-.3	-.1	-.3	-.2	-.2	-.2	-.2	-.3
Apr.	-.3	+.2	-.3	+.1	-.4	+.1	-.4	.0	-.3	-.1	-.3	-.2
May	-.2	+.3	-.3	+.3	-.3	+.2	-.4	+.1	-.4	.0	-.4	-.1
June	.0	+.3	-.1	+.3	-.2	+.3	-.3	+.2	-.3	+.2	-.3	+.1
July	+.1	+.3	+.1	+.3	.0	+.3	-.1	+.3	-.2	+.3	-.2	+.2
Aug.	+.2	+.1	+.2	+.2	+.1	+.2	+.1	+.3	.0	+.3	-.1	+.3
Sept.	+.3	.0	+.3	.0	+.3	+.1	+.2	+.2	+.2	+.2	+.1	+.3
Oct.	+.3	-.2	+.3	-.2	+.4	-.1	+.4	.0	+.3	+.1	+.3	+.2
Nov.	+.2	-.4	+.3	-.3	+.4	-.3	+.4	-.1	+.5	.0	+.4	+.1
Dec.	+.1	-.5	+.2	-.5	+.3	-.4	+.4	-.3	+.5	-.2	+.5	-.1

Latitude = Corrected observed altitude of *Polaris* + a_0 + a_1 + a_2 Azimuth of *Polaris* = $(b_0 + b_1 + b_2) / \cos(\text{latitude})$

PART - III

SUNRISE, SUNSET AND MOONRISE, MOONSET

SUNRISE, 2026**LOCAL MEAN TIME OF SUNRISE (SUN'S UPPER LIMB) AND BEGINNING
OF MORNING TWILIGHT ON THE MERIDIAN OF GREENWICH**

To obtain the standard time at any station, add four minutes for each degree if the station is west of the standard meridian, or deduct four minutes for each degree if the station is east of the standard meridian.

In India, to obtain I.S.T., add $4 \times (82^\circ.5 - \lambda)$ mins. or deduct $4 \times (\lambda - 82^\circ.5)$ mins. as the station is west or east of $82^\circ.5$ E. Longitude.

Lat. Date		0°	10°	20°	30°	35°	40°	45°	50°	52°	54°	56°	58°	60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan.	0	5 59	6 16	6 35	6 56	7 08	7 22	7 38	7 59	8 08	8 19	8 31	8 46	9 03
	4	6 01	6 18	6 36	6 56	7 08	7 22	7 38	7 58	8 08	8 18	8 30	8 44	9 01
	8	6 03	6 19	6 37	6 57	7 09	7 22	7 38	7 57	8 06	8 16	8 28	8 41	8 57
	12	6 05	6 21	6 38	6 57	7 08	7 21	7 36	7 55	8 04	8 13	8 25	8 37	8 52
	16	6 06	6 21	6 38	6 56	7 07	7 20	7 34	7 52	8 00	8 10	8 20	8 32	8 46
Feb.	20	6 07	6 22	6 38	6 56	7 06	7 18	7 32	7 48	7 56	8 05	8 15	8 26	8 40
	24	6 08	6 22	6 37	6 54	7 04	7 15	7 28	7 44	7 52	8 00	8 09	8 20	8 32
	28	6 09	6 23	6 37	6 53	7 02	7 12	7 25	7 39	7 46	7 54	8 03	8 12	8 23
	1	6 10	6 22	6 36	6 50	6 59	7 09	7 20	7 34	7 40	7 47	7 55	8 04	8 14
	5	6 10	6 22	6 34	6 48	6 56	7 05	7 15	7 28	7 34	7 40	7 47	7 56	8 05
Mar.	9	6 11	6 21	6 32	6 45	6 52	7 00	7 10	7 21	7 27	7 33	7 39	7 46	7 55
	13	6 11	6 20	6 30	6 42	6 48	6 56	7 04	7 15	7 19	7 25	7 30	7 37	7 44
	17	6 11	6 19	6 28	6 38	6 44	6 51	6 58	7 07	7 12	7 16	7 21	7 27	7 33
	21	6 10	6 18	6 26	6 35	6 40	6 45	6 52	7 00	7 03	7 07	7 12	7 17	7 22
	25	6 10	6 16	6 23	6 31	6 35	6 40	6 45	6 52	6 55	6 58	7 02	7 06	7 11
Apr.	1	6 09	6 14	6 20	6 26	6 30	6 34	6 38	6 44	6 46	6 49	6 52	6 56	6 59
	5	6 08	6 12	6 17	6 22	6 25	6 28	6 31	6 36	6 38	6 40	6 42	6 45	6 48
	9	6 07	6 10	6 14	6 17	6 19	6 22	6 24	6 27	6 29	6 30	6 32	6 34	6 36
	13	6 06	6 08	6 10	6 13	6 14	6 15	6 17	6 19	6 19	6 20	6 21	6 22	6 24
	17	6 05	6 06	6 07	6 08	6 08	6 09	6 09	6 10	6 10	6 11	6 11	6 11	6 12
May	21	6 04	6 04	6 04	6 03	6 03	6 02	6 02	6 01	6 01	6 01	6 00	6 00	6 00
	25	6 03	6 01	6 00	5 58	5 57	5 56	5 54	5 53	5 52	5 51	5 50	5 49	5 47
	29	6 02	5 59	5 57	5 53	5 52	5 49	5 47	5 44	5 43	5 41	5 39	5 37	5 35
	1	6 00	5 57	5 53	5 49	5 46	5 43	5 40	5 35	5 33	5 31	5 29	5 26	5 23

BEGINNING OF MORNING TWILIGHT

		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan.	0	4 44	5 01	5 16	5 30	5 37	5 44	5 52	6 00	6 03	6 06	6 10	6 14	6 18
	8	4 48	5 05	5 19	5 32	5 39	5 45	5 52	5 59	6 02	6 05	6 09	6 12	6 16
	16	4 52	5 07	5 20	5 33	5 38	5 44	5 50	5 56	5 59	6 01	6 04	6 07	6 10
Feb.	24	4 56	5 09	5 21	5 31	5 36	5 41	5 46	5 51	5 53	5 55	5 56	5 58	6 01
	1	4 58	5 10	5 20	5 28	5 32	5 36	5 39	5 42	5 44	5 45	5 46	5 47	5 48
	9	5 00	5 10	5 18	5 24	5 27	5 29	5 31	5 32	5 32	5 32	5 32	5 32	5 32
Mar.	17	5 00	5 08	5 14	5 18	5 19	5 20	5 20	5 19	5 18	5 18	5 16	5 15	5 13
	25	5 00	5 06	5 09	5 11	5 11	5 10	5 08	5 05	5 03	5 01	4 58	4 56	4 52
	5	4 59	5 03	5 04	5 03	5 01	4 58	4 54	4 48	4 45	4 42	4 38	4 34	4 28
Apr.	13	4 57	4 59	4 57	4 53	4 50	4 45	4 39	4 31	4 26	4 22	4 16	4 10	4 02
	21	4 55	4 54	4 50	4 43	4 38	4 32	4 23	4 12	4 06	4 00	3 52	3 44	3 34
	29	4 53	4 49	4 43	4 33	4 26	4 17	4 06	3 52	3 44	3 36	3 26	3 15	3 02
May	6	4 50	4 44	4 35	4 22	4 14	4 03	3 49	3 30	3 21	3 11	2 58	2 43	2 25

SUNSET, 2026

LOCAL MEAN TIME OF SUNSET (SUN'S UPPER LIMB) AND ENDING OF EVENING TWILIGHT ON THE MERIDIAN OF GREENWICH

To obtain the standard time at any station, add four minutes for each degree if the station is west of the standard meridian, or deduct four minutes for each degree if the station is east of the standard meridian.
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Date	Lat.	0°	10°	20°	30°	35°	40°	45°	50°	52°	54°	56°	58°	60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan.	0	18 07	17 50	17 31	17 10	16 58	16 44	16 28	16 08	15 58	15 47	15 35	15 20	15 03
	4	18 09	17 52	17 34	17 13	17 01	16 48	16 32	16 12	16 02	15 52	15 40	15 26	15 09
	8	18 10	17 54	17 36	17 16	17 05	16 52	16 36	16 17	16 07	15 57	15 46	15 32	15 17
	12	18 12	17 56	17 39	17 20	17 08	16 56	16 41	16 22	16 13	16 03	15 52	15 40	15 25
	16	18 13	17 58	17 42	17 23	17 12	17 00	16 45	16 28	16 19	16 10	16 00	15 48	15 34
	20	18 15	18 00	17 44	17 27	17 16	17 04	16 51	16 34	16 26	16 17	16 07	15 56	15 43
Feb.	24	18 16	18 02	17 47	17 30	17 20	17 09	16 56	16 40	16 33	16 25	16 15	16 05	15 53
	28	18 16	18 03	17 49	17 33	17 24	17 14	17 02	16 47	16 40	16 32	16 24	16 14	16 03
	1	18 17	18 05	17 52	17 37	17 28	17 19	17 07	16 54	16 47	16 40	16 32	16 24	16 13
	5	18 17	18 06	17 54	17 40	17 32	17 24	17 13	17 01	16 55	16 48	16 41	16 33	16 24
	9	18 18	18 07	17 56	17 44	17 36	17 28	17 19	17 08	17 02	16 56	16 50	16 43	16 35
	13	18 18	18 08	17 58	17 47	17 40	17 33	17 25	17 14	17 10	17 05	16 59	16 52	16 45
Mar.	17	18 17	18 09	18 00	17 50	17 44	17 38	17 30	17 21	17 17	17 13	17 08	17 02	16 56
	21	18 17	18 10	18 02	17 53	17 48	17 42	17 36	17 28	17 25	17 21	17 16	17 12	17 06
	25	18 16	18 10	18 03	17 56	17 52	17 47	17 41	17 35	17 32	17 29	17 25	17 21	17 16
	1	18 16	18 10	18 05	17 59	17 55	17 51	17 47	17 42	17 39	17 37	17 34	17 30	17 27
	5	18 15	18 11	18 06	18 02	17 59	17 56	17 52	17 48	17 46	17 44	17 42	17 40	17 37
	9	18 14	18 11	18 08	18 04	18 02	18 00	17 58	17 55	17 53	17 52	17 50	17 49	17 47
Apr.	13	18 13	18 11	18 09	18 07	18 06	18 04	18 03	18 01	18 00	18 00	17 59	17 58	17 57
	17	18 12	18 11	18 10	18 09	18 09	18 09	18 08	18 08	18 07	18 07	18 07	18 07	18 06
	21	18 10	18 11	18 11	18 12	18 12	18 13	18 13	18 14	18 14	18 15	18 15	18 16	18 16
	25	18 09	18 11	18 12	18 14	18 15	18 17	18 18	18 20	18 21	18 22	18 23	18 25	18 26
	29	18 08	18 11	18 13	18 17	18 19	18 21	18 23	18 27	18 28	18 30	18 32	18 34	18 36
	2	18 07	18 10	18 14	18 19	18 22	18 25	18 29	18 33	18 35	18 37	18 40	18 43	18 46

END OF EVENING TWILIGHT

		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan.	0	19 22	19 05	18 50	18 36	18 29	18 22	18 14	18 07	18 03	18 00	17 56	17 52	17 48
	8	19 25	19 09	18 54	18 41	18 35	18 28	18 21	18 14	18 11	18 08	18 05	18 01	17 58
	16	19 27	19 12	18 59	18 47	18 41	18 35	18 30	18 24	18 21	18 18	18 16	18 13	18 10
	24	19 28	19 15	19 03	18 53	18 48	18 43	18 39	18 34	18 32	18 30	18 28	18 26	18 24
Feb.	1	19 29	19 17	19 07	18 59	18 55	18 52	18 48	18 45	18 44	18 43	18 42	18 41	18 40
	9	19 29	19 19	19 11	19 05	19 02	19 00	18 58	18 57	18 57	18 57	18 57	18 57	18 58
Mar.	17	19 28	19 20	19 14	19 10	19 09	19 09	19 09	19 10	19 10	19 11	19 13	19 14	19 16
	25	19 26	19 20	19 17	19 16	19 16	19 17	19 19	19 23	19 24	19 27	19 29	19 32	19 36
	5	19 24	19 21	19 20	19 21	19 23	19 26	19 30	19 36	19 39	19 42	19 46	19 51	19 56
	13	19 21	19 21	19 22	19 26	19 30	19 35	19 41	19 50	19 54	19 59	20 05	20 11	20 19
	21	19 19	19 21	19 24	19 32	19 37	19 44	19 53	20 04	20 10	20 17	20 24	20 33	20 43
	29	19 17	19 21	19 27	19 37	19 44	19 53	20 05	20 20	20 27	20 36	20 46	20 57	21 11
Apr.	6	19 15	19 21	19 30	19 43	19 52	20 03	20 17	20 36	20 46	20 57	21 09	21 25	21 44

SUNRISE, 2026**LOCAL MEAN TIME OF SUNRISE (SUN'S UPPER LIMB) AND BEGINNING OF MORNING TWILIGHT ON THE MERIDIAN OF GREENWICH**

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Lat. Date		0°	10°	20°	30°	35°	40°	45°	50°	52°	54°	56°	58°	60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Apr.	2	6 00	5 57	5 53	5 49	5 46	5 43	5 40	5 35	5 33	5 31	5 29	5 26	5 23
	6	5 59	5 55	5 50	5 44	5 40	5 37	5 32	5 27	5 24	5 21	5 18	5 15	5 11
	10	5 58	5 52	5 46	5 39	5 35	5 30	5 25	5 18	5 15	5 12	5 08	5 04	4 59
	14	5 57	5 50	5 43	5 35	5 30	5 24	5 18	5 10	5 06	5 02	4 58	4 53	4 47
	18	5 56	5 48	5 40	5 30	5 25	5 18	5 11	5 02	4 58	4 53	4 48	4 42	4 36
	22	5 55	5 46	5 37	5 26	5 20	5 13	5 04	4 54	4 49	4 44	4 38	4 31	4 24
May	26	5 54	5 45	5 34	5 22	5 15	5 07	4 58	4 46	4 41	4 35	4 28	4 21	4 13
	30	5 54	5 43	5 32	5 18	5 11	5 02	4 51	4 39	4 33	4 26	4 19	4 11	4 01
	4	5 53	5 42	5 29	5 15	5 06	4 57	4 46	4 32	4 25	4 18	4 10	4 01	3 51
	8	5 53	5 41	5 27	5 12	5 03	4 52	4 40	4 25	4 18	4 10	4 02	3 52	3 40
	12	5 53	5 40	5 25	5 09	4 59	4 48	4 35	4 19	4 11	4 03	3 53	3 43	3 30
	16	5 53	5 39	5 24	5 06	4 56	4 44	4 30	4 13	4 05	3 56	3 46	3 34	3 21
June	20	5 53	5 38	5 22	5 04	4 53	4 41	4 26	4 08	3 59	3 50	3 39	3 26	3 12
	24	5 53	5 38	5 21	5 02	4 51	4 38	4 22	4 03	3 54	3 44	3 33	3 19	3 04
	28	5 54	5 38	5 21	5 01	4 49	4 35	4 19	3 59	3 50	3 39	3 27	3 13	2 56
	1	5 54	5 38	5 20	5 00	4 47	4 33	4 17	3 56	3 46	3 35	3 22	3 08	2 50
	5	5 55	5 38	5 20	4 59	4 46	4 32	4 15	3 54	3 43	3 32	3 19	3 03	2 44
	9	5 56	5 38	5 20	4 58	4 46	4 31	4 13	3 52	3 41	3 29	3 16	3 00	2 40
July	13	5 56	5 39	5 20	4 58	4 46	4 31	4 13	3 51	3 40	3 28	3 14	2 57	2 37
	17	5 57	5 40	5 21	4 59	4 46	4 31	4 13	3 50	3 39	3 27	3 13	2 56	2 36
	21	5 58	5 41	5 22	4 59	4 46	4 31	4 13	3 51	3 40	3 27	3 13	2 56	2 36
	25	5 59	5 41	5 22	5 00	4 47	4 32	4 14	3 52	3 41	3 29	3 14	2 58	2 37
	29	6 00	5 42	5 24	5 02	4 49	4 34	4 16	3 54	3 43	3 31	3 17	3 00	2 40
	3	6 01	5 43	5 25	5 03	4 51	4 36	4 18	3 56	3 46	3 34	3 20	3 04	2 44

BEGINNING OF MORNING TWILIGHT

		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Apr.	6	4 50	4 44	4 35	4 22	4 14	4 03	3 49	3 30	3 21	3 11	2 58	2 43	2 25
	14	4 47	4 39	4 28	4 12	4 01	3 48	3 31	3 08	2 57	2 43	2 27	2 07	1 39
	22	4 45	4 35	4 21	4 02	3 49	3 33	3 13	2 45	2 31	2 13	1 51	1 19	
May	30	4 43	4 30	4 14	3 52	3 37	3 19	2 55	2 21	2 03	1 39	1 03		
	8	4 41	4 27	4 08	3 43	3 27	3 06	2 38	1 56	1 31	0 53			
	16	4 40	4 24	4 03	3 36	3 17	2 53	2 21	1 29	0 51				
June	24	4 40	4 22	4 00	3 29	3 09	2 43	2 06	0 58					
	1	4 40	4 21	3 57	3 25	3 03	2 35	1 53	0 02					
	9	4 41	4 21	3 56	3 23	3 00	2 30	1 44						
July	17	4 42	4 22	3 57	3 22	2 59	2 28	1 40						
	25	4 44	4 24	3 58	3 24	3 00	2 29	1 41						
	3	4 46	4 26	4 01	3 27	3 04	2 34	1 48						
	11	4 48	4 29	4 05	3 32	3 10	2 42	1 59						

SUNSET, 2026

LOCAL MEAN TIME OF SUNSET (SUN'S UPPER LIMB) AND ENDING OF EVENING TWILIGHT ON THE MERIDIAN OF GREENWICH

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Lat.		0°	10°	20°	30°	35°	40°	45°	50°	52°	54°	56°	58°	60°
Date		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Apr.	2	18 07	18 10	18 14	18 19	18 22	18 25	18 29	18 33	18 35	18 37	18 40	18 43	18 46
	6	18 06	18 10	18 16	18 22	18 25	18 29	18 34	18 39	18 42	18 45	18 48	18 51	18 55
	10	18 05	18 10	18 17	18 24	18 28	18 33	18 39	18 46	18 49	18 52	18 56	19 00	19 05
	14	18 04	18 10	18 18	18 26	18 31	18 37	18 44	18 52	18 56	19 00	19 04	19 09	19 15
	18	18 03	18 11	18 19	18 29	18 35	18 41	18 49	18 58	19 02	19 07	19 12	19 18	19 25
	22	18 02	18 11	18 20	18 31	18 38	18 45	18 54	19 04	19 09	19 15	19 21	19 27	19 35
May	26	18 01	18 11	18 22	18 34	18 41	18 49	18 59	19 11	19 16	19 22	19 29	19 36	19 45
	30	18 01	18 11	18 23	18 37	18 44	18 53	19 04	19 17	19 23	19 29	19 37	19 45	19 55
	4	18 00	18 12	18 25	18 39	18 48	18 57	19 09	19 23	19 29	19 37	19 45	19 54	20 05
	8	18 00	18 12	18 26	18 42	18 51	19 01	19 14	19 29	19 36	19 44	19 53	20 03	20 14
	12	18 00	18 13	18 28	18 44	18 54	19 05	19 18	19 35	19 42	19 51	20 01	20 11	20 24
	16	18 00	18 14	18 29	18 47	18 57	19 09	19 23	19 40	19 49	19 58	20 08	20 20	20 34
June	20	18 00	18 15	18 31	18 49	19 00	19 13	19 28	19 46	19 55	20 04	20 15	20 28	20 43
	24	18 00	18 16	18 33	18 52	19 03	19 16	19 32	19 51	20 00	20 10	20 22	20 36	20 52
	28	18 01	18 17	18 34	18 54	19 06	19 20	19 36	19 56	20 05	20 16	20 28	20 43	21 00
	1	18 01	18 18	18 36	18 56	19 08	19 23	19 39	20 00	20 10	20 21	20 34	20 49	21 07
	5	18 02	18 19	18 37	18 58	19 11	19 25	19 42	20 04	20 14	20 26	20 39	20 55	21 14
	9	18 03	18 20	18 39	19 00	19 13	19 28	19 45	20 07	20 18	20 30	20 43	21 00	21 19
July	13	18 04	18 21	18 40	19 02	19 15	19 30	19 47	20 10	20 20	20 33	20 47	21 03	21 23
	17	18 05	18 22	18 41	19 03	19 16	19 31	19 49	20 12	20 23	20 35	20 49	21 06	21 26
	21	18 05	18 23	18 42	19 04	19 17	19 32	19 50	20 13	20 24	20 36	20 50	21 07	21 28
	25	18 06	18 24	18 43	19 05	19 18	19 33	19 51	20 13	20 24	20 36	20 51	21 07	21 28
	29	18 07	18 25	18 43	19 05	19 18	19 33	19 51	20 13	20 24	20 36	20 50	21 06	21 26
	3	18 08	18 25	18 44	19 05	19 18	19 32	19 50	20 12	20 22	20 34	20 48	21 04	21 23

END OF EVENING TWILIGHT

		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Apr.	6	19 15	19 21	19 30	19 43	19 52	20 03	20 17	20 36	20 46	20 57	21 09	21 25	21 44
	14	19 13	19 22	19 33	19 50	20 00	20 14	20 31	20 54	21 06	21 20	21 37	21 58	22 27
	22	19 12	19 23	19 37	19 56	20 09	20 25	20 46	21 14	21 29	21 47	22 10	22 44	
	30	19 12	19 24	19 41	20 03	20 18	20 37	21 01	21 36	21 55	22 20	22 58		
May	8	19 12	19 27	19 45	20 11	20 27	20 49	21 17	22 00	22 25	23 07			
	16	19 13	19 29	19 50	20 18	20 37	21 00	21 33	22 27	23 08				
June	24	19 14	19 32	19 54	20 25	20 45	21 12	21 49	22 59					
	1	19 16	19 35	19 59	20 31	20 53	21 22	22 04						
	9	19 18	19 37	20 02	20 36	20 59	21 29	22 15						
	17	19 20	19 40	20 05	20 40	21 03	21 34	22 22						
July	25	19 21	19 42	20 07	20 41	21 05	21 36	22 24						
	3	19 23	19 42	20 07	20 41	21 04	21 34	22 19						
	11	19 23	19 42	20 06	20 38	21 00	21 29	22 10						

SUNRISE, 2026

LOCAL MEAN TIME OF SUNRISE (SUN'S UPPER LIMB) AND BEGINNING
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Lat. Date		0°	10°	20°	30°	35°	40°	45°	50°	52°	54°	56°	58°	60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July	3	6 01	5 43	5 25	5 03	4 51	4 36	4 18	3 56	3 46	3 34	3 20	3 04	2 44
	7	6 01	5 44	5 26	5 05	4 53	4 38	4 21	3 59	3 49	3 37	3 24	3 08	2 50
	11	6 02	5 45	5 28	5 07	4 55	4 41	4 24	4 03	3 53	3 42	3 29	3 14	2 56
	15	6 02	5 46	5 29	5 09	4 57	4 44	4 27	4 07	3 58	3 47	3 35	3 20	3 03
	19	6 03	5 47	5 31	5 11	5 00	4 47	4 31	4 12	4 03	3 52	3 41	3 27	3 11
Aug.	23	6 03	5 48	5 32	5 14	5 03	4 50	4 35	4 17	4 08	3 58	3 47	3 35	3 20
	27	6 03	5 49	5 34	5 16	5 06	4 54	4 39	4 22	4 14	4 05	3 54	3 42	3 29
	31	6 03	5 50	5 35	5 18	5 08	4 57	4 44	4 28	4 20	4 11	4 02	3 51	3 38
	4	6 03	5 50	5 36	5 21	5 11	5 01	4 48	4 33	4 26	4 18	4 09	3 59	3 47
	8	6 02	5 51	5 38	5 23	5 14	5 05	4 53	4 39	4 32	4 25	4 17	4 07	3 57
Sept.	12	6 02	5 51	5 39	5 25	5 18	5 08	4 58	4 45	4 39	4 32	4 25	4 16	4 06
	16	6 01	5 51	5 40	5 28	5 21	5 12	5 03	4 51	4 45	4 39	4 32	4 25	4 16
	20	6 00	5 51	5 41	5 30	5 24	5 16	5 07	4 57	4 52	4 46	4 40	4 33	4 26
	24	5 59	5 51	5 42	5 32	5 27	5 20	5 12	5 03	4 58	4 53	4 48	4 42	4 35
	28	5 58	5 51	5 43	5 35	5 30	5 24	5 17	5 09	5 05	5 01	4 56	4 51	4 45
Oct.	1	5 57	5 51	5 44	5 37	5 32	5 27	5 22	5 15	5 11	5 08	5 04	4 59	4 54
	5	5 56	5 51	5 45	5 39	5 35	5 31	5 26	5 21	5 18	5 15	5 12	5 08	5 04
	9	5 54	5 50	5 46	5 41	5 38	5 35	5 31	5 26	5 24	5 22	5 19	5 16	5 13
	13	5 53	5 50	5 47	5 43	5 41	5 39	5 36	5 32	5 31	5 29	5 27	5 25	5 22
	17	5 51	5 50	5 48	5 45	5 44	5 43	5 41	5 38	5 37	5 36	5 35	5 33	5 32
Sept.	21	5 50	5 49	5 49	5 48	5 47	5 46	5 45	5 44	5 44	5 43	5 43	5 42	5 41
	25	5 49	5 49	5 49	5 50	5 50	5 50	5 50	5 50	5 50	5 51	5 51	5 51	5 51
	29	5 47	5 49	5 50	5 52	5 53	5 54	5 55	5 56	5 57	5 58	5 58	5 59	6 00
	3	5 46	5 49	5 51	5 54	5 56	5 58	6 00	6 03	6 04	6 05	6 06	6 08	6 10

BEGINNING OF MORNING TWILIGHT

		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July	3	4 46	4 26	4 01	3 27	3 04	2 34	1 48						
	11	4 48	4 29	4 05	3 32	3 10	2 42	1 59						
	19	4 49	4 31	4 09	3 38	3 18	2 51	2 14	1 03					
Aug.	27	4 50	4 34	4 13	3 45	3 26	3 02	2 29	1 35	0 53				
	4	4 51	4 36	4 17	3 52	3 35	3 14	2 45	2 02	1 35	0 52			
	12	4 51	4 38	4 21	3 59	3 44	3 25	3 00	2 25	2 06	1 40	1 00		
Sept.	20	4 50	4 39	4 25	4 05	3 52	3 36	3 15	2 47	2 31	2 13	1 49	1 13	
	28	4 48	4 40	4 28	4 11	4 00	3 47	3 29	3 06	2 54	2 39	2 22	2 00	1 29
	5	4 46	4 40	4 31	4 17	4 08	3 57	3 42	3 23	3 13	3 02	2 49	2 33	2 13
	13	4 44	4 40	4 33	4 23	4 15	4 06	3 55	3 39	3 31	3 23	3 12	3 00	2 46
	21	4 41	4 40	4 35	4 28	4 22	4 15	4 06	3 54	3 48	3 41	3 33	3 24	3 13
Oct.	29	4 38	4 39	4 37	4 33	4 29	4 24	4 17	4 08	4 03	3 58	3 52	3 45	3 37
	7	4 36	4 39	4 39	4 37	4 35	4 32	4 27	4 21	4 18	4 14	4 10	4 05	3 59

SUNSET, 2026

LOCAL MEAN TIME OF SUNSET (SUN'S UPPER LIMB) AND ENDING OF EVENING TWILIGHT ON THE MERIDIAN OF GREENWICH

To obtain the standard time at any station, add four minutes for each degree if the station is west of the standard meridian, or deduct four minutes for each degree if the station is east of the standard meridian.
In India, to obtain I.S.T., add $4 \times (82^\circ.5 - \lambda)$ mins. or deduct $4 \times (\lambda - 82^\circ.5)$ mins. as the station is west or east of $82^\circ.5$ E. Longitude.

Lat.		0°	10°	20°	30°	35°	40°	45°	50°	52°	54°	56°	58°	60°
Date		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July	3	18 08	18 25	18 44	19 05	19 18	19 32	19 50	20 12	20 22	20 34	20 48	21 04	21 23
	7	18 09	18 25	18 44	19 05	19 17	19 32	19 49	20 10	20 20	20 32	20 45	21 01	21 19
	11	18 09	18 26	18 43	19 04	19 16	19 30	19 47	20 07	20 17	20 28	20 41	20 56	21 14
	15	18 10	18 26	18 43	19 03	19 14	19 28	19 44	20 04	20 14	20 24	20 36	20 51	21 07
	19	18 10	18 25	18 42	19 01	19 12	19 25	19 41	20 00	20 09	20 19	20 31	20 44	21 00
	23	18 10	18 25	18 41	18 59	19 10	19 22	19 37	19 55	20 04	20 14	20 25	20 37	20 52
Aug.	27	18 10	18 24	18 39	18 57	19 07	19 19	19 33	19 50	19 58	20 07	20 18	20 29	20 43
	31	18 10	18 23	18 38	18 54	19 04	19 15	19 28	19 44	19 52	20 00	20 10	20 21	20 33
	4	18 10	18 22	18 36	18 51	19 00	19 11	19 23	19 38	19 45	19 53	20 02	20 12	20 23
	8	18 09	18 21	18 33	18 48	18 56	19 06	19 18	19 31	19 38	19 45	19 53	20 02	20 13
	12	18 08	18 19	18 31	18 44	18 52	19 01	19 12	19 24	19 30	19 37	19 44	19 53	20 02
	16	18 08	18 18	18 28	18 40	18 48	18 56	19 05	19 17	19 22	19 28	19 35	19 42	19 51
Sept.	20	18 07	18 16	18 25	18 36	18 43	18 50	18 59	19 09	19 14	19 19	19 25	19 32	19 40
	24	18 06	18 14	18 22	18 32	18 38	18 44	18 52	19 01	19 05	19 10	19 15	19 21	19 28
	28	18 05	18 11	18 19	18 28	18 33	18 38	18 45	18 53	18 57	19 01	19 05	19 10	19 16
	1	18 03	18 09	18 16	18 23	18 27	18 32	18 38	18 45	18 48	18 51	18 55	18 59	19 04
	5	18 02	18 07	18 12	18 18	18 22	18 26	18 30	18 36	18 39	18 42	18 45	18 48	18 52
	9	18 01	18 04	18 08	18 13	18 16	18 19	18 23	18 27	18 29	18 32	18 34	18 37	18 40
Oct.	13	17 59	18 02	18 05	18 08	18 10	18 13	18 15	18 19	18 20	18 22	18 24	18 26	18 28
	17	17 58	17 59	18 01	18 03	18 05	18 06	18 08	18 10	18 11	18 12	18 13	18 14	18 16
	21	17 56	17 57	17 57	17 58	17 59	17 59	18 00	18 01	18 01	18 02	18 02	18 03	18 04
	25	17 55	17 54	17 54	17 53	17 53	17 53	17 52	17 52	17 52	17 52	17 52	17 52	17 52
	29	17 54	17 52	17 50	17 48	17 47	17 46	17 45	17 43	17 43	17 42	17 41	17 40	17 39
	3	17 52	17 50	17 47	17 43	17 42	17 40	17 37	17 35	17 34	17 32	17 31	17 29	17 27

END OF EVENING TWILIGHT

		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July	3	19 23	19 42	20 07	20 41	21 04	21 34	22 19						
	11	19 23	19 42	20 06	20 38	21 00	21 29	22 10						
	19	19 24	19 41	20 04	20 34	20 54	21 20	21 58	23 06					
Aug.	27	19 23	19 39	20 00	20 28	20 46	21 10	21 42	22 35	23 14				
	4	19 22	19 36	19 55	20 20	20 37	20 58	21 26	22 08	22 33	23 13			
	12	19 20	19 32	19 49	20 11	20 26	20 44	21 08	21 42	22 01	22 26	23 03		
Sept.	20	19 17	19 28	19 42	20 01	20 14	20 30	20 50	21 18	21 33	21 51	22 14	22 47	
	28	19 14	19 23	19 34	19 51	20 01	20 15	20 32	20 55	21 07	21 21	21 37	21 58	22 27
	5	19 11	19 17	19 26	19 40	19 49	20 00	20 14	20 33	20 42	20 53	21 06	21 21	21 40
Oct.	13	19 08	19 12	19 19	19 29	19 36	19 45	19 56	20 11	20 19	20 27	20 37	20 49	21 03
	21	19 05	19 07	19 11	19 18	19 23	19 30	19 39	19 51	19 57	20 03	20 11	20 20	20 30
	29	19 02	19 02	19 03	19 08	19 11	19 16	19 23	19 32	19 36	19 41	19 47	19 53	20 01
	7	19 00	18 57	18 56	18 58	19 00	19 03	19 07	19 13	19 17	19 20	19 24	19 29	19 35

SUNRISE, 2026

LOCAL MEAN TIME OF SUNRISE (SUN'S UPPER LIMB) AND BEGINNING
OF MORNING TWILIGHT ON THE MERIDIAN OF GREENWICH

To obtain the standard time at any station, add four minutes for each degree if the station is west of the standard meridian, or deduct four minutes for each degree if the station is east of the standard meridian.

In India, to obtain I.S.T., add $4 \times (82^\circ.5 - \lambda)$ mins. or deduct $4 \times (\lambda - 82^\circ.5)$ mins. as the station is west or east of $82^\circ.5$ E. Longitude.

Lat. Date		0°	10°	20°	30°	35°	40°	45°	50°	52°	54°	56°	58°	60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct.	3	5 46	5 49	5 51	5 54	5 56	5 58	6 00	6 03	6 04	6 05	6 06	6 08	6 10
	7	5 45	5 48	5 52	5 57	5 59	6 02	6 05	6 09	6 10	6 12	6 14	6 17	6 19
	11	5 44	5 48	5 53	5 59	6 02	6 06	6 10	6 15	6 17	6 20	6 22	6 25	6 29
	15	5 43	5 48	5 55	6 02	6 06	6 10	6 15	6 21	6 24	6 27	6 31	6 34	6 39
	19	5 42	5 49	5 56	6 04	6 09	6 14	6 20	6 28	6 31	6 35	6 39	6 44	6 49
	23	5 41	5 49	5 58	6 07	6 13	6 19	6 26	6 34	6 38	6 43	6 47	6 53	6 59
	27	5 41	5 50	5 59	6 10	6 16	6 23	6 31	6 41	6 45	6 50	6 56	7 02	7 09
	31	5 40	5 50	6 01	6 13	6 20	6 28	6 37	6 48	6 53	6 58	7 04	7 11	7 19
	Nov. 4	5 40	5 51	6 03	6 16	6 23	6 32	6 42	6 54	7 00	7 06	7 13	7 20	7 29
	8	5 40	5 52	6 05	6 19	6 27	6 37	6 48	7 01	7 07	7 14	7 21	7 30	7 39
	12	5 41	5 53	6 07	6 22	6 31	6 41	6 53	7 07	7 14	7 21	7 30	7 39	7 50
	16	5 41	5 55	6 09	6 26	6 35	6 46	6 59	7 14	7 21	7 29	7 38	7 48	8 00
	20	5 42	5 56	6 12	6 29	6 39	6 50	7 04	7 20	7 28	7 36	7 46	7 57	8 10
	24	5 43	5 58	6 14	6 32	6 43	6 55	7 09	7 26	7 35	7 44	7 54	8 05	8 19
	28	5 44	6 00	6 17	6 36	6 47	6 59	7 14	7 32	7 41	7 50	8 01	8 14	8 28
Dec.	2	5 46	6 02	6 19	6 39	6 50	7 03	7 19	7 38	7 47	7 57	8 08	8 21	8 36
	6	5 47	6 04	6 22	6 42	6 54	7 07	7 23	7 43	7 52	8 02	8 14	8 28	8 44
	10	5 49	6 06	6 24	6 45	6 57	7 11	7 27	7 47	7 57	8 07	8 19	8 34	8 50
	14	5 51	6 08	6 26	6 47	7 00	7 14	7 30	7 51	8 01	8 11	8 24	8 39	8 56
	18	5 53	6 10	6 29	6 50	7 02	7 16	7 33	7 54	8 04	8 15	8 28	8 42	9 00
	22	5 55	6 12	6 31	6 52	7 04	7 19	7 35	7 56	8 06	8 17	8 30	8 45	9 02
	26	5 57	6 14	6 33	6 54	7 06	7 20	7 37	7 58	8 08	8 19	8 31	8 46	9 03
	30	5 59	6 16	6 34	6 55	7 07	7 21	7 38	7 58	8 08	8 19	8 32	8 46	9 03
	34	6 01	6 18	6 36	6 56	7 08	7 22	7 38	7 58	8 08	8 19	8 31	8 45	9 01

BEGINNING OF MORNING TWILIGHT

		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct.	7	4 36	4 39	4 39	4 37	4 35	4 32	4 27	4 21	4 18	4 14	4 10	4 05	3 59
	15	4 33	4 38	4 41	4 42	4 41	4 40	4 38	4 34	4 32	4 29	4 27	4 23	4 19
	23	4 31	4 38	4 44	4 47	4 48	4 48	4 48	4 46	4 45	4 44	4 43	4 41	4 39
	31	4 29	4 39	4 46	4 52	4 54	4 56	4 57	4 58	4 58	4 58	4 58	4 57	4 57
	Nov. 8	4 29	4 40	4 49	4 57	5 01	5 04	5 07	5 10	5 11	5 11	5 12	5 13	5 14
	16	4 29	4 42	4 53	5 03	5 08	5 12	5 16	5 21	5 22	5 24	5 26	5 28	5 29
Dec.	24	4 29	4 44	4 57	5 09	5 14	5 20	5 25	5 31	5 33	5 36	5 38	5 41	5 44
	2	4 31	4 47	5 01	5 14	5 21	5 27	5 33	5 40	5 43	5 46	5 49	5 53	5 56
	10	4 34	4 51	5 06	5 20	5 26	5 33	5 41	5 48	5 52	5 55	5 59	6 02	6 06
	18	4 38	4 55	5 10	5 24	5 31	5 39	5 46	5 54	5 58	6 01	6 05	6 09	6 14
	26	4 42	4 59	5 14	5 28	5 35	5 43	5 50	5 58	6 02	6 05	6 09	6 13	6 18
	34	4 46	5 02	5 17	5 31	5 38	5 45	5 52	6 00	6 03	6 06	6 10	6 14	6 18
	42	4 50	5 06	5 20	5 33	5 39	5 45	5 52	5 59	6 01	6 04	6 08	6 11	6 14

SUNSET, 2026

LOCAL MEAN TIME OF SUNSET (SUN'S UPPER LIMB) AND ENDING OF EVENING TWILIGHT ON THE MERIDIAN OF GREENWICH

To obtain the standard time at any station, add four minutes for each degree if the station is west of the standard meridian, or deduct four minutes for each degree if the station is east of the standard meridian.
In India, to obtain I.S.T., add $4 \times (82^\circ.5 - \lambda)$ mins. or deduct $4 \times (\lambda - 82^\circ.5)$ mins. as the station is west or east of $82^\circ.5$ E. Longitude.

Lat.		0°	10°	20°	30°	35°	40°	45°	50°	52°	54°	56°	58°	60°
Date		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct.	3	17 52	17 50	17 47	17 43	17 42	17 40	17 37	17 35	17 34	17 32	17 31	17 29	17 27
	7	17 51	17 47	17 43	17 39	17 36	17 33	17 30	17 26	17 24	17 22	17 20	17 18	17 15
	11	17 50	17 45	17 40	17 34	17 31	17 27	17 23	17 18	17 15	17 13	17 10	17 07	17 04
	15	17 49	17 43	17 37	17 30	17 26	17 21	17 16	17 09	17 07	17 03	17 00	16 56	16 52
	19	17 48	17 41	17 34	17 25	17 21	17 15	17 09	17 01	16 58	16 54	16 50	16 46	16 40
	23	17 48	17 40	17 31	17 21	17 16	17 10	17 02	16 54	16 50	16 45	16 41	16 35	16 29
Nov.	27	17 47	17 38	17 28	17 18	17 11	17 04	16 56	16 46	16 42	16 37	16 31	16 25	16 18
	31	17 47	17 37	17 26	17 14	17 07	16 59	16 50	16 39	16 34	16 28	16 22	16 15	16 07
	4	17 47	17 36	17 24	17 11	17 03	16 55	16 44	16 32	16 27	16 20	16 14	16 06	15 57
	8	17 47	17 35	17 22	17 08	17 00	16 50	16 39	16 26	16 20	16 13	16 05	15 57	15 47
	12	17 48	17 35	17 21	17 06	16 57	16 47	16 35	16 20	16 14	16 06	15 58	15 49	15 38
	16	17 48	17 35	17 20	17 04	16 54	16 43	16 30	16 15	16 08	16 00	15 51	15 41	15 29
Dec.	20	17 49	17 35	17 19	17 02	16 52	16 40	16 27	16 10	16 03	15 54	15 45	15 34	15 21
	24	17 50	17 35	17 19	17 01	16 50	16 38	16 24	16 06	15 58	15 49	15 39	15 27	15 14
	28	17 52	17 36	17 19	17 00	16 49	16 36	16 21	16 03	15 55	15 45	15 34	15 22	15 07
	2	17 53	17 37	17 19	17 00	16 48	16 35	16 20	16 01	15 52	15 42	15 30	15 17	15 02
	6	17 55	17 38	17 20	17 00	16 48	16 35	16 19	15 59	15 50	15 39	15 27	15 14	14 58
	10	17 56	17 39	17 21	17 01	16 48	16 35	16 18	15 58	15 49	15 38	15 26	15 11	14 55
	14	17 58	17 41	17 23	17 02	16 49	16 35	16 19	15 58	15 48	15 37	15 25	15 10	14 53
	18	18 00	17 43	17 24	17 03	16 51	16 37	16 20	15 59	15 49	15 38	15 25	15 11	14 53
	22	18 02	17 45	17 26	17 05	16 53	16 38	16 21	16 01	15 51	15 40	15 27	15 12	14 55
	26	18 04	17 47	17 28	17 07	16 55	16 41	16 24	16 03	15 53	15 42	15 30	15 15	14 58
	30	18 06	17 49	17 31	17 10	16 57	16 43	16 27	16 06	15 57	15 46	15 33	15 19	15 02
	34	18 08	17 51	17 33	17 12	17 00	16 47	16 30	16 10	16 01	15 50	15 38	15 24	15 07

END OF EVENING TWILIGHT

		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct.	7	19 00	18 57	18 56	18 58	19 00	19 03	19 07	19 13	19 17	19 20	19 24	19 29	19 35
	15	18 59	18 53	18 50	18 49	18 50	18 51	18 53	18 57	18 59	19 01	19 04	19 07	19 11
	23	18 58	18 50	18 45	18 41	18 40	18 40	18 40	18 42	18 43	18 44	18 45	18 47	18 49
	31	18 58	18 48	18 41	18 35	18 33	18 31	18 29	18 28	18 28	18 28	18 28	18 29	18 29
Nov.	8	18 59	18 48	18 38	18 30	18 26	18 23	18 20	18 17	18 16	18 15	18 14	18 14	18 13
	16	19 01	18 48	18 36	18 26	18 22	18 17	18 13	18 08	18 06	18 05	18 03	18 01	17 59
Dec.	24	19 04	18 49	18 36	18 24	18 19	18 13	18 08	18 02	17 59	17 57	17 54	17 52	17 49
	2	19 07	18 51	18 37	18 24	18 18	18 11	18 05	17 58	17 55	17 52	17 49	17 45	17 42
	10	19 11	18 55	18 40	18 26	18 19	18 12	18 05	17 57	17 54	17 50	17 47	17 43	17 39
	18	19 15	18 58	18 43	18 29	18 21	18 14	18 07	17 58	17 55	17 51	17 48	17 44	17 39
	26	19 19	19 02	18 47	18 33	18 25	18 18	18 11	18 03	17 59	17 56	17 52	17 48	17 43
	34	19 23	19 06	18 51	18 38	18 31	18 24	18 17	18 09	18 06	18 02	17 59	17 55	17 51
	42	19 26	19 10	18 56	18 43	18 37	18 31	18 24	18 17	18 14	18 11	18 08	18 05	18 02

DURATION OF TWILIGHT, 2026
 MORNING AND EVENING TWILIGHT: CIVIL (6°), NAUTICAL (12°)
 AND ASTRONOMICAL (18°)

Date	Lat.	0°			10°			20°			30°			40°		
		Civ.	Nt.	Ast.	Civ.	Nt.	Ast.	Civ.	Nt.	Ast.	Civ.	Nt.	Ast.	Civ.	Nt.	Ast.
Jan.	0	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	8	23	49	75	23	49	75	24	51	79	26	56	85	30	64	97
	16	22	48	74	22	48	74	24	51	78	26	56	85	30	64	96
	24	22	48	74	22	48	74	24	51	77	26	55	84	30	63	95
Feb.	1	22	47	73	22	48	73	23	50	76	25	54	83	29	62	94
	9	22	47	72	22	47	73	23	49	76	25	54	82	29	61	93
	17	21	46	71	22	47	72	23	49	75	25	53	81	28	60	92
	25	21	46	70	21	46	71	22	48	74	24	52	80	28	59	91
Mar.	5	21	45	70	21	46	70	22	48	74	24	52	80	27	59	90
	13	21	45	69	21	46	70	22	48	73	24	52	80	27	58	90
	21	21	45	69	21	45	70	22	48	73	24	52	80	27	59	91
	29	21	45	69	21	46	70	22	48	74	24	52	81	27	59	92
Apr.	6	21	45	69	21	46	71	22	48	75	24	53	82	28	61	95
	14	21	45	70	21	46	71	23	49	76	25	54	83	28	62	97
	22	21	46	70	22	47	72	23	50	77	25	55	85	29	63	100
	30	21	46	71	22	47	73	23	50	77	25	55	87	29	65	103
May	8	22	47	72	22	48	74	23	51	79	26	57	89	30	67	108
	16	22	47	73	22	49	75	24	52	81	26	58	91	31	69	112
	24	22	48	74	23	49	76	24	53	82	27	59	93	32	71	116
June	1	22	48	74	23	50	77	24	53	83	27	60	95	32	73	119
	9	23	49	75	23	50	77	25	54	84	27	61	96	33	74	122
	17	23	49	75	23	50	78	25	54	84	28	61	97	33	75	123
	25	23	49	75	23	50	78	25	54	84	27	61	97	33	75	123
July	3	23	49	75	23	50	77	24	54	84	27	60	96	33	74	122
	11	22	48	74	23	50	77	24	53	83	27	60	95	32	73	119
	19	22	48	74	23	49	76	24	53	82	27	59	93	32	71	115
	27	22	47	73	22	49	75	24	52	80	26	58	91	31	69	111
Aug.	4	22	47	72	22	48	74	23	51	79	26	56	88	30	67	106
	12	21	46	71	22	47	73	23	50	78	25	55	86	29	65	103
	20	21	46	70	22	47	72	23	49	76	25	54	85	29	63	99
	28	21	45	70	21	46	71	22	49	75	25	53	83	28	61	96
Sept.	5	21	45	69	21	46	71	22	48	74	24	53	82	28	60	94
	13	21	45	69	21	46	70	22	48	74	24	52	81	27	59	92
	21	21	45	69	21	45	70	22	48	73	24	52	80	27	59	91
	29	21	45	69	21	45	70	22	48	73	24	52	79	27	58	90
Oct.	7	21	45	69	21	46	70	22	48	73	24	52	79	27	58	90
	15	21	45	70	21	46	70	22	48	74	24	52	80	27	59	90
	23	21	46	70	21	46	71	22	48	74	24	52	80	28	59	91
	31	21	46	71	22	47	72	23	49	75	25	53	81	28	60	92
Nov.	8	22	47	72	22	47	73	23	49	76	25	54	82	29	61	93
	16	22	47	73	22	48	73	23	50	76	25	54	83	29	62	94
	24	22	48	74	22	48	74	24	51	77	26	55	84	30	63	95
	2	22	48	74	23	49	75	24	51	78	26	56	85	30	64	96
Dec.	10	23	49	75	23	49	75	24	51	78	26	56	85	30	64	97
	18	23	49	75	23	49	75	24	52	79	26	56	86	31	65	98
	26	23	49	75	23	49	75	24	52	79	26	56	85	31	65	98
	34	23	49	75	23	49	75	24	51	78	26	56	85	30	64	97

DURATION OF TWILIGHT, 2026
MORNING AND EVENING TWILIGHT: CIVIL (6°), NAUTICAL (12°)
AND ASTRONOMICAL (18°)

Date	Lat.	45°			50°			55°			60°		
		Civ.	Nt.	Ast.	Civ.	Nt.	Ast.	Civ.	Nt.	Ast.	Civ.	Nt.	Ast.
		m	m	m	m	m	m	m	m	m	m	m	m
Jan.	0	34	71	106	38	80	119	45	93	137	57	113	165
	8	33	70	105	38	78	117	44	91	135	55	111	161
	16	33	69	104	37	77	116	43	88	132	52	106	156
	24	32	68	102	36	75	113	41	86	129	50	102	151
Feb.	1	31	67	101	35	74	112	40	84	126	48	98	147
	9	31	65	100	34	72	110	39	82	124	45	95	143
	17	30	64	98	33	71	108	38	80	122	44	92	140
	25	30	64	98	33	70	108	37	79	121	42	91	139
Mar.	5	29	63	98	32	70	108	36	78	121	42	90	140
	13	29	64	98	32	70	108	36	79	121	42	90	142
	21	29	64	99	32	71	110	36	80	125	42	92	147
	29	30	65	101	33	72	113	37	81	130	43	95	155
Apr.	6	30	66	104	33	74	117	38	85	137	44	100	169
	14	31	68	108	34	77	123	39	89	147	46	107	193
	22	32	70	112	35	80	130	41	94	161	50	119	**
	30	32	72	117	36	83	139	43	100	184	53	135	**
May	8	33	76	123	38	88	151	46	110	**	59	169	**
	16	35	79	130	40	93	167	49	121	**	65	**	**
	24	36	82	137	42	99	188	52	136	**	74	**	**
June	1	36	84	144	43	104	**	54	156	**	85	**	**
	9	37	86	150	44	108	**	57	194	**	96	**	**
	17	37	87	153	45	110	**	58	**	**	106	**	**
	25	37	87	153	45	110	**	58	**	**	105	**	**
July	3	37	86	150	44	107	**	57	187	**	95	**	**
	11	36	84	144	43	103	**	54	154	**	83	**	**
	19	35	81	137	41	98	186	51	134	**	73	**	**
	27	34	78	129	40	93	165	48	120	**	64	**	**
Aug.	4	33	75	123	38	87	149	45	109	**	58	165	**
	12	32	72	116	36	82	138	42	100	182	53	134	**
	20	31	69	111	35	79	129	41	93	160	49	118	**
	28	31	67	107	34	76	122	39	88	146	46	107	192
Sept.	5	30	66	104	33	74	117	38	84	136	44	100	168
	13	30	65	101	33	72	113	37	81	130	43	95	155
	21	29	64	99	32	71	110	36	79	125	42	92	147
	29	29	63	98	32	70	108	36	78	122	41	90	142
Oct.	7	29	63	97	32	70	107	36	78	121	42	90	139
	15	30	64	98	33	70	107	37	78	121	42	90	139
	23	30	64	98	33	71	108	37	80	121	43	92	140
	31	31	65	99	34	72	109	38	81	123	45	94	142
Nov.	8	31	66	101	35	74	111	40	84	126	47	98	146
	16	32	68	102	36	75	113	41	86	129	50	102	151
	24	33	69	104	37	77	116	43	88	132	52	106	156
Dec.	2	33	70	105	38	78	117	44	91	135	55	110	161
	10	34	71	106	38	80	119	45	92	137	57	113	164
	18	34	71	107	39	80	120	46	93	138	58	115	166
	26	34	71	107	38	80	119	46	93	138	58	114	166
	34	34	71	106	38	79	119	45	92	136	56	112	163

SUNRISE, SUNSET AND TWILIGHT, 2026
CORRECTION FOR SOUTHERN LATITUDES

For	Use	Add	For	Use	Add	For	Use	Add	For	Use	Add	For	Use	Add
July	Dec.	m	Aug.	Feb.	m	Sept.	Mar.	m	Oct.	Apr.	m	Nov.	May	m
1	31	+1	7	3	-8	12	10	-14	19	16	-15	26	25	-10
July	Jan.		8	4	8	13	11	14	20	17	15	27	26	9
2	0	+1	9	5	9	14	12	14	21	18	15	28	27	9
3	1	0	10	6	9	15	13	14	22	19	15	29	28	9
4	2	0	11	7	9	16	14	14	23	20	15	30	29	9
5	3	0	12	8	9	17	15	15	24	21	14	Dec.	May	
6	4	-1	13	9	9	18	16	15	25	22	14	1	30	8
7	5	1	14	10	10	19	17	15	26	23	14	2	31	8
8	6	1	15	11	10	20	18	15	27	24	14	Dec.	June	
9	7	1	16	12	10	21	19	15	28	25	14	3	1	8
10	8	2	17	13	10	22	20	15	29	26	14	4	2	8
11	9	2	18	14	10	23	21	15	30	27	14	5	3	7
12	10	2	19	15	11	24	22	15	31	28	14	6	5	7
13	11	2	20	16	11	25	23	15	Nov.	Apr.		7	6	7
14	12	3	21	17	11	26	24	15	1	29	14	8	7	7
15	13	3	22	18	11	27	25	15	2	30	14	9	8	6
16	14	3	23	19	11	28	26	15	Nov.	May		10	9	6
17	15	3	24	19	12	29	26	15	3	1	13	11	10	6
18	16	3	25	20	12	30	27	15	4	2	13	12	11	6
19	16	4	26	21	12	Oct.	Mar.		5	3	13	13	12	5
20	17	4	27	22	12	1	28	15	6	4	13	14	13	5
21	18	4	28	23	12	2	29	15	7	5	13	15	14	5
22	19	4	29	24	12	3	30	15	8	6	13	16	15	5
23	20	5	30	25	13	4	31	15	9	7	13	17	16	4
24	21	5	31	26	13	Oct.	Apr.		10	8	12	18	17	4
25	22	5	Sept.	Feb.		5	1	16	11	9	12	19	18	4
26	23	6	1	27	13	6	2	16	12	10	12	20	19	4
27	24	6	2	28	13	7	3	16	13	11	12	21	21	3
28	25	6				8	4	15	14	12	12	22	22	3
29	26	6	Sept.	Mar.		9	5	15	15	13	12	23	23	3
30	27	7	3	1	13	10	6	15	16	14	12	24	24	3
31	28	7	4	2	13	11	7	15	17	15	11	25	25	2
Aug.	Jan.		5	3	13	12	9	15	18	17	11	26	26	2
1	29	7	6	4	14	13	10	15	19	18	11	27	27	2
2	30	7	7	5	14	14	11	15	20	19	11	28	28	2
3	30	7	8	6	14	15	12	15	21	20	11	29	29	1
4	31	8	9	7	14	16	13	15	22	21	10	30	30	1
Aug.	Feb.		10	8	14	17	14	15	23	22	10	Dec.	July	
5	1	8	11	9	14	18	15	15	24	23	10	31	1	-1
6	2	-8	12	10	-14	19	16	-15	25	24	-10	32	2	0

To obtain the times of sunrise, sunset and twilight for southern latitudes for any date, use the tables for the same northern latitude for the corresponding date given above, and apply to the times so obtained the correction given in the column headed 'Add'.

In the case of duration of twilight, however, take only the figures for the corresponding date without correction.

SUNRISE, SUNSET AND TWILIGHT, 2026
CORRECTION FOR SOUTHERN LATITUDES

For	Use	Add	For	Use	Add	For	Use	Add	For	Use	Add	For	Use	Add
Jan.	July	m	Feb.	Aug.	m	Mar.	Sept.	m	Apr.	Oct.	m	May	Nov.	m
0	1	0	5	9	+9	13	15	+14	19	22	+15	25	26	+10
1	3	0	6	10	9	14	16	14	20	23	15	26	27	9
2	4	0	7	11	9	15	17	14	21	24	14	27	28	9
			8	12	9	16	18	15	22	25	14	28	29	9
3	5	0	9	13	9	17	19	15	23	26	14	29	30	9
4	6	+1	10	14	10	18	20	15	24	27	14	May	Dec.	
5	7	1	11	15	10	19	21	15	25	28	14	30	1	8
6	8	1	12	16	10	20	22	15	26	29	14	31	2	8
7	9	1	13	17	10	21	23	15	27	30	14	June	Dec.	
8	10	2	14	18	10	22	24	15	28	31	14	1	3	8
9	11	2	15	19	11	23	25	15	Apr.	Nov.		2	4	8
10	12	2	16	20	11	24	26	15	29	1	14	3	5	7
11	13	2	17	21	11	25	27	15	30	2	14	4	5	7
12	14	3	18	22	11	26	29	15	May	Nov.		5	6	7
13	15	3	19	23	11	27	30	15	1	3	13	6	7	7
14	16	3	20	25	12	Mar.	Oct.		2	4	13	7	8	7
15	17	3	21	26	12	28	1	15	3	5	13	8	9	6
16	18	4	22	27	12	29	2	15	4	6	13	9	10	6
17	19	4	23	28	12	30	3	15	5	7	13	10	11	6
18	21	4	24	29	12	31	4	16	6	8	13	11	12	6
19	22	5	25	30	13	Apr.	Oct.		7	9	13	12	13	5
20	23	5	26	31	13	1	5	16	8	10	12	13	14	5
21	24	5				2	6	16	9	11	12	14	15	5
22	25	5	Feb.	Sept.		3	7	16	10	12	12	15	16	5
23	26	6	27	1	13	4	7	15	11	13	12	16	17	4
24	27	6	28	2	13	5	8	15	12	14	12	17	18	4
25	28	6	Mar.	Sept.		6	9	15	13	15	12	18	19	4
26	29	6	1	3	13	7	10	15	14	16	12	19	20	4
27	30	7	2	4	13	8	11	15	15	16	11	20	21	3
28	31	7	3	5	13	9	12	15	16	17	11	21	21	3
Jan.	Aug.		4	6	14	10	13	15	17	18	11	22	22	3
29	1	7	5	7	14	11	14	15	18	19	11	23	23	3
30	2	7	6	8	14	12	15	15	19	20	11	24	24	3
31	3	7	7	9	14	13	16	15	20	21	11	25	25	2
Feb.	Aug.		8	10	14	14	17	15	21	22	10	26	26	2
1	5	8	9	11	14	15	18	15	22	23	10	27	27	2
2	6	8	10	12	14	16	19	15	23	24	10	28	28	1
3	7	8	11	13	14	17	20	15	24	25	10	29	29	1
4	8	+9	12	14	+14	18	21	+15	25	26	+10	30	30	+1

To obtain the times of sunrise, sunset and twilight for southern latitudes for any date, use the tables for the same northern latitude for the corresponding date given above, and apply to the times so obtained the correction given in the column headed 'Add'.

In the case of duration of twilight, however, take only the figures for the corresponding date without correction.

SUNRISE AND SUNSET, 2026
INDIAN STANDARD TIME OF SUNRISE AND SUNSET (SUN'S UPPER LIMB)
FOR CERTAIN STATIONS IN INDIA

Date	Kolkata 22° N 32'				Varanasi 25° N 18'				Chennai 13° N 00'				Delhi 28° N 35'				Mumbai 18° N 54'			
	Rise		Set		Rise		Set		Rise		Set		Rise		Set		Rise		Set	
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m
Jan.	0	6	16.4	17 02.9	6	43.4	17 18.6	6	30.9	17 53.1	7	14.1	17 34.7	7	11.8	18 11.6				
	2	6	17.0	17 04.2	6	44.0	17 19.9	6	31.7	17 54.2	7	14.6	17 36.1	7	12.5	18 12.8				
	4	6	17.5	17 05.5	6	44.5	17 21.3	6	32.4	17 55.3	7	15.1	17 37.5	7	13.1	18 14.0				
	6	6	18.0	17 06.8	6	44.9	17 22.7	6	33.0	17 56.4	7	15.4	17 39.0	7	13.6	18 15.3				
	8	6	18.4	17 08.2	6	45.2	17 24.2	6	33.6	17 57.6	7	15.6	17 40.5	7	14.1	18 16.5				
	10	6	18.7	17 09.6	6	45.4	17 25.6	6	34.2	17 58.7	7	15.7	17 42.1	7	14.5	18 17.8				
	12	6	18.9	17 11.0	6	45.5	17 27.1	6	34.6	17 59.8	7	15.7	17 43.7	7	14.8	18 19.1				
	14	6	19.0	17 12.4	6	45.5	17 28.6	6	35.0	18 00.8	7	15.6	17 45.3	7	15.0	18 20.4				
	16	6	19.0	17 13.8	6	45.4	17 30.2	6	35.4	18 01.9	7	15.4	17 46.9	7	15.2	18 21.7				
	18	6	18.9	17 15.3	6	45.2	17 31.7	6	35.6	18 03.0	7	15.0	17 48.6	7	15.2	18 22.9				
Feb.	20	6	18.7	17 16.7	6	44.9	17 33.2	6	35.8	18 04.0	7	14.6	17 50.2	7	15.2	18 24.2				
	22	6	18.5	17 18.1	6	44.5	17 34.7	6	35.9	18 05.0	7	14.0	17 51.9	7	15.1	18 25.4				
	24	6	18.1	17 19.5	6	44.1	17 36.2	6	36.0	18 06.0	7	13.4	17 53.5	7	14.9	18 26.7				
	26	6	17.7	17 20.9	6	43.5	17 37.7	6	35.9	18 06.9	7	12.6	17 55.2	7	14.6	18 27.9				
	28	6	17.1	17 22.2	6	42.8	17 39.2	6	35.8	18 07.8	7	11.8	17 56.8	7	14.2	18 29.1				
	30	6	16.5	17 23.6	6	42.0	17 40.7	6	35.6	18 08.7	7	10.8	17 58.4	7	13.7	18 30.2				
	1	6	15.8	17 24.9	6	41.2	17 42.1	6	35.4	18 09.5	7	09.8	18 00.0	7	13.2	18 31.4				
	3	6	15.0	17 26.2	6	40.2	17 43.6	6	35.0	18 10.3	7	08.6	18 01.6	7	12.6	18 32.5				
	5	6	14.2	17 27.4	6	39.2	17 45.0	6	34.6	18 11.1	7	07.4	18 03.2	7	11.9	18 33.5				
	7	6	13.2	17 28.7	6	38.1	17 46.3	6	34.2	18 11.8	7	06.1	18 04.7	7	11.1	18 34.6				
Mar.	9	6	12.2	17 29.9	6	36.9	17 47.7	6	33.6	18 12.5	7	04.7	18 06.3	7	10.3	18 35.6				
	11	6	11.1	17 31.0	6	35.6	17 49.0	6	33.0	18 13.2	7	03.2	18 07.8	7	09.3	18 36.6				
	13	6	09.9	17 32.2	6	34.2	17 50.3	6	32.4	18 13.8	7	01.6	18 09.3	7	08.3	18 37.5				
	15	6	08.7	17 33.3	6	32.8	17 51.6	6	31.6	18 14.4	6	59.9	18 10.8	7	07.3	18 38.4				
	17	6	07.4	17 34.4	6	31.3	17 52.8	6	30.9	18 14.9	6	58.2	18 12.2	7	06.2	18 39.3				
	19	6	06.0	17 35.4	6	29.8	17 54.0	6	30.0	18 15.4	6	56.4	18 13.7	7	05.0	18 40.1				
	21	6	04.6	17 36.4	6	28.1	17 55.2	6	29.1	18 15.9	6	54.6	18 15.1	7	03.8	18 40.9				
	23	6	03.2	17 37.4	6	26.5	17 56.3	6	28.2	18 16.3	6	52.7	18 16.4	7	02.5	18 41.7				
	25	6	01.7	17 38.4	6	24.8	17 57.4	6	27.2	18 16.7	6	50.7	18 17.8	7	01.1	18 42.5				
	27	6	00.1	17 39.3	6	23.0	17 58.5	6	26.2	18 17.1	6	48.7	18 19.1	6	59.7	18 43.2				
Apr.	1	5	58.5	17 40.2	6	21.2	17 59.6	6	25.1	18 17.4	6	46.6	18 20.4	6	58.3	18 43.9				
	3	5	56.8	17 41.1	6	19.3	18 00.6	6	24.0	18 17.7	6	44.5	18 21.7	6	56.8	18 44.5				
	5	5	55.2	17 41.9	6	17.4	18 01.6	6	22.8	18 18.0	6	42.4	18 23.0	6	55.3	18 45.2				
	7	5	53.4	17 42.8	6	15.5	18 02.6	6	21.6	18 18.2	6	40.2	18 24.2	6	53.8	18 45.8				
	9	5	51.7	17 43.6	6	13.6	18 03.6	6	20.4	18 18.5	6	38.0	18 25.4	6	52.2	18 46.4				
	11	5	49.9	17 44.3	6	11.6	18 04.5	6	19.2	18 18.7	6	35.7	18 26.6	6	50.6	18 46.9				
	13	5	48.1	17 45.1	6	09.6	18 05.5	6	17.9	18 18.9	6	33.5	18 27.8	6	48.9	18 47.5				
	15	5	46.2	17 45.9	6	07.6	18 06.4	6	16.7	18 19.0	6	31.2	18 29.0	6	47.3	18 48.0				
	17	5	44.4	17 46.6	6	05.5	18 07.3	6	15.4	18 19.2	6	28.9	18 30.2	6	45.6	18 48.5				
	19	5	42.5	17 47.3	6	03.5	18 08.2	6	14.1	18 19.4	6	26.6	18 31.3	6	43.9	18 49.1				
Apr.	21	5	40.6	17 48.0	6	01.5	18 09.1	6	12.8	18 19.5	6	24.3	18 32.4	6	42.3	18 49.6				
	23	5	38.7	17 48.7	5	59.4	18 10.0	6	11.5	18 19.6	6	21.9	18 33.6	6	40.6	18 50.1				
	25	5	36.8	17 49.4	5	57.4	18 10.9	6	10.1	18 19.8	6	19.6	18 34.7	6	38.9	18 50.5				
	27	5	34.9	17 50.1	5	55.3	18 11.8	6	08.8	18 19.9	6	17.3	18 35.8	6	37.2	18 51.0				
Apr.	29	5	33.0	17 50.8	5	53.2	18 12.6	6	07.5	18 20.0	6	15.0	18 37.0	6	35.5	18 51.5				
	31	5	31.1	17 51.5	5	51.2	18 13.5	6	06.2	18 20.2	6	12.7	18 38.1	6	33.8	18 52.0				
	2	5	29.2	17 52.2	5	49.2	18 14.4	6	04.9	18 20.3	6	10.4	18 39.2	6	32.1	18 52.5				

SUNRISE AND SUNSET, 2026
INDIAN STANDARD TIME OF SUNRISE AND SUNSET (SUN'S UPPER LIMB)
FOR CERTAIN STATIONS IN INDIA

Date	Kolkata 22° N 32'				Varanasi 25° N 18'				Chennai 13° N 00'				Delhi 28° N 35'				Mumbai 18° N 54'			
	Rise		Set		Rise		Set		Rise		Set		Rise		Set		Rise		Set	
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m
Apr.	2	5	29.2	17 52.2	5	49.2	18 14.4	6	04.9	18 20.3	6	10.4	18 39.2	6	32.1	18 52.5				
	4	5	27.3	17 52.9	5	47.1	18 15.3	6	03.6	18 20.4	6	08.2	18 40.3	6	30.5	18 53.0				
	6	5	25.4	17 53.6	5	45.1	18 16.1	6	02.3	18 20.6	6	06.0	18 41.4	6	28.8	18 53.5				
	8	5	23.6	17 54.3	5	43.1	18 17.0	6	01.1	18 20.7	6	03.8	18 42.6	6	27.2	18 54.0				
	10	5	21.8	17 55.0	5	41.1	18 17.9	5	59.9	18 20.9	6	01.6	18 43.7	6	25.6	18 54.5				
	12	5	20.0	17 55.7	5	39.2	18 18.8	5	58.7	18 21.1	5	59.5	18 44.8	6	24.0	18 55.0				
	14	5	18.2	17 56.5	5	37.2	18 19.7	5	57.5	18 21.3	5	57.3	18 46.0	6	22.5	18 55.5				
	16	5	16.5	17 57.2	5	35.4	18 20.7	5	56.3	18 21.5	5	55.3	18 47.1	6	21.0	18 56.1				
	18	5	14.8	17 58.0	5	33.5	18 21.6	5	55.2	18 21.7	5	53.2	18 48.3	6	19.5	18 56.6				
	20	5	13.1	17 58.7	5	31.7	18 22.5	5	54.1	18 21.9	5	51.2	18 49.5	6	18.1	18 57.2				
	22	5	11.5	17 59.5	5	29.9	18 23.5	5	53.0	18 22.2	5	49.3	18 50.7	6	16.7	18 57.8				
	24	5	09.9	18 00.3	5	28.2	18 24.5	5	52.0	18 22.5	5	47.4	18 51.9	6	15.4	18 58.4				
May	26	5	08.4	18 01.1	5	26.5	18 25.4	5	51.0	18 22.8	5	45.5	18 53.1	6	14.1	18 59.0				
	28	5	06.9	18 01.9	5	24.9	18 26.4	5	50.1	18 23.1	5	43.7	18 54.3	6	12.8	18 59.7				
	30	5	05.5	18 02.7	5	23.3	18 27.4	5	49.2	18 23.5	5	42.0	18 55.5	6	11.6	19 00.3				
	2	5	04.2	18 03.6	5	21.8	18 28.4	5	48.3	18 23.9	5	40.3	18 56.7	6	10.5	19 01.0				
	4	5	02.9	18 04.4	5	20.4	18 29.5	5	47.5	18 24.3	5	38.6	18 57.9	6	09.4	19 01.7				
	6	5	01.6	18 05.3	5	19.0	18 30.5	5	46.8	18 24.7	5	37.1	18 59.2	6	08.4	19 02.4				
	8	5	00.4	18 06.2	5	17.7	18 31.5	5	46.1	18 25.1	5	35.6	19 00.4	6	07.4	19 03.1				
	10	4	59.3	18 07.0	5	16.4	18 32.6	5	45.4	18 25.6	5	34.2	19 01.6	6	06.5	19 03.9				
	12	4	58.3	18 07.9	5	15.3	18 33.6	5	44.8	18 26.1	5	32.9	19 02.9	6	05.7	19 04.6				
	14	4	57.3	18 08.8	5	14.2	18 34.7	5	44.3	18 26.6	5	31.6	19 04.1	6	04.9	19 05.4				
	16	4	56.4	18 09.7	5	13.1	18 35.7	5	43.8	18 27.1	5	30.4	19 05.3	6	04.2	19 06.2				
	18	4	55.6	18 10.7	5	12.2	18 36.8	5	43.4	18 27.7	5	29.3	19 06.5	6	03.5	19 06.9				
June	20	4	54.9	18 11.6	5	11.3	18 37.8	5	43.0	18 28.2	5	28.3	19 07.7	6	02.9	19 07.7				
	22	4	54.2	18 12.5	5	10.6	18 38.9	5	42.7	18 28.8	5	27.4	19 08.9	6	02.4	19 08.5				
	24	4	53.6	18 13.4	5	09.9	18 39.9	5	42.5	18 29.4	5	26.6	19 10.1	6	02.0	19 09.3				
	26	4	53.1	18 14.3	5	09.2	18 40.9	5	42.3	18 30.0	5	25.8	19 11.2	6	01.6	19 10.1				
	28	4	52.7	18 15.1	5	08.7	18 41.9	5	42.1	18 30.6	5	25.2	19 12.3	6	01.3	19 10.9				
	30	4	52.3	18 16.0	5	08.3	18 42.9	5	42.1	18 31.2	5	24.6	19 13.4	6	01.1	19 11.7				
	1	4	52.0	18 16.9	5	07.9	18 43.8	5	42.0	18 31.8	5	24.1	19 14.4	6	00.9	19 12.4				
	3	4	51.8	18 17.7	5	07.6	18 44.7	5	42.0	18 32.4	5	23.8	19 15.5	6	00.8	19 13.2				
	5	4	51.7	18 18.5	5	07.4	18 45.6	5	42.1	18 33.0	5	23.5	19 16.4	6	00.7	19 13.9				
	7	4	51.6	18 19.3	5	07.3	18 46.4	5	42.3	18 33.6	5	23.3	19 17.3	6	00.7	19 14.6				
	9	4	51.6	18 20.0	5	07.2	18 47.2	5	42.4	18 34.2	5	23.2	19 18.2	6	00.8	19 15.3				
	11	4	51.7	18 20.7	5	07.3	18 48.0	5	42.6	18 34.8	5	23.1	19 19.0	6	00.9	19 16.0				
July	13	4	51.9	18 21.4	5	07.4	18 48.7	5	42.9	18 35.3	5	23.2	19 19.7	6	01.1	19 16.6				
	15	4	52.1	18 22.0	5	07.6	18 49.3	5	43.2	18 35.9	5	23.4	19 20.4	6	01.4	19 17.2				
	17	4	52.4	18 22.5	5	07.8	18 49.9	5	43.6	18 36.4	5	23.6	19 21.0	6	01.7	19 17.7				
	19	4	52.7	18 23.0	5	08.2	18 50.4	5	43.9	18 36.8	5	23.9	19 21.6	6	02.0	19 18.2				
	21	4	53.1	18 23.5	5	08.6	18 50.9	5	44.4	18 37.3	5	24.3	19 22.1	6	02.4	19 18.7				
	23	4	53.6	18 23.9	5	09.0	18 51.3	5	44.8	18 37.7	5	24.7	19 22.4	6	02.9	19 19.1				
	25	4	54.1	18 24.2	5	09.5	18 51.6	5	45.3	18 38.1	5	25.3	19 22.8	6	03.4	19 19.4				
	27	4	54.6	18 24.5	5	10.1	18 51.9	5	45.8	18 38.4	5	25.9	19 23.0	6	03.9	19 19.7				
	29	4	55.2	18 24.7	5	10.8	18 52.1	5	46.3	18 38.7	5	26.5	19 23.1	6	04.4	19 20.0				
	1	4	55.9	18 24.9	5	11.4	18 52.2	5	46.8	18 39.0	5	27.3	19 23.2	6	05.0	19 20.2				
	3	4	56.6	18 24.9	5	12.2	18 52.2	5	47.3	18 39.2	5	28.0	19 23.1	6	05.6	19 20.3				

SUNRISE AND SUNSET, 2026
INDIAN STANDARD TIME OF SUNRISE AND SUNSET (SUN'S UPPER LIMB)
FOR CERTAIN STATIONS IN INDIA

Date	Kolkata 22° N 32'				Varanasi 25° N 18'				Chennai 13° N 00'				Delhi 28° N 35'				Mumbai 18° N 54'			
	Rise		Set		Rise		Set		Rise		Set		Rise		Set		Rise		Set	
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m
July	1	4	55.9	18 24.9	5	11.4	18 52.2	5	46.8	18 39.0	5	27.3	19 23.2	6	05.0	19 20.2				
	3	4	56.6	18 24.9	5	12.2	18 52.2	5	47.3	18 39.2	5	28.0	19 23.1	6	05.6	19 20.3				
	5	4	57.3	18 24.9	5	12.9	18 52.1	5	47.9	18 39.3	5	28.9	19 23.0	6	06.3	19 20.3				
	7	4	58.0	18 24.8	5	13.7	18 52.0	5	48.4	18 39.4	5	29.7	19 22.8	6	06.9	19 20.3				
	9	4	58.8	18 24.7	5	14.6	18 51.8	5	49.0	18 39.5	5	30.6	19 22.5	6	07.6	19 20.2				
	11	4	59.6	18 24.4	5	15.4	18 51.4	5	49.6	18 39.5	5	31.6	19 22.1	6	08.3	19 20.1				
	13	5	00.4	18 24.1	5	16.3	18 51.0	5	50.1	18 39.4	5	32.6	19 21.5	6	09.0	19 19.9				
	15	5	01.2	18 23.7	5	17.2	18 50.6	5	50.7	18 39.3	5	33.6	19 20.9	6	09.7	19 19.6				
	17	5	02.1	18 23.3	5	18.2	18 50.0	5	51.2	18 39.1	5	34.6	19 20.3	6	10.4	19 19.2				
	19	5	02.9	18 22.7	5	19.1	18 49.3	5	51.7	18 38.9	5	35.7	19 19.5	6	11.1	19 18.8				
Aug.	21	5	03.8	18 22.1	5	20.1	18 48.6	5	52.2	18 38.5	5	36.8	19 18.6	6	11.8	19 18.3				
	23	5	04.6	18 21.4	5	21.0	18 47.8	5	52.8	18 38.2	5	37.9	19 17.6	6	12.5	19 17.7				
	25	5	05.5	18 20.6	5	22.0	18 46.9	5	53.2	18 37.8	5	39.0	19 16.6	6	13.2	19 17.1				
	27	5	06.4	18 19.7	5	23.0	18 45.9	5	53.7	18 37.3	5	40.1	19 15.4	6	13.9	19 16.3				
	29	5	07.2	18 18.8	5	23.9	18 44.8	5	54.2	18 36.7	5	41.2	19 14.2	6	14.6	19 15.5				
	31	5	08.1	18 17.8	5	24.9	18 43.6	5	54.6	18 36.1	5	42.4	19 12.9	6	15.3	19 14.7				
	2	5	08.9	18 16.7	5	25.9	18 42.4	5	55.0	18 35.5	5	43.5	19 11.5	6	15.9	19 13.8				
	4	5	09.7	18 15.6	5	26.8	18 41.1	5	55.4	18 34.7	5	44.6	19 10.0	6	16.6	19 12.8				
	6	5	10.5	18 14.4	5	27.8	18 39.8	5	55.7	18 34.0	5	45.7	19 08.4	6	17.2	19 11.7				
	8	5	11.3	18 13.1	5	28.7	18 38.3	5	56.0	18 33.1	5	46.8	19 06.8	6	17.8	19 10.6				
Sept.	10	5	12.1	18 11.8	5	29.6	18 36.8	5	56.3	18 32.2	5	47.9	19 05.1	6	18.4	19 09.4				
	12	5	12.9	18 10.4	5	30.6	18 35.2	5	56.6	18 31.3	5	49.0	19 03.3	6	19.0	19 08.2				
	14	5	13.6	18 09.0	5	31.5	18 33.6	5	56.9	18 30.3	5	50.1	19 01.5	6	19.5	19 06.9				
	16	5	14.3	18 07.5	5	32.3	18 31.9	5	57.1	18 29.3	5	51.2	18 59.6	6	20.1	19 05.6				
	18	5	15.1	18 05.9	5	33.2	18 30.2	5	57.3	18 28.2	5	52.2	18 57.6	6	20.6	19 04.2				
	20	5	15.8	18 04.3	5	34.1	18 28.4	5	57.5	18 27.1	5	53.3	18 55.6	6	21.1	19 02.7				
	22	5	16.4	18 02.7	5	34.9	18 26.6	5	57.7	18 25.9	5	54.3	18 53.5	6	21.5	19 01.2				
	24	5	17.1	18 01.0	5	35.7	18 24.7	5	57.8	18 24.8	5	55.3	18 51.4	6	22.0	18 59.7				
	26	5	17.8	17 59.3	5	36.6	18 22.8	5	57.9	18 23.5	5	56.4	18 49.2	6	22.5	18 58.1				
	28	5	18.4	17 57.5	5	37.4	18 20.8	5	58.0	18 22.3	5	57.4	18 47.0	6	22.9	18 56.5				
Oct.	30	5	19.0	17 55.7	5	38.2	18 18.8	5	58.1	18 21.0	5	58.4	18 44.8	6	23.3	18 54.9				
	1	5	19.7	17 53.9	5	38.9	18 16.8	5	58.2	18 19.7	5	59.3	18 42.5	6	23.7	18 53.2				
	3	5	20.3	17 52.0	5	39.7	18 14.7	5	58.2	18 18.3	6	00.3	18 40.2	6	24.1	18 51.5				
	5	5	20.9	17 50.1	5	40.5	18 12.7	5	58.3	18 17.0	6	01.3	18 37.9	6	24.5	18 49.8				
	7	5	21.4	17 48.2	5	41.2	18 10.6	5	58.3	18 15.6	6	02.2	18 35.5	6	24.8	18 48.1				
	9	5	22.0	17 46.3	5	42.0	18 08.5	5	58.3	18 14.2	6	03.2	18 33.2	6	25.2	18 46.3				
	11	5	22.6	17 44.3	5	42.7	18 06.3	5	58.3	18 12.8	6	04.2	18 30.8	6	25.5	18 44.5				
	13	5	23.2	17 42.4	5	43.5	18 04.2	5	58.3	18 11.4	6	05.1	18 28.4	6	25.9	18 42.8				
	15	5	23.8	17 40.4	5	44.2	18 02.1	5	58.4	18 10.0	6	06.1	18 26.0	6	26.2	18 41.0				
	17	5	24.3	17 38.4	5	45.0	17 59.9	5	58.4	18 08.6	6	07.0	18 23.6	6	26.6	18 39.2				
Oct.	19	5	24.9	17 36.4	5	45.7	17 57.8	5	58.4	18 07.1	6	08.0	18 21.2	6	26.9	18 37.4				
	21	5	25.5	17 34.4	5	46.5	17 55.7	5	58.4	18 05.7	6	09.0	18 18.8	6	27.3	18 35.6				
	23	5	26.1	17 32.4	5	47.2	17 53.5	5	58.4	18 04.3	6	10.0	18 16.4	6	27.7	18 33.8				
	25	5	26.7	17 30.4	5	48.0	17 51.4	5	58.4	18 02.9	6	11.0	18 14.0	6	28.0	18 32.0				
Oct.	27	5	27.3	17 28.4	5	48.8	17 49.3	5	58.4	18 01.6	6	12.0	18 11.7	6	28.4	18 30.3				
	29	5	27.9	17 26.4	5	49.6	17 47.1	5	58.5	18 00.2	6	13.0	18 09.3	6	28.8	18 28.5				
	1	5	28.5	17 24.5	5	50.4	17 45.0	5	58.6	17 58.8	6	14.0	18 07.0	6	29.2	18 26.8				

SUNRISE AND SUNSET, 2026
INDIAN STANDARD TIME OF SUNRISE AND SUNSET (SUN'S UPPER LIMB)
FOR CERTAIN STATIONS IN INDIA

Date	Kolkata 22° N 32'				Varanasi 25° N 18'				Chennai 13° N 00'				Delhi 28° N 35'				Mumbai 18° N 54'			
	Rise		Set		Rise		Set		Rise		Set		Rise		Set		Rise		Set	
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m
Oct.	1	5	28.5	17 24.5	5	50.4	17 45.0	5	58.6	17 58.8	6	14.0	18 07.0	6	29.2	18 26.8				
	3	5	29.2	17 22.6	5	51.2	17 42.9	5	58.6	17 57.5	6	15.1	18 04.7	6	29.6	18 25.1				
	5	5	29.8	17 20.6	5	52.0	17 40.9	5	58.7	17 56.2	6	16.1	18 02.4	6	30.1	18 23.4				
	7	5	30.5	17 18.8	5	52.9	17 38.8	5	58.8	17 54.9	6	17.2	18 00.2	6	30.6	18 21.8				
	9	5	31.2	17 16.9	5	53.7	17 36.8	5	59.0	17 53.7	6	18.3	17 58.0	6	31.1	18 20.2				
	11	5	32.0	17 15.1	5	54.6	17 34.9	5	59.2	17 52.5	6	19.4	17 55.9	6	31.6	18 18.6				
	13	5	32.7	17 13.3	5	55.6	17 32.9	5	59.3	17 51.3	6	20.6	17 53.7	6	32.1	18 17.1				
	15	5	33.5	17 11.6	5	56.5	17 31.0	5	59.6	17 50.1	6	21.8	17 51.7	6	32.7	18 15.6				
	17	5	34.3	17 09.9	5	57.5	17 29.2	5	59.8	17 49.0	6	23.0	17 49.6	6	33.3	18 14.2				
	19	5	35.2	17 08.3	5	58.5	17 27.4	6	00.1	17 48.0	6	24.2	17 47.6	6	33.9	18 12.8				
Nov.	21	5	36.1	17 06.7	5	59.5	17 25.6	6	00.4	17 47.0	6	25.5	17 45.7	6	34.6	18 11.4				
	23	5	37.0	17 05.2	6	00.6	17 24.0	6	00.8	17 46.0	6	26.8	17 43.8	6	35.3	18 10.2				
	25	5	37.9	17 03.7	6	01.6	17 22.3	6	01.2	17 45.1	6	28.1	17 42.0	6	36.0	18 08.9				
	27	5	38.9	17 02.3	6	02.8	17 20.8	6	01.6	17 44.3	6	29.5	17 40.2	6	36.8	18 07.8				
	29	5	39.9	17 01.0	6	03.9	17 19.3	6	02.1	17 43.5	6	30.9	17 38.6	6	37.6	18 06.7				
	31	5	40.9	16 59.7	6	05.1	17 17.8	6	02.6	17 42.7	6	32.3	17 36.9	6	38.4	18 05.6				
	2	5	41.9	16 58.5	6	06.3	17 16.5	6	03.2	17 42.1	6	33.7	17 35.4	6	39.3	18 04.7				
	4	5	43.0	16 57.4	6	07.5	17 15.2	6	03.8	17 41.5	6	35.2	17 33.9	6	40.2	18 03.8				
	6	5	44.2	16 56.4	6	08.8	17 14.0	6	04.4	17 40.9	6	36.7	17 32.6	6	41.2	18 03.0				
	8	5	45.3	16 55.4	6	10.1	17 12.9	6	05.1	17 40.5	6	38.2	17 31.3	6	42.2	18 02.2				
Dec.	10	5	46.5	16 54.6	6	11.4	17 11.9	6	05.8	17 40.1	6	39.7	17 30.1	6	43.2	18 01.6				
	12	5	47.7	16 53.8	6	12.8	17 11.0	6	06.5	17 39.7	6	41.3	17 29.0	6	44.2	18 01.0				
	14	5	48.9	16 53.1	6	14.2	17 10.2	6	07.3	17 39.5	6	42.9	17 28.0	6	45.3	18 00.5				
	16	5	50.2	16 52.5	6	15.5	17 09.4	6	08.2	17 39.3	6	44.5	17 27.1	6	46.4	18 00.1				
	18	5	51.5	16 52.0	6	17.0	17 08.8	6	09.1	17 39.2	6	46.1	17 26.3	6	47.6	17 59.7				
	20	5	52.8	16 51.6	6	18.4	17 08.3	6	10.0	17 39.2	6	47.7	17 25.6	6	48.7	17 59.5				
	22	5	54.1	16 51.3	6	19.8	17 07.8	6	10.9	17 39.3	6	49.3	17 25.0	6	49.9	17 59.3				
	24	5	55.4	16 51.0	6	21.3	17 07.5	6	11.9	17 39.4	6	50.9	17 24.5	6	51.1	17 59.3				
	26	5	56.7	16 50.9	6	22.7	17 07.3	6	12.9	17 39.6	6	52.5	17 24.2	6	52.4	17 59.3				
	28	5	58.0	16 50.9	6	24.2	17 07.1	6	13.9	17 39.9	6	54.1	17 23.9	6	53.6	17 59.3				
Dec.	30	5	59.3	16 50.9	6	25.6	17 07.1	6	14.9	17 40.2	6	55.7	17 23.8	6	54.8	17 59.5				
	2	6	00.6	16 51.1	6	27.0	17 07.2	6	16.0	17 40.6	6	57.2	17 23.7	6	56.1	17 59.8				
	4	6	02.0	16 51.4	6	28.5	17 07.3	6	17.1	17 41.1	6	58.8	17 23.8	6	57.3	18 00.1				
	6	6	03.2	16 51.7	6	29.8	17 07.6	6	18.2	17 41.7	7	00.3	17 24.0	6	58.6	18 00.5				
	8	6	04.5	16 52.1	6	31.2	17 08.0	6	19.3	17 42.3	7	01.7	17 24.3	6	59.8	18 01.0				
	10	6	05.8	16 52.7	6	32.6	17 08.5	6	20.4	17 43.0	7	03.2	17 24.7	7	01.0	18 01.6				
	12	6	07.0	16 53.3	6	33.8	17 09.0	6	21.4	17 43.8	7	04.5	17 25.2	7	02.2	18 02.3				
	14	6	08.2	16 54.0	6	35.1	17 09.7	6	22.5	17 44.6	7	05.8	17 25.8	7	03.4	18 03.0				
	16	6	09.4	16 54.8	6	36.3	17 10.4	6	23.6	17 45.4	7	07.1	17 26.5	7	04.6	18 03.8				
	18	6	10.5	16 55.6	6	37.5	17 11.3	6	24.7	17 46.3	7	08.3	17 27.3	7	05.7	18 04.6				
Dec.	20	6	11.5	16 56.5	6	38.6	17 12.2	6	25.7	17 47.2	7	09.4	17 28.2	7	06.7	18 05.6				
	22	6	12.5	16 57.5	6	39.6	17 13.2	6	26.7	17 48.2	7	10.4	17 29.2	7	07.8	18 06.5				
	24	6	13.5	16 58.6	6	40.5	17 14.2	6	27.7	17 49.2	7	11.4	17 30.2	7	08.7	18 07.5				
	26	6	14.4	16 59.7	6	41.4	17 15.4	6	28.6	17 50.3	7	12.3	17 31.4	7	09.7	18 08.6				
	28	6	15.2	17 00.9	6	42.2	17 16.6	6	29.5	17 51.3	7	13.0	17 32.6	7	10.5	18 09.7				
	30	6	15.9	17 02.1	6	43.0	17 17.8	6	30.4	17 52.4	7	13.7	17 33.9	7	11.3	18 10.9				
	32	6	16.6	17 03.3	6	43.6	17 19.1	6	31.2	17 53.5	7	14.3	17 35.2	7	12.1	18 12.1				

MOONRISE, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONRISE (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.						
Lat. Date	0°	10°	20°	30°	40°	50°	Kolkata	Chennai	Delhi	Mumbai			
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan. 0	14 57	14 38	14 18	13 54	13 25	12 44	13 48	14 41	14 19	15 00			
1	16 01	15 39	15 16	14 49	14 14	13 24	14 45	15 42	15 15	15 59			
2	17 08	16 45	16 20	15 52	15 16	14 21	15 50	16 47	16 18	17 04			
3	18 14	17 53	17 30	17 03	16 28	15 38	16 59	17 55	17 29	18 12			
4	19 16	18 57	18 38	18 15	17 46	17 04	18 08	19 01	18 40	19 21			
5	20 12	19 58	19 43	19 26	19 03	18 32	19 14	20 03	19 50	20 24			
6	21 02	20 53	20 43	20 31	20 17	19 57	20 16	20 59	20 55	21 24			
7	21 49	21 44	21 39	21 33	21 26	21 16	21 13	21 52	21 56	22 19			
8	22 31	22 31	22 31	22 31	22 31	22 31	22 07	22 41	22 53	23 12			
9	23 13	23 18	23 22	23 28	23 34	23 43	22 59	23 28	23 49	** **			
10	23 55	** **	** **	** **	** **	** **	23 51	** **	** **	0 02			
11	** **	0 03	0 12	0 23	0 36	0 54	** **	0 15	0 43	0 51			
12	0 37	0 49	1 03	1 19	1 38	2 05	0 42	1 03	1 38	1 42			
13	1 21	1 37	1 55	2 15	2 40	3 17	1 35	1 52	2 34	2 32			
14	2 07	2 27	2 48	3 12	3 43	4 28	2 29	2 42	3 30	3 26			
15	2 57	3 19	3 42	4 09	4 43	5 35	3 24	3 35	4 26	4 19			
16	3 49	4 11	4 35	5 04	5 40	6 34	4 18	4 27	5 22	5 13			
17	4 41	5 03	5 28	5 55	6 30	7 23	5 10	5 20	6 13	6 05			
18	5 34	5 54	6 16	6 41	7 14	8 00	5 58	6 10	6 59	6 53			
19	6 24	6 42	7 01	7 23	7 50	8 28	6 42	6 57	7 41	7 39			
20	7 13	7 27	7 42	7 59	8 20	8 49	7 22	7 41	8 18	8 20			
21	8 00	8 09	8 20	8 31	8 46	9 06	7 59	8 21	8 51	8 58			
22	8 44	8 50	8 55	9 02	9 10	9 20	8 33	9 01	9 23	9 35			
23	9 29	9 30	9 31	9 31	9 32	9 34	9 07	9 39	9 53	10 10			
24	10 14	10 10	10 05	10 01	9 55	9 47	9 41	10 18	10 23	10 45			
25	11 01	10 52	10 42	10 32	10 19	10 01	10 16	10 59	10 55	11 24			
26	11 52	11 38	11 24	11 07	10 47	10 19	10 55	11 43	11 31	12 05			
27	12 46	12 28	12 09	11 48	11 21	10 43	11 41	12 32	12 13	12 52			
28	13 46	13 25	13 03	12 36	12 04	11 16	12 32	13 28	13 02	13 45			
29	14 50	14 27	14 03	13 35	12 58	12 04	13 32	14 29	14 00	14 45			
30	15 54	15 32	15 08	14 40	14 04	13 11	14 37	15 35	15 06	15 51			
31	16 57	16 37	16 15	15 51	15 19	14 32	15 45	16 40	16 16	16 58			
Feb. 1	17 56	17 40	17 22	17 02	16 36	16 00	16 53	17 44	17 27	18 04			
2	18 49	18 37	18 24	18 10	17 52	17 27	17 57	18 42	18 34	19 06			
3	19 38	19 31	19 23	19 15	19 04	18 49	18 57	19 38	19 38	20 04			
4	20 23	20 20	20 18	20 15	20 12	20 07	19 53	20 29	20 38	20 58			
5	21 06	21 08	21 11	21 14	21 18	21 23	20 47	21 18	21 35	21 51			
6	21 48	21 55	22 02	22 11	22 21	22 35	21 40	22 06	22 31	22 41			
7	22 30	22 42	22 54	23 07	23 25	23 48	22 32	22 54	23 27	23 33			
8													
9	23 15	23 30	23 46	** **	** **	** **	23 26	23 44	** **	** **			
10	** **	** **	** **	0 04	0 27	1 01	** **	** **	0 23	0 24			
11	0 01	0 19	0 38	1 01	1 31	2 13	0 20	0 34	1 20	1 17			
12	0 49	1 10	1 33	1 59	2 32	3 22	1 15	1 26	2 17	2 10			
13	1 40	2 02	2 26	2 54	3 31	4 25	2 09	2 18	3 12	3 04			
14	2 32	2 55	3 19	3 47	4 23	5 18	3 01	3 11	4 05	3 56			
15	3 25	3 46	4 09	4 35	5 10	5 59	3 51	4 02	4 53	4 46			
16	4 16	4 35	4 55	5 19	5 48	6 30	4 37	4 50	5 37	5 33			

The symbol (**) indicates that the phenomenon will occur on the next day

MOONSET, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONSET (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.				
Lat. Date	0°	10°	20°	30°	40°	50°	Kolkata	Chennai	Delhi	Mumbai	
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	
Jan.	0	2 26	2 43	3 01	3 23	3 50	4 29	2 42	2 58	3 42	3 40
	1	3 27	3 48	4 10	4 36	5 09	5 58	3 52	4 04	4 55	4 48
	2	4 33	4 56	5 20	5 48	6 24	7 19	5 02	5 12	6 06	5 58
	3	5 40	6 02	6 26	6 54	7 29	8 21	6 08	6 18	7 12	7 04
	4	6 44	7 04	7 25	7 50	8 20	9 04	7 07	7 20	8 08	8 03
	5	7 43	7 59	8 16	8 36	9 00	9 34	7 57	8 14	8 55	8 55
	6	8 36	8 48	9 01	9 15	9 32	9 55	8 40	9 01	9 35	9 39
	7	9 25	9 32	9 40	9 48	9 58	10 11	9 17	9 43	10 08	10 18
	8	10 09	10 11	10 14	10 17	10 20	10 25	9 51	10 21	10 38	10 53
	9	10 51	10 49	10 47	10 44	10 41	10 37	10 22	10 58	11 06	11 27
	10	11 33	11 26	11 20	11 12	11 02	10 49	10 54	11 34	11 35	12 00
	11	12 14	12 04	11 53	11 40	11 24	11 03	11 26	12 09	12 03	12 33
	12	12 57	12 43	12 27	12 10	11 49	11 19	12 00	12 48	12 34	13 09
	13	13 43	13 25	13 06	12 44	12 17	11 38	12 37	13 29	13 09	13 48
	14	14 30	14 10	13 49	13 23	12 51	12 04	13 18	14 13	13 49	14 30
	15	15 21	14 59	14 35	14 08	13 33	12 40	14 05	15 01	14 33	15 18
	16	16 13	15 51	15 27	14 58	14 22	13 28	14 56	15 53	15 25	16 09
	17	17 06	16 44	16 21	15 54	15 20	14 27	15 51	16 47	16 20	17 04
	18	17 58	17 39	17 18	16 54	16 22	15 38	16 48	17 42	17 19	18 00
	19	18 48	18 31	18 14	17 55	17 29	16 53	17 46	18 36	18 19	18 56
	20	19 36	19 24	19 11	18 55	18 36	18 10	18 42	19 29	19 20	19 52
	21	20 21	20 13	20 05	19 56	19 44	19 28	19 39	20 20	20 19	20 46
	22	21 06	21 03	21 00	20 56	20 51	20 45	20 34	21 11	21 18	21 40
	23	21 50	21 52	21 54	21 56	21 59	22 02	21 30	22 02	22 18	22 34
	24	22 36	22 43	22 50	22 58	23 08	23 22	22 27	22 54	23 19	23 29
	25	23 25	23 36	23 48	** **	** **	** **	23 27	23 49	** **	** **
	26	** **	** **	** **	0 02	0 20	0 44	** **	** **	0 22	0 27
	27	0 17	0 33	0 50	1 10	1 35	2 10	0 30	0 47	1 29	1 29
	28	1 15	1 34	1 55	2 20	2 51	3 37	1 37	1 50	2 38	2 33
29	2 16	2 38	3 02	3 30	4 05	4 59	2 44	2 55	3 48	3 40	
30	3 21	3 44	4 08	4 36	5 13	6 07	3 50	4 00	4 54	4 46	
31	4 25	4 46	5 09	5 36	6 09	6 57	4 51	5 02	5 53	5 47	
Feb.	1	5 26	5 44	6 03	6 25	6 53	7 32	5 45	5 59	6 44	6 41
	2	6 21	6 35	6 50	7 07	7 28	7 57	6 30	6 49	7 27	7 29
	3	7 13	7 22	7 32	7 43	7 57	8 15	7 11	7 34	8 03	8 10
	4	7 59	8 04	8 09	8 14	8 21	8 29	7 46	8 14	8 35	8 48
	5	8 43	8 43	8 43	8 43	8 43	8 42	8 19	8 52	9 05	9 23
	6	9 26	9 21	9 17	9 11	9 04	8 55	8 51	9 29	9 33	9 56
	7	10 08	9 59	9 50	9 39	9 26	9 08	9 23	10 05	10 02	10 30
	8										
	9	10 51	10 38	10 24	10 09	9 49	9 23	9 57	10 43	10 32	11 06
	10	11 36	11 20	11 02	10 41	10 16	9 41	10 33	11 24	11 06	11 44
	11	12 23	12 04	11 43	11 19	10 48	10 04	11 13	12 07	11 44	12 25
	12	13 13	12 51	12 28	12 01	11 27	10 35	11 57	12 54	12 26	13 10
	13	14 04	13 42	13 18	12 49	12 12	11 18	12 46	13 44	13 15	14 00
	14	14 57	14 35	14 11	13 43	13 07	12 13	13 40	14 37	14 09	14 53
	15	15 49	15 29	15 07	14 41	14 08	13 20	14 36	15 32	15 07	15 49
16	16 40	16 22	16 04	15 42	15 14	14 34	15 34	16 26	16 07	16 46	

The symbol (**) indicates that the phenomenon will occur on the next day

MOONRISE, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONRISE (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.														
Lat. Date	0°		10°		20°		30°		40°		50°		Kolkata		Chennai		Delhi		Mumbai		
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	
Feb.	15	4	16	4	35	4	55	5	19	5	48	6	30	4	37	4	50	5	37	5	33
	16	5	06	5	22	5	38	5	57	6	21	6	54	5	19	5	36	6	16	6	16
	17	5	54	6	05	6	17	6	31	6	49	7	12	5	57	6	18	6	51	6	56
	18	6	40	6	47	6	55	7	03	7	14	7	27	6	33	6	59	7	24	7	34
	19	7	26	7	28	7	31	7	33	7	37	7	41	7	07	7	38	7	54	8	10
	20	8	11	8	09	8	06	8	03	7	59	7	54	7	42	8	17	8	25	8	46
	21	8	59	8	51	8	43	8	34	8	23	8	08	8	17	8	58	8	57	9	24
	22	9	49	9	37	9	23	9	09	8	50	8	25	8	56	9	42	9	32	10	04
	23	10	42	10	25	10	08	9	48	9	22	8	47	9	39	10	29	10	12	10	49
24	11	40	11	20	10	58	10	33	10	02	9	17	10	28	11	23	10	58	11	41	
Mar.	25	12	41	12	18	11	55	11	27	10	51	9	59	11	24	12	20	11	53	12	37
	26	13	44	13	21	12	57	12	28	11	52	10	57	12	25	13	23	12	54	13	40
	27	14	45	14	24	14	02	13	35	13	01	12	11	13	31	14	27	14	01	14	44
	28	15	44	15	26	15	07	14	44	14	16	13	35	14	37	15	30	15	10	15	49
	1	16	38	16	24	16	09	15	52	15	31	15	01	15	41	16	29	16	17	16	51
	2	17	28	17	19	17	09	16	57	16	43	16	24	16	41	17	25	17	21	17	50
	3	18	14	18	09	18	05	17	59	17	53	17	44	17	39	18	17	18	22	18	45
	4	18	58	18	58	18	58	18	59	18	59	19	00	18	34	19	08	19	21	19	39
	5	19	41	19	46	19	51	19	57	20	04	20	14	19	28	19	56	20	18	20	30
	6	20	23	20	33	20	42	20	54	21	08	21	28	20	21	20	45	21	14	21	22
	7	21	07	21	21	21	35	21	52	22	12	22	41	21	15	21	34	22	11	22	13
	8	21	53	22	10	22	28	22	49	23	16	23	55	22	09	22	24	23	08	23	06
	9	22	41	23	01	23	22	23	47	**	**	**	**	23	04	23	16	**	**	24	00
	10	23	31	23	53	**	**	**	**	0	19	1	06	23	58	**	**	0	05	**	**
	11	**	**	**	**	0	16	0	44	1	19	2	12	**	**	0	09	1	02	0	54
	12	0	22	0	45	1	09	1	38	2	14	3	09	0	52	1	01	1	55	1	47
13	1	14	1	37	2	00	2	27	3	03	3	55	1	43	1	53	2	45	2	37	
14	2	06	2	26	2	47	3	13	3	44	4	30	2	29	2	41	3	31	3	25	
15	2	56	3	13	3	32	3	53	4	19	4	56	3	13	3	28	4	11	4	09	
16	3	45	3	58	4	12	4	28	4	48	5	16	3	52	4	11	4	47	4	50	
Apr.	17	4	31	4	40	4	50	5	01	5	15	5	33	4	29	4	52	5	21	5	29
	18	5	18	5	22	5	27	5	32	5	39	5	47	5	04	5	33	5	53	6	06
	19	6	04	6	03	6	03	6	02	6	02	6	01	5	39	6	12	6	24	6	42
	20	6	52	6	46	6	40	6	33	6	25	6	15	6	15	6	54	6	56	7	21
	21	7	42	7	32	7	20	7	08	6	52	6	31	6	53	7	38	7	31	8	01
	22	8	36	8	20	8	04	7	46	7	23	6	51	7	36	8	25	8	10	8	46
	23	9	34	9	14	8	54	8	30	8	01	7	19	8	24	9	18	8	56	9	36
	24	10	35	10	13	9	50	9	23	8	48	7	57	9	19	10	15	9	48	10	32
	25	11	38	11	15	10	50	10	22	9	46	8	51	10	19	11	17	10	48	11	34
	26	12	40	12	18	11	55	11	28	10	53	10	01	11	24	12	20	11	54	12	37
	27	13	39	13	20	12	59	12	35	12	05	11	21	12	29	13	23	13	01	13	42
	28	14	33	14	17	14	01	13	43	13	19	12	45	13	33	14	22	14	07	14	43
	29	15	23	15	12	15	00	14	47	14	30	14	07	14	32	15	18	15	11	15	42
	30	16	09	16	03	15	56	15	49	15	39	15	26	15	30	16	10	16	11	16	37
	31	16	53	16	51	16	49	16	47	16	45	16	42	16	25	17	00	17	10	17	30
	1	17	36	17	39	17	42	17	46	17	50	17	56	17	18	17	49	18	07	18	21
2	18	18	18	25	18	33	18	42	18	54	19	10	18	11	18	37	19	03	19	13	

The symbol (**) indicates that the phenomenon will occur on the next day

MOONSET, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONSET (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.							
Lat. Date	0°	10°	20°	30°	40°	50°	Kolkata	Chennai	Delhi	Mumbai				
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Feb.	15	16 40	16 22	16 04	15 42	15 14	14 34	15 34	16 26	16 07	16 46			
	16	17 29	17 15	17 01	16 43	16 22	15 52	16 32	17 20	17 08	17 42			
	17	18 16	18 07	17 57	17 45	17 31	17 11	17 30	18 13	18 09	18 38			
	18	19 02	18 57	18 52	18 46	18 39	18 29	18 26	19 05	19 09	19 33			
	19	19 48	19 48	19 48	19 48	19 49	19 49	19 24	19 57	20 10	20 28			
	20	20 34	20 39	20 44	20 51	20 59	21 09	20 21	20 50	21 12	21 24			
	21	21 22	21 32	21 43	21 55	22 11	22 32	21 22	21 45	22 15	22 22			
	22	22 14	22 28	22 44	23 02	23 25	23 58	22 24	22 42	23 22	23 23			
	23	23 09	23 28	23 48	** **	** **	** **	23 29	23 43	** **	** **			
	24	** **	** **	** **	0 11	0 41	1 24	** **	** **	0 30	0 26			
	25	0 09	0 30	0 54	1 21	1 55	2 47	0 35	0 46	1 39	1 32			
	26	1 11	1 34	1 58	2 27	3 04	3 58	1 41	1 51	2 45	2 36			
	27	2 13	2 36	2 59	3 27	4 02	4 53	2 41	2 52	3 45	3 37			
	28	3 14	3 34	3 55	4 18	4 49	5 32	3 36	3 49	4 37	4 32			
	Mar. 1	4 10	4 26	4 43	5 02	5 26	5 59	4 23	4 40	5 21	5 21			
	2	5 02	5 14	5 26	5 40	5 57	6 19	5 05	5 27	5 59	6 04			
	3	5 50	5 57	6 04	6 12	6 22	6 35	5 42	6 08	6 32	6 43			
	4	6 35	6 37	6 39	6 42	6 45	6 48	6 16	6 47	7 03	7 19			
	5	7 18	7 16	7 13	7 10	7 06	7 01	6 48	7 24	7 32	7 53			
	6	8 01	7 54	7 47	7 38	7 28	7 14	7 21	8 01	8 01	8 27			
	7	8 44	8 33	8 21	8 07	7 51	7 28	7 54	8 38	8 31	9 02			
	8	9 29	9 14	8 57	8 39	8 16	7 45	8 29	9 18	9 03	9 39			
	9	10 15	9 57	9 37	9 15	8 46	8 05	9 08	10 00	9 40	10 19			
	10	11 04	10 43	10 20	9 55	9 22	8 33	9 51	10 46	10 20	11 03			
	11	11 55	11 33	11 09	10 40	10 04	9 11	10 37	11 35	11 06	11 51			
	12	12 47	12 24	12 00	11 32	10 55	10 00	11 29	12 26	11 58	12 43			
	13	13 39	13 18	12 54	12 27	11 53	11 02	12 24	13 20	12 53	13 37			
	14	14 29	14 11	13 51	13 27	12 56	12 12	13 21	14 14	13 52	14 33			
	15	15 19	15 04	14 47	14 27	14 03	13 29	14 18	15 08	14 52	15 29			
	16	16 07	15 56	15 43	15 29	15 12	14 47	15 16	16 01	15 53	16 24			
	17	16 53	16 46	16 39	16 31	16 20	16 06	16 13	16 54	16 54	17 20			
	18	17 40	17 38	17 36	17 33	17 30	17 26	17 11	17 47	17 56	18 16			
	19	18 26	18 29	18 33	18 36	18 41	18 47	18 09	18 40	18 58	19 13			
	20	19 16	19 24	19 32	19 42	19 55	20 11	19 10	19 36	20 03	20 11			
	21	20 07	20 20	20 34	20 50	21 11	21 39	20 13	20 34	21 10	21 13			
	22	21 03	21 21	21 39	22 01	22 28	23 08	21 20	21 36	22 20	22 17			
	23	22 03	22 23	22 46	23 12	23 45	** **	22 27	22 39	23 30	23 24			
	24	23 05	23 28	23 52	** **	** **	0 34	23 34	23 44	** **	** **			
	25	** **	** **	** **	0 20	0 57	1 51	** **	** **	0 38	0 29			
	26	0 08	0 30	0 54	1 23	1 58	2 51	0 36	0 47	1 40	1 32			
Apr.	27	1 09	1 29	1 51	2 16	2 48	3 34	1 33	1 45	2 34	2 28			
	28	2 05	2 22	2 40	3 01	3 27	4 04	2 21	2 37	3 20	3 18			
	29	2 57	3 10	3 24	3 40	3 59	4 25	3 04	3 24	3 59	4 02			
	30	3 45	3 54	4 03	4 13	4 25	4 42	3 41	4 05	4 33	4 41			
	31	4 30	4 34	4 38	4 43	4 48	4 56	4 15	4 44	5 04	5 17			
	1	5 13	5 13	5 12	5 11	5 10	5 08	4 47	5 22	5 33	5 51			
	2	5 56	5 51	5 45	5 39	5 31	5 21	5 20	5 58	6 01	6 25			

The symbol (**) indicates that the phenomenon will occur on the next day

MOONRISE, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONRISE (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.							
Lat. Date	0°	10°	20°	30°	40°	50°	Kolkata	Chennai	Delhi	Mumbai				
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Apr.	1	17 36	17 39	17 42	17 46	17 50	17 56	17 18	17 49	18 07	18 21			
	2	18 18	18 25	18 33	18 42	18 54	19 10	18 11	18 37	19 03	19 13			
	3	19 01	19 13	19 26	19 40	19 58	20 23	19 05	19 26	20 00	20 04			
	4	19 46	20 02	20 18	20 37	21 02	21 37	19 59	20 16	20 57	20 57			
	5	20 33	20 52	21 12	21 36	22 06	22 49	20 54	21 07	21 54	21 50			
	6	21 23	21 44	22 07	22 33	23 07	23 58	21 49	22 00	22 51	22 44			
	7	22 13	22 36	23 00	23 29	** **	** **	22 42	22 52	23 46	23 38			
	8	23 05	23 28	23 52	** **	0 04	0 59	23 34	23 44	** **	** **			
	9	23 56	** **	** **	0 19	0 55	1 49	** **	** **	0 37	0 29			
	10	** **	0 17	0 40	1 06	1 39	2 27	0 22	0 33	1 24	1 18			
	11	0 46	1 05	1 25	1 48	2 16	2 57	1 06	1 20	2 06	2 02			
	12	1 35	1 50	2 06	2 24	2 47	3 19	1 46	2 04	2 43	2 44			
	13	2 21	2 32	2 44	2 58	3 14	3 37	2 23	2 45	3 17	3 23			
	14	3 07	3 14	3 21	3 29	3 39	3 52	2 59	3 25	3 49	4 00			
	15	3 53	3 55	3 57	3 59	4 02	4 05	3 34	4 05	4 20	4 36			
	16	4 40	4 37	4 33	4 30	4 25	4 19	4 09	4 45	4 52	5 14			
	17	5 30	5 22	5 13	5 03	4 51	4 35	4 46	5 28	5 26	5 53			
	18	6 23	6 09	5 56	5 40	5 21	4 54	5 28	6 15	6 04	6 37			
	19	7 21	7 03	6 44	6 23	5 56	5 19	6 15	7 07	6 48	7 27			
	20	8 22	8 02	7 40	7 14	6 41	5 54	7 09	8 04	7 40	8 22			
	21	9 28	9 05	8 41	8 12	7 37	6 43	8 10	9 07	8 39	9 24			
	22	10 32	10 10	9 46	9 19	8 43	7 50	9 15	10 12	9 45	10 29			
	23	11 34	11 14	10 52	10 27	9 56	9 09	10 22	11 17	10 53	11 35			
	24	12 29	12 13	11 56	11 36	11 10	10 33	11 27	12 17	12 00	12 04			
	25	13 21	13 09	12 56	12 41	12 22	11 56	12 28	13 14	13 05	13 37			
	26	14 07	14 00	13 52	13 43	13 31	13 15	13 26	14 07	14 06	14 33			
	27	14 51	14 48	14 45	14 41	14 37	14 31	14 20	14 57	15 04	15 26			
	28	15 34	15 35	15 37	15 39	15 41	15 44	15 13	15 45	16 00	16 16			
	29	16 15	16 21	16 28	16 35	16 44	16 57	16 05	16 32	16 56	17 07			
	30	16 58	17 08	17 19	17 32	17 47	18 09	16 58	17 21	17 52	17 58			
May	1	17 42	17 56	18 11	18 29	18 51	19 22	17 51	18 10	18 48	18 50			
	2	18 28	18 46	19 05	19 27	19 55	20 34	18 46	19 01	19 46	19 43			
	3	19 17	19 37	19 59	20 24	20 57	21 45	19 41	19 53	20 42	20 36			
	4	20 07	20 29	20 53	21 21	21 56	22 49	20 35	20 45	21 38	21 31			
	5	20 59	21 21	21 45	22 13	22 49	23 43	21 28	21 38	22 31	22 22			
	6	21 50	22 11	22 34	23 01	23 35	** **	22 16	22 27	23 19	23 12			
	7	22 39	22 59	23 20	23 44	** **	0 25	23 01	23 15	** **	23 57			
	8	23 28	23 44	** **	** **	0 14	0 57	23 42	23 59	0 02	** **			
	9	** **	** **	0 01	0 21	0 46	1 22	** **	** **	0 40	0 39			
	10	0 14	0 26	0 40	0 55	1 14	1 41	0 19	0 40	1 15	1 18			
	11	0 59	1 07	1 16	1 27	1 39	1 56	0 55	1 19	1 47	1 55			
	12	1 43	1 47	1 52	1 56	2 02	2 10	1 29	1 58	2 17	2 30			
	13	2 28	2 27	2 27	2 26	2 25	2 23	2 03	2 36	2 48	3 07			
	14	3 16	3 10	3 04	2 57	2 49	2 38	2 38	3 18	3 20	3 45			
	15	4 06	3 56	3 45	3 32	3 16	2 55	3 18	4 02	3 56	4 25			
	16	5 02	4 47	4 30	4 12	3 49	3 17	4 02	4 51	4 36	5 12			
	17	6 03	5 44	5 23	4 59	4 29	3 47	4 53	5 47	5 25	6 05			

The symbol (**) indicates that the phenomenon will occur on the next day

MOONSET, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONSET (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.				
Lat. Date	0°	10°	20°	30°	40°	50°	Kolkata	Chennai	Delhi	Mumbai	
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	
Apr.	1	5 13	5 13	5 12	5 11	5 10	5 08	4 47	5 22	5 33	5 51
	2	5 56	5 51	5 45	5 39	5 31	5 21	5 20	5 58	6 01	6 25
	3	6 38	6 29	6 19	6 07	5 53	5 34	5 52	6 35	6 30	6 59
	4	7 23	7 09	6 54	6 38	6 17	5 50	6 26	7 14	7 02	7 36
	5	8 08	7 51	7 33	7 12	6 46	6 09	7 04	7 55	7 37	8 14
	6	8 57	8 36	8 15	7 51	7 19	6 34	7 45	8 39	8 16	8 57
	7	9 47	9 25	9 01	8 34	7 59	7 08	8 30	9 27	9 00	9 44
	8	10 38	10 15	9 51	9 23	8 46	7 52	9 21	10 17	9 49	10 34
	9	11 30	11 08	10 44	10 16	9 41	8 48	10 13	11 10	10 42	11 27
	10	12 20	12 00	11 39	11 14	10 42	9 55	11 09	12 03	11 40	12 21
	11	13 10	12 52	12 34	12 13	11 46	11 07	12 05	12 56	12 38	13 16
	12	13 57	13 44	13 30	13 13	12 52	12 23	13 01	13 49	13 38	14 11
	13	14 43	14 34	14 24	14 13	14 00	13 41	13 58	14 40	14 37	15 06
	14	15 29	15 25	15 20	15 15	15 08	14 59	14 54	15 33	15 38	16 00
	15	16 15	16 16	16 16	16 17	16 18	16 19	15 52	16 25	16 39	16 56
	16	17 03	17 09	17 15	17 22	17 31	17 43	16 52	17 20	17 43	17 55
	17	17 55	18 05	18 17	18 30	18 46	19 10	17 56	18 18	18 50	18 56
	18	18 50	19 05	19 22	19 42	20 06	20 40	19 02	19 20	20 01	20 01
	19	19 50	20 09	20 30	20 55	21 26	22 11	20 12	20 25	21 14	21 09
	20	20 54	21 16	21 40	22 07	22 42	23 35	21 22	21 32	22 25	22 17
	21	21 59	22 21	22 46	23 14	23 50	** **	22 28	22 38	23 32	23 24
	22	23 02	23 23	23 46	** **	** **	0 43	23 28	23 39	** **	** **
	23	** **	** **	** **	0 12	0 45	1 33	** **	** **	0 30	0 23
	24	0 01	0 19	0 38	1 00	1 28	2 07	0 19	0 34	1 19	1 16
	25	0 54	1 09	1 24	1 41	2 02	2 31	1 04	1 23	2 00	2 02
	26	1 44	1 53	2 04	2 15	2 29	2 49	1 43	2 05	2 35	2 42
	27	2 28	2 34	2 39	2 46	2 53	3 04	2 17	2 45	3 06	3 19
	28	3 12	3 12	3 13	3 14	3 15	3 16	2 49	3 22	3 36	3 53
	29	3 54	3 50	3 46	3 42	3 36	3 29	3 21	3 58	4 04	4 26
	30	4 35	4 27	4 19	4 09	3 58	3 42	3 53	4 34	4 32	4 59
May	1	5 19	5 07	4 54	4 39	4 21	3 56	4 26	5 12	5 03	5 35
	2	6 04	5 48	5 31	5 12	4 48	4 14	5 03	5 52	5 36	6 12
	3	6 51	6 32	6 12	5 49	5 19	4 37	5 42	6 35	6 13	6 54
	4	7 41	7 20	6 57	6 30	5 57	5 08	6 26	7 22	6 56	7 39
	5	8 31	8 09	7 45	7 18	6 41	5 48	7 15	8 11	7 43	8 28
	6	9 23	9 01	8 37	8 09	7 34	6 40	8 06	9 03	8 35	9 20
	7	10 13	9 53	9 31	9 05	8 32	7 43	9 00	9 56	9 31	10 13
	8	11 03	10 44	10 25	10 03	9 34	8 52	9 56	10 48	10 28	11 07
	9	11 50	11 35	11 20	11 01	10 38	10 05	10 51	11 40	11 26	12 01
	10	12 35	12 24	12 13	12 00	11 44	11 20	11 46	12 30	12 23	12 54
	11	13 20	13 14	13 07	12 59	12 49	12 36	12 40	13 21	13 22	13 48
	12	14 04	14 03	14 01	13 59	13 56	13 53	13 37	14 11	14 21	14 41
	13	14 51	14 54	14 57	15 01	15 06	15 13	14 34	15 04	15 23	15 37
	14	15 40	15 48	15 57	16 07	16 19	16 36	15 35	16 00	16 27	16 36
	15	16 32	16 46	17 00	17 16	17 37	18 05	16 39	16 59	17 36	17 39
	16	17 31	17 49	18 07	18 29	18 57	19 38	17 48	18 03	18 48	18 46
	17	18 34	18 55	19 18	19 44	20 18	21 07	19 00	19 12	20 02	19 56

The symbol (**) indicates that the phenomenon will occur on the next day

MOONRISE, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONRISE (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.								FOR CERTAIN STATIONS IN INDIA IN I.S.T.					
Lat. Date	0°	10°	20°	30°	40°	50°		Kolkata	Chennai	Delhi	Mumbai		
	h m	h m	h m	h m	h m	h m		h m	h m	h m	h m	h m	h m
May 17	6 03	5 44	5 23	4 59	4 29	3 47		4 53	5 47	5 25	6 05		
18	7 09	6 47	6 23	5 56	5 22	4 30		5 53	6 49	6 22	7 06		
19	8 16	7 54	7 30	7 01	6 25	5 32		6 58	7 56	7 28	8 12		
20	9 21	9 00	8 38	8 12	7 39	6 49		8 07	9 03	8 38	9 21		
21	10 21	10 04	9 45	9 23	8 55	8 15		9 16	10 08	9 49	10 27		
22	11 16	11 03	10 48	10 31	10 11	9 42		10 20	11 08	10 56	11 30		
23	12 05	11 56	11 47	11 36	11 23	11 04		11 20	12 03	12 00	12 28		
24	12 50	12 46	12 42	12 36	12 30	12 21		12 16	12 54	12 59	13 22		
25	13 34	13 34	13 34	13 35	13 35	13 36		13 10	13 43	13 56	14 14		
26	14 15	14 20	14 25	14 30	14 38	14 47		14 02	14 30	14 52	15 04		
27	14 57	15 06	15 16	15 27	15 41	15 59		14 54	15 18	15 47	15 55		
28	15 40	15 53	16 07	16 23	16 43	17 11		15 47	16 06	16 42	16 45		
29	16 25	16 42	17 00	17 20	17 47	18 23		16 40	16 56	17 39	17 38		
30	17 13	17 33	17 54	18 18	18 49	19 35		17 35	17 48	18 36	18 31		
31	18 03	18 24	18 47	19 14	19 49	20 40		18 29	18 40	19 32	19 25		
June 1	18 54	19 16	19 40	20 08	20 44	21 38		19 23	19 33	20 26	20 17		
2	19 45	20 07	20 30	20 57	21 32	22 23		20 12	20 23	21 15	21 08		
3	20 35	20 56	21 17	21 42	22 13	22 58		20 59	21 11	22 00	21 55		
4	21 24	21 41	22 00	22 21	22 47	23 25		21 41	21 56	22 39	22 37		
5	22 10	22 24	22 39	22 55	23 16	23 45		22 19	22 37	23 02	23 02		
6	22 55	23 05	23 15	23 27	23 42	** **		22 54	23 17	23 47	23 53		
7	23 38	23 44	23 50	23 56	** **	0 01		23 27	23 55	** **	** **		
8	** **	** **	** **	** **	0 04	0 15		24 00	** **	0 17	0 28		
9	0 21	0 22	0 23	0 25	0 26	0 28		** **	0 32	0 46	1 03		
10	1 06	1 03	0 59	0 54	0 49	0 42		0 33	1 11	1 17	1 39		
11	1 54	1 45	1 37	1 27	1 14	0 57		1 10	1 52	1 50	2 17		
12	2 45	2 32	2 18	2 03	1 43	1 16		1 51	2 37	2 26	3 00		
13	3 43	3 26	3 07	2 45	2 19	1 42		2 37	3 29	3 10	3 49		
14	4 46	4 25	4 03	3 37	3 05	2 17		3 33	4 28	4 03	4 45		
15	5 53	5 31	5 07	4 38	4 03	3 10		4 35	5 33	5 05	5 50		
16	7 01	6 39	6 15	5 49	5 14	4 21		5 45	6 41	6 14	6 59		
17	8 05	7 46	7 26	7 02	6 31	5 47		6 55	7 50	7 28	8 08		
18	9 04	8 49	8 33	8 14	7 51	7 17		8 04	8 54	8 39	9 15		
19	9 58	9 47	9 36	9 23	9 06	8 44		9 08	9 53	9 47	10 17		
20	10 46	10 40	10 33	10 26	10 18	10 06		10 08	10 47	10 49	11 15		
21	11 31	11 30	11 28	11 27	11 25	11 23		11 04	11 39	11 49	12 08		
22	12 13	12 16	12 20	12 24	12 30	12 37		11 57	12 27	12 46	13 00		
23	12 56	13 03	13 12	13 21	13 33	13 50		12 50	13 15	13 42	13 51		
24	13 39	13 51	14 03	14 18	14 36	15 02		13 43	14 03	14 37	14 42		
25	14 23	14 38	14 55	15 15	15 39	16 14		14 35	14 53	15 34	15 34		
26	15 10	15 29	15 49	16 12	16 42	17 25		15 30	15 44	16 30	16 26		
27	15 59	16 20	16 42	17 09	17 43	18 32		16 24	16 36	17 27	17 20		
28	16 50	17 12	17 36	18 04	18 39	19 33		17 18	17 28	18 21	18 13		
29	17 41	18 03	18 27	18 54	19 30	20 22		18 09	18 19	19 12	19 04		
30	18 32	18 53	19 15	19 41	20 13	21 00		18 57	19 09	19 58	19 52		
July 1	19 21	19 40	19 59	20 21	20 49	21 29		19 40	19 55	20 39	20 36		
2	20 08	20 23	20 39	20 57	21 20	21 51		20 19	20 37	21 16	21 17		

The symbol (**) indicates that the phenomenon will occur on the next day

MOONSET, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONSET (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.							
Lat.	0°	10°	20°	30°	40°	50°	Kolkata	Chennai	Delhi	Mumbai				
Date	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
May	17	18 34	18 55	19 18	19 44	20 18	21 07	19 00	19 12	20 02	19 56			
	18	19 41	20 04	20 28	20 56	21 32	22 25	20 10	20 20	21 14	21 06			
	19	20 48	21 10	21 33	22 00	22 34	23 25	21 15	21 26	22 18	22 11			
	20	21 51	22 10	22 30	22 54	23 24	** **	22 12	22 25	23 13	23 09			
	21	22 48	23 04	23 20	23 39	** **	0 06	23 00	23 18	23 58	23 58			
	22	23 40	23 51	** **	** **	0 02	0 34	23 42	** **	** **	** **			
	23	** **	** **	0 03	0 16	0 32	0 54	** **	0 04	0 36	0 41			
	24	0 27	0 33	0 40	0 48	0 58	1 10	0 18	0 45	1 09	1 20			
	25	1 11	1 13	1 15	1 18	1 20	1 24	0 52	1 23	1 39	1 54			
	26	1 53	1 51	1 48	1 45	1 42	1 37	1 24	1 59	2 07	2 28			
June	27	2 35	2 28	2 21	2 12	2 03	1 49	1 55	2 35	2 35	3 01			
	28	3 17	3 06	2 55	2 41	2 25	2 03	2 27	3 12	3 05	3 36			
	29	4 01	3 47	3 31	3 13	2 51	2 20	3 03	3 51	3 38	4 12			
	30	4 48	4 29	4 10	3 49	3 21	2 41	3 41	4 33	4 13	4 52			
	31	5 37	5 16	4 54	4 28	3 56	3 09	4 23	5 19	4 54	5 36			
	1	6 27	6 05	5 42	5 14	4 38	3 47	5 11	6 07	5 40	6 24			
	2	7 19	6 56	6 32	6 04	5 29	4 35	6 01	6 58	6 30	7 15			
	3	8 09	7 48	7 26	6 59	6 25	5 35	6 55	7 51	7 25	8 08			
	4	8 59	8 40	8 19	7 56	7 26	6 42	7 50	8 43	8 21	9 02			
	5	9 46	9 31	9 14	8 54	8 29	7 54	8 44	9 35	9 19	9 55			
	6	10 31	10 19	10 07	9 52	9 33	9 07	9 39	10 25	10 16	10 48			
	7	11 15	11 08	10 59	10 49	10 37	10 21	10 32	11 14	11 13	11 40			
	8	11 59	11 55	11 52	11 47	11 42	11 35	11 26	12 03	12 10	12 32			
	9	12 42	12 44	12 45	12 46	12 48	12 51	12 21	12 53	13 08	13 25			
	10	13 29	13 35	13 41	13 49	13 58	14 10	13 19	13 46	14 09	14 20			
	11	14 18	14 29	14 40	14 54	15 11	15 34	14 19	14 41	15 14	15 20			
	12	15 13	15 28	15 45	16 04	16 28	17 03	15 25	15 42	16 23	16 23			
	13	16 12	16 32	16 53	17 18	17 49	18 33	16 34	16 48	17 36	17 32			
	14	17 18	17 40	18 04	18 31	19 06	19 59	17 46	17 56	18 49	18 41			
	15	18 26	18 48	19 12	19 40	20 16	21 08	18 54	19 05	19 58	19 50			
	16	19 33	19 53	20 15	20 40	21 13	21 59	19 57	20 09	20 59	20 53			
	17	20 34	20 52	21 10	21 31	21 57	22 33	20 51	21 06	21 50	21 48			
	18	21 31	21 44	21 57	22 12	22 31	22 57	21 37	21 57	22 32	22 35			
	19	22 21	22 29	22 38	22 47	22 59	23 15	22 16	22 41	23 08	23 17			
	20	23 07	23 11	23 15	23 19	23 24	23 30	22 51	23 21	23 40	23 54			
	21	23 51	23 50	23 49	23 47	23 46	23 43	23 25	23 59	** **	** **			
	22	** **	** **	** **	** **	** **	23 56	23 56	** **	0 09	0 28			
	23	0 33	0 28	0 22	0 15	0 07	** **	** **	0 35	0 37	1 02			
	24	1 16	1 06	0 56	0 44	0 29	0 10	0 29	1 12	1 07	1 37			
	25	1 59	1 46	1 31	1 15	0 54	0 26	1 03	1 51	1 39	2 12			
July	26	2 45	2 28	2 09	1 49	1 23	0 45	1 41	2 31	2 13	2 51			
	27	3 33	3 13	2 52	2 27	1 56	1 11	2 22	3 16	2 52	3 34			
	28	4 23	4 01	3 38	3 11	2 36	1 46	3 07	4 04	3 37	4 20			
	29	5 14	4 52	4 28	4 00	3 24	2 30	3 57	4 54	4 26	5 11			
	30	6 05	5 44	5 21	4 54	4 19	3 28	4 50	5 47	5 20	6 03			
	1	6 56	6 36	6 15	5 51	5 19	4 33	5 45	6 39	6 16	6 57			
	2	7 44	7 27	7 09	6 48	6 22	5 45	6 40	7 31	7 14	7 51			

The symbol (**) indicates that the phenomenon will occur on the next day

MOONRISE, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONRISE (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.										FOR CERTAIN STATIONS IN INDIA IN I.S.T.							
Date	Lat.	0°		10°		20°		30°		40°		50°		Kolkata	Chennai	Delhi	Mumbai
		h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m
July	1	19	21	19	40	19	59	20	21	20	49	21	29	19	40	19	55
	2	20	08	20	23	20	39	20	57	21	20	21	51	20	19	20	37
	3	20	53	21	04	21	16	21	29	21	46	22	08	20	55	21	17
	4	21	37	21	44	21	51	21	59	22	09	22	22	21	29	21	55
	5	22	19	22	21	22	24	22	27	22	30	22	35	22	01	22	31
	6	23	02	23	00	22	58	22	55	22	52	22	48	22	33	23	09
	7	23	47	23	41	23	34	23	26	23	16	23	02	23	08	23	48
	8	**	**	**	**	**	**	23	59	23	42	23	19	23	45	**	**
	9	0	35	0	24	0	12	**	**	**	**	23	41	**	**	0	30
	10	1	29	1	13	0	56	0	37	0	13	**	**	0	27	1	17
	11	2	27	2	08	1	47	1	23	0	53	0	10	1	17	2	11
	12	3	32	3	09	2	46	2	18	1	44	0	53	2	15	3	12
	13	4	38	4	16	3	52	3	24	2	48	1	54	3	21	4	18
	14	5	45	5	24	5	02	4	35	4	02	3	14	4	31	5	27
	15	6	47	6	29	6	11	5	50	5	23	4	43	5	42	6	33
	16	7	44	7	31	7	17	7	02	6	42	6	14	6	49	7	37
	17	8	35	8	27	8	19	8	09	7	57	7	41	7	52	8	34
	18	9	23	9	20	9	17	9	13	9	08	9	02	8	51	9	28
	19	10	08	10	09	10	11	10	13	10	16	10	19	9	48	10	19
	20	10	51	10	58	11	04	11	12	11	22	11	35	10	42	11	09
Aug.	21	11	35	11	46	11	57	12	09	12	26	12	48	11	36	11	58
	22	12	19	12	34	12	49	13	07	13	30	14	02	12	29	12	48
	23	13	06	13	24	13	43	14	05	14	33	15	14	13	24	13	39
	24	13	54	14	14	14	36	15	02	15	35	16	23	14	18	14	30
	25	14	44	15	07	15	31	15	58	16	33	17	27	15	13	15	23
	26	15	36	15	58	16	22	16	50	17	26	18	19	16	05	16	15
	27	16	27	16	49	17	12	17	38	18	12	19	01	16	54	17	05
	28	17	18	17	37	17	57	18	20	18	50	19	33	17	39	17	52
	29	18	05	18	21	18	38	18	58	19	23	19	57	18	19	18	36
	30	18	51	19	04	19	17	19	32	19	50	20	15	18	56	19	17
	31	19	36	19	44	19	52	20	02	20	14	20	30	19	31	19	56
	1	20	18	20	22	20	26	20	31	20	36	20	43	20	03	20	32
	2	21	02	21	01	21	00	20	59	20	58	20	56	20	36	21	10
	3	21	46	21	40	21	35	21	28	21	20	21	10	21	09	21	48
	4	22	32	22	22	22	11	22	00	21	45	21	25	21	45	22	28
	5	23	22	23	08	22	52	22	35	22	13	21	44	22	24	23	13
	6	**	**	23	59	23	39	23	17	22	49	22	09	23	10	**	**
	7	0	17	**	**	**	**	**	**	23	34	22	45	**	**	0	02
	8	1	17	0	56	0	33	0	07	**	**	23	37	0	02	0	58
	9	2	21	1	58	1	34	1	06	0	30	**	**	1	03	2	01
	10	3	26	3	04	2	41	2	13	1	39	0	47	2	10	3	07
	11	4	29	4	10	3	50	3	26	2	55	2	11	3	19	4	13
	12	5	28	5	13	4	57	4	38	4	14	3	41	4	28	5	18
	13	6	22	6	12	6	01	5	48	5	32	5	10	5	33	6	18
	14	7	12	7	07	7	01	6	54	6	46	6	34	6	35	7	14
	15	7	59	7	58	7	58	7	57	7	56	7	56	7	33	8	07
	16	8	43	8	48	8	52	8	58	9	04	9	13	8	29	8	58

The symbol (**) indicates that the phenomenon will occur on the next day

MOONSET, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONSET (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.				
Lat. Date	0°	10°	20°	30°	40°	50°	Kolkata	Chennai	Delhi	Mumbai	
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	
July	1	6 56	6 36	6 15	5 51	5 19	4 33	5 45	6 39	6 16	6 57
	2	7 44	7 27	7 09	6 48	6 22	5 45	6 40	7 31	7 14	7 51
	3	8 30	8 17	8 03	7 47	7 26	6 58	7 35	8 22	8 11	8 44
	4	9 14	9 05	8 55	8 44	8 30	8 11	8 28	9 11	9 08	9 36
	5	9 57	9 52	9 47	9 41	9 34	9 24	9 22	10 00	10 04	10 27
	6	10 39	10 39	10 39	10 39	10 38	10 38	10 15	10 48	11 01	11 19
	7	11 24	11 28	11 33	11 38	11 45	11 54	11 10	11 39	11 59	12 12
	8	12 10	12 19	12 29	12 40	12 54	13 13	12 07	12 31	13 00	13 08
	9	13 00	13 14	13 29	13 46	14 07	14 37	13 09	13 28	14 05	14 07
	10	13 56	14 14	14 33	14 56	15 24	16 05	14 14	14 29	15 15	15 12
	11	14 58	15 19	15 42	16 07	16 41	17 31	15 23	15 35	16 26	16 19
	12	16 03	16 26	16 50	17 18	17 54	18 47	16 32	16 42	17 36	17 28
	13	17 11	17 32	17 56	18 22	18 57	19 47	17 38	17 49	18 40	18 33
	14	18 15	18 34	18 54	19 18	19 47	20 28	18 36	18 49	19 36	19 33
	15	19 15	19 30	19 46	20 04	20 26	20 57	19 26	19 44	20 23	20 24
	16	20 09	20 19	20 30	20 43	20 58	21 18	20 09	20 32	21 03	21 09
	17	20 59	21 04	21 10	21 16	21 24	21 35	20 47	21 15	21 37	21 49
	18	21 45	21 45	21 46	21 47	21 48	21 49	21 22	21 55	22 08	22 25
	19	22 28	22 24	22 20	22 15	22 10	22 02	21 55	22 32	22 38	23 00
	20	23 12	23 04	22 55	22 44	22 32	22 15	22 28	23 10	23 08	23 35
	21	23 56	23 44	23 30	23 15	22 56	22 31	23 03	23 49	23 39	** **
	22	** **	** **	** **	23 48	23 24	22 49	23 39	** **	** **	0 11
	23	0 41	0 25	0 08	** **	23 56	23 13	** **	0 29	0 12	0 49
	24	1 29	1 09	0 49	0 25	** **	23 44	0 19	1 13	0 50	1 31
	25	2 18	1 57	1 34	1 07	0 33	** **	1 03	1 59	1 33	2 16
	26	3 09	2 47	2 22	1 55	1 19	0 25	1 52	2 49	2 20	3 05
	27	4 01	3 39	3 15	2 47	2 12	1 19	2 44	3 41	3 13	3 58
	28	4 51	4 31	4 09	3 44	3 11	2 22	3 39	4 34	4 09	4 51
	29	5 41	5 23	5 04	4 41	4 13	3 33	4 34	5 27	5 07	5 46
	30	6 27	6 13	5 58	5 40	5 18	4 46	5 30	6 18	6 05	6 39
Aug.	31	7 13	7 02	6 51	6 38	6 22	6 00	6 24	7 08	7 02	7 33
	1	7 56	7 50	7 44	7 36	7 27	7 15	7 18	7 57	7 59	8 24
	2	8 39	8 37	8 36	8 34	8 31	8 28	8 11	8 46	8 56	9 16
	3	9 22	9 26	9 29	9 33	9 37	9 44	9 05	9 36	9 54	10 08
	4	10 07	10 15	10 23	10 33	10 45	11 01	10 01	10 27	10 53	11 03
	5	10 55	11 08	11 21	11 36	11 55	12 22	11 00	11 21	11 56	12 00
	6	11 48	12 04	12 22	12 43	13 09	13 46	12 03	12 19	13 02	13 01
	7	12 45	13 05	13 27	13 52	14 24	15 11	13 08	13 21	14 10	14 05
	8	13 48	14 09	14 33	15 01	15 37	16 29	14 15	14 26	15 19	15 11
	9	14 52	15 15	15 39	16 06	16 42	17 35	15 21	15 31	16 24	16 16
	10	15 57	16 17	16 39	17 05	17 37	18 22	16 21	16 33	17 23	17 17
	11	16 58	17 15	17 33	17 54	18 20	18 56	17 14	17 30	18 13	18 11
	12	17 55	18 07	18 20	18 36	18 55	19 20	18 00	18 20	18 55	18 59
	13	18 46	18 54	19 03	19 12	19 23	19 39	18 41	19 06	19 32	19 42
	14	19 35	19 38	19 41	19 44	19 48	19 54	19 18	19 48	20 05	20 20
	15	20 20	20 18	20 16	20 14	20 11	20 07	19 52	20 27	20 36	20 56
16	21 05	20 58	20 51	20 43	20 34	20 21	20 25	21 05	21 06	21 32	

The symbol (**) indicates that the phenomenon will occur on the next day

MOONRISE, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONRISE (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.						
Lat. Date	0°	10°	20°	30°	40°	50°	Kolkata	Chennai	Delhi	Mumbai			
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Aug. 16	8 43	8 48	8 52	8 58	9 04	9 13	8 29	8 58	9 19	9 32			
17	9 28	9 37	9 46	9 57	10 10	10 29	9 25	9 49	10 17	10 25			
18	10 13	10 26	10 40	10 56	11 16	11 45	10 19	10 39	11 16	11 19			
19	10 59	11 16	11 34	11 55	12 21	12 58	11 15	11 31	12 13	12 12			
20	11 48	12 07	12 28	12 53	13 24	14 10	12 10	12 23	13 11	13 06			
21	12 37	12 59	13 23	13 50	14 24	15 17	13 05	13 16	14 07	14 00			
22	13 29	13 51	14 15	14 43	15 20	16 13	13 58	14 08	15 01	14 53			
23	14 20	14 42	15 06	15 33	16 08	16 59	14 48	14 59	15 51	15 43			
24	15 11	15 31	15 53	16 17	16 49	17 35	15 35	15 47	16 35	16 30			
25	16 00	16 17	16 36	16 57	17 24	18 01	16 17	16 32	17 16	17 14			
26	16 47	17 01	17 15	17 32	17 53	18 21	16 55	17 14	17 51	17 54			
27	17 32	17 42	17 52	18 04	18 18	18 37	17 31	17 54	18 23	18 30			
28	18 16	18 21	18 27	18 33	18 41	18 51	18 04	18 32	18 54	19 06			
29	19 00	19 00	19 01	19 02	19 03	19 05	18 37	19 10	19 24	19 41			
30	19 44	19 40	19 36	19 31	19 26	19 18	19 11	19 48	19 54	20 16			
31	20 30	20 21	20 12	20 02	19 50	19 33	19 46	20 28	20 25	20 53			
Sept. 1	21 20	21 06	20 52	20 36	20 17	19 50	20 24	21 12	21 00	21 34			
2	22 13	21 56	21 37	21 16	20 50	20 13	21 08	21 59	21 41	22 19			
3	23 11	22 50	22 28	22 03	21 31	20 45	21 58	22 53	22 28	23 11			
4	** **	23 50	23 26	22 58	22 22	21 30	22 54	23 52	23 24	** **			
5	0 12	** **	** **	** **	23 25	22 32	23 58	** **	** **	0 08			
6	1 15	0 52	0 28	0 01	** **	23 49	** **	0 55	0 27	1 12			
7	2 17	1 57	1 35	1 09	0 37	** **	1 04	1 59	1 35	2 17			
8	3 16	2 59	2 41	2 19	1 53	1 15	2 11	3 03	2 45	3 23			
9	4 10	3 58	3 45	3 29	3 10	2 42	3 17	4 03	3 54	4 26			
10	5 01	4 53	4 45	4 36	4 24	4 08	4 18	5 00	4 59	5 27			
11	5 49	5 46	5 43	5 40	5 36	5 30	5 18	5 55	6 02	6 23			
12	6 34	6 36	6 39	6 41	6 44	6 49	6 15	6 46	7 03	7 19			
13	7 20	7 26	7 34	7 42	7 52	8 06	7 11	7 38	8 02	8 13			
14	8 05	8 16	8 28	8 41	8 59	9 23	8 07	8 28	9 02	9 07			
15	8 51	9 06	9 23	9 42	10 05	10 38	9 03	9 21	10 00	10 01			
16	9 40	9 58	10 17	10 40	11 10	11 56	9 59	10 13	10 06	10 06			
17	10 29	10 50	11 13	11 39	12 12	13 02	10 54	11 06	11 57	11 50			
18	11 20	11 43	12 06	12 34	13 10	14 03	11 49	11 59	12 52	12 44			
19	12 12	12 34	12 58	13 26	14 01	14 54	12 40	12 50	13 44	13 36			
20	13 03	13 24	13 46	14 12	14 45	15 33	13 28	13 40	14 30	14 23			
21	13 52	14 11	14 30	14 53	15 22	16 02	14 12	14 26	15 12	15 08			
22	14 39	14 55	15 11	15 30	15 53	16 25	14 52	15 09	15 49	15 49			
23	15 26	15 37	15 49	16 03	16 19	16 43	15 28	15 50	16 22	16 27			
24	16 10	16 17	16 24	16 33	16 44	16 58	16 03	16 28	16 53	17 03			
25	16 54	16 56	16 59	17 02	17 06	17 12	16 36	17 07	17 24	17 39			
26	17 39	17 37	17 34	17 32	17 29	17 25	17 10	17 45	17 54	18 14			
27	18 25	18 18	18 11	18 03	17 53	17 40	17 45	18 25	18 25	18 51			
28	19 14	19 03	18 50	18 36	18 19	17 57	18 23	19 08	19 00	19 32			
29	20 07	19 52	19 35	19 15	18 51	18 18	19 06	19 56	19 40	20 16			
30	21 05	20 45	20 24	20 00	19 31	18 47	19 55	20 48	20 26	21 07			
Oct. 1	22 06	21 44	21 21	20 53	20 19	19 29	20 50	21 47	21 20	22 03			

The symbol (**) indicates that the phenomenon will occur on the next day

MOONSET, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONSET (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.							
Lat. Date	0°	10°	20°	30°	40°	50°	Kolkata	Chennai	Delhi	Mumbai				
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Aug. 16	21 05	20 58	20 51	20 43	20 34	20 21	20 25	21 05	21 06	21 32				
17	21 49	21 39	21 27	21 14	20 58	20 36	21 00	21 44	21 38	22 08				
18	22 35	22 20	22 04	21 47	21 24	20 53	21 36	22 24	22 10	22 46				
19	23 22	23 04	22 44	22 22	21 54	21 15	22 15	23 07	22 47	23 27				
20	** **	23 51	23 29	23 03	22 30	21 43	22 58	23 53	23 28	** **				
21	0 11	** **	** **	23 49	23 13	22 20	23 45	** **	** **	0 10				
22	1 02	0 40	0 16	** **	** **	23 09	** **	0 42	0 14	0 59				
23	1 54	1 31	1 07	0 39	0 03	** **	0 36	1 34	1 05	1 50				
24	2 45	2 23	2 01	1 34	1 00	0 09	1 30	2 26	2 00	2 43				
25	3 35	3 16	2 55	2 32	2 02	1 18	2 25	3 19	2 57	3 38				
26	4 22	4 07	3 50	3 31	3 06	2 31	3 21	4 11	3 55	4 32				
27	5 09	4 57	4 44	4 29	4 11	3 46	4 16	5 02	4 53	5 26				
28	5 53	5 46	5 38	5 28	5 17	5 00	5 11	5 53	5 52	6 18				
29	6 37	6 33	6 30	6 26	6 22	6 15	6 05	6 42	6 49	7 11				
30	7 21	7 22	7 24	7 26	7 28	7 32	7 00	7 32	7 48	8 04				
31	8 06	8 12	8 19	8 26	8 36	8 49	7 56	8 23	8 47	8 58				
Sept. 1	8 53	9 04	9 16	9 30	9 47	10 10	8 55	9 17	9 50	9 55				
2	9 45	10 00	10 16	10 35	10 59	11 34	9 56	10 14	10 54	10 55				
3	10 40	10 59	11 20	11 44	12 13	12 58	11 01	11 15	12 02	11 58				
4	11 40	12 01	12 24	12 51	13 27	14 18	12 06	12 17	13 10	13 02				
5	12 42	13 05	13 29	13 57	14 33	15 27	13 11	13 21	14 14	14 06				
6	13 45	14 06	14 29	14 56	15 30	16 18	14 11	14 22	15 14	15 07				
7	14 45	15 04	15 24	15 47	16 15	16 56	15 05	15 20	16 05	16 02				
8	15 43	15 57	16 13	16 30	16 52	17 23	15 53	16 11	16 50	16 51				
9	16 35	16 45	16 56	17 08	17 23	17 43	16 35	16 58	17 28	17 35				
10	17 24	17 30	17 35	17 41	17 49	17 59	17 13	17 41	18 02	18 14				
11	18 11	18 11	18 11	18 12	18 12	18 13	17 48	18 20	18 33	18 51				
12	18 56	18 52	18 47	18 42	18 35	18 27	18 22	18 59	19 04	19 27				
13	19 41	19 32	19 23	19 12	18 59	18 41	18 56	19 39	19 35	20 03				
14	20 26	20 13	20 00	19 44	19 25	18 57	19 32	20 18	20 08	20 41				
15	21 14	20 57	20 39	20 19	19 53	19 17	20 10	21 01	20 43	21 21				
16	22 03	21 43	21 22	20 58	20 27	19 43	20 52	21 46	21 23	22 04				
17	22 53	22 31	22 08	21 42	21 07	20 16	21 38	22 34	22 07	22 51				
18	23 45	23 23	22 58	22 30	21 55	21 01	22 27	23 25	22 56	23 41				
19	** **	** **	23 51	23 24	22 49	21 56	23 21	** **	23 50	** **				
20	0 36	0 14	** **	** **	23 48	23 02	** **	0 17	** **	0 33				
21	1 27	1 07	0 45	0 20	** **	** **	0 15	1 10	0 46	1 28				
22	2 15	1 58	1 40	1 18	0 51	0 12	1 10	2 02	1 44	2 21				
23	3 02	2 48	2 33	2 17	1 56	1 27	2 05	2 53	2 41	3 15				
24	3 47	3 37	3 27	3 16	3 01	2 41	3 00	3 44	3 39	4 08				
25	4 31	4 26	4 20	4 14	4 07	3 56	3 55	4 33	4 37	5 01				
26	5 15	5 15	5 14	5 14	5 14	5 13	4 50	5 24	5 36	5 55				
27	6 00	6 05	6 09	6 15	6 22	6 31	5 47	6 15	6 36	6 49				
28	6 48	6 57	7 07	7 19	7 33	7 52	6 45	7 10	7 39	7 46				
29	7 39	7 53	8 08	8 25	8 46	9 17	7 48	8 07	8 44	8 46				
30	8 34	8 52	9 12	9 34	10 02	10 43	8 59	9 07	9 53	9 50				
Oct. 1	9 34	9 55	10 17	10 43	11 17	12 06	9 59	10 11	11 02	10 55				

The symbol (**) indicates that the phenomenon will occur on the next day

MOONRISE, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONRISE (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.														
Lat. Date	0°		10°		20°		30°		40°		50°		Kolkata		Chennai		Delhi		Mumbai		
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	
Oct.	1	22	06	21	44	21	21	20	53	20	19	19	29	20	50	21	47	21	20	22	03
	2	23	09	22	46	22	22	21	54	21	19	20	25	21	51	22	48	22	20	23	05
	3	**	**	23	50	23	27	23	01	22	27	21	38	22	56	23	53	23	27	**	**
	4	0	11	**	***	**	**	**	**	23	41	23	00	**	**	**	**	**	**	0	10
	5	1	10	0	51	0	32	0	10	**	**	**	**	0	02	0	55	0	35	1	15
	6	2	04	1	50	1	35	1	18	0	56	0	25	1	07	1	55	1	43	2	17
	7	2	55	2	45	2	35	2	23	2	09	1	49	2	08	2	52	2	47	3	17
	8	3	43	3	38	3	33	3	27	3	20	3	10	3	07	3	46	3	50	4	13
	9	4	28	4	28	4	28	4	28	4	28	4	28	4	04	4	37	4	50	5	08
	10	5	13	5	17	5	22	5	28	5	35	5	45	4	59	5	28	5	49	6	02
	11	5	57	6	06	6	16	6	27	6	42	7	01	5	55	6	18	6	48	6	55
	12	6	43	6	57	7	11	7	28	7	49	8	17	6	50	7	10	7	47	7	50
	13	7	31	7	48	8	06	8	27	8	54	9	33	7	47	8	03	8	46	8	44
	14	8	20	8	40	9	02	9	27	9	58	10	45	8	43	8	56	9	45	9	40
	15	9	12	9	33	9	56	10	23	10	58	11	51	9	39	9	49	10	41	10	34
	16	10	03	10	25	10	49	11	17	11	53	12	45	10	31	10	41	11	35	11	27
	17	10	54	11	16	11	39	12	05	12	39	13	29	11	21	11	32	12	23	12	16
	18	11	44	12	03	12	24	12	48	13	19	14	02	12	06	12	18	13	06	13	02
	19	12	31	12	48	13	06	13	26	13	52	14	27	12	46	13	03	13	45	13	44
	20	13	17	13	31	13	44	14	00	14	19	14	46	13	24	13	44	14	19	14	22
21	14	02	14	10	14	20	14	31	14	44	15	02	13	59	14	22	14	51	14	59	
22	14	45	14	50	14	55	15	00	15	07	15	17	14	32	15	01	15	21	15	34	
23	15	29	15	30	15	30	15	30	15	30	15	30	15	06	15	39	15	51	16	09	
24	16	15	16	10	16	05	16	00	15	53	15	44	15	40	16	18	16	02	16	05	
25	17	03	16	54	16	44	16	32	16	19	16	00	16	17	17	00	16	56	17	25	
26	17	56	17	42	17	27	17	10	16	49	16	20	16	59	17	47	17	34	18	08	
27	18	53	18	35	18	16	17	54	17	26	16	47	17	46	18	38	18	18	18	58	
28	19	55	19	34	19	12	18	45	18	12	17	25	18	41	19	37	19	11	19	54	
29	20	59	20	37	20	13	19	46	19	10	18	17	19	43	20	39	20	12	20	56	
30	22	04	21	42	21	19	20	52	20	18	19	28	20	48	21	45	21	19	22	02	
Nov.	31	23	05	22	46	22	25	22	02	21	32	20	49	21	56	22	49	22	27	23	08
	1	**	**	23	46	23	30	23	11	22	47	22	14	23	01	23	51	23	36	**	**
	2	0	01	**	**	**	**	**	**	**	**	23	38	**	**	**	**	**	**	0	12
	3	0	52	0	42	0	30	0	17	0	01	**	**	0	03	0	48	0	41	1	12
	4	1	40	1	34	1	28	1	20	1	11	0	58	1	02	1	42	1	43	2	08
	5	2	25	2	24	2	22	2	20	2	18	2	15	1	58	2	32	2	43	3	03
	6	3	09	3	12	3	16	3	20	3	25	3	31	2	52	3	23	3	41	3	55
	7	3	53	4	01	4	09	4	18	4	30	4	46	3	47	4	12	4	39	4	48
	8	4	38	4	50	5	02	5	17	5	36	6	01	4	41	5	03	5	37	5	41
	9	5	25	5	40	5	57	6	16	6	41	7	16	5	38	5	55	6	35	6	35
	10	6	13	6	32	6	52	7	16	7	46	8	29	6	33	6	47	7	34	7	30
	11	7	04	7	25	7	48	8	13	8	47	9	37	7	30	7	41	8	31	8	25
	12	7	55	8	17	8	41	9	09	9	44	10	36	8	23	8	33	9	27	9	19
	13	8	47	9	09	9	32	9	59	10	33	11	24	9	14	9	25	10	16	10	09
	14	9	37	9	57	10	18	10	43	11	15	12	01	10	00	10	12	11	02	10	56
	15	10	25	10	42	11	01	11	23	11	50	12	28	10	42	10	57	11	42	11	39
16	11	11	11	25	11	41	11	58	12	19	12	49	11	21	11	39	12	17	12	18	

The symbol (**) indicates that the phenomenon will occur on the next day

MOONSET, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONSET (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.										
Lat. Date	0°		10°		20°		30°		40°		50°		Kolkata	Chennai	Delhi	Mumbai	
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	
Oct.	1	9	34	9	55	10	17	10	43	11	17	12	06	9	59	10	11
	2	10	36	10	58	11	23	11	51	12	26	13	20	11	05	11	15
	3	11	39	12	01	12	24	12	51	13	26	14	16	12	06	12	17
	4	12	39	12	59	13	20	13	44	14	14	14	57	13	01	13	15
	5	13	37	13	52	14	09	14	29	14	53	15	27	13	50	14	07
	6	14	29	14	40	14	53	15	07	15	25	15	48	14	32	14	54
	7	15	18	15	25	15	33	15	41	15	51	16	05	15	11	15	37
	8	16	04	16	06	16	09	16	12	16	15	16	19	15	46	16	16
	9	16	49	16	47	16	44	16	41	16	38	16	33	16	19	16	55
	10	17	34	17	27	17	20	17	11	17	01	16	47	16	53	17	34
	11	18	19	18	08	17	56	17	42	17	26	17	03	17	29	18	13
	12	19	06	18	50	18	34	18	16	17	53	17	21	18	06	18	55
	13	19	54	19	36	19	16	18	53	18	25	17	44	18	46	19	39
	14	20	44	20	23	20	01	19	36	19	03	18	15	19	31	20	26
	15	21	36	21	14	20	50	20	22	19	47	18	55	20	19	21	16
	16	22	27	22	05	21	42	21	14	20	39	19	46	21	11	22	08
	17	23	18	22	57	22	35	22	09	21	36	20	47	22	05	23	00
	18	**	**	23	49	23	29	23	06	22	37	21	55	22	59	23	52
	19	0	07	**	**	**	**	**	**	23	41	23	07	23	54	**	**
	20	0	53	0	38	0	22	0	04	**	**	**	**	**	**	0	43
	21	1	39	1	28	1	15	1	02	0	44	0	20	0	48	1	33
	22	2	22	2	15	2	08	1	59	1	49	1	34	1	42	2	22
	23	3	06	3	04	3	01	2	58	2	54	2	49	2	36	3	12
	24	3	51	3	53	3	55	3	58	4	01	4	06	3	32	4	03
	25	4	37	4	44	4	52	5	01	5	12	5	26	4	30	4	56
	26	5	28	5	40	5	52	6	07	6	25	6	51	5	32	5	53
	27	6	22	6	39	6	56	7	17	7	42	8	18	6	37	6	53
	28	7	23	7	42	8	03	8	28	9	00	9	46	7	45	7	58
	29	8	26	8	48	9	11	9	39	10	14	11	06	8	53	9	04
	30	9	31	9	53	10	16	10	44	11	19	12	10	9	58	10	09
Nov.	31	10	33	10	54	11	16	11	41	12	12	12	57	10	57	11	10
	1	11	33	11	49	12	07	12	28	12	54	13	30	11	48	12	04
	2	12	26	12	39	12	53	13	08	13	28	13	54	12	32	12	52
	3	13	16	13	24	13	33	13	43	13	55	14	11	13	11	13	36
	4	14	02	14	06	14	09	14	14	14	19	14	26	13	47	14	16
	5	14	46	14	45	14	44	14	43	14	42	14	40	14	20	14	54
	6	15	30	15	25	15	19	15	13	15	05	14	54	14	53	15	32
	7	16	14	16	04	15	54	15	43	15	28	15	09	15	28	16	10
	8	17	00	16	46	16	31	16	15	15	54	15	26	16	04	16	51
	9	17	48	17	30	17	12	16	51	16	24	15	47	16	43	17	34
	10	18	37	18	17	17	56	17	31	17	00	16	15	17	26	18	20
	11	19	28	19	07	18	43	18	16	17	42	16	52	18	13	19	09
	12	20	20	19	58	19	34	19	07	18	31	17	39	19	04	20	00
	13	21	11	20	50	20	27	20	01	19	27	18	36	19	57	20	52
	14	22	00	21	41	21	21	20	57	20	26	19	42	20	50	21	44
	15	22	47	22	31	22	13	21	54	21	28	20	52	21	45	22	35
16	23	32	23	19	23	06	22	50	22	30	22	03	22	37	23	25	

The symbol (**) indicates that the phenomenon will occur on the next day

MOONRISE, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONRISE (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.						
Lat. Date	0°	10°	20°	30°	40°	50°	Kolkata	Chennai	Delhi	Mumbai			
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Nov. 16	11 11	11 25	11 41	11 58	12 19	12 49	11 21	11 39	12 17	12 18			
17	11 55	12 05	12 16	12 29	12 45	13 06	11 56	12 17	12 49	12 55			
18	12 37	12 44	12 51	12 58	13 08	13 21	12 28	12 55	13 19	13 30			
19	13 20	13 22	13 25	13 27	13 30	13 35	13 01	13 32	13 48	14 04			
20	14 04	14 01	13 59	13 56	13 53	13 48	13 34	14 10	14 18	14 38			
21	14 50	14 43	14 35	14 27	14 16	14 03	14 09	14 50	14 50	15 16			
22	15 40	15 28	15 16	15 02	14 44	14 21	14 48	15 34	15 26	15 57			
23	16 35	16 19	16 02	15 42	15 18	14 44	15 33	16 23	16 07	16 43			
24	17 36	17 16	16 55	16 30	16 00	15 17	16 25	17 19	16 56	17 38			
25	18 41	18 19	17 56	17 29	16 54	16 03	17 25	18 21	17 55	18 38			
26	19 48	19 26	19 02	18 35	18 00	17 08	18 31	19 29	19 01	19 46			
27	20 53	20 33	20 11	19 47	19 15	18 28	19 41	20 36	20 12	20 54			
28	21 53	21 37	21 19	20 59	20 33	19 57	20 50	21 41	21 24	22 02			
29	22 48	22 36	22 23	22 08	21 50	21 24	21 55	22 41	22 32	23 05			
30	23 38	23 31	23 23	23 14	23 03	22 47	22 56	23 38	23 37	** **			
Dec. 1	** **	** **	** **	** **	** **	** **	23 54	** **	** **	0 04			
2	0 24	0 21	0 19	0 15	0 11	0 06	** **	0 30	0 38	0 59			
3	1 09	1 10	1 13	1 15	1 18	1 22	0 49	1 20	1 37	1 52			
4	1 52	1 58	2 05	2 13	2 23	2 36	1 43	2 09	2 34	2 44			
5	2 36	2 46	2 58	3 11	3 28	3 50	2 37	2 59	3 31	3 37			
6	3 22	3 36	3 52	4 09	4 32	5 04	3 32	3 50	4 28	4 30			
7	4 09	4 26	4 46	5 08	5 37	6 17	4 27	4 41	5 27	5 24			
8	4 58	5 19	5 41	6 06	6 38	7 27	5 23	5 35	6 24	6 18			
9	5 50	6 11	6 34	7 02	7 37	8 28	6 17	6 27	7 20	7 12			
10	6 41	7 03	7 27	7 54	8 28	9 20	7 09	7 19	8 11	8 04			
11	7 32	7 53	8 14	8 40	9 13	10 00	7 57	8 08	8 58	8 52			
12	8 20	8 39	8 59	9 22	9 50	10 30	8 40	8 54	9 40	9 37			
13	9 07	9 22	9 39	9 57	10 21	10 53	9 19	9 37	10 16	10 16			
14	9 51	10 03	10 15	10 29	10 47	11 11	9 55	10 15	10 49	10 53			
15	10 33	10 41	10 49	10 59	11 11	11 26	10 28	10 53	11 19	11 28			
16	11 15	11 19	11 23	11 27	11 33	11 40	10 59	11 29	11 48	12 01			
17	11 57	11 56	11 55	11 55	11 54	11 53	11 31	12 05	12 16	12 35			
18	12 40	12 35	12 29	12 23	12 16	12 06	12 04	12 42	12 46	13 10			
19	13 27	13 17	13 07	12 55	12 41	12 22	12 40	13 23	13 19	13 48			
20	14 17	14 03	13 49	13 32	13 11	12 42	13 20	14 08	13 56	14 30			
21	15 14	14 56	14 37	14 15	13 48	13 09	14 07	15 00	14 40	15 19			
22	16 16	15 56	15 33	15 07	14 34	13 47	15 03	15 58	15 33	16 16			
23	17 24	17 01	16 37	16 10	15 35	14 42	16 06	17 04	16 36	17 21			
24	18 31	18 10	17 47	17 21	16 47	15 57	17 16	18 12	17 47	18 30			
25	19 36	19 18	18 58	18 35	18 06	17 25	18 28	19 21	19 01	19 41			
26	20 35	20 21	20 06	19 49	19 28	18 57	19 38	20 26	20 13	20 48			
27	21 30	21 20	21 10	20 59	20 45	20 25	20 43	21 27	21 23	21 52			
28	22 19	22 14	22 10	22 05	21 58	21 50	21 45	22 22	22 27	22 51			
29	23 05	23 06	23 06	23 07	23 08	23 09	22 42	23 15	23 29	23 47			
30	23 50	23 55	** **	** **	** **	** **	** **	** **	** **	** **			
31	** **	** **	0 01	0 07	0 15	0 25	** **	0 06	0 28	0 40			
32	0 34	0 44	0 54	1 06	1 20	1 41	0 32	0 56	1 26	1 33			

The symbol (**) indicates that the phenomenon will occur on the next day

MOONSET, 2026
LOCAL MEAN TIME AND INDIAN STANDARD TIME OF
MOONSET (MOON'S UPPER LIMB)

FOR THE CENTRAL MERIDIAN OF INDIA (82°.5 E) IN L. M. T.							FOR CERTAIN STATIONS IN INDIA IN I.S.T.							
Lat. Date	0°	10°	20°	30°	40°	50°	Kolkata	Chennai	Delhi	Mumbai				
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Nov. 16	23 32	23 19	23 06	22 50	22 30	22 03	22 37	23 25	23 14	23 47				
17	** **	** **	23 57	23 47	23 33	23 15	23 31	** **	** **	** **				
18	0 15	0 06	** **	** **	** **	** **	** **	0 13	0 10	0 38				
19	0 57	0 53	0 48	0 43	0 36	0 27	0 23	1 01	1 06	1 29				
20	1 41	1 41	1 41	1 41	1 41	1 41	1 17	1 50	2 03	2 20				
21	2 25	2 30	2 35	2 41	2 48	2 58	2 12	2 41	3 02	3 15				
22	3 13	3 23	3 33	3 45	3 59	4 19	3 11	3 35	4 05	4 12				
23	4 05	4 19	4 35	4 52	5 14	5 45	4 14	4 33	5 12	5 14				
24	5 04	5 22	5 41	6 04	6 32	7 14	5 22	5 37	6 22	6 19				
25	6 07	6 28	6 50	7 17	7 51	8 40	6 32	6 44	7 35	7 29				
26	7 13	7 36	7 59	8 27	9 02	9 54	7 41	7 52	8 45	8 37				
27	8 19	8 41	9 03	9 30	10 02	10 50	8 45	8 57	9 48	9 41				
28	9 23	9 41	10 00	10 22	10 50	11 30	9 41	9 56	10 41	10 38				
29	10 20	10 34	10 49	11 07	11 28	11 57	10 29	10 48	11 26	11 28				
30	11 13	11 22	11 33	11 44	11 58	12 17	11 11	11 35	12 04	12 11				
Dec. 1	12 00	12 05	12 10	12 16	12 23	12 33	11 48	12 16	12 37	12 50				
2	12 45	12 46	12 46	12 46	12 47	12 47	12 22	12 55	13 08	13 26				
3	13 29	13 25	13 21	13 16	13 09	13 01	12 55	13 33	13 38	14 01				
4	14 12	14 04	13 55	13 45	13 33	13 16	13 29	14 11	14 08	14 36				
5	14 57	14 45	14 31	14 16	13 57	13 32	14 04	14 50	14 40	15 13				
6	15 44	15 28	15 10	14 50	14 26	13 52	14 41	15 32	15 15	15 52				
7	16 32	16 13	15 53	15 29	14 59	14 17	15 23	16 16	15 54	16 34				
8	17 23	17 02	16 39	16 12	15 39	14 50	16 08	17 04	16 38	17 21				
9	18 14	17 52	17 29	17 01	16 26	15 34	16 58	17 55	17 27	18 11				
10	19 05	18 44	18 21	17 54	17 20	16 28	17 50	18 46	18 20	19 04				
11	19 55	19 36	19 14	18 50	18 18	17 32	18 44	19 39	19 15	19 57				
12	20 43	20 26	20 07	19 46	19 19	18 40	19 38	20 29	20 11	20 49				
13	21 28	21 14	21 00	20 42	20 21	19 51	20 31	21 19	21 07	21 41				
14	22 11	22 01	21 51	21 38	21 23	21 02	21 24	22 07	22 02	22 31				
15	22 53	22 47	22 41	22 33	22 24	22 12	22 15	22 54	22 56	23 22				
16	23 35	23 33	23 31	23 29	23 27	23 23	23 06	23 42	23 51	** **				
17	** **	** **	** **	** **	** **	** **	23 59	** **	** **	0 11				
18	0 17	0 19	0 22	0 26	0 30	0 36	** **	0 30	0 47	1 02				
19	1 02	1 09	1 17	1 26	1 37	1 52	0 55	1 21	1 47	1 56				
20	1 50	2 02	2 15	2 29	2 48	3 14	1 54	2 15	2 49	2 54				
21	2 44	3 00	3 18	3 38	4 03	4 39	2 58	3 15	3 57	3 56				
22	3 44	4 03	4 24	4 49	5 21	6 06	4 06	4 19	5 08	5 03				
23	4 48	5 10	5 34	6 01	6 36	7 28	5 16	5 27	6 19	6 11				
24	5 56	6 18	6 41	7 09	7 43	8 34	6 23	6 34	7 27	7 19				
25	7 03	7 23	7 44	8 08	8 38	9 22	7 25	7 38	8 26	8 21				
26	8 05	8 21	8 38	8 58	9 22	9 56	8 18	8 35	9 17	9 17				
27	9 02	9 14	9 26	9 40	9 57	10 19	9 05	9 26	9 59	10 04				
28	9 54	10 00	10 07	10 15	10 25	10 38	9 45	10 11	10 35	10 46				
29	10 41	10 43	10 45	10 47	10 50	10 53	10 21	10 53	11 09	11 25				
30	11 27	11 24	11 21	11 18	11 13	11 08	10 56	11 32	11 40	12 01				
31	12 11	12 04	11 56	11 47	11 37	11 22	11 30	12 10	12 10	12 36				
32	12 56	12 44	12 32	12 18	12 01	11 38	12 05	12 50	12 41	13 13				

The symbol (**) indicates that the phenomenon will occur on the next day

MOONRISE AND MOONSET
REDUCTION OF THE L.M.T. OF RISING OR SETTING FOR THE
MERIDIAN OF 82°.5 E. LONGITUDE TO THE L.M.T. OF OTHER MERIDIANS
LONGITUDE EAST OF GREENWICH

Daily Variation in Rising or Setting	0°	30°	60°	68°	72°	76°	80°	84°	88°	92°	96°	120°	150°
m	m	m	m	m	m	m	m	m	m	m	m	m	m
28	+ 6.4	+ 4.1	+ 1.8	+ 1.1	+ 0.8	+ 0.5	+ 0.2	- 0.1	- 0.4	- 0.7	- 1.1	- 2.9	- 5.3
29	6.6	4.2	1.8	1.2	0.8	0.5	0.2	0.1	0.4	0.8	1.1	3.0	5.4
30	6.9	4.4	1.9	1.2	0.9	0.5	0.2	0.1	0.5	0.8	1.1	3.1	5.6
31	7.1	4.5	1.9	1.2	0.9	0.6	0.2	0.1	0.5	0.8	1.2	3.2	5.8
32	7.3	4.7	2.0	1.3	0.9	0.6	0.2	0.1	0.5	0.8	1.2	3.3	6.0
33	7.6	4.8	2.1	1.3	1.0	0.6	0.2	0.1	0.5	0.9	1.2	3.4	6.2
34	7.8	5.0	2.1	1.4	1.0	0.6	0.2	0.1	0.5	0.9	1.3	3.5	6.4
35	8.0	5.1	2.2	1.4	1.0	0.6	0.2	0.1	0.5	0.9	1.3	3.6	6.6
36	8.2	5.2	2.3	1.4	1.0	0.6	0.2	0.1	0.5	0.9	1.4	3.7	6.8
37	8.5	5.4	2.3	1.5	1.1	0.7	0.3	0.2	0.6	1.0	1.4	3.9	6.9
38	8.7	5.5	2.4	1.5	1.1	0.7	0.3	0.2	0.6	1.0	1.4	4.0	7.1
39	8.9	5.7	2.4	1.6	1.1	0.7	0.3	0.2	0.6	1.0	1.5	4.1	7.3
40	+ 9.2	+ 5.8	+ 2.5	+ 1.6	+ 1.2	+ 0.7	+ 0.3	- 0.2	- 0.6	- 1.1	- 1.5	- 4.2	- 7.5
41	9.4	6.0	2.6	1.7	1.2	0.7	0.3	0.2	0.6	1.1	1.5	4.3	7.7
42	9.6	6.1	2.6	1.7	1.2	0.8	0.3	0.2	0.6	1.1	1.6	4.4	7.9
43	9.9	6.3	2.7	1.7	1.3	0.8	0.3	0.2	0.7	1.1	1.6	4.5	8.1
44	10.1	6.4	2.8	1.8	1.3	0.8	0.3	0.2	0.7	1.2	1.7	4.6	8.3
45	10.3	6.6	2.8	1.8	1.3	0.8	0.3	0.2	0.7	1.2	1.7	4.7	8.4
46	10.5	6.7	2.9	1.9	1.3	0.8	0.3	0.2	0.7	1.2	1.7	4.8	8.6
47	10.8	6.9	2.9	1.9	1.4	0.8	0.3	0.2	0.7	1.2	1.8	4.9	8.8
48	11.0	7.0	3.0	1.9	1.4	0.9	0.3	0.2	0.7	1.3	1.8	5.0	9.0
49	11.2	7.1	3.1	2.0	1.4	0.9	0.3	0.2	0.7	1.3	1.8	5.1	9.2
50	+ 11.5	+ 7.3	+ 3.1	+ 2.0	+ 1.5	+ 0.9	+ 0.3	- 0.2	- 0.8	- 1.3	- 1.9	- 5.2	- 9.4
51	11.7	7.4	3.2	2.1	1.5	0.9	0.4	0.2	0.8	1.3	1.9	5.3	9.6
52	11.9	7.6	3.3	2.1	1.5	0.9	0.4	0.2	0.8	1.4	2.0	5.4	9.8
53	12.1	7.7	3.3	2.1	1.5	1.0	0.4	0.2	0.8	1.4	2.0	5.5	9.9
54	12.4	7.9	3.4	2.2	1.6	1.0	0.4	0.2	0.8	1.4	2.0	5.6	10.1
55	12.6	8.0	3.4	2.2	1.6	1.0	0.4	0.2	0.8	1.5	2.1	5.7	10.3
56	12.8	8.2	3.5	2.3	1.6	1.0	0.4	0.2	0.9	1.5	2.1	5.8	10.5
57	13.1	8.3	3.6	2.3	1.7	1.0	0.4	0.2	0.9	1.5	2.1	5.9	10.7
58	13.3	8.5	3.6	2.3	1.7	1.0	0.4	0.2	0.9	1.5	2.2	6.0	10.9
59	13.5	8.6	3.7	2.4	1.7	1.1	0.4	0.2	0.9	1.6	2.2	6.1	11.1
60	+ 13.7	+ 8.7	+ 3.8	+ 2.4	+ 1.7	+ 1.1	+ 0.4	- 0.2	- 0.9	- 1.6	- 2.3	- 6.2	- 11.3
61	14.0	8.9	3.8	2.5	1.8	1.1	0.4	0.3	0.9	1.6	2.3	6.4	11.4
62	14.2	9.0	3.9	2.5	1.8	1.1	0.4	0.3	0.9	1.6	2.3	6.5	11.6
63	14.4	9.2	3.9	2.5	1.8	1.1	0.4	0.3	1.0	1.7	2.4	6.6	11.8
64	14.7	9.3	4.0	2.6	1.9	1.2	0.4	0.3	1.0	1.7	2.4	6.7	12.0
65	14.9	9.5	4.1	2.6	1.9	1.2	0.5	0.3	1.0	1.7	2.4	6.8	12.2
66	15.1	9.6	4.1	2.7	1.9	1.2	0.5	0.3	1.0	1.7	2.5	6.9	12.4
67	15.4	9.8	4.2	2.7	2.0	1.2	0.5	0.3	1.0	1.8	2.5	7.0	12.6
68	15.6	9.9	4.3	2.7	2.0	1.2	0.5	0.3	1.0	1.8	2.6	7.1	12.8
69	15.8	10.1	4.3	2.8	2.0	1.2	0.5	0.3	1.1	1.8	2.6	7.2	12.9
70	+ 16.0	+ 10.2	+ 4.4	+ 2.8	+ 2.0	+ 1.3	+ 0.5	- 0.3	- 1.1	- 1.8	- 2.6	- 7.3	- 13.1
71	16.3	10.4	4.4	2.9	2.1	1.3	0.5	0.3	1.1	1.9	2.7	7.4	13.3
72	16.5	10.5	4.5	2.9	2.1	1.3	0.5	0.3	1.1	1.9	2.7	7.5	13.5
73	16.7	10.6	4.6	2.9	2.1	1.3	0.5	0.3	1.1	1.9	2.7	7.6	13.7
74	+ 17.0	+ 10.8	+ 4.6	+ 3.0	+ 2.2	+ 1.3	+ 0.5	- 0.3	- 1.1	- 2.0	- 2.8	- 7.7	- 13.9

SUNRISE, SUNSET AND MOONRISE, MOONSET
CORRECTION FOR LATITUDE
 VARIATION PER 10° OF LATITUDE OF THE TIMES OF SUNRISE, SUNSET AND MOONRISE,
 MOONSET DISTRIBUTED OVER EACH DEGREE OF LATITUDE

Var. per 10° of Lat.	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	15'	30'	45'
m	m	m	m	m	m	m	m	m	m	m	m	m	m
5	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	0.1	0.3	0.4
6	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	0.2	0.3	0.5
7	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	0.2	0.4	0.5
8	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	0.2	0.4	0.6
9	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	0.2	0.5	0.7
10	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	0.3	0.5	0.8
11	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8.8	9.9	11.0	0.3	0.6	0.8
12	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	0.3	0.6	0.9
13	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13.0	0.3	0.7	1.0
14	1.4	2.8	4.2	5.6	7.0	8.4	9.8	11.2	12.6	14.0	0.4	0.7	1.1
15	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	15.0	0.4	0.8	1.1
16	1.6	3.2	4.8	6.4	8.0	9.6	11.2	12.8	14.4	16.0	0.4	0.8	1.2
17	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17.0	0.4	0.9	1.3
18	1.8	3.6	5.4	7.2	9.0	10.8	12.6	14.4	16.2	18.0	0.5	0.9	1.4
19	1.9	3.8	5.7	7.6	9.5	11.4	13.3	15.2	17.1	19.0	0.5	1.0	1.4
20	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	0.5	1.0	1.5
21	2.1	4.2	6.3	8.4	10.5	12.6	14.7	16.8	18.9	21.0	0.5	1.1	1.6
22	2.2	4.4	6.6	8.8	11.0	13.2	15.4	17.6	19.8	22.0	0.6	1.1	1.7
23	2.3	4.6	6.9	9.2	11.5	13.8	16.1	18.4	20.7	23.0	0.6	1.2	1.7
24	2.4	4.8	7.2	9.6	12.0	14.4	16.8	19.2	21.6	24.0	0.6	1.2	1.8
25	2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	0.6	1.3	1.9
26	2.6	5.2	7.8	10.4	13.0	15.6	18.2	20.8	23.4	26.0	0.7	1.3	2.0
27	2.7	5.4	8.1	10.8	13.5	16.2	18.9	21.6	24.3	27.0	0.7	1.4	2.0
28	2.8	5.6	8.4	11.2	14.0	16.8	19.6	22.4	25.2	28.0	0.7	1.4	2.1
29	2.9	5.8	8.7	11.6	14.5	17.4	20.3	23.2	26.1	29.0	0.7	1.5	2.2
30	3.0	6.0	9.0	12.0	15.0	18.0	21.0	24.0	27.0	30.0	0.8	1.5	2.3
31	3.1	6.2	9.3	12.4	15.5	18.6	21.7	24.8	27.9	31.0	0.8	1.6	2.3
32	3.2	6.4	9.6	12.8	16.0	19.2	22.4	25.6	28.8	32.0	0.8	1.6	2.4
33	3.3	6.6	9.9	13.2	16.5	19.8	23.1	26.4	29.7	33.0	0.8	1.7	2.5
34	3.4	6.8	10.2	13.6	17.0	20.4	23.8	27.2	30.6	34.0	0.9	1.7	2.6
35	3.5	7.0	10.5	14.0	17.5	21.0	24.5	28.0	31.5	35.0	0.9	1.8	2.6
36	3.6	7.2	10.8	14.4	18.0	21.6	25.2	28.8	32.4	36.0	0.9	1.8	2.7
37	3.7	7.4	11.1	14.8	18.5	22.2	25.9	29.6	33.3	37.0	0.9	1.9	2.8
38	3.8	7.6	11.4	15.2	19.0	22.8	26.6	30.4	34.2	38.0	1.0	1.9	2.9
39	3.9	7.8	11.7	15.6	19.5	23.4	27.3	31.2	35.1	39.0	1.0	2.0	2.9
40	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0	1.0	2.0	3.0
41	4.1	8.2	12.3	16.4	20.5	24.6	28.7	32.8	36.9	41.0	1.0	2.1	3.1
42	4.2	8.4	12.6	16.8	21.0	25.2	29.4	33.6	37.8	42.0	1.1	2.1	3.2
43	4.3	8.6	12.9	17.2	21.5	25.8	30.1	34.4	38.7	43.0	1.1	2.2	3.2
44	4.4	8.8	13.2	17.6	22.0	26.4	30.8	35.2	39.6	44.0	1.1	2.2	3.3
45	4.5	9.0	13.5	18.0	22.5	27.0	31.5	36.0	40.5	45.0	1.1	2.3	3.4
46	4.6	9.2	13.8	18.4	23.0	27.6	32.2	36.8	41.4	46.0	1.2	2.3	3.5
47	4.7	9.4	14.1	18.8	23.5	28.2	32.9	37.6	42.3	47.0	1.2	2.4	3.5
48	4.8	9.6	14.4	19.2	24.0	28.8	33.6	38.4	43.2	48.0	1.2	2.4	3.6
49	4.9	9.8	14.7	19.6	24.5	29.4	34.3	39.2	44.1	49.0	1.2	2.5	3.7
50	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0	1.3	2.5	3.8

REDUCTION OF TIME
REDUCTION OF LOCAL MEAN TIME OF A PLACE INTO
THE INDIAN STANDARD TIME

A-CORRECTION TO BE ADDED TO L.M.T. TO OBTAIN I.S.T.

LONGITUDE OF PLACE (EAST OF GREENWICH)																
	67°	68°	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°	80°	81°	82°
	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
0	62.0	58.0	54.0	50.0	46.0	42.0	38.0	34.0	30.0	26.0	22.0	18.0	14.0	10.0	6.0	2.0
3	61.8	57.8	53.8	49.8	45.8	41.8	37.8	33.8	29.8	25.8	21.8	17.8	13.8	9.8	5.8	1.8
6	61.6	57.6	53.6	49.6	45.6	41.6	37.6	33.6	29.6	25.6	21.6	17.6	13.6	9.6	5.6	1.6
9	61.4	57.4	53.4	49.4	45.4	41.4	37.4	33.4	29.4	25.4	21.4	17.4	13.4	9.4	5.4	1.4
12	61.2	57.2	53.2	49.2	45.2	41.2	37.2	33.2	29.2	25.2	21.2	17.2	13.2	9.2	5.2	1.2
15	61.0	57.0	53.0	49.0	45.0	41.0	37.0	33.0	29.0	25.0	21.0	17.0	13.0	9.0	5.0	1.0
18	60.8	56.8	52.8	48.8	44.8	40.8	36.8	32.8	28.8	24.8	20.8	16.8	12.8	8.8	4.8	0.8
21	60.6	56.6	52.6	48.6	44.6	40.6	36.6	32.6	28.6	24.6	20.6	16.6	12.6	8.6	4.6	0.6
24	60.4	56.4	52.4	48.4	44.4	40.4	36.4	32.4	28.4	24.4	20.4	16.4	12.4	8.4	4.4	0.4
27	60.2	56.2	52.2	48.2	44.2	40.2	36.2	32.2	28.2	24.2	20.2	16.2	12.2	8.2	4.2	0.2
30	60.0	56.0	52.0	48.0	44.0	40.0	36.0	32.0	28.0	24.0	20.0	16.0	12.0	8.0	4.0	0.0
33	59.8	55.8	51.8	47.8	43.8	39.8	35.8	31.8	27.8	23.8	19.8	15.8	11.8	7.8	3.8	
36	59.6	55.6	51.6	47.6	43.6	39.6	35.6	31.6	27.6	23.6	19.6	15.6	11.6	7.6	3.6	
39	59.4	55.4	51.4	47.4	43.4	39.4	35.4	31.4	27.4	23.4	19.4	15.4	11.4	7.4	3.4	
42	59.2	55.2	51.2	47.2	43.2	39.2	35.2	31.2	27.2	23.2	19.2	15.2	11.2	7.2	3.2	
45	59.0	55.0	51.0	47.0	43.0	39.0	35.0	31.0	27.0	23.0	19.0	15.0	11.0	7.0	3.0	
48	58.8	54.8	50.8	46.8	42.8	38.8	34.8	30.8	26.8	22.8	18.8	14.8	10.8	6.8	2.8	
51	58.6	54.6	50.6	46.6	42.6	38.6	34.6	30.6	26.6	22.6	18.6	14.6	10.6	6.6	2.6	
54	58.4	54.4	50.4	46.4	42.4	38.4	34.4	30.4	26.4	22.4	18.4	14.4	10.4	6.4	2.4	
57	58.2	54.2	50.2	46.2	42.2	38.2	34.2	30.2	26.2	22.2	18.2	14.2	10.2	6.2	2.2	
60	58.0	54.0	50.0	46.0	42.0	38.0	34.0	30.0	26.0	22.0	18.0	14.0	10.0	6.0	2.0	

B- CORRECTION TO BE SUBTRACTED FROM L.M.T. TO OBTAIN I.S.T.

LONGITUDE OF PLACE (EAST OF GREENWICH)																
	82°	83°	84°	85°	86°	87°	88°	89°	90°	91°	92°	93°	94°	95°	96°	97°
	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
0		2.0	6.0	10.0	14.0	18.0	22.0	26.0	30.0	34.0	38.0	42.0	46.0	50.0	54.0	58.0
3		2.2	6.2	10.2	14.2	18.2	22.2	26.2	30.2	34.2	38.2	42.2	46.2	50.2	54.2	58.2
6		2.4	6.4	10.4	14.4	18.4	22.4	26.4	30.4	34.4	38.4	42.4	46.4	50.4	54.4	58.4
9		2.6	6.6	10.6	14.6	18.6	22.6	26.6	30.6	34.6	38.6	42.6	46.6	50.6	54.6	58.6
12		2.8	6.8	10.8	14.8	18.8	22.8	26.8	30.8	34.8	38.8	42.8	46.8	50.8	54.8	58.8
15		3.0	7.0	11.0	15.0	19.0	23.0	27.0	31.0	35.0	39.0	43.0	47.0	51.0	55.0	59.0
18		3.2	7.2	11.2	15.2	19.2	23.2	27.2	31.2	35.2	39.2	43.2	47.2	51.2	55.2	59.2
21		3.4	7.4	11.4	15.4	19.4	23.4	27.4	31.4	35.4	39.4	43.4	47.4	51.4	55.4	59.4
24		3.6	7.6	11.6	15.6	19.6	23.6	27.6	31.6	35.6	39.6	43.6	47.6	51.6	55.6	59.6
27		3.8	7.8	11.8	15.8	19.8	23.8	27.8	31.8	35.8	39.8	43.8	47.8	51.8	55.8	59.8
30	0.0	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0	44.0	48.0	52.0	56.0	60.0
33	0.2	4.2	8.2	12.2	16.2	20.2	24.2	28.2	32.2	36.2	40.2	44.2	48.2	52.2	56.2	60.2
36	0.4	4.4	8.4	12.4	16.4	20.4	24.4	28.4	32.4	36.4	40.4	44.4	48.4	52.4	56.4	60.4
39	0.6	4.6	8.6	12.6	16.6	20.6	24.6	28.6	32.6	36.6	40.6	44.6	48.6	52.6	56.6	60.6
42	0.8	4.8	8.8	12.8	16.8	20.8	24.8	28.8	32.8	36.8	40.8	44.8	48.8	52.8	56.8	60.8
45	1.0	5.0	9.0	13.0	17.0	21.0	25.0	29.0	33.0	37.0	41.0	45.0	49.0	53.0	57.0	61.0
48	1.2	5.2	9.2	13.2	17.2	21.2	25.2	29.2	33.2	37.2	41.2	45.2	49.2	53.2	57.2	61.2
51	1.4	5.4	9.4	13.4	17.4	21.4	25.4	29.4	33.4	37.4	41.4	45.4	49.4	53.4	57.4	61.4
54	1.6	5.6	9.6	13.6	17.6	21.6	25.6	29.6	33.6	37.6	41.6	45.6	49.6	53.6	57.6	61.6
57	1.8	5.8	9.8	13.8	17.8	21.8	25.8	29.8	33.8	37.8	41.8	45.8	49.8	53.8	57.8	61.8
60	2.0	6.0	10.0	14.0	18.0	22.0	26.0	30.0	34.0	38.0	42.0	46.0	50.0	54.0	58.0	62.0

Sunrise and Sunset

The local mean times of Sunrise and Sunset for latitudes 0° to 60° North at intervals of 4 days during the year have been given on pages 280 to 287. The timings relate to the visibility of the upper limb of the Sun on the horizon. From these tables the L.M.T. of rise or set for any day of the year and for any latitude of place can be obtained by simple interpolation. If the place is in the southern hemisphere, the corrections given on pages 290 to 291 will then have to be applied to the timings for the corresponding northern latitude. For a station in India, the timings of Sunrise and Sunset so obtained which are in L.M.T. can be reduced to I.S.T. by applying the correction given on page 314 according to the longitude of the station.

In addition to the above details given in the publication, the timings of Sunrise and Sunset of five important cities of India, viz., Kolkata, Varanasi, Chennai, Delhi and Mumbai have been specially calculated and given in I.S.T. on pages 292 to 295.

Sunrise and Sunset for Southern Latitudes

The timings of Sunrise and Sunset for southern latitudes, which have not been tabulated separately, can be deduced from those for the corresponding northern latitudes by applying the corrections given on pages 290 and 291.

Twilight

The timings of the beginning of morning twilight and ending of evening twilight have been given for latitudes 0° to 60° North on pages 280 to 287. The timings relate to the instant when the center of the Sun is 18° below the horizon. This is now known as astronomical twilight. The period of twilight has been divided into three parts - Civil when the Sun is 6° below the horizon, Nautical when 12° and Astronomical when 18° - and their durations have been given separately on pages 288 and 289 at an interval of 8 days. The figures for any intermediate date can be worked out from the tables by simple interpolation.

Moonrise and Moonset

The local mean times of Moonrise and Moonset for latitudes 0° to 50° North at 10- degrees interval together with the timings of these events in I.S.T. for four important stations in India, Viz., Kolkata, Chennai, Delhi and Mumbai for each day of the year have been given on pages 296 to 311 along with some supplementary tables on pages 312 to 313. A detailed method of calculation for any station is given below.

To find the time of Moonrise and Moonset for any station the figure for the phenomena concerned given against the date is to be taken from the table (pages 296 to 311) for the latitude just lower than the latitude of the station, to which the following corrections will have to be applied :

- (a) Correction for difference in latitude;
- (b) Correction for longitude, if the place is not on the Central Meridian of India (i.e., $82^{\circ}.5$ E. Long);
- (c) Correction for converting L.M.T. into I.S.T., when and where necessary.

These corrections are detailed below :

- (a) Correction for difference in latitude - The timings of Moonrise and Moonset have been given for latitudes 0° , 10° , 20° , 30° , 40° and 50° North, and in local mean time. The timing for any particular latitude of place falling within the above limits can be obtained by simple interpolation between figures for the two latitudes, one below and the other above the latitude of the given place. For this purpose the table on page 313 can be conveniently used wherein corrections for latitude are shown according to the variation per 10° of latitude of the timings of Moonrise or Moonset distributed over each degree of latitude. The correction can also be calculated directly by multiplying one-tenth of the time difference between the figures for two consecutive given latitudes by the excess of the latitude of the station over the given lower latitude.

METHOD OF CALCULATION

(b) Correction for difference in longitude - The timings thus obtained are exact for the Central Meridian of India, i.e., for longitude $82^{\circ}.5$ East of Greenwich. For other longitudes the correction given on page 312 should be applied according to :

- (i) the longitude of the station, and
- (ii) the daily variation of the timings of rising or setting, as the case may be, between two consecutive dates.

If greater accuracy is not required, the daily variation may be assumed to be a constant (i.e., 50 minutes) for all dates and corrections from the following table may be applied instead of taking the corrections from the table on page 312.

Longitude of Station	Correction	Longitude of Station	Correction
(East)	m	(East)	m
0°	+ 11.5	84°	- 0.2
30°	+ 7.3	88°	- 0.8
60°	+ 3.1	92°	- 1.3
68°	+ 2.0	96°	- 1.9
72°	+ 1.5	120°	- 5.2
76°	+ 0.9	150°	- 9.4
80°	+ 0.3	180°	- 13.5

The timing thus obtained by the above two operations is in L.M.T. of the station

(c) Correction for converting L.M.T. into I.S.T. - The figures obtained by the operations (a) and (b) above would give the local mean time of Moonrise or Moonset for the given station. The local mean time can be reduced to the Indian Standard Time by the help of the reduction table on page 314. In other way to obtain the I.S.T., the L.M.T. may be increased at the rate of 4 minutes per degree of longitude if the station is to the west of $82^{\circ}.5$ East and decreased at the same rate if the station is to the east of $82^{\circ}.5$ East Longitude.

In practice, however, when dealing with the same station, it will be convenient to combine corrections (b) and (c) above, as these are constant day after day, and add this constant to the daily times corrected for latitude only.

Moonrise and Moonset for southern Latitudes

The times of Moonrise and Moonset for southern latitudes have not been given separately. The timings for a station in southern latitude can, however, be deduced from those for the corresponding northern latitude by the following formula :

Timings for a southern latitude = $2 \times$ Timing for 0° latitude - Timing for the same northern latitude.

In this case the local mean time for the same latitude north will have to be calculated first by applying the latitude correction (a) above, and the corresponding time for the southern latitude will have to be deduced by the above formula by utilising the published figure for 0° latitude. The exact L.M.T. of rising or setting for the place in question will, however, be obtained by applying the correction (b) above to the time so deduced.

If necessary, the timings thus obtained may be reduced to I.S.T. by the usual method.

PHASES OF THE MOON, 2026

(Time in I.S.T.)

		d	h	m			d	h	m
Full Moon	Dec, 25	05	04	44	Full Moon	Jun	30	05	27
Last Quarter	Dec, 25	12	02	22	Last Quarter	Jul	08	00	59
New Moon	Dec, 25	20	07	13	New Moon	Jul	14	15	14
First Quarter	Dec, 25	28	00	40	First Quarter	Jul	21	16	36
Full Moon	Jan, 26	03	15	33	Full Moon	Jul	29	20	06
Last Quarter	Jan	10	21	18	Last Quarter	Aug	06	07	51
New Moon	Jan	19	01	22	New Moon	Aug	12	23	07
First Quarter	Jan	26	10	17	First Quarter	Aug	20	08	16
Full Moon	Feb	02	03	39	Full Moon	Aug	28	09	48
Last Quarter	Feb	09	18	13	Last Quarter	Sep	04	13	21
New Moon	Feb	17	17	31	New Moon	Sep	11	08	57
First Quarter	Feb	24	17	58	First Quarter	Sep	19	02	14
Full Moon	Mar	03	17	08	Full Moon	Sep	26	22	19
Last Quarter	Mar	11	15	08	Last Quarter	Oct	03	18	55
New Moon	Mar	19	06	53	New Moon	Oct	10	21	20
First Quarter	Mar	26	00	48	First Quarter	Oct	18	21	43
Full Moon	Apr	02	07	42	Full Moon	Oct	26	09	42
Last Quarter	Apr	10	10	22	Last Quarter	Nov	02	01	58
New Moon	Apr	17	17	22	New Moon	Nov	09	12	32
First Quarter	Apr	24	08	02	First Quarter	Nov	17	17	18
Full Moon	May	01	22	53	Full Moon	Nov	24	20	23
Last Quarter	May	10	02	40	Last Quarter	Dec	01	11	39
New Moon	May	17	01	31	New Moon	Dec	09	06	22
First Quarter	May	23	16	41	First Quarter	Dec	17	11	13
Full Moon	May	31	14	15	Full Moon	Dec	24	06	58
Last Quarter	Jun	08	15	30	Last Quarter	Dec, 26	31	00	29
New Moon	Jun	15	08	24	New Moon	Jan, 27	08	01	54
First Quarter	Jun	22	03	25	First Quarter	Jan, 27	16	02	04

PART - IV

ECLIPSES AND OCCULTATIONS

ECLIPSES, 2026

In the year 2026, there are two eclipses of the Sun and two eclipses of the Moon.

I	February	17	Annular eclipse of the Sun	320-323
II	March	3	Total eclipse of the Moon	328-330
III	August	12	Total eclipse of the Sun	324-327
IV	August	28	Partial eclipse of the Moon	331

I-Annular eclipse of the Sun, 17 February, 2026, Tuesday.

Not Visible in India

Area of Visibility

The eclipse will be visible in the region covering south Argentina, Chile, south Africa and Antarctica.

ELEMENTS OF THE ECLIPSE						
Universal Time of Conjunction in Right Ascension: February 17 ^d 11 ^h 18 ^m 49 ^s .9						
	MOON			SUN		
	h	m	s	h	m	s
Right Ascension	22	03	45.72	22	03	45.72
Hourly Motion			122.31			09.67
	°	'	"	°	'	"
Declination	-12	40	51.76	-11	53	28.88
Hourly Motion		14	14.98			52.66
Equatorial Horizontal Parallax		57	02.20			08.90
True Semi-diameter		15	31.77		16	11.11

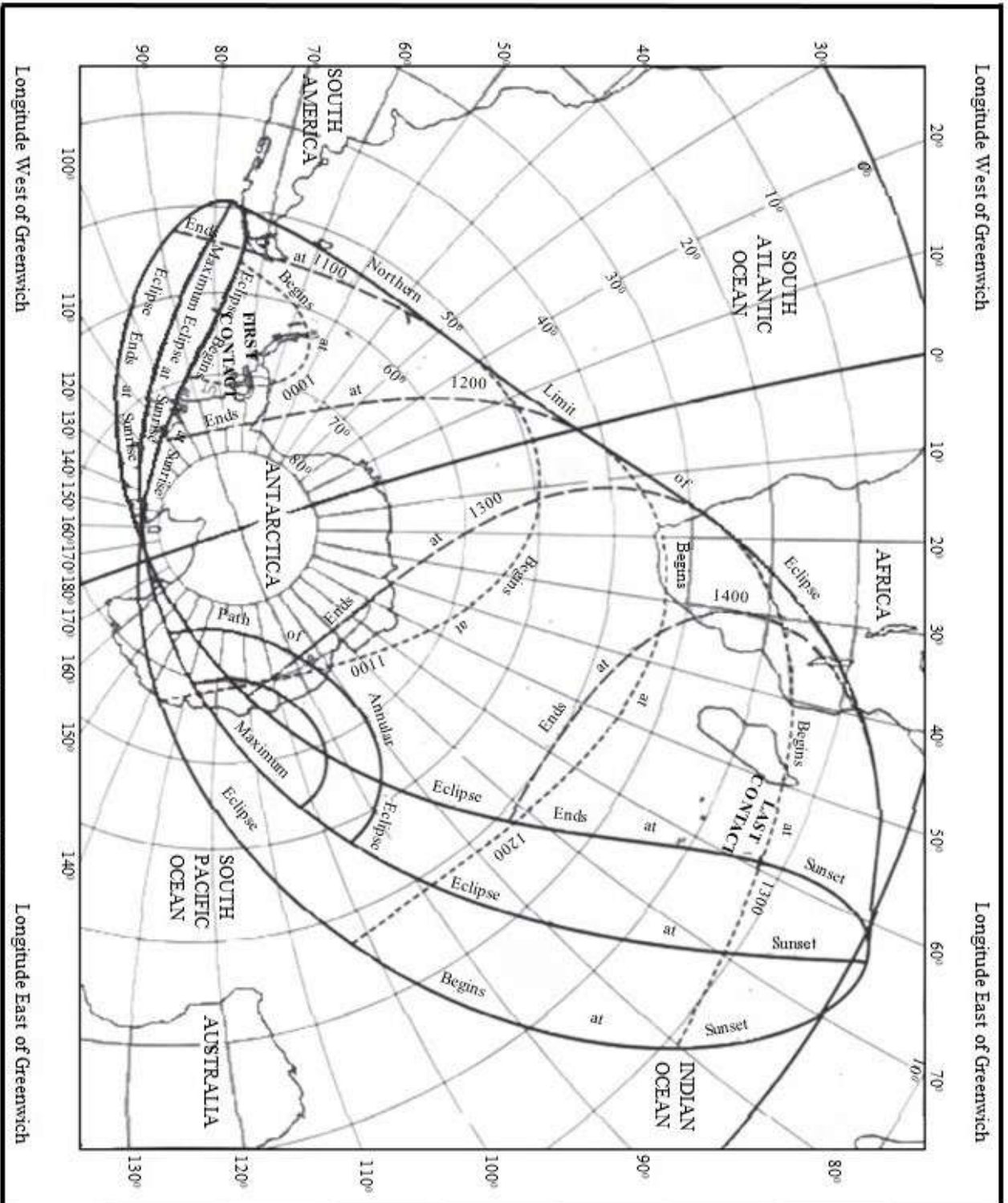
CIRCUMSTANCES OF THE ECLIPSE										
	Universal Time			Indian Standard Time			Latitude		Longitude	
	d	h	m	d	h	m	°	'	°	'
Eclipse begins	17	09	56.6	17	15	26.6	-62	26.8	-79	31.3
Central eclipse begins	17	11	48.3	17	17	18.3	-71	57.4	+136	38.7
Greatest eclipse*	17	12	11.9	17	17	41.9	-64	43.1	+86	39.7
Central eclipse ends	17	12	36.1	17	18	06.1	-50	06.8	+99	01.3
Eclipse ends	17	14	27.6	17	19	57.6	-12	31.1	+59	15.7

*Magnitude of the eclipse= 0.962, Duration of eclipse =4h.31m.

Duration of Annular eclipse = 47.8m, Maximum duration of Annular phase =2m 23s

ECLIPSES, 2026

ANNULAR SOLAR ECLIPSE OF FEBRUARY 17, 2026



ECLIPSES, 2026

BESSELIAN ELEMENTS OF THE ANNULAR ECLIPSE OF THE SUN
FEBRUARY 17

Terrestrial Time (TT)		Co-ordinates of the Centre of Shadow on the Fundamental Plane		Direction of the Axis of Shadow *						Radius of Penumbra and Umbra on the Fundamental Plane	
h	m	x	y	sin d	cos d	° ' "		μ		l ₁	l ₂
9	30	-0.884950	-1.515044	-0.206450	0.978457	319	00	34.0		0.557003	0.011981
	40	-0.804491	-1.475892	-0.206410	0.978465	321	30	35.2		0.556992	0.011971
	50	-0.724031	-1.436732	-0.206371	0.978474	324	00	36.3		0.556981	0.011959
10	00	-0.643570	-1.397565	-0.206331	0.978482	326	30	37.5		0.556969	0.011947
	10	-0.563109	-1.358390	-0.206291	0.978491	329	00	38.7		0.556956	0.011935
	20	-0.482648	-1.319208	-0.206251	0.978499	331	30	39.9		0.556943	0.011922
	30	-0.402187	-1.280018	-0.206211	0.978508	334	00	41.1		0.556930	0.011908
	40	-0.321726	-1.240821	-0.206171	0.978516	336	30	42.3		0.556915	0.011894
	50	-0.241266	-1.201617	-0.206131	0.978524	339	00	43.4		0.556901	0.011879
11	00	-0.160806	-1.162407	-0.206091	0.978533	341	30	44.6		0.556885	0.011864
	10	-0.080347	-1.123189	-0.206051	0.978541	344	00	45.8		0.556869	0.011848
	20	0.000111	-1.083964	-0.206011	0.978550	346	30	47.0		0.556853	0.011831
	30	0.080568	-1.044733	-0.205971	0.978558	349	00	48.2		0.556835	0.011814
	40	0.161024	-1.005495	-0.205931	0.978567	351	30	49.4		0.556818	0.011796
	50	0.241478	-0.966250	-0.205891	0.978575	354	00	50.6		0.556799	0.011778
12	00	0.321931	-0.926999	-0.205851	0.978583	356	30	51.7		0.556780	0.011759
	10	0.402382	-0.887741	-0.205811	0.978592	359	00	52.9		0.556760	0.011739
	20	0.482831	-0.848478	-0.205771	0.978600	361	30	54.1		0.556740	0.011719
	30	0.563277	-0.809208	-0.205731	0.978609	364	00	55.3		0.556719	0.011698
	40	0.643722	-0.769931	-0.205691	0.978617	366	30	56.5		0.556698	0.011677
	50	0.724164	-0.730649	-0.205651	0.978625	369	00	57.7		0.556676	0.011655
13	00	0.804603	-0.691361	-0.205611	0.978634	371	30	58.9		0.556653	0.011632
	10	0.885039	-0.652067	-0.205571	0.978642	374	01	00.1		0.556630	0.011609
	20	0.965472	-0.612768	-0.205531	0.978651	376	31	01.3		0.556606	0.011585
	30	1.045902	-0.573462	-0.205491	0.978659	379	01	02.4		0.556582	0.011561
	40	1.126329	-0.534152	-0.205451	0.978667	381	31	03.6		0.556557	0.011536
	50	1.206752	-0.494835	-0.205411	0.978676	384	01	04.8		0.556531	0.011510
14	00	1.287171	-0.455513	-0.205371	0.978684	386	31	06.0		0.556505	0.011484
	10	1.367587	-0.416186	-0.205331	0.978693	389	01	07.2		0.556478	0.011457
	20	1.447998	-0.376854	-0.205291	0.978701	391	31	08.4		0.556451	0.011429
	30	1.528405	-0.337517	-0.205251	0.978709	394	01	09.6		0.556423	0.011401
	40	1.608808	-0.298174	-0.205211	0.978718	396	31	10.8		0.556394	0.011373
	50	1.689206	-0.258827	-0.205171	0.978726	399	01	12.0		0.556365	0.011343
15	00	1.769599	-0.219475	-0.205130	0.978735	401	31	13.2		0.556335	0.011314

tanf1= 0.00473973

tanf2= 0.00471615

TT hr	d ° ' "		Variations per minute		
			x'	y'	μ'
9	-11	55 17	+0.008 045	+0.003 912	15 00
10	-11	54 27	+0.008 046	+0.003 917	15 00
11	-11	53 36	+0.008 045	+0.003 921	15 00
12	-11	52 46	+0.008 045	+0.003 925	15 00
13	-11	51 55	+0.008415	+0.003 932	15 00
14	-11	51 04	+0.008 041	+0.003 933	15 00

$$\xi' = 0.004364 \rho \cos \phi' \cos (\mu + \lambda) \quad \eta' = 0.004364 \xi \sin d$$

*d stands for declination and μ stands for hour angle

ECLIPSES, 2026

**PATH OF CENTRAL PHASE DURING THE ANNULAR ECLIPSE OF THE SUN
FEBRUARY17**

Terrestrial Time (TT)	Northern Limit		Central Line		Southern Limit		Central Line
	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude	Duration of Annularity
Limit	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	m s
h m							
11 50	-73 54.0	+144 31.3	- 57.5 71	+136 38.8	-69 12.0	+128 20.4	- -
12 00	-75 39.5	+103 54.7	- 51.7	+121 51.7	- -	- -	2 23.7
10	-70 51.6	+86 35.2	73 42.0	+95 23.3	-69 44.3	+108 03.7	2 23.2
20	-65 41.2	+81 11.5	-	+87 25.3	65 21.6	+95 40.5	2 22.8
30	-60 35.7	+80 19.2	70	+85 46.7	60 09.2	+93 14.7	2 22.5
Limit	-55 26.0	+82 29.6	- 42.4	+88 39.0	- -	- -	2 22.4
	-47 31.9	+96 26.0	65	+99 01.0	-53 24.8	+102 35.1	- -
			- 33.6				
			60				
			- 06.7				
			55 06.6				
			-				
			50				

ECLIPSES, 2026

III- Total eclipse of the Sun, 12 August, 2026, Wednesday.

Not Visible in India**Area of Visibility**

The eclipse will be visible in the region covering western Europe, western Africa, North America, Greenland, the north Atlantic Ocean, and the north Pacific Ocean.

ELEMENTS OF THE ECLIPSE						
Universal Time of Conjunction in Right Ascension : August 12 ^d 17 ^h 03 ^m 52 ^s .50						
	MOON			SUN		
	h	m	s	h	m	s
Right Ascension	9	29	40.67	9	29	40.65
Hourly Motion			137.88			09.43
	°	'	"	°	'	"
Declination	+15	18	00.73	+14	47	05.49
Hourly Motion		-14	40.59			-45.47
Equatorial Horizontal Parallax		59	43.41			08.68
True Semi-diameter		16	16.07		15	47.07

CIRCUMSTANCES OF THE ECLIPSE									
	Universal Time			Indian Standard Time			Latitude		Longitude
	d	h	m	d	h	m	°	'	°
Eclipse begins	12	15	34.3	12	21	04.3	56	42.5	-166 05.8
Totality of Eclipse begins	12	17	00.1	12	22	30.1	75	04.7	+113 26.6
Greatest eclipse*	12	17	45.9	12	23	15.9	65	13.4	-25 18.9
Totality of Eclipse ends	12	18	32.2	13	00	02.2	38	40.8	+05 24.3
Eclipse ends	12	19	57.9	13	01	27.9	11	27.9	-25 09.3

*Magnitude of the eclipse = 1.038, Duration of eclipse = 4 h. 24 m.
Duration of Total eclipse = 1h 32.1m, Maximum duration of Totality = 2m. 16s.

The map displays the path of a solar eclipse across the Atlantic Ocean and parts of North America, South America, Europe, and Africa. The path is marked with solid lines and includes labels for 'First Contact', 'Maximum Eclipse', 'Last Contact', 'Begins', 'Ends', 'Total Eclipse', and 'Partial Eclipse'. The path starts in the North Atlantic, passes south of North America, crosses the Atlantic, and ends in the South Atlantic. The map also shows the outlines of the continents and major cities.

The timings of beginning and ending are expressed in UT

ECLIPSES, 2026
BESSELIAN ELEMENTS OF THE TOTAL ECLIPSE OF THE SUN
AUGUST 12

Terrestrial Time (TT)		Co-ordinates of the Centre of Shadow on the Fundamental Plane		Direction of the Axis of Shadow *					Radius of Penumbra and Umbra on the Fundamental Plane	
h	m	x	y	sin d	cos d	μ			l ₁	l ₂
15	00	-1.081742	+1.460466	+0.256000	+0.966677	43	44	18.6	+0.536690	-0.008331
	10	-0.995215	+1.422243	+0.255966	+0.966686	46	14	20.4	+0.536718	-0.008303
	20	-0.908688	+1.384011	+0.255932	+0.966695	48	44	22.3	+0.536744	-0.008277
	30	-0.822162	+1.345771	+0.255898	+0.966704	51	14	24.1	+0.536770	-0.008251
	40	-0.735637	+1.307522	+0.255865	+0.966713	53	44	25.9	+0.536796	-0.008225
	50	-0.649114	+1.269265	+0.255831	+0.966722	56	14	27.8	+0.536821	-0.008200
16	00	-0.562591	+1.231000	+0.255797	+0.966731	58	44	29.6	+0.536845	-0.008176
	10	-0.476070	+1.192726	+0.255763	+0.966740	61	14	31.5	+0.536868	-0.008153
	20	-0.389551	+1.154444	+0.255729	+0.966749	63	44	33.3	+0.536891	-0.008130
	30	-0.303034	+1.116155	+0.255695	+0.966758	66	14	35.2	+0.536913	-0.008108
	40	-0.216520	+1.077857	+0.255661	+0.966766	68	44	37.0	+0.536934	-0.008087
	50	-0.130007	+1.039552	+0.255627	+0.966775	71	14	38.9	+0.536955	-0.008066
17	00	-0.043497	+1.001239	+0.255593	+0.966784	73	44	40.7	+0.536975	-0.008046
	10	+0.043010	+0.962918	+0.255559	+0.966793	76	14	42.6	+0.536995	-0.008026
	20	+0.129514	+0.924590	+0.255525	+0.966802	78	44	44.4	+0.537013	-0.008008
	30	+0.216014	+0.886255	+0.255492	+0.966811	81	14	46.3	+0.537031	-0.007990
	40	+0.302511	+0.847911	+0.255458	+0.966820	83	44	48.1	+0.537048	-0.007973
	50	+0.389005	+0.809561	+0.255424	+0.966829	86	14	50.0	+0.537065	-0.007956
18	00	+0.475494	+0.771203	+0.255390	+0.966838	88	44	51.8	+0.537081	-0.007940
	10	+0.561980	+0.732839	+0.255356	+0.966847	91	14	53.7	+0.537096	-0.007925
	20	+0.648461	+0.694467	+0.255322	+0.966856	93	44	55.5	+0.537110	-0.007911
	30	+0.734937	+0.656088	+0.255288	+0.966865	96	14	57.4	+0.537124	-0.007897
	40	+0.821409	+0.617703	+0.255254	+0.966874	98	44	59.2	+0.537137	-0.007884
	50	+0.907876	+0.579310	+0.255220	+0.966883	101	15	01.1	+0.537149	-0.007872
19	00	+0.994337	+0.540911	+0.255186	+0.966892	103	45	03.0	+0.537161	-0.007860
	10	+1.080793	+0.502505	+0.255152	+0.966901	106	15	04.8	+0.537171	-0.007850
	20	+1.167244	+0.464093	+0.255118	+0.966910	108	45	06.7	+0.537181	-0.007840
	30	+1.253688	+0.425675	+0.255084	+0.966919	111	15	08.5	+0.537191	-0.007830
	40	+1.340127	+0.387250	+0.255050	+0.966928	113	45	10.4	+0.537199	-0.007822
	50	+1.426559	+0.348818	+0.255016	+0.966937	116	15	12.2	+0.537207	-0.007814
20	00	+1.512985	+0.310381	+0.254982	+0.966946	118	45	14.1	+0.537214	-0.007807
	10	+1.599404	+0.271937	+0.254948	+0.966955	121	15	15.9	+0.537220	-0.007801
	20	+1.685816	+0.233488	+0.254914	+0.966964	123	45	17.8	+0.537226	-0.007795
	30	+1.772221	+0.195032	+0.254880	+0.966973	126	15	19.6	+0.537231	-0.007790

tanf1 = 0.00462146

tanf2 = 0.00459848

TT hr	d ° ' "	Variations per minute		
		x	y	μ
15	14 49 58	+0.008 653	-0.003 822	15 00
16	14 49 15	+0.008 652	-0.003 827	15 00
17	14 48 31	+0.008 651	-0.003 832	15 00
18	14 47 48	+0.008 649	-0.003 837	15 00
19	14 47 05	+0.008 642	-0.003 844	15 00
20	14 46 21	+0.008 641	-0.003 845	15 00

$\xi' = 0.004364 \rho \cos \phi' \cos(\mu + \lambda)$ $\eta' = 0.004364 \xi \sin d$
 *d stands for declination and μ stands for hour angle

ECLIPSES, 2026

PATH OF CENTRAL PHASE DURING THE TOTAL ECLIPSE OF THE SUN AUGUST 12

Terrestrial Time (TT)	Northern Limit		Central Line		Southern Limit		Central Line
	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude	Duration of Totality
Limit	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	m s
h m							- -
10	+75 10.5	+108 32.9	+75 04.7	+113 26.5	+74 54.5	+118 04.1	1 57.8
20	+86 34.4	+32 47.6	+86 51.5	-1 17.4	+86 10.8	-28 44.4	2 07.3
30	+80 27.7	-18 58.7	+79 47.8	-26 58.6	+79 00.9	-33 38.9	2 12.8
40	+74 17.1	-23 14.8	+73 42.2	-27 48.0	+73 04.0	-31 54.5	2 15.2
50	+68 44.7	-23 01.9	+68 15.9	-26 25.5	+67 44.6	-29 35.1	2 15.2
18 00	+63 34.5	-21 27.5	+63 11.4	-24 18.2	+62 46.1	-26 59.8	2 12.6
10	+58 34.8	-19 01.2	+58 17.3	-21 35.6	+57 57.7	-24 02.7	2 07.4
20	+53 34.1	-15 35.2	+53 23.3	-18 04.8	+53 10.0	-20 27.3	1 58.7
30	+48 14.2	-10 22.2	+48 13.8	-13 04.8	+48 09.6	-15 36.6	1 42.3
Limit	+40 48.0	+02 48.5	+41 50.8	-3 15.5	+42 16.5	-7 12.0	- -
Limit	+39 44.2	+6 21.2	+38 40.8	+5 24.1	+37 39.7	+4 30.2	- -

ECLIPSES, 2026**II- Total eclipse of the Moon, 03 March, 2026, Tuesday****Visible in India**

The eclipse will be visible in the region covering eastern Asia, Australia, Pacific Ocean and Americas.

The places from where the beginning of Umbral phase is visible at the time of moonset are Argentina, parts of Paraguay, Bolivia, Brazil, Greenland and North Atlantic Ocean.

The places from where the beginning of Umbral phase is visible at the time of moonrise are parts of Russia, Kazakhstan, Afghanistan, Pakistan, India, Sri Lanka, Maldives and Indian Ocean.

Visibility in India: The eclipse is visible from most places of the country except from some places of extreme western part of India.

ELEMENTS OF THE ECLIPSE						
Universal Time of Opposition in Right Ascension: March 3 ^d 11 ^h 56 ^m 11 ^s .91						
	MOON			SUN		
	h	m	s	h	m	s
Right Ascension	10	56	59.54	22	56	59.54
Hourly Motion			118.90			09.32
	°	'	"	°	'	"
Declination	+6	18	15.87	-6	42	44.79
Hourly Motion		-15	32.45			57.55
Equatorial Horizontal Parallax		57	18.13			08.87
True Semi-diameter		15	36.51		16	08.05

CIRCUMSTANCES OF THE ECLIPSE											
	Universal Time			Indian Standard Time			Position Angle measured from the North Point of Moon's Limb (N.E.S.W.)	The Moon being in the Zenith in			
								Latitude		Longitude	
	d	h	m	d	h	m	°	°	'	°	'
Moon enters penumbra	3	08	42.6	3	14	12.6	104	+7	08	-128	52
Moon enters umbra	3	09	49.7	3	15	19.7	96	+6	51	-145	07
Moon enters Totality	3	11	03.9	3	16	33.9	64	+6	47	-163	37
Middle of the eclipse*	3	11	33.7	3	17	03.7	28	+6	24	-170	19
Moon leaves Totality	3	12	03.3	3	17	33.3	353	+6	32	-178	00
Moon leaves umbra	3	13	17.6	3	18	47.6	320	+6	13	+163	59
Moon leaves penumbra	3	14	24.7	3	19	54.7	312	+5	55	+147	43

*Magnitude of the eclipse =1.155(Moon's diam =1.0). Distance between the centers at middle 1294".5

Radius of shadow cone at Moon's distance: Penumbra 4496".6, Umbra 2521".8

EASTERN AND WESTERN LIMITS OF VISIBILITY

Eastern Limit Moonset at beginning (9h 49.7m U.T.)				Western Limit Moonrise at ending (13h 17.6m U.T.)			
Latitude	Longitude	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude
°	'	°	'	°	'	°	'
-50	-63 21	+10	-53 55	-50	+81 26	+10	+72 53
-40	-60 55	+20	-52 37	-40	+79 14	+20	+71 43
-30	-59 06	+30	-51 09	-30	+77 35	+30	+70 23
-20	-57 38	+40	-49 20	-20	+76 16	+40	+68 45
-10	-56 20	+50	-46 54	-10	+75 05	+50	+66 32
0	-55 07	+60	-43 07	0	+73 59	+60	+63 07

The eclipse is visible in the region west of the eastern limit and east of the western limit. Here, moonset and moonrise times relate to visibility of the center of the Moon on the horizon.

Tables of visibility of the eclipse of some places of India are listed in next two pages.

ECLIPSES, 2026
TOTAL ECLIPSE OF THE MOON, 3 MARCH, 2026

PHASES OF ECLIPSE VISIBLE FROM CERTAIN PLACES OF INDIA

Places	Moonrise Time (IST)		Umbral phase begins at 15h 20m (IST)		Totality begins at 16 h 34m (IST)		Totality Ends at 17h 33m (IST)		Umbral phase Ends at 18 h 48m (IST)		Duration of eclipse (from Moonrise time upto the end of umbral phase)	
	h	m	h	m	h	m	h	m	h	m	h	m
Agartala	17	27	*	*	*	*	Visible	Visible	Visible	Visible	1	21
Ahmadabad	18	44	*	*	*	*	*	*	Visible	Visible	0	04
Aijawl	17	20	*	*	*	*	Visible	Visible	Visible	Visible	1	28
Ajmer	18	34	*	*	*	*	*	*	Visible	Visible	0	14
Allahabad	18	05	*	*	*	*	*	*	Visible	Visible	0	43
Amritsar	18	30	*	*	*	*	*	*	Visible	Visible	0	18
Bangalore	18	28	*	*	*	*	*	*	Visible	Visible	0	20
Bhagalpur	17	44	*	*	*	*	*	*	Visible	Visible	1	04
Bhopal	18	24	*	*	*	*	*	*	Visible	Visible	0	24
Bhubaneswar	17	51	*	*	*	*	*	*	Visible	Visible	0	57
Cannanore	18	38	*	*	*	*	*	*	Visible	Visible	0	10
Chandigarh	18	19	*	*	*	*	*	*	Visible	Visible	0	29
Chennai	18	17	*	*	*	*	*	*	Visible	Visible	0	31
Cochin	18	35	*	*	*	*	*	*	Visible	Visible	0	13
Cooch Behar	17	33	*	*	*	*	*	*	Visible	Visible	1	15
Cuttack	17	50	*	*	*	*	*	*	Visible	Visible	0	58
Darjeeling	17	37	*	*	*	*	*	*	Visible	Visible	1	11
Dehradun	18	17	*	*	*	*	*	*	Visible	Visible	0	31
Delhi	18	22	*	*	*	*	*	*	Visible	Visible	0	26
Dibrugarh	17	09	*	*	*	*	Visible	Visible	Visible	Visible	1	39
Dwarka	18	59	*	*	*	*	*	*	*	*	*	*
Gandhinagar	18	44	*	*	*	*	*	*	Visible	Visible	0	04
Gangtok	17	36	*	*	*	*	*	*	Visible	Visible	1	12
Guwahati	17	24	*	*	*	*	Visible	Visible	Visible	Visible	1	24
Gaya	17	52	*	*	*	*	*	*	Visible	Visible	0	56
Haridwar	18	17	*	*	*	*	*	*	Visible	Visible	0	31
Hazaribagh	17	51	*	*	*	*	*	*	Visible	Visible	0	57
Hubli	18	36	*	*	*	*	*	*	Visible	Visible	0	12
Hyderabad	18	22	*	*	*	*	*	*	Visible	Visible	0	26
Imphal	17	15	*	*	*	*	Visible	Visible	Visible	Visible	1	33
Itanagar	17	15	*	*	*	*	Visible	Visible	Visible	Visible	1	33
Jaipur	18	29	*	*	*	*	*	*	Visible	Visible	0	19
Jalandhar	18	25	*	*	*	*	*	*	Visible	Visible	0	23
Jammu	18	29	*	*	*	*	*	*	Visible	Visible	0	19
Kanyakumari	18	31	*	*	*	*	*	*	Visible	Visible	0	17
Kavalur	18	19	*	*	*	*	*	*	Visible	Visible	0	29
Kavaratti	18	48	*	*	*	*	*	*	*	*	*	*
Kohima	17	13	*	*	*	*	Visible	Visible	Visible	Visible	1	35
Kolhapur	18	40	*	*	*	*	*	*	Visible	Visible	0	08
Kolkata	17	39	*	*	*	*	*	*	Visible	Visible	1	09
Koraput	18	04	*	*	*	*	*	*	Visible	Visible	0	44
Kozikode	18	36	*	*	*	*	*	*	Visible	Visible	0	12

* Indicates Moon rises after the corresponding phenomenon (i.e. corresponding phenomenon is not visible)

ECLIPSES, 2026

TOTAL ECLIPSE OF THE MOON, 3 MARCH, 2026
PHASES OF ECLIPSE VISIBLE FROM CERTAIN PLACES OF INDIA

Places	Moonrise Time (IST)	Umbral phase begins at 15h 20m (IST)	Totality begins at 16 h 34m (IST)	Totality Ends at 17h 33m (IST)	Umbral phase Ends at 18 h 48m (IST)	Duration of eclipse (from Moonrise time upto the end of umbral phase)
	h m	h m	h m	h m	h m	h m
Lucknow	18 07	*	*	*	Visible	0 41
Madurai	18 27	*	*	*	Visible	0 21
Mangalore	18 39	*	*	*	Visible	0 09
Midnapore	17 44	*	*	*	Visible	1 04
Mount Abu	18 43	*	*	*	Visible	0 05
Mumbai	18 45	*	*	*	Visible	0 03
Murshidabad	17 38	*	*	*	Visible	1 10
Muzaffarpur	17 50	*	*	*	Visible	0 58
Mysore	18 32	*	*	*	Visible	0 16
Nagpur	18 18	*	*	*	Visible	0 30
Nalgonda	18 19	*	*	*	Visible	0 29
Nasik	18 41	*	*	*	Visible	0 07
Nellore	18 18	*	*	*	Visible	0 30
Nowgong	18 15	*	*	*	Visible	0 33
Panaji	18 40	*	*	*	Visible	0 08
Patna	17 51	*	*	*	Visible	0 57
Pondicherry	18 19	*	*	*	Visible	0 29
Pune	18 41	*	*	*	Visible	0 07
Port Blair	17 27	*	*	Visible	Visible	1 21
Puri	17 51	*	*	*	Visible	0 57
Raipur	18 07	*	*	*	Visible	0 41
Rajamundry	18 07	*	*	*	Visible	0 41
Rajkot	18 52	*	*	*	*	* *
Ranchi	17 51	*	*	*	Visible	0 57
Sambalpur	17 58	*	*	*	Visible	0 50
Shillong	17 23	*	*	Visible	Visible	1 25
Shimla	18 21	*	*	*	Visible	0 27
Sibsagar	17 11	*	*	Visible	Visible	1 37
Silchar	17 20	*	*	Visible	Visible	1 28
Siliguri	17 37	*	*	*	Visible	1 11
Silvassa	18 44	*	*	*	Visible	0 04
Srinagar	18 28	*	*	*	Visible	0 20
Sringeri	18 36	*	*	*	Visible	0 12
Tamelong	17 15	*	*	Visible	Visible	1 33
Thanjavur	18 23	*	*	*	Visible	0 25
Thiruvananthapuram	18 33	*	*	*	Visible	0 15
Trichur	18 34	*	*	*	Visible	0 14
Udaipur	18 39	*	*	*	Visible	0 09
Ujjain	18 31	*	*	*	Visible	0 17
Vadodara	18 42	*	*	*	Visible	0 06
Varanasi	18 00	*	*	*	Visible	0 48
Vijayawada	18 14	*	*	*	Visible	0 34

* Indicates Moon rises after the corresponding phenomenon (i.e. corresponding phenomenon is not visible)

ECLIPSES, 2026

IV- Partial eclipse of the Moon, 28 August, 2026, Friday.

Not visible in India

The eclipse will be visible in the region covering Antarctica, Africa, Europe, Asia, Indian Ocean, the Atlantic Ocean and the Pacific Ocean.

The places from where the beginning of the Umbral phase will be visible at the time of moonset are Ukraine, Turkey, Saudi Arabia, Yemen, Madagascar, western part of Russia and Indian Ocean and eastern part of Africa.

The places from where the ending of the Umbral phase will be visible at the time of moonrise are parts of Alaska, New Zealand and Pacific Ocean.

ELEMENTS OF THE ECLIPSE						
Universal Time of Opposition Right Ascension : August 28 ^d 04 ^h 41 ^m 48 ^s .09						
	MOON			SUN		
	h	m	s	h	m	s
Right Ascension	22	27	02.25	10	27	02.25
Hourly Motion			116.10			09.12
	°	'	"	°	'	"
Declination	-9	11	07.35	+9	42	28.23
Hourly Motion		14	23.69			-52.91
Equatorial Horizontal Parallax		56	10.52			08.71
True Semi-diameter		15	18.09		15	50.00

CIRCUMSTANCES OF THE ECLIPSE											
	Universal Time			Indian Standard Time			Position Angle measured from the North Point of Moon's Limb (N.E.S.W.)	The Moon being in the Zenith in			
								Latitude		Longitude	
	d	h	m	d	h	m	°	°	'	°	'
Moon enters penumbra	28	01	22.4	28	06	52.4	81	-9	59	-21	26
Moon enters umbra	28	02	33.5	28	08	03.5	92	-9	42	-38	42
Middle of the eclipse*	28	04	12.9	28	09	42.9	153	-9	18	-62	49
Moon leaves umbra	28	05	52.3	28	11	22.3	213	-8	54	-86	56
Moon leaves penumbra	28	07	03.4	28	12	33.4	221	-8	37	-104	11

*Magnitude of the eclipse = 0.935 (Moon's diam = 1.0). Distance between the centers at middle = 1672".8

Radius of shadow cone at Moon's distance: Penumbra 4409".4, Umbra 2471".5

EASTERN AND WESTERN LIMITS OF VISIBILITY

Eastern Limit Moonset at beginning (02h 33.5m U.T.)				Western Limit Moonrise at ending (5h 52.3m U.T.)			
Latitude	Longitude	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude
°	°	°	°	°	°	°	°
-50	+63 03	+10	+49 35	-50	+172 19	+10	-175 21
-40	+59 33	+20	+47 44	-40	+175 31	+20	-173 40
-30	+56 58	+30	+45 38	-30	+177 53	+30	-171 44
-20	+54 52	+40	+43 04	-20	+179 48	+40	-169 23
-10	+53 02	+50	+39 33	-10	-178 31	+50	-166 10
0	+51 18	+60	+34 05	0	-176 56	+60	-161 11

The eclipse is visible in the region west of the eastern limit and east of the western limit. Here, moonset and moonrise times relate to visibility of the center of the Moon on the horizon.

OCCULTATIONS, 2026

PLANETS BY THE MOON

Sl. No.	Date and Ingress - Egress Times (U.T.)		Planet	Magnitude of Planet	Area of Visibility
		h -- h			
1	Feb 15	12.4 15.7	Pluto	14.6	Central America, northernmost South America, North America except N.W. part, W. Azores.
2	Feb 17/18	20.8 01.5	Mercury	-0.7	E. Australia, New Zealand, S.E. Melanesia, S. and E. Polynesia (except easternmost), Central America, S. USA, westernmost Caribbean.
3	Mar 14/15	23.1 01.8	Pluto	14.5	N. Part of southern Asia, most of eastern Asia, northernmost South East Asia, S.E. Russia.
4	June 17	18.3 22.7	Venus	-4.0	Hawaii, USA (except Alaska), S. half of Canada, Caribbean, N.W. South America, westernmost western Africa.
5	Sep 8	17.1 20.4	Jupiter	-1.8	N.E. Russia, most of North America, easternmost Central America, Caribbean, extreme N. South America.
6	Sep 14	09.5 13.7	Venus	-4.8	Most of Europe, N.E. northern Africa, N. half of eastern Africa, western Asia, S. part of southern Asia, W. part of South East Asia, southernmost East Asia.
7	Oct 5	05.1 07.3	Mars	1.1	North-westernmost Canada, northernmost Alaska, E. half of Russia (except easternmost), Mongolia, N.W. China.
8	Oct 6	08.3 12.6	Jupiter	-1.9	S.E. Canada, most of USA, Mexico, W. part of Caribbean, Azores, Cape Verde Is., S. half of western Africa, most of southern Africa.
9	Nov 2	12.3 15.1	Mars	0.9	S.E. Polynesia, south-westernmost Antarctica.
10	Nov 2/3	20.8 00.8	Jupiter	-2.0	Mascarene Is., southernmost southern Asia, S.W. part of South East Asia, most of Australia (except north-easternmost), New Zealand, extreme S.W. Antarctica.
11	Nov 7	09.5 12.0	Venus	-4.5	Southern tip of South America, South Georgia & the South Sandwich Is., central and W. parts of Antarctica.
12	Nov 30	07.3 09.6	Jupiter	-2.2	S. tip of South America, W. tip of Antarctica.

OCCULTATIONS, 2026

ELEMENTS OF OCCULTATIONS OF PLANETS

Sl. No.	T ₀ (U.T. of Conj. in R.A.)			H ₀		Y	x'	y'	Body Occulted					
									Right Ascension			Declination		
	d	h	m	h	m				h	m	s	°	'	"
1	Feb-15	14	33.8	3	47.6	0.9242	0.5373	0.1779	20	29	50.4	-22	-56	-20.4
2	Feb-17	23	02.6	9	43.8	-0.1401	0.4798	0.2497	23	15	39.4	-3	-41	-42.5
3	Mar-15	1	02.9	-7	58.3	1.0642	0.5338	0.1797	20	32	59.6	-22	-49	-24.7
4	Jun-17	20	20.6	29	34.3	0.2851	0.5301	-0.1829	8	31	56.8	20	56	53.3
5	Sep-8	18	11.3	32	12.0	0.8470	0.5480	-0.2252	9	11	45.1	16	45	55.8
6	Sep-14	11	11.0	20	52.0	0.5599	0.5024	-0.2069	13	54	01.1	-17	-10	-38.7
7	Oct-5	5	31.9	-1	58.3	1.1745	0.5408	-0.1833	8	26	56.8	20	16	46.6
8	Oct-6	10	16.4	1	45.3	0.1770	0.5353	-0.2353	9	32	34.0	15	13	19.1
9	Nov-2	14	25.1	7	44.3	-1.0846	0.5209	-0.2286	9	29	30.1	16	32	45.0
10	Nov-2	23	09.5	16	11.3	-0.5493	0.5294	-0.2428	9	48	22.2	13	59	32.6
11	Nov-7	11	33.5	1	18.4	-1.1421	0.5278	-0.2536	13	22	58.7	-12	-13	-52.3
12	Nov-30	9	15.1	3	56.2	-1.1882	0.5341	-0.2504	9	57	03.8	13	20	37.4

ELEMENTS OF OCCULTATIONS OF PLANETS

Sl. No.	<i>l</i>	<i>a</i>
1	0.2725	1.00
2	0.2732	1.00
3	0.2725	1.00
4	0.2731	1.00
5	0.2726	1.00
6	0.2741	1.00
7	0.2729	1.00
8	0.2726	1.00
9	0.2730	1.00
10	0.2726	1.00
11	0.2749	1.00
12	0.2726	1.00

OCCULTATIONS, 2026

BRIGHT STARS BY THE MOON

Sl. No.	Date and Ingress - Egress Times (U.T.)		Star	Area of Visibility
		h -- h		
1	Jan - 6	15.3 19.4	Regulus	E. Kazakhstan, N. half of China, Most of Russia, N.E. Melanesia, N Polynesia.
2	Jan - 14	18.0 22.1	Antares	Most of Australia. S. New Zealand, S. half of Antarctica, S. tip of South America.
3	Feb - 3	01.7 05.8	Regulus	Most of USA, most of Canada, Azores, Cape Verde Is., most of western Africa, middle Africa, W. half of eastern Africa.
4	Feb - 11	02.0 05.7	Antares	South Georgia & the South Sandwich Is., southernmost South America, Antarctica, Tasmania, extreme S.E Australia.
5	Mar - 2	11.0 15.1	Regulus	E. Kazakhstan, N. half of China, most of S. Russia, N.E. Micronesia, N. Polynesia.
6	Mar - 10	10.2 13.9	Antares	Southernmost Polynesia, Antarctica, South Georgia & the South Sandwich Is.
7	Mar - 29	17.9 22.1	Regulus	Extreme N.E. Canada, S. tip of Greenland, most of Europe, most of northern Africa, N. part of eastern Africa, S. southern Asia, S.E. South East Asia.
8	Apr - 6	17.9 21.9	Antares	Eastern most southern Asia. Kerguelen Is., E. Antarctica. most of New Zealand.
9	Apr - 25/26	23.3 03.7	Regulus	Southernmost Canada, most of USA. Central America, most of N. half of South America.
10	May - 4	00.8 05.1	Antares	S. South America, South Georgia & the South Sandwich Is., north-westernmost Antarctica, southmost Southern Africa, Kerguelen Is.
11	May - 23	05.1 09.5	Regulus	S. eastern Asia, N. South East Asia, Micronesia, most of Melanesia, W and central Polynesia.
12	May - 31	07.0 11.4	Antares	Most of Melanesia, E. Australia, New Zealand. S. part of South America.
13	Jun - 19	12.8 17.0	Regulus	North-easternmost South America, S. part of western Africa, most of southern Africa, Kerguelen Is.
14	Jun - 27	13.1 17.3	Antares	E. part of southern Africa. Kerguelen Is. E, part of Antarctica, south easternmost Australia, New Zealand.
15	Jul - 16/17	22.4 02.4	Regulus	Most of Micronesia, Melanesia, north-easternmost Australia, most of Polynesia (except Hawaii and New Zealand).
16	Jul - 24	19.6 23.6	Antares	S. South America, N. half of Antarctica, Kerguelen Is.
17	Aug - 21	02.9 06.8	Antares	Most of Australia. S. New Zealand, most of Antarctica (except northernmost), S. tip of South America.
18	Sep - 9	17.9 21.8	Regulus	E. Micronesia, E. Melanesia, Polynesia (except Hawaii and New Zealand), extreme S.W. Antarctica.

OCCULTATIONS, 2026

BRIGHT STARS BY THE MOON

Sl. No.	Date and Ingress - Egress Times (U.T.)		Star	Area of Visibility
		h -- h		
19	Sep - 17	10.9 14.9	Antares	Southernmost tip of southern Africa, South Georgia & the South Sandwich Is., Antarctica (except S.W. part), Kerguelen Is., southernmost Australia.
20	Oct - 7	01.2 05.1	Regulus	Most of eastern and southern Africa, Kerguelen Is., S.W. tip of Australia, north-easternmost Antarctica.
21	Oct - 14	18.9 23.2	Antares	S. part of Polynesia (except New Zealand), S. part of South America, W. tip of Antarctica.
22	Nov - 3	07.0 10.4	Regulus	Most of South America (except northernmost), South Georgia & the South Sandwich Is., north-westernmost Antarctica.
23	Nov - 11	02.4 06.9	Antares	Seychelles, easternmost Madagascar, S. part of Australia, southernmost Melanesia, S.W. Polynesia.
24	Nov - 30	13.2 15.7	Regulus	New Zealand, southernmost Antarctica.
25	Dec - 27	22.1 22.7	Regulus	Southern Ocean off Queen Maud Land.

OCCULTATIONS, 2026

ELEMENTS OF OCCULTATIONS OF STARS

Sl. No.	T0 (U.T. of Conj. in R.A.)			H ₀		Y	x'	y'	Body Occulted					
									Right Ascension			Declination		
	d	h	m	h	m				h	m	s	°	'	"
1	Jan - 6	16	59.8	13	56.3	0.4938	0.5284	-0.2538	10	09	46.7	11	50	16.8
2	Jan - 14	20	11.6	11	19.0	-0.6186	0.5412	-0.0826	16	30	59.8	-26	29	20.2
3	Feb - 3	03	28.3	2	13.0	0.3877	0.5319	-0.2571	10	09	47.4	11	50	13.6
4	Feb - 11	04	03.2	20	58.3	-0.7639	0.5395	-0.0815	16	31	00.7	-26	29	22.1
5	Mar - 2	13	16.0	7	27.6	-0.7317	0.5057	-0.0765	16	31	01.7	-26	29	24.3
6	Mar - 10	12	16.0	6	59.0	0.7803	0.5392	0.0813	16	31	01.7	26	29	24.3
7	Mar - 29	19	41.6	22	01.9	0.3658	0.5226	-0.2526	10	09	47.6	11	50	12.9
8	Apr - 6	20	06.0	16	36.6	-0.6570	0.5407	-0.0810	16	31	02.6	-26	29	26.3
9	Apr - 26	01	18.9	5	26.6	0.1993	0.5197	-0.2501	10	09	47.3	11	50	14.2
10	May - 4	03	04.8	1	23.0	-0.5007	0.5425	-0.0797	16	31	03.3	-26	29	27.8
11	May - 23	07	21.3	13	16.4	-0.0805	0.5232	-0.2515	10	09	47.0	11	50	15.7
12	May - 31	09	17.7	9	23.3	-0.4341	0.5432	-0.0776	16	31	03.8	-26	29	29.0
13	Jun - 19	15	10.3	22	53.2	-0.3558	0.5311	-0.2562	10	09	46.7	11	50	16.9
14	Jun - 27	15	17.8	17	10.9	-0.4972	0.5424	-0.0754	16	31	04.0	-26	29	30.0
15	Jul - 17	00	45.6	10	16.4	-0.5213	0.5386	-0.2611	10	09	46.6	11	50	17.5
16	Jul - 24	21	45.1	25	25.8	-0.6236	0.5413	-0.0740	16	31	03.9	-26	29	30.6
17	Aug - 21	05	02.8	10	31.0	-0.6955	0.5413	-0.0736	16	31	03.6	-26	29	30.7
18	Sep - 9	20	15.4	33	22.4	-0.5638	0.5377	-0.2613	10	09	46.9	11	50	16.0
19	Sep - 17	13	02.6	20	18.7	-0.6332	0.5431	-0.0737	16	31	03.1	-26	29	29.9
20	Oct - 7	03	36.7	18	31.3	-0.6418	0.5311	-0.2568	10	09	47.4	11	50	13.2
21	Oct - 14	21	09.5	6	13.3	-0.4611	0.5460	-0.0733	16	31	02.7	-26	29	28.5
22	Nov - 3	09	20.7	2	02.6	-0.8624	0.5272	-0.2539	10	09	48.1	11	50	08.8
23	Nov - 11	04	41.8	15	33.3	-0.2973	0.5481	-0.0717	16	31	02.6	-26	29	27.0
24	Nov - 30	15	16.2	9	45.6	-1.1624	0.5309	-0.2557	10	09	49.0	11	50	03.5
25	Dec - 27	23	23.6	19	40.8	-1.3993	0.5408	-0.2616	10	09	49.9	11	49	58.2

$$l = 0.2725^* \text{ and } a = 1.00^*$$

*Elements l and a have identical values correct upto last significant digit (as reported) in each 25 occultations of the bright stars.

PART - V

ASTRONOMICAL PHENOMENA AND MISCELLANEOUS TABLES

PHENOMENA, 2026
ELONGATIONS AND MAGNITUDES OF PLANETS AT 0^h U.T.

Date		Mercury			Venus			Date		Mercury			Venus		
		Elong.		Mag.	Elong.		Mag.			Elong.		Mag.	Elong.		Mag.
Jan.	0	W	12	-0.5	W	2	-4.0	July	9	E	8	4.6	E	42	-4.1
	5		10	-0.6	W	1	----		14	W	5	5.4		43	-4.2
	10		7	-0.8	E	1	----		19		10	3.8		44	-4.2
	15		5	-1.1		2	-4.0		24		15	2.1		44	-4.3
	20	W	2	-1.4		3	-4.0		29		19	0.9		45	-4.3
Feb.	25	E	3	-1.4	E	5	-3.9	Aug.	3	W	19	0.0	E	45	-4.3
	30		6	-1.3		6	-3.9		8		18	-0.6		46	-4.4
	4		10	-1.2		7	-3.9		13		15	-1.0		46	-4.4
	9		13	-1.1		8	-3.9		18		10	-1.4		46	-4.5
	14		16	-1.0		9	-3.9		23	W	5	-1.7		46	-4.5
Mar.	19	E	18	-0.7	E	10	-3.9	Sept	28	E	2	-1.9	E	45	-4.6
	24		17	0.2		12	-3.9		2		5	-1.4		45	-4.7
	1		12	2.1		13	-3.9		7		9	-0.9		43	-4.7
	6	E	5	5.0		14	-3.9		12		13	-0.6		42	-4.7
	11	W	8	4.2		15	-3.9		17		16	-0.4		40	-4.8
Apr.	16	W	16	2.2	E	16	-3.9	Oct.	22	E	19	-0.2	E	38	-4.8
	21		22	1.1		18	-3.9		27		21	-0.1		34	-4.8
	26		26	0.6		19	-3.9		2		23	-0.1		30	-4.7
	31		27	0.3		20	-3.9		7		25	-0.1		26	-4.6
	5		28	0.2		21	-3.9		12		25	-0.1		20	-4.5
	10	W	27	0.1	E	23	-3.9	Nov.	17	E	25	0.0	E	13	-4.2
	15		25	0.0		24	-3.9		22		22	0.2	E	8	-4.3
	20		23	-0.2		25	-3.9		27		17	1.0	W	8	-4.3
	25		20	-0.4		26	-3.9		1	E	8	3.3		13	-4.2
	30		16	-0.7		27	-3.9		6	W	3	----		20	-4.5
May	5	W	11	-1.1	E	29	-3.9	Dec.	11	W	13	1.4	W	26	-4.7
	10	W	5	-1.7		30	-3.9		16		18	-0.1		31	-4.8
	15	E	1	----		31	-3.9		21		20	-0.6		35	-4.8
	20		7	-1.7		32	-3.9		26		19	-0.6		38	-4.9
	25		12	-1.2		33	-3.9		1		17	-0.6		41	-4.8
June	30	E	17	-0.8	E	34	-4.0		6	W	14	-0.6	W	43	-4.8
	4		21	-0.4		36	-4.0		11		12	-0.6		44	-4.8
	9		23	-0.1		37	-4.0		16		9	-0.7		45	-4.7
	14		24	0.3		38	-4.0		21		7	-0.9		46	-4.7
	19		24	0.7		39	-4.0		26		4	-1.1		47	-4.6
July	24	E	22	1.2	E	40	-4.1		31	W	2	-1.3	W	47	-4.6
	29		19	1.9		41	-4.1		36	E	3	-1.3		47	-4.5
	4	E	14	3.1	E	42	-4.1		41	E	5	-1.2	W	47	-4.5
Conjunction-		d	h	d	h	d	h	d		h	d	h	d		h
Inferior:		.....	Mar. 7	11	Jan.	6	17	July 13		01	Nov. 4		14	...	
Superior:		Jan. 21	16	May 14	14	...		Aug. 27		17	....		Oct. 24		04

N.B.- E. means that the planet is in the east of the Sun and W. means that it is in the west of the Sun by the amount of the arc stated.

PHENOMENA, 2026
ELONGATIONS AND MAGNITUDES OF PLANETS AT 0^h UT

Date		Mars			Jupiter			Saturn			Uranus		Neptune		Pluto	
		Elong.		Mag.	Elong.		Mag.	Elong.		Mag.	Elong.		Elong.		Elong.	
Jan.	0	E	3	1.2	W	168	-2.7	E	77	1.1	E	138	E	80	E	23
	10	W	1	1.2	W	180	-2.7		67	1.1		128		70		14
	20		3	1.2	E	169	-2.7		58	1.1		118		60	E	5
	30		5	1.2		157	-2.6		48	1.1		107		50	W	7
Feb.	9		7	1.2		146	-2.6		39	1.1		97		40		17
Mar.	19	W	10	1.2	E	135	-2.5	E	30	1.1	E	87	E	30	W	26
	1		12	1.2		125	-2.4		21	1.0		77		21		36
	11		14	1.2		115	-2.4		13	1.0		68		11		46
	21		16	1.2		105	-2.3	E	4	0.9		58	E	2		55
	31		18	1.2		95	-2.2	W	5	0.9		48	W	8		65
Apr.	10	W	20	1.2	E	86	-2.2	W	14	0.9	E	39	W	18	W	75
	20		22	1.2		78	-2.1		22	0.9		30		27		85
	30		24	1.2		69	-2.0		31	0.9		21		36		94
May	10		26	1.2		61	-2.0		39	0.9		11		46		104
	20		28	1.3		53	-1.9		48	0.9	E	2		55		113
June	30	W	30	1.3	E	45	-1.9	W	57	0.9	W	7	W	65	W	123
	9		33	1.3		37	-1.9		65	0.9		16		74		133
	19		35	1.3		30	-1.8		74	0.8		25		83		142
	29		37	1.3		22	-1.8		83	0.8		34		93		152
July	9		40	1.3		15	-1.8		92	0.8		43		102		162
Aug	19	W	42	1.3	E	8	-1.8	W	102	0.7	W	52	W	112	W	171
	29		45	1.3	E	1	-1.8		111	0.7		61		122	E	175
	8		48	1.3	W	7	-1.8		121	0.6		70		131		168
	18		51	1.3		14	-1.8		131	0.6		80		141		158
	28		54	1.3		22	-1.8		141	0.5		89		151		149
Sept	7	W	57	1.2	W	29	-1.8	W	151	0.4	W	99	W	161	E	139
	17		61	1.2		37	-1.8		161	0.4		108	W	171		129
	27		65	1.2		45	-1.9	W	172	0.4		118	E	178		119
Oct.	7		69	1.1		53	-1.9	E	176	0.3		128		169		109
	17		73	1.0		61	-1.9		166	0.4		138		159		99
Nov	27	W	78	0.9	W	70	-2.0	E	156	0.4	W	149	E	149	E	90
	6		82	0.8		79	-2.0		145	0.5		159		138		80
	16		88	0.7		88	-2.1		135	0.6	W	170		128		70
	26		94	0.6		97	-2.2		124	0.7	E	180		118		60
Dec.	6		100	0.4		107	-2.2		114	0.7		169		108		50
	16	W	107	0.2	W	117	-2.3	E	104	0.8	E	159	E	98	E	40
	26		115	0.0		127	-2.4		94	0.8		148		87		30
	36		124	-0.2		138	-2.4		84	0.8		138		77		21
	Conjunction:		d h			d h			d h			d h			d h	
Opposition:		Jan. 9 12			July 29 12			Mai. 25 09			May 22 14			Mar. 22 11		
		.....			Jan. 10 09			Oct. 4 12			Nov. 25 23			Sept. 26 02		
														July 27 07		

Magnitudes at opposition: Uranus +5.6; Neptune +7.8; Pluto +14.4

N.B. - E. means that the planet is in the east of the Sun and W. means that it is in the west of the Sun by the amount of the arc stated.

PHENOMENA, 2026

CONJUNCTIONS, OPPOSITIONS ETC. OF PLANETS WITH THE SUN (IN LONGITUDE)

UNIVERSAL TIME

MERCURY

		d	h	m		d	h	m
Heliacal setting W.	Jan.	1	23	09	Aug.	18	03	13
Superior conjunction	Jan.	21	15	47	Aug.	27	17	06
Heliacal rising E.	Feb.	4	16	26	Sept.	13	21	24
Greatest elongation E.	Feb.	19	17	42 (18°.1)	Oct.	12	10	05 (25°.2)
Retrograde	Feb.	26	06	50	Oct.	24	07	00
Heliacal setting E.	Mar.	2	00	58	Oct.	28	01	02
Inferior conjunction	Mar.	7	11	00	Nov.	4	14	25
Heliacal rising W.	Mar.	13	10	05	Nov.	9	06	10
Direct	Mar.	20	19	41	Nov.	13	16	02
Greatest elongation W	Apr.	3	22	35 (27°.8)	Nov.	20	23	33 (19°.6)

Heliacal setting W.	Apr.	29	01	23	Dec.	13	16	49
Superior conjunction	May	14	14	23	...	...	...	...
Heliacal rising E.	May	22	23	54	...	...	...	...
Greatest elongation E.	Jun.	15	20	01 (24°.5)	...	...	...	...
Retrograde	Jun.	29	17	37	...	...	...	...
Heliacal setting E.	July	3	07	07	...	...	...	...
Inferior conjunction	July	13	01	26	...	...	...	...
Heliacal rising W.	July	21	07	04	...	...	...	...
Direct	July	23	22	50	...	...	...	...
Greatest elongation W	Aug.	2	08	09 (19°.5)	...	...	...	...

VENUS

		d	h	m		d	h	m
Superior conjunction	Jan	06	16	36				
Heliacal rising E.	Feb	01	12	35				
Greatest elongation E.	Aug.	15	06	33 (45°.9)	...	...	...	...
Retrograde	Oct.	03	07	14	...	...	...	...
Heliacal setting W.	Oct.	13	18	48				
Inferior conjunction	Oct.	24	03	44	...	...	...	...
Heliacal rising W.	Oct.	28	02	06	...	...	...	...
Direct	Nov.	14	00	31	...	...	...	...

EARTH

		d	h	m		d	h	m		d	h	m	
Perihelion	Jan.	3	17	21	Equinoxes	Mar.	20	14	46	Sept.	23	00	5
Aphelion	July	6	17	19	Solstices	June	21	08	25	Dec.	21	20	50

SUPERIOR PLANETS

MARS					JUPITER				SATURN			
		d	h	m		d	h	m		d	h	m
Heliacal setting E.		...	...	...		...	...	...	Mar.	11	14	25
Conjunction	Jan.	9	11	42		...	...	...	Mar.	25	08	56
Heliacal rising W.	Apr.	17	20	19		...	...	...	Apr.	17	08	28
Opposition		...	...	...	Jan	10	08	42		...	...	...
Direct		...	...	...	Mar.	11	03	30		...	...	...
Heliacal setting E.		...	...	...	Jul	15	05	40		...	...	...
Conjunction		...	...	...	Jul	29	12	18		...	...	...
Heliacal rising W.		...	...	...	Aug	10	02	23		...	...	...
Retrograde		...	...	...	Dec	13	00	56	Jul	26	19	56
Opposition		...	...	...		...	...	...	Oct.	4	12	29
Direct		...	...	...		...	...	...	Dec.	10	23	32

	URANUS				NEPTUNE				PLUTO			
		d	h	m		d	h	m		d	h	m
Conjunction	May	22	14	26	Mar.	22	11	19	Jan.	23	10	25
Retrograde	Sept.	10	18	30	July	7	10	58	May	6	15	28
Opposition	Nov.	25	22	41	Sept.	26	01	37	July	27	06	51
Direct	Feb.	4	02	28	Dec.	12	22	19	Oct.	16	02	40

PHENOMENA, 2026
CONJUNCTION OF PLANETS WITH THE MOON AND OTHER PLANETS (IN LONGITUDE)

	d	h	m		d	h	m		
Jan.	3	22	54	Moon Conj. With Jupiter	May	19	06	43	Moon Conj. With Venus
	8	02	43	<i>Venus conj. with Mars</i>		19	22	44	<i>Mars conj. with Saturn</i>
	18	07	41	<i>Mercury conj. with Mars</i>		20	11	22	<i>Mercury conj. with Saturn</i>
	18	15	11	Moon Conj. With Mars		20	21	45	<i>Mercury conj. with Mars</i>
	18	15	48	Moon Conj. With Mercury		22	22	52	Moon Conj. With Jupiter
	19	02	03	Moon Conj. With Venus		13	18	10	Moon Conj. With Saturn
	23	09	33	Moon Conj. With Saturn		14	21	33	Moon Conj. With Mars
	29	10	17	<i>Mercury conj. with Venus</i>		17	01	02	Moon Conj. With Mercury
	31	03	18	Moon Conj. With Jupiter		19	01	49	Moon Conj. With Venus
Feb.	16	18	09	Moon Conj. With Mars		20	13	27	Moon Conj. With Jupiter
Mar.	18	08	01	Moon Conj. With Venus	Jun.	9	19	59	<i>Venus conj. with Jupiter</i>
	18	23	09	Moon Conj. With Mercury		10	07	29	Moon Conj. With Saturn
	19	20	48	Moon Conj. With Saturn		12	18	37	Moon Conj. With Mars
	27	07	10	Moon Conj. With Jupiter		16	20	11	Moon Conj. With Mercury
	28	05	34	<i>Mercury conj. with Venus</i>	17	07	40	Moon Conj. With Jupiter	
	8	13	40	<i>Venus conj. with Saturn</i>	Jul.	17	20	28	Moon Conj. With Venus
	15	08	08	<i>Mercury conj. with Mars</i>		7	17	15	Moon Conj. With Saturn
	17	15	25	Moon Conj. With Mercury		11	13	15	Moon Conj. With Mars
	17	20	47	Moon Conj. With Mars		14	06	26	Moon Conj. With Mercury
19	10	51	Moon Conj. With Saturn	15		03	49	Moon Conj. With Jupiter	
Apr.	20	09	23	Moon Conj. With Venus	Aug.	17	15	06	Moon Conj. With Venus
	26	12	58	Moon Conj. With Jupiter		3	23	22	Moon Conj. With Saturn
	15	15	15	Moon Conj. With Mercury		9	05	26	Moon Conj. With Mars
	15	22	08	Moon Conj. With Mars		11	13	40	Moon Conj. With Mercury
	16	02	37	Moon Conj. With Saturn		12	00	01	Moon Conj. With Jupiter

PHENOMENA, 2026 --- contd.**CONJUNCTION OF PLANETS WITH THE MOON AND OTHER PLANETS (IN LONGITUDE)**

UNIVERSAL TIME

	d	h	m			d	h	m	
	15	11	23	<i>Mercury conj. with Jupiter</i>	Nov.	2	13	49	Moon Conj. With Mars
	16	07	11	Moon Conj. With Venus		2	22	51	Moon Conj. With Jupiter
	31	03	18	Moon Conj. With Saturn		7	10	50	Moon Conj. With Venus
Sep.	6	19	07	Moon Conj. With Mars		8	13	02	Moon Conj. With Mercury
	8	18	37	Moon Conj. With Jupiter		16	06	24	<i>Mars conj. with Jupiter</i>
	12	04	21	Moon Conj. With Mercury		20	20	44	Moon Conj. With Saturn
	14	11	33	Moon Conj. With Venus		30	08	35	Moon Conj. With Jupiter
	27	07	19	Moon Conj. With Saturn		30	17	25	Moon Conj. With Mars
Oct.	5	06	01	Moon Conj. With Mars	Dec	5	05	42	Moon Conj. With Venus
	6	10	22	Moon Conj. With Jupiter		7	19	29	Moon Conj. With Mercury
	7	00	10	<i>Mercury conj. with Venus</i>		18	05	21	Moon Conj. With Saturn
	12	04	27	Moon Conj. With Venus		27	16	38	Moon Conj. With Jupiter
	12	18	49	Moon Conj. With Mercury		28	14	14	Moon Conj. With Mars
	24	13	06	Moon Conj. With Saturn					

CONJUNCTIONS OF PLANETS WITH BRIGHT STARS (IN R.A.)

	d	h	m			d	h	m	
May	3	07	13	Venus 6°.53 N. of <i>Aldebaran</i>	Aug.	25	07	32	Mercury 1°.39 N. of <i>Regulus</i>
May	22	14	48	Mercury 6°.96 N. of <i>Aldebaran</i>	Sep.	3	03	28	Venus 1°.73 S. of <i>Spica</i>
Jun.	4	10	37	Jupiter 6°.38 S. of <i>Pollux</i>	Sep.	19	03	55	Mars 5°.96 S. of <i>Pollux</i>
Jun.	8	16	23	Venus 4°.74 S. of <i>Pollux</i>	Sep.	26	00	34	Mercury 0°.99 N. of <i>Spica</i>
Jun.	23	19	18	Mercury 7°.45 S. of <i>Pollux</i>	Nov.	3	12	59	Venus 2°.35 S. of <i>Spica</i>
Jul.	4	11	13	Mercury 10°.24 S. of <i>Pollux</i>	Nov.	19	22	45	Venus 1°.80 N. of <i>Spica</i>
Jul.	9	13	33	Venus 1°.06 N. of <i>Regulus</i>	Nov.	24	21	55	Mars 1°.80 N. of <i>Regulus</i>
Jul.	14	06	57	Mars 5°.38 N. of <i>Aldebaran</i>	Dec.	12	12	33	Mercury 4°.80 N. of <i>Antares</i>
Aug.	6	04	05	Mercury 7°.64 S. of <i>Pollux</i>					

ASTRONOMICAL DIARY, 2026

UNIVERSAL TIME

	d	h	m			d	h	m	
Jan.	1	21	44	Moon at Perigee	Feb.	18	23	02	Mercury 0°.1 N of Moon
	3	10	03	FULL MOON		19	10	41	Mercury in Perihelion
	3	17	21	<i>Earth at Perihelion</i>		19	17	42	Mercury Greatest Elongation East (18.1)
	3	21	59	Jupiter 3°.7 S of Moon		19	23	30	Neptune 3°.7 S of Moon
	6	11	03	Mercury in Aphelion		20	00	03	Saturn 4°.6 S of Moon
	6	16	36	Venus in superior conjunction		24	00	36	Uranus 5°.5 S of Moon
				0°43' S of Sun		24	08	50	Moon greatest lat. N 5° 13'
	7	11	23	Moon in descending node		24	12	28	FIRST QUARTER
	8	03	53	<i>Venus 0° 10' N. of Mars</i>		24	23	12	Moon at Perigee
	9	11	42	Mars in conjunction with Sun		25	16	49	Mercury Stationary in RA
	10	08	42	Jupiter in opposition with Sun		26	06	50	Mercury in Retrograde
	10	15	48	LAST QUARTER		26	23	10	<i>Mercury 4° 41' N. of Venus</i>
	13	20	47	Moon at Apogee		27	06	24	Jupiter 3°1 S of Moon
	14	09	53	Moon greatest lat. S 5° 06'		27	22	16	Mars greatest helio lat. S.
	18	02	40	<i>Mercury 0° 58' S. of Mars</i>	Mar.	1	15	53	Mercury greatest helio. lat N.
	18	14	10	Mars 2°.6 N of Moon		3	04	35	Moon in descending node
	18	15	07	Mercury 1°.6 N of Moon		3	11	38	FULL MOON, <i>Lunar Eclipse</i>
	18	19	52	NEW MOON		7	11	00	Mercury in inferior conjunction
	19	01	01	Venus 2°.1 N of Moon					3°38' N of Sun
	21	15	47	Mercury in superior conjunction		8	22	11	<i>Venus 1° 0' N. of Saturn</i>
				2°03' S of Sun		9	16	46	Moon greatest lat. S 5° 13'
	22	00	02	Moon in ascending node		10	13	44	Moon at Apogee
	22	18	45	Venus in Aphelion		11	02	45	Jupiter Stationary in RA
	23	10	25	Pluto in conjunction with Sun		11	03	30	Jupiter in Direct
	23	12	40	Saturn 4°.4 S of Moon		11	09	38	LAST QUARTER
	23	15	49	Neptune 3°.6 S of Moon		14	06	44	<i>Mercury 3° 57' N. of Mars</i>
	26	04	47	FIRST QUARTER					<i>Occultation</i>
	26	16	54	Mercury greatest helio lat. S.		17	14	07	Mercury 2°.0 N of Moon
	27	18	47	Uranus 5°.5 S of Moon		17	15	23	Moon in ascending node
	28	06	13	Moon greatest lat. N 5° 07'		17	21	52	Mars 1°.5 S of Moon
	28	23	45	<i>Mercury 0° 44' S. of Venus</i>		19	01	23	NEW MOON
	29	21	48	Moon at Perigee		19	09	34	Neptune 3°.8 S of Moon
	31	02	29	Jupiter 3°.9 S of Moon		19	14	12	Saturn 4°.9 S of Moon
Feb.	1	22	09	FULL MOON		19	19	54	Mercury Stationary in RA
	3	19	19	Moon in descending node		20	12	38	Venus 4°.6 S of Moon
	4	02	28	Uranus in Direct		20	14	46	<i>Vernal Equinox</i>
	4	04	32	Uranus Stationary in RA		20	19	41	Mercury in Direct
	9	12	43	LAST QUARTER		22	11	19	Neptune in conjunction with Sun
	10	12	52	Moon greatest lat. S 5° 14'		22	11	39	Moon at Perigee
	10	16	53	Moon at Apogee		23	07	41	Uranus 5°.5 S of Moon
	13	22	18	Venus greatest helio lat. S.		23	11	28	Moon greatest lat. N 5° 13'
	14	18	36	Mercury in Ascending node		25	01	24	Mercury in Descending node
				<i>Occultation</i>		25	08	56	Saturn in conjunction with Sun
	16	05	01	Uranus in Square with Sun		25	19	18	FIRST QUARTER
	16	17	41	Mars 0°.8 N of Moon		26	07	11	Mars in Perihelion
	17	12	01	NEW MOON, <i>Solar Eclipse</i>		26	12	11	Jupiter 3°.9 S of Moon
				<i>Occultation</i>		30	11	34	Moon in descending node
	18	06	18	Moon in ascending node	Apr.	2	02	12	FULL MOON
	18	09	20	Venus 1°.7 S of Moon		3	22	35	Mercury Greatest Elongation West (27.8)

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	d	h	m			d	h	m			
Apr.	4	10	20	Mercury in Aphelion	May	22	14	48	Mercury 6°.96 N. of <i>Aldebaran</i>		
	5	22	23	Jupiter in Square with Sun		23	11	11	FIRST QUARTER		
	6	08	04	Moon greatest lat. S 5° 07'		23	15	27	Moon in descending node		
	7	08	32	Moon at Apogee		28	15	07	Mercury greatest helio. lat N.		
	10	04	52	LAST QUARTER		30	10	17	Moon greatest lat. S 4° 58'		
	11	05	37	Venus in Ascending node		31	08	45	FULL MOON		
	13	23	42	Moon in ascending node		Jun	1	04	31	Moon at Apogee	
	15	19	11	Mercury 5°.2 S of Moon			4	10	37	Jupiter 6°.38 S. of <i>Pollux</i>	
	15	21	23	Neptune 3°.9 S of Moon			5	17	25	Venus greatest helio. lat N.	
	16	00	46	Mars 3°.7 S of Moon			7	06	18	Moon in ascending node	
	16	06	08	Saturn 5°.3 S of Moon			8	10	00	LAST QUARTER	
	17	11	52	NEW MOON			8	16	23	Venus 4°.74 S. of <i>Pollux</i>	
	19	06	56	Moon at Perigee			9	12	30	<i>Venus 1° 38' N. of Jupiter</i>	
	19	08	47	Venus 4°.8 S of Moon			9	19	14	Neptune 4°.5 S of Moon	
19	14	16	Moon greatest lat. N 5° 03'	10	11		41	Saturn 6°.2 S of Moon			
19	17	36	Uranus 5°.4 S of Moon	12	21		15	Mars 5°.6 S of Moon			
20	00	02	<i>Mercury 1° 48' S. of Mars</i>	13	08		29	Moon greatest lat. N 4° 58'			
20	08	04	<i>Mercury 0° 30' S. of Saturn</i>	13	19		09	Uranus 5°.3 S of Moon			
20	17	36	<i>Mars 1° 18' N. of Saturn</i>	14	23		20	Moon at Perigee			
22	22	04	Jupiter 3°.6 S of Moon	15	02		54	NEW MOON			
	24	02	32	FIRST QUARTER	15	20	01	Mercury Greatest Elongation East (24.5)			
	24	16	11	Mercury greatest helio lat. S.	16	19	32	Mercury 2°.6 S of Moon			
	25	16	29	Pluto in Square with Sun	17	06	51	Jupiter 2°.5 S of Moon			
	26	14	36	Moon in descending node				<i>Occultation</i>			
May	1	17	23	FULL MOON	17	20	21	Venus 0°.3 S of Moon			
	3	07	13	Venus 6°.53 N. of <i>Aldebaran</i>	19	17	58	Moon in descending node			
	3	09	48	Moon greatest lat. S 5° 00'	21	00	35	Mercury in Descending node			
	4	22	32	Moon at Apogee	21	08	25	<i>Summer solstice</i>			
	6	15	28	Pluto in Retrograde	21	21	55	FIRST QUARTER			
	8	10	59	Pluto Stationary in RA	23	19	18	Mercury 7°.45 S. of <i>Pollux</i>			
	9	21	10	LAST QUARTER	25	22	39	Neptune in Square with Sun			
	11	04	35	Moon in ascending node	26	10	53	Moon greatest lat. S 5° 03'			
	13	09	12	Neptune 4°.2 S of Moon	28	07	12	Moon at Apogee			
	13	17	58	Mercury in Ascending node	29	02	00	Mercury Stationary in RA			
	13	21	58	Saturn 5°.7 S of Moon	29	17	37	Mercury in Retrograde			
	14	14	23	Mercury in superior conjunction	29	23	57	FULL MOON			
				0°09' N of Sun	Jul	1	09	36	Mercury in Aphelion		
	15	00	44	Mars 5°.2 S of Moon		4	07	50	Moon in ascending node		
15	02	45	Venus in Perihelion	4		11	13	Mercury 10°.24 S. of <i>Pollux</i>			
16	17	17	Moon greatest lat. N 4° 55'	6		10	47	Saturn in Square with Sun			
16	20	01	NEW MOON	6		17	19	<i>Earth at Aphelion</i>			
17	02	50	Mercury 4°.5 S of Moon	7		02	38	Neptune 4°.8 S of Moon			
17	05	59	Uranus 5°.3 S of Moon	7		10	58	Neptune in Retrograde			
17	13	45	Moon at Perigee	7		19	29	LAST QUARTER			
18	09	57	Mercury in Perihelion	7		21	49	Saturn 6°.7 S of Moon			
19	01	49	Venus 2°.9 S of Moon	8		04	11	Neptune Stationary in RA			
20	12	37	Jupiter 3°.1 S of Moon	9		13	33	Venus 1°.06 N. of <i>Regulus</i>			
22	14	26	Uranus in conjunction with Sun	10		11	42	Moon greatest lat. N 5° 09'			

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	d	h	m			d	h	m	
Jul	11	07	08	Uranus 5°.4 S of Moon	Aug.	27	17	06	Mercury in superior conjunction
	11	14	39	Mars 5°.3 S of Moon					1°45' N of Sun
	13	01	26	Mercury in inferior conjunction		27	18	46	Moon in ascending node
				4°50' S of Sun		28	04	18	FULL MOON, <i>Lunar Eclipse</i>
	13	07	57	Moon at Perigee		28	22	18	Uranus in Square with Sun
	14	04	37	Mercury 8°.4 S of Moon		30	12	50	Neptune 4°.9 S of Moon
	14	06	57	Mars 5°.38 N. of <i>Aldebaran</i>		31	08	07	Saturn 7°.0 S of Moon
	14	09	44	NEW MOON	Sep.	2	17	40	Moon greatest lat. N 5° 12'
	15	03	03	Jupiter 1°1 S of Moon		3	03	28	Venus 1°.73 S. of <i>Spica</i>
	17	00	28	Moon in descending node		3	23	05	Uranus 5°.5 S of Moon
	17	16	31	Venus 2°.0 N of Moon		4	07	51	LAST QUARTER
	21	11	06	FIRST QUARTER		4	11	40	Venus in Aphelion
	21	15	27	Mercury greatest helio lat. S.		6	18	26	Mars 3°.0 S of Moon
	23	12	48	Moon greatest lat. S 5° 12'		6	20	44	Moon at Perigee
	23	17	08	Mercury Stationary in RA		8	18	11	Jupiter 0°.8 S of Moon
	23	22	50	Mercury in Direct					<i>Occultation</i>
	25	00	15	Mars in Ascending node		9	19	18	Moon in descending node
	25	16	45	Moon at Apogee		10	18	22	Uranus Stationary in RA
	26	19	56	Saturn in Retrograde		10	18	30	Uranus in Retrograde
	27	06	51	Pluto in opposition with Sun		11	03	27	NEW MOON
	27	23	08	Saturn Stationary in RA		12	07	29	Mercury 3°.9 N of Moon
	29	12	18	Jupiter in conjunction with Sun		14	11	11	Venus 0°.5 S of Moon
	29	14	36	FULL MOON					<i>Occultation</i>
	31	11	53	Moon in ascending node		16	07	58	Moon greatest lat. S 5° 11'
	31	18	46	Venus in Descending node		16	23	55	Mercury in Descending node
Aug.	2	08	09	Mercury Greatest Elongation West (19.5)		18	20	44	FIRST QUARTER
	3	07	56	Neptune 4°.9 S of Moon		19	03	00	Moon at Apogee
	4	04	11	Saturn 6°1 S of Moon		19	03	55	Mars 5°.96 S. of <i>Pollux</i>
	6	02	21	LAST QUARTER		23	00	05	<i>Autumnal Equinox</i>
	6	04	05	Mercury 7°.64 S. of <i>Pollux</i>		24	02	39	Moon in ascending node
	6	14	52	Moon greatest lat. N 5° 12'		26	00	34	Mercury 0°.99 N. of <i>Spica</i>
	7	16	30	Uranus 5°.5 S of Moon		26	01	37	Neptune in opposition with Sun
	9	05	32	Mars 4°.4 S of Moon		26	15	16	Venus greatest helio lat. S.
	9	17	18	Mercury in Ascending node		26	16	49	FULL MOON
	10	11	18	Moon at Perigee		26	19	04	Neptune 4°.8 S of Moon
	11	12	47	Mercury 2°.1 S of Moon		27	08	51	Mercury in Aphelion
	11	23	23	Jupiter 1°.4 S of Moon		27	12	01	Saturn 6°.9 S of Moon
	12	17	37	NEW MOON, <i>Solar Eclipse</i>		30	08	01	Moon greatest lat. N 5° 06'
	13	09	57	Moon in descending node	Oct.	1	04	19	Uranus 5°.4 S of Moon
	14	09	13	Mercury in Perihelion		1	20	52	Moon at Perigee
	15	06	33	Venus Greatest Elongation East (45.9)		2	13	39	Venus Stationary in RA
	15	09	13	<i>Mercury 0° 33' N. of Jupiter</i>		3	07	14	Venus in Retrograde
	16	08	47	Venus 2°.1 N of Moon		3	13	25	LAST QUARTER
	19	16	07	Moon greatest lat. S 5° 14'		4	12	29	Saturn in opposition with Sun
	20	02	46	FIRST QUARTER		5	05	32	Mars 1°.2 S of Moon
	22	08	21	Moon at Apogee		5	15	00	<i>Mercury 5° 26' N. of Venus</i>
	24	14	20	Mercury greatest helio. lat N.					<i>Occultation</i>
	25	07	32	Mercury 1°.39 N. of <i>Regulus</i>		6	10	16	Jupiter 0°.2 S of Moon
									<i>Occultation</i>

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	d	h	m			d	h	m	
Oct.	7	01	19	Moon in descending node	Nov.	19	17	48	Mars in Square with Sun
	10	15	50	NEW MOON		19	22	45	Venus 1°.80 N. of <i>Spica</i>
	12	02	32	Venus 3°.1 S of Moon		20	12	36	Neptune 4°1 S of Moon
	12	10	05	Mercury Greatest Elongation East (25.2)		20	13	33	Mercury greatest helio. lat N.
	12	20	08	Mercury 2°.1 N of Moon		20	23	33	Mercury Greatest Elongation West (19.6)
	13	11	01	Moon greatest lat. S 5° 05'		21	01	27	Saturn 6°.8 S of Moon
	16	02	40	Pluto in Direct		21	22	07	Venus in Ascending node
	16	11	11	Pluto Stationary in RA		23	13	03	Moon greatest lat. N 4° 59'
	16	22	54	Moon at Apogee		24	14	53	FULL MOON
	17	14	43	Mercury greatest helio lat. S.		24	18	40	Uranus 5°.2 S of Moon
	18	16	13	FIRST QUARTER		24	21	55	Mars 1°.80 N. of <i>Regulus</i>
	21	08	51	Moon in ascending node		25	21	02	Moon at Perigee
	24	03	17	Neptune 4°.8 S of Moon		25	22	41	Uranus in opposition with Sun
				6°31' S of Sun		30	03	32	Moon in descending node
	24	03	44	Venus in inferior conjunction		30	09	16	Jupiter 1°.2 N of Moon
	24	07	00	Mercury in Retrograde					<i>Occultation</i>
	24	11	45	Mercury Stationary in RA		30	19	35	Mars 3°.3 N of Moon
	24	17	42	Saturn 6°.8 S of Moon	Dec.	1	06	09	LAST QUARTER
	26	04	12	FULL MOON		5	10	45	Venus 7°.2 N of Moon
	26	12	08	Pluto in Square with Sun		6	12	56	Moon greatest lat. S 5° 01'
	27	10	20	Moon greatest lat. N 5° 00'		7	22	03	Mercury 5°.8 N of Moon
	28	10	25	Uranus 5°.2 S of Moon		9	00	52	NEW MOON
	28	18	04	Moon at Perigee		10	23	32	Saturn in Direct
Nov.	1	20	28	LAST QUARTER		11	06	44	Moon at Apogee
	2	14	25	Mars 1°.1 N of Moon		11	23	21	Saturn Stationary in RA
				<i>Occultation</i>		12	12	33	Mercury 4°.80 N. of <i>Antares</i>
	2	23	09	Jupiter 0°.5 N of Moon		12	22	19	Neptune in Direct
				<i>Occultation</i>		13	00	56	Jupiter in Retrograde
	3	03	02	Moon in descending node		13	10	39	Neptune Stationary in RA
	3	12	59	Venus 2°.35 S. of <i>Spica</i>		13	12	03	Jupiter Stationary in RA
	4	14	25	Mercury in inferior conjunction		13	23	13	Mercury in Descending node
				0°22' S of Sun		14	13	03	Moon in ascending node
	5	16	27	Mercury in Ascending node		17	05	43	FIRST QUARTER
				<i>Occultation</i>		17	21	27	Neptune 5°.2 S of Moon
	7	11	33	Venus 1°.1 N of Moon		18	10	19	Saturn 6°.9 S of Moon
	8	16	33	Mercury 6°.1 N of Moon		20	16	34	Moon greatest lat. N 5° 02'
	9	07	02	NEW MOON		21	20	50	<i>Winter solstice</i>
	9	12	28	Moon greatest lat. S 4° 59'		22	04	20	Uranus 5°.3 S of Moon
	10	08	28	Mercury in Perihelion		23	11	38	Neptune in Square with Sun
	11	15	13	Venus Stationary in RA		24	01	28	FULL MOON
	13	09	21	Mercury Stationary in RA		24	08	06	Mercury in Aphelion
	13	16	02	Mercury in Direct		24	08	32	Moon at Perigee
	13	17	51	Moon at Apogee		26	19	11	Venus in Perihelion
	14	00	31	Venus in Direct		27	07	55	Moon in descending node
	15	02	35	<i>Mars 1° 14' N. of Jupiter</i>		27	17	30	Jupiter 1°.5 N of Moon
	17	11	48	FIRST QUARTER		28	17	44	Mars 5°.3 N of Moon
	17	11	48	Moon in ascending node		29	23	28	Saturn in Square with Sun
	18	09	38	Jupiter in Square with Sun		30	18	59	LAST QUARTER

TABLE-I
CONVERSION OF MEAN SOLAR INTO SIDEREAL TIME
 CORRECTION TO BE *ADDED* TO A MEAN TIME INTERVAL

<u>HOURS</u>			<u>MINUTES</u>				<u>SECONDS</u>				
Mean Time	Correction		Mean Time	Correction		Mean Time	Correction		Mean Time	Correction	
h	m	s	m	s	m	s	s	s	s	s	s
1	0	09.856	1	0.164	31	5.093	1	.003	31	.085	
2	0	19.713	2	0.329	32	5.257	2	.005	32	.088	
3	0	29.569	3	0.493	33	5.421	3	.008	33	.090	
4	0	39.426	4	0.657	34	5.585	4	.011	34	.093	
5	0	49.282	5	0.821	35	5.750	5	.014	35	.096	
6	0	59.139	6	0.986	36	5.914	6	.016	36	.099	
7	1	08.995	7	1.150	37	6.078	7	.019	37	.101	
8	1	18.852	8	1.314	38	6.242	8	.022	38	.104	
9	1	28.708	9	1.478	39	6.407	9	.025	39	.107	
10	1	38.565	10	1.643	40	6.571	10	.027	40	.110	
11	1	48.421	11	1.807	41	6.735	11	.030	41	.112	
12	1	58.278	12	1.971	42	6.900	12	.033	42	.115	
13	2	08.134	13	2.136	43	7.064	13	.036	43	.118	
14	2	17.991	14	2.300	44	7.228	14	.038	44	.120	
15	2	27.847	15	2.464	45	7.392	15	.041	45	.123	
16	2	37.704	16	2.628	46	7.557	16	.044	46	.126	
17	2	47.560	17	2.793	47	7.721	17	.047	47	.129	
18	2	57.417	18	2.957	48	7.885	18	.049	48	.131	
19	3	07.273	19	3.121	49	8.049	19	.052	49	.134	
20	3	17.129	20	3.285	50	8.214	20	.055	50	.137	
21	3	26.986	21	3.450	51	8.378	21	.057	51	.140	
22	3	36.842	22	3.614	52	8.542	22	.060	52	.142	
23	3	46.699	23	3.778	53	8.707	23	.063	53	.145	
24	3	56.555	24	3.943	54	8.871	24	.066	54	.148	
			25	4.107	55	9.035	25	.068	55	.151	
			26	4.271	56	9.199	26	.071	56	.153	
			27	4.435	57	9.364	27	.074	57	.156	
			28	4.600	58	9.528	28	.077	58	.159	
			29	4.764	59	9.692	29	.079	59	.162	
			30	4.928	60	9.856	30	.082	60	.164	

Local Apparent Sidereal time for any given local mean time

= mean Sid. Time for 0^h U.T. (Pages 13 to 16)

— reduction for longitude of place

+ local mean time reckoned from midnight

+ correction for local mean time added (Table-I)

+ Equation of Equinoxes.

Local apparent Sidereal Time for any hour of Universal Time.

= Sid. Time for 0^h U.T. (Pages 13 to 16)

+ longitude of place (in time)

+ Universal Time

+ correction for U.T. added (Table-I)

+ Equation of Equinoxes.

N.B. The longitude of place is to be taken in time and regarded *positive* for places East of Greenwich. The reduction of Sidereal Time for the longitude of place may be taken from the above table and with the same sign as that of longitude. The correction for the L.M.T. or U.T. added should also be taken from the above table. For details, see the examples given under the EXPLANATION.

TABLE-II
CONVERSION OF SIDEREAL INTO MEAN SOLAR TIME
CORRECTION TO BE *SUBTRACTED* FROM A SIDEREAL TIME INTERVAL

HOURS			MINUTES				SECONDS				
Sidereal Time	Correction		Sidereal Time	Correction		Sidereal Time	Correction		Sidereal Time	Correction	
h	m	s	m	s	m	s	s	s	s	s	s
1	0	09.830	1	0.164	31	5.079	1	.003	31	.085	
2	0	19.659	2	0.328	32	5.242	2	.005	32	.087	
3	0	29.489	3	0.491	33	5.406	3	.008	33	.090	
4	0	39.318	4	0.655	34	5.570	4	.011	34	.093	
5	0	49.148	5	0.819	35	5.734	5	.014	35	.096	
6	0	58.977	6	0.983	36	5.898	6	.016	36	.098	
7	1	08.807	7	1.147	37	6.062	7	.019	37	.101	
8	1	18.636	8	1.311	38	6.225	8	.022	38	.104	
9	1	28.466	9	1.474	39	6.389	9	.025	39	.106	
10	1	38.296	10	1.638	40	6.553	10	.027	40	.109	
11	1	48.125	11	1.802	41	6.717	11	.030	41	.112	
12	1	57.955	12	1.966	42	6.881	12	.033	42	.115	
13	2	07.784	13	2.130	43	7.045	13	.035	43	.117	
14	2	17.614	14	2.294	44	7.208	14	.038	44	.120	
15	2	27.443	15	2.457	45	7.372	15	.041	45	.123	
16	2	37.273	16	2.621	46	7.536	16	.044	46	.126	
17	2	47.103	17	2.785	47	7.700	17	.046	47	.128	
18	2	56.932	18	2.949	48	7.864	18	.049	48	.131	
19	3	06.762	19	3.113	49	8.027	19	.052	49	.134	
20	3	16.591	20	3.277	50	8.191	20	.055	50	.137	
21	3	26.421	21	3.440	51	8.355	21	.057	51	.139	
22	3	36.250	22	3.604	52	8.519	22	.060	52	.142	
23	3	46.080	23	3.768	53	8.683	23	.063	53	.145	
24	3	55.909	24	3.932	54	8.847	24	.066	54	.147	
			25	4.096	55	9.010	25	.068	55	.150	
			26	4.259	56	9.174	26	.071	56	.153	
			27	4.423	57	9.338	27	.074	57	.156	
			28	4.587	58	9.502	28	.076	58	.158	
			29	4.751	59	9.666	29	.079	59	.161	
			30	4.915	60	9.830	30	.082	60	.164	

Local Mean Time for any given local apparent Sidereal Time

= Time of preceding transit of First Point of Aries (pages 13 to 16)

+ reduction for longitude of place

+ given local apparent Sidereal Time — Equation of Equinoxes

— correction for Sidereal Time added (Table-II).

or, Universal Time for any given Sidereal Time may be obtained as follows:-

Given Sidereal Time — longitude of place — Sidereal Time for 0^h U.T. = Sidereal interval since 0^h U.T.

This interval converted into Mean Solar Time by the above table gives the Universal Time required.

Otherwise, L.M.T. for any given Sidereal Time may be obtained as follows:-

Given Sidereal Time

— Sidereal Time for 0^h U.T. (pages 13 to 16)

+ reduction for longitude of place

= Sidereal interval since 0^h L.M.T.

This Sidereal interval corrected by the above table gives the required local mean time.

N.B. The reduction for longitude of place is of the same sign as that of the longitude, i.e. *positive* for places East of Greenwich and *negative* for West. See Example under EXPLANATION.

TABLE-III
CONVERSION OF ARC TO TIME

DEGREES						MINUTES			SECONDS					
°	h	m	°	h	m	°	h	m	"	s	"	s	"	s
0	0	00	49	3	16	98	6	32	0	0.000	0.00	0.000	0.50	0.033
1	0	04	50	3	20	99	6	36	1	0.067	.01	.001	.51	.034
2	0	08	51	3	24	100	6	40	2	0.133	.02	.001	.52	.035
3	0	12	52	3	28	101	6	44	3	0.200	.03	.002	.53	.035
4	0	16	53	3	32	102	6	48	4	0.267	.04	.003	.54	.036
5	0	20	54	3	36	103	6	52	5	0.333	.05	.003	.55	.037
6	0	24	55	3	40	104	6	56	6	0.400	.06	.004	.56	.037
7	0	28	56	3	44	105	7	00	7	0.467	.07	.005	.57	.038
8	0	32	57	3	48	106	7	04	8	0.533	.08	.005	.58	.039
9	0	36	58	3	52	107	7	08	9	0.600	.09	.006	.59	.039
10	0	40	59	3	56	108	7	12	10	0.667	0.10	0.007	0.60	0.040
11	0	44	60	4	00	109	7	16	11	0.733	.11	.007	.61	.041
12	0	48	61	4	04	110	7	20	12	0.800	.12	.008	.62	.041
13	0	52	62	4	08	111	7	24	13	0.867	.13	.009	.63	.042
14	0	56	63	4	12	112	7	28	14	0.933	.14	.009	.64	.043
15	1	00	64	4	16	113	7	32	15	1.000	.15	.010	.65	.043
16	1	04	65	4	20	114	7	36	16	1.067	.16	.011	.66	.044
17	1	08	66	4	24	115	7	40	17	1.133	.17	.011	.67	.045
18	1	12	67	4	28	116	7	44	18	1.200	.18	.012	.68	.045
19	1	16	68	4	32	117	7	48	19	1.267	.19	.013	.69	.046
20	1	20	69	4	36	118	7	52	20	1.333	0.20	0.013	0.70	0.047
21	1	24	70	4	40	119	7	56	21	1.400	.21	.014	.71	.047
22	1	28	71	4	44	120	8	00	22	1.467	.22	.015	.72	.048
23	1	32	72	4	48	121	8	04	23	1.533	.23	.015	.73	.049
24	1	36	73	4	52	122	8	08	24	1.600	.24	.016	.74	.049
25	1	40	74	4	56	123	8	12	25	1.667	.25	.017	.75	.050
26	1	44	75	5	00	124	8	16	26	1.733	.26	.017	.76	.051
27	1	48	76	5	04	125	8	20	27	1.800	.27	.018	.77	.051
28	1	52	77	5	08	126	8	24	28	1.867	.28	.019	.78	.052
29	1	56	78	5	12	127	8	28	29	1.933	.29	.019	.79	.053
30	2	00	79	5	16	128	8	32	30	2.000	0.30	0.020	0.80	0.053
31	2	04	80	5	20	129	8	36	31	2.067	.31	.021	.81	.054
32	2	08	81	5	24	130	8	40	32	2.133	.32	.021	.82	.055
33	2	12	82	5	28	131	8	44	33	2.200	.33	.022	.83	.055
34	2	16	83	5	32	132	8	48	34	2.267	.34	.023	.84	.056
35	2	20	84	5	36	133	8	52	35	2.333	.35	.023	.85	.057
36	2	24	85	5	40	134	8	56	36	2.400	.36	.024	.86	.057
37	2	28	86	5	44	135	9	00	37	2.467	.37	.025	.87	.058
38	2	32	87	5	48	136	9	04	38	2.533	.38	.025	.88	.059
39	2	36	88	5	52	137	9	08	39	2.600	.39	.026	.89	.059
40	2	40	89	5	56	138	9	12	40	2.667	0.40	0.027	0.90	0.06
41	2	44	90	6	00	139	9	16	41	2.733	.41	.027	.91	.061
42	2	48	91	6	04	140	9	20	42	2.800	.42	.028	.92	.061
43	2	52	92	6	08	141	9	24	43	2.867	.43	.029	.93	.062
44	2	56	93	6	12	142	9	28	44	2.933	.44	.029	.94	.063
45	3	00	94	6	16	143	9	32	45	3.000	.45	.030	.95	.063
46	3	04	95	6	20	144	9	36	46	3.067	.46	.031	.96	.064
47	3	08	96	6	24	145	9	40	47	3.133	.47	.031	.97	.065
48	3	12	97	6	28	146	9	44	48	3.200	.48	.032	.98	.065

TABLE-III ---- contd.
CONVERSION OF ARC TO TIME

DEGREES						MINUTES		SECONDS									
°	h	m	°	h	m	°	h	m	'	m	s	"	s	"	s	"	s
147	9	48	158	10	32	169	11	16	49	3	16	49	3.267	0.49	0.033	0.99	0.066
148	9	52	159	10	36	170	11	20	50	3	20	50	3.333	0.50	0.033	1.00	0.067
149	9	56	160	10	40	171	11	24	51	3	24	51	3.400				
150	10	00	161	10	44	172	11	28	52	3	28	52	3.467				
151	10	04	162	10	48	173	11	32	53	3	32	53	3.533				
152	10	08	163	10	52	174	11	36	54	3	36	54	3.600				
153	10	12	164	10	56	175	11	40	55	3	40	55	3.667				
154	10	16	165	11	00	176	11	44	56	3	44	56	3.733				
155	10	20	166	11	04	177	11	48	57	3	48	57	3.800				
156	10	24	167	11	08	178	11	52	58	3	52	58	3.867				
157	10	28	168	11	12	179	11	56	59	3	56	59	3.933				

TABLE-IV
CONVERSION OF TIME TO ARC

	0 ^h		1 ^h		2 ^h		3 ^h		4 ^h		5 ^h		SECONDS			
m	°	'	°	'	°	'	°	'	°	'	°	'	s	'	"	"
0	0	00	15	00	30	00	45	00	60	00	75	00	0	0	00	0.00
1	0	15	15	15	30	15	45	15	60	15	75	15	1	0	15	.01
2	0	30	15	30	30	30	45	30	60	30	75	30	2	0	30	.02
3	0	45	15	45	30	45	45	45	60	45	75	45	3	0	45	.03
4	1	00	16	00	31	00	46	00	61	00	76	00	4	1	00	.04
5	1	15	16	15	31	15	46	15	61	15	76	15	5	1	15	.05
6	1	30	16	30	31	30	46	30	61	30	76	30	6	1	30	.06
7	1	45	16	45	31	45	46	45	61	45	76	45	7	1	45	.07
8	2	00	17	00	32	00	47	00	62	00	77	00	8	2	00	.08
9	2	15	17	15	32	15	47	15	62	15	77	15	9	2	15	.09
10	2	30	17	30	32	30	47	30	62	30	77	30	10	2	30	0.10
11	2	45	17	45	32	45	47	45	62	45	77	45	11	2	45	.11
12	3	00	18	00	33	00	48	00	63	00	78	00	12	3	00	.12
13	3	15	18	15	33	15	48	15	63	15	78	15	13	3	15	.13
14	3	30	18	30	33	30	48	30	63	30	78	30	14	3	30	.14
15	3	45	18	45	33	45	48	45	63	45	78	45	15	3	45	.15
16	4	00	19	00	34	00	49	00	64	00	79	00	16	4	00	.16
17	4	15	19	15	34	15	49	15	64	15	79	15	17	4	15	.17
18	4	30	19	30	34	30	49	30	64	30	79	30	18	4	30	.18
19	4	45	19	45	34	45	49	45	64	45	79	45	19	4	45	.19
20	5	00	20	00	35	00	50	00	65	00	80	00	20	5	00	.20
21	5	15	20	15	35	15	50	15	65	15	80	15	21	5	15	.21
22	5	30	20	30	35	30	50	30	65	30	80	30	22	5	30	.22
23	5	45	20	45	35	45	50	45	65	45	80	45	23	5	45	.23
24	6	00	21	00	36	00	51	00	66	00	81	00	24	6	00	.24
25	6	15	21	15	36	15	51	15	66	15	81	15	25	6	15	.25
26	6	30	21	30	36	30	51	30	66	30	81	30	26	6	30	.26
27	6	45	21	45	36	45	51	45	66	45	81	45	27	6	45	.27
28	7	00	22	00	37	00	52	00	67	00	82	00	28	7	00	.28
29	7	15	22	15	37	15	52	15	67	15	82	15	29	7	15	.29
30	7	30	22	30	37	30	52	30	67	30	82	30	30	7	30	.30

TABLE-IV ---- contd.
CONVERSION OF TIME TO ARC

	0 ^h	1 ^h	2 ^h	3 ^h	4 ^h	5 ^h	SECONDS					
m	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	s	' "	s	"	s	"
31	7 45	22 45	37 45	52 45	67 45	82 45	31	7 45	0.31	4.65	0.81	12.15
32	8 00	23 00	38 00	53 00	68 00	83 00	32	8 00	.32	4.80	.82	12.30
33	8 15	23 15	38 15	53 15	68 15	83 15	33	8 15	.33	4.95	.83	12.45
34	8 30	23 30	38 30	53 30	68 30	83 30	34	8 30	.34	5.10	.84	12.60
35	8 45	23 45	38 45	53 45	68 45	83 45	35	8 45	.35	5.25	.85	12.75
36	9 00	24 00	39 00	54 00	69 00	84 00	36	9 00	.36	5.40	.86	12.90
37	9 15	24 15	39 15	54 15	69 15	84 15	37	9 15	.37	5.55	.87	13.05
38	9 30	24 30	39 30	54 30	69 30	84 30	38	9 30	.38	5.70	.88	13.20
39	9 45	24 45	39 45	54 45	69 45	84 45	39	9 45	.39	5.85	.89	13.35
40	10 00	25 00	40 00	55 00	70 00	85 00	40	10 00	.40	6.00	.90	13.50
41	10 15	25 15	40 15	55 15	70 15	85 15	41	10 15	.41	6.15	.91	13.65
42	10 30	25 30	40 30	55 30	70 30	85 30	42	10 30	.42	6.30	.92	13.80
43	10 45	25 45	40 45	55 45	70 45	85 45	43	10 45	.43	6.45	.93	13.95
44	11 00	26 00	41 00	56 00	71 00	86 00	44	11 00	.44	6.60	.94	14.10
45	11 15	26 15	41 15	56 15	71 15	86 15	45	11 15	.45	6.75	.95	14.25
46	11 30	26 30	41 30	56 30	71 30	86 30	46	11 30	.46	6.90	.96	14.40
47	11 45	26 45	41 45	56 45	71 45	86 45	47	11 45	.47	7.05	.97	14.55
48	12 00	27 00	42 00	57 00	72 00	87 00	48	12 00	.48	7.20	.98	14.70
49	12 15	27 15	42 15	57 15	72 15	87 15	49	12 15	.49	7.35	0.99	14.85
50	12 30	27 30	42 30	57 30	72 30	87 30	50	12 30	0.50	7.50	1.00	15.00
51	12 45	27 45	42 45	57 45	72 45	87 45	51	12 45				
52	13 00	28 00	43 00	58 00	73 00	88 00	52	13 00				
53	13 15	28 15	43 15	58 15	73 15	88 15	53	13 15				
54	13 30	28 30	43 30	58 30	73 30	88 30	54	13 30		h	°	
55	13 45	28 45	43 45	58 45	73 45	88 45	55	13 45		6 =	90	
56	14 00	29 00	44 00	59 00	74 00	89 00	56	14 00		12 =	180	
57	14 15	29 15	44 15	59 15	74 15	89 15	57	14 15		18 =	270	
58	14 30	29 30	44 30	59 30	74 30	89 30	58	14 30				
59	14 45	29 45	44 45	59 45	74 45	89 45	59	14 45				

TABLE - V
CONVERSION OF HOURS, MINUTES AND SECONDS TO DECIMALS OF A DAY

	0 ^h	1 ^h	2 ^h	3 ^h	4 ^h	5 ^h	SECONDS	
m	d	d	d	d	d	d	s	d
0	0.000 000	0.041 667	0.083 333	0.125 000	0.166 667	0.208 333	0	0.000 000
1	.000 694	.042 361	.084 028	.125 694	.167 361	.209 028	1	.000 012
2	.001 389	.043 056	.084 722	.126 389	.168 056	.209 722	2	.000 023
3	.002 083	.043 750	.085 417	.127 083	.168 750	.210 417	3	.000 035
4	.002 778	.044 444	.086 111	.127 778	.169 444	.211 111	4	.000 046
5	.003 472	.045 139	.086 806	.128 472	.170 139	.211 806	5	.000 058
6	.004 167	.045 833	.087 500	.129 167	.170 833	.212 500	6	.000 069
7	.004 861	.046 528	.088 194	.129 861	.171 528	.213 194	7	.000 081
8	.005 556	.047 222	.088 889	.130 556	.172 222	.213 889	8	.000 093
9	.006 250	.047 917	.089 583	.131 250	.172 917	.214 583	9	.000 104
10	0.006 944	0.048 611	0.090 278	0.131 944	0.173 611	0.215 278	10	0.000 116
11	.007 639	.049 306	.090 972	0.132 639	.174 306	.215 972	11	.000 127

TABLE - V ---- contd.
CONVERSION OF HOURS, MINUTES AND SECONDS TO DECIMALS OF A DAY

	0 ^h	1 ^h	2 ^h	3 ^h	4 ^h	5 ^h	SECONDS	
m	d	d	d	d	d	d	s	d
12	0.008 333	0.050 000	0.091 667	0.133 333	0.175 000	0.216 667	12	0.000 139
13	.009 028	.050 694	.092 361	.134 028	.175 694	.217 361	13	.000 150
14	.009 722	.051 389	.093 056	.134 722	.176 389	.218 056	14	.000 162
15	.010 417	.052 083	.093 750	.135 417	.177 083	.218 750	15	.000 174
16	.011 111	.052 778	.094 444	.136 111	.177 778	.219 444	16	.000 185
17	.011 806	.053 472	.095 139	.136 806	.178 472	.220 139	17	.000 197
18	.012 500	.054 167	.095 833	.137 500	.179 167	.220 833	18	.000 208
19	.013 194	.054 861	.096 528	.138 194	.179 861	.221 528	19	.000 220
20	0.013 889	0.055 556	0.097 222	0.138 889	0.180 556	0.222 222	20	0.000 231
21	.014 583	.056 250	.097 917	.139 583	.181 250	.222 917	21	.000 243
22	.015 278	.056 944	.098 611	.140 278	.181 944	.223 611	22	.000 255
23	.015 972	.057 639	.099 306	.140 972	.182 639	.224 306	23	.000 266
24	.016 667	.058 333	.100 000	.141 667	.183 333	.225 000	24	.000 278
25	.017 361	.059 028	.100 694	.142 361	.184 028	.225 694	25	.000 289
26	.018 056	.059 722	.101 389	.143 056	.184 722	.226 389	26	.000 301
27	.018 750	.060 417	.102 083	.143 750	.185 417	.227 083	27	.000 312
28	.019 444	.061 111	.102 778	.144 444	.186 111	.227 778	28	.000 324
29	.020 139	.061 806	.103 472	.145 139	.186 806	.228 472	29	.000 336
30	0.020 833	0.062 500	0.104 167	0.145 833	0.187 500	0.229 167	30	0.000 347
31	.021 528	.063 194	.104 861	.146 528	.188 194	.229 861	31	.000 359
32	.022 222	.063 889	.105 556	.147 222	.188 889	.230 556	32	.000370
33	.022 917	.064 583	.106 250	.147 917	.189 583	.231 250	33	.000 382
34	.023 611	.065 278	.106 944	.148 611	.190 278	.231 944	34	.000 394
35	.024 306	.065 972	.107 639	.149 306	.190 972	.232 639	35	.000 405
36	.025 000	.066 667	.108 333	.150 000	.191 667	.233 333	36	.000 417
37	.025 694	.067 361	.109 028	.150 694	.192 361	.234 028	37	.000 428
38	.026 389	.068 056	.109 722	.151 389	.193 056	.234 722	38	.000 440
39	.027 083	.068 750	.110 417	.152 083	.193 750	.235 417	39	.000 451
40	0.027 778	0.069 444	0.111 111	0.152 778	0.194 444	0.236 111	40	0.000 463
41	.028 472	.070 139	.111 806	.153 472	.195 139	.236 806	41	.000 475
42	.029 167	.070 833	.112 500	.154 167	.195 833	.237 500	42	.000 486
43	.029 861	.071 528	.113 194	.154 861	.196 528	.238 194	43	.000 498
44	.030 556	.072 222	.113 889	.155 556	.197 222	.238 889	44	.000 509
45	.031 250	.072 917	.114 583	.156 250	.197 917	.239 583	45	.000 521
46	.031 944	.073 611	.115 278	.156 944	.198 611	.240 278	46	.000 532
47	.032 639	.074 306	.115 972	.157 639	.199 306	.240 972	47	.000 544
48	.033 333	.075 000	.116 667	.158 333	.200 000	.241 667	48	.000 556
49	.034 028	.075 694	.117 361	.159 028	.200 694	.242 361	49	.000 567
50	0.034 722	0.076 389	0.118 056	0.159 722	0.201 389	0.243 056	50	0.000 579
51	.035 417	.077 083	.118 750	.160 417	.202 083	.243 750	51	.000 590
52	.036 111	.077 778	.119 444	.161 111	.202 778	.244 444	52	.000 602
53	.036 806	.078 472	.120 139	.161 806	.203 472	.245 139	53	.000 613
54	.037 500	.079 167	.120 833	.162 500	.204 167	.245 833	54	.000 625
55	.038 194	.079 861	.121 528	.163 194	.204 861	.246 528	55	.000 637
56	.038 889	.080 556	.122 222	.163 889	.205 556	.247 222	56	.000 648
57	.039 583	.081 250	.122 917	.164 583	.206 250	.247 917	57	.000 660
58	.040 278	.081 944	.123 611	.165 278	.206 944	.248 611	58	.000 671
59	0.040 972	0.082 639	0.124 306	0.165 972	0.207 639	0.249 306	59	0.000 683

TABLE - V ---- contd.
CONVERSION OF HOURS, MINUTES AND SECONDS TO DECIMALS OF A DAY

	6 ^h	7 ^h	8 ^h	9 ^h	10 ^h	11 ^h	SECONDS	
m	d	d	d	d	d	d	s	d
0	0.250 000	0.291 667	0.333 333	0.375 000	0.416 667	0.458 333	0	0.000 000
1	.250 694	.292 361	.334 028	.375 694	.417 361	.459 028	1	.000 012
2	.251 389	.293 056	.334 722	.376 389	.418 056	.459 722	2	.000 023
3	.252 083	.293 750	.335 417	.377 083	.418 750	.460 417	3	.000 035
4	.252 778	.294 444	.336 111	.377 778	.419 444	.461 111	4	.000 046
5	.253 472	.295 139	.336 806	.378 472	.420 139	.461 806	5	.000 058
6	.254 167	.295 833	.337 500	.379 167	.420 833	.462 500	6	.000 069
7	.254 861	.296 528	.338 194	.379 861	.421 528	.463 194	7	.000 081
8	.255 556	.297 222	.338 889	.380 556	.422 222	.463 889	8	.000 093
9	.256 250	.297 917	.339 583	.381 250	.422 917	.464 583	9	.000 104
10	0.256 944	0.298 611	0.340 278	0.381 944	0.423 611	0.465 278	10	0.000 116
11	.257 639	.299 306	.340 972	.382 639	.424 306	.465 972	11	.000 127
12	.258 333	.300 000	.341 667	.383 333	.425 000	.466 667	12	.000 139
13	.259 028	.300 694	.342 361	.384 028	.425 694	.467 361	13	.000 150
14	.259 722	.301 389	.343 056	.384 722	.426 389	.468 056	14	.000 162
15	.260 417	.302 083	.343 750	.385 417	.427 083	.468 750	15	.000 174
16	.261 111	.302 778	.344 444	.386 111	.427 778	.469 444	16	.000 185
17	.261 806	.303 472	.345 139	.386 806	.428 472	.470 139	17	.000 197
18	.262 500	.304 167	.345 833	.387 500	.429 167	.470 833	18	.000 208
19	.263 194	.304 861	.346 528	.388 194	.429 861	.471 528	19	.000 220
20	0.263 889	0.305 556	0.347 222	0.388 889	0.430 556	0.472 222	20	0.000 231
21	.264 583	.306 250	.347 917	.389 583	.431 250	.472 917	21	.000 243
22	.265 278	.306 944	.348 611	.390 278	.431 944	.473 661	22	.000 255
23	.265 972	.307 639	.349 306	.390 972	.432 639	.474 306	23	.000 266
24	.266 667	.308 383	.350 000	.391 667	.433 333	.475 000	24	.000 278
25	.267 361	.309 028	.350 694	.392 361	.434 028	.475 694	25	.000 289
26	.268 056	.309 722	.351 389	.393 056	.434 722	.476 389	26	.000 301
27	.268 750	.310 417	.352 083	.393 750	.435 417	.477 083	27	.000 312
28	.269 444	.311 111	.352 778	.394 444	.436 111	.477 778	28	.000 324
29	.270 139	.311 806	.353 472	.395 139	.436 806	.478 472	29	.000 336
30	0.270 833	0.312 500	0.354 167	0.395 833	0.437 500	0.479 167	30	0.000 347
31	.271 528	.313 194	.354 861	.396 528	.438 194	.479 861	31	.000 359
32	.272 222	.313 889	.355 556	.397 222	.438 889	.480 556	32	.000 370
33	.272 917	.314 583	.356 250	.397 917	.439 583	.481 250	33	.000 382
34	.273 611	.315 278	.356 944	.398 611	.440 278	.481 944	34	.000 394
35	.274 306	.315 972	.357 639	.399 306	.440 972	.482 639	35	.000 405
36	.275 000	.316 667	.358 333	.400 000	.441 667	.483 333	36	.000 417
37	.275 694	.317 361	.359 028	.400 694	.442 361	.484 028	37	.000 428
38	.276 389	.318 056	.359 722	.401 389	.443 056	.484 722	38	.000 440
39	.277 083	.318 750	.360 417	.402 083	.443 750	.485 417	39	.000 451
40	0.277 778	0.319 444	0.361 111	0.402 778	0.444 444	0.486 111	40	0.000 463
41	.278 472	.320 139	.361 806	.403 472	.445 139	.486 806	41	.000 475
42	.279 167	.320 833	.362 500	.404 167	.445 833	.487 500	42	.000 486
43	.279 861	.321 528	.363 194	.404 861	.446 528	.488 194	43	.000 498
44	.280 556	.322 222	.363 889	.405 556	.447 222	.488 889	44	.000 509
45	.281 250	.322 917	.364 583	.406 250	.447 917	.489 583	45	.000 521
46	0.281 944	0.323 611	0.365 278	0.406 944	0.448 611	0.490 278	46	0.000 532

TABLE - V ---- contd.
CONVERSION OF HOURS, MINUTES AND SECONDS TO DECIMALS OF A DAY

	6 ^h	7 ^h	8 ^h	9 ^h	10 ^h	11 ^h	SECONDS	
m	d	d	d	d	d	d	s	d
47	0.282 639	0.324 306	0.365 972	0.407 639	0.449 306	0.490 972	47	0.000 544
48	.283 333	.325 000	.366 667	.408 333	.450 000	.491 667	48	.000 556
49	.284 028	.325 694	.367 361	.409 028	.450 694	.492 361	49	.000 567
50	0.284 722	0.326 389	0.368 056	0.409 722	0.451 389	0.493 056	50	0.000 579
51	.285 417	.327 083	.368 750	.410 417	.452 083	.493 750	51	.000 590
52	.286 111	.327 778	.369 444	.411 111	.452 778	.494 444	52	.000 602
53	.286 806	.328 472	.370 139	.411 806	.453 472	.495 139	53	.000 613
54	.287 500	.329 167	.370 833	.412 500	.454 167	.495 833	54	.000 625
55	.288 194	.329 861	.371 528	.413 194	.454 861	.496 528	55	.000 637
56	.288 889	.330 556	.372 222	.413 889	.455 556	.497 222	56	.000 648
57	.289 583	.331 250	.372 917	.414 583	.456 250	.497 917	57	.000 660
58	.290 278	.331 944	.373 611	.415 278	.456 944	.498 611	58	.000 671
59	0.290 972	0.332 639	0.374 306	0.415 972	0.457 639	0.499 306	59	0.000 683

TABLE - VI
CONVERSION OF MINUTES AND SECONDS TO DECIMALS OF A DEGREE

	0'	1'	2'	3'	4'	5'		
"	°	°	°	°	°	°	"	°
0	0.00000	0.01667	0.03333	0.05000	0.06667	0.08333	0	0.0
1	0028	1694	3361	5028		8361	6	0.1
2	0056	1722	3389	5056	6722	8389	12	0.2
3	0083	1750	3417	5083	6750	8417	18	0.3
4	0111	1778	3444	5111	6778	8444	24	0.4
5	0139	1806	3472	5139	6806	8472	30	0.5
6	0167	1833	3500	5167	6833	8500	36	0.6
7	0194	1861	3528	5194	6861	8528	42	0.7
8	0222	1889	3556	5222	6889	8556	48	0.8
9	0250	1917	3583	5250	6917	8583	54	0.9
10	0.00278	0.01944	0.03611	0.05278	0.06944	0.08611		
11	0306	1972	3639	5306	6972	8639		
12	0333	2000	3667	5333	7000	8667		
13	0361	2028	3694	5361	7028	8694		
14	0389	2056	3722	5389	7056	8722		
15	0417	2083	3750	5417	7083	8750		
16	0444	2111	3778	5444	7111	8778		
17	0472	2139	3806	5472	7139	8806		
18	0500	2167	3833	5500	7167	8833		
19	0528	2194	3861	5528	7194	8861		
20	0.00556	0.02222	0.03889	0.05556	0.07222	0.08889		
21	0583	2250	3917	5583	7250	8917		
22	0611	2278	3944	5611	7278	8944		
23	0639	2306	3972	5639	7306	8972		
24	0667	2333	4000	5667	7333	9000		
25	0.00694	0.02361	0.04028	0.05694	0.07361	0.09028		

TABLE - VI ---- *contd.*
CONVERSION OF MINUTES AND SECONDS TO DECIMALS OF A DEGREE

	0'	1'	2'	3'	4'	5'	In units of the fifth decimal of a Degree.	
"	°	°	°	°	°	°	"	°
26	0.00722	0.02389	0.04056	0.05722	0.07389	0.09056	0.00	0
27	0750	2417	4083	5750	7417	9083	.01	1
28	0778	2444	4111	5778	7444	9111	.05	2
29	0806	2472	4139	5806	7472	9139	.09	3
30	0.00833	0.02500	0.04167	0.05833	0.07500	0.09167	.12	4
31	0861	2528	4194	5861	7528	9194	.16	5
32	0889	2556	4222	5889	7556	9222	.19	6
33	0917	2583	4250	5917	7583	9250	.23	7
34	0944	2611	4278	5944	7611	9278	.26	8
35	0972	2639	4306	5972	7639	9306	.30	9
36	1000	2667	4333	6000	7667	9333	.34	10
37	1028	2694	4361	6028	7694	9361	.37	11
38	1056	2722	4389	6056	7722	9389	.41	12
39	1083	2750	4417	6083	7750	9417	.45	13
40	0.01111	0.02778	0.04444	0.06111	0.07778	0.09444	.48	14
41	1139	2806	4472	6139	7806	9472	.52	15
42	1167	2833	4500	6167	7833	9500	.55	16
43	1194	2861	4528	6194	7861	9528	.59	17
44	1222	2889	4556	6222	7889	9556	.62	18
45	1250	2917	4583	6250	7917	9583	.66	19
46	1278	2944	4611	6278	7944	9611	.70	20
47	1306	2972	4639	6306	7972	9639	.73	21
48	1333	3000	4667	6333	8000	9667	.77	22
49	1361	3028	4694	6361	8028	9694	.81	23
50	0.01389	0.03056	0.04722	0.06389	0.08056	0.09722	.84	24
51	1417	3083	4750	6417	8083	9750	.88	25
52	1444	3111	4778	6444	8111	9778	.91	26
53	1472	3139	4806	6472	8139	9806	.95	27
54	1500	3167	4833	6500	8167	9833	0.98	28
55	1528	3194	4861	6528	8194	9861	1.00	
56	1556	3222	4889	6556	8222	9889		
57	1583	3250	4917	6583	8250	9917		
58	1611	3278	4944	6611	8278	9944		
59	0.01639	0.03306	0.04972	0.06639	0.08306	0.09972		

TABLE - VII
INTERPOLATION COEFFICIENTS

n	B''	E_0''	E_1''	n	B''	E_0''	E_1''
0.00	0.00000	0.00000	0.00000	0.05	0.01188	0.01544	0.00831
.01	.00248	.00328	.00167	.06	0.01410	0.01824	0.00996
.02	.00490	.00647	.00333	.07	.01628	.02094	.01161
.03	.00728	.00955	.00500	.08	.01840	.02355	.01325
.04	.00960	.01254	.00666	.09	.02048	.02607	.01488
0.05	0.01188	0.01544	0.00831	0.10	0.02250	0.02850	0.01650

TABLE - VII ---- *contd.*
INTERPOLATION COEFFICIENTS

n	B''	E_0''	E_1''	n	B''	E_0''	E_1''
0.10	0.02250	0.02850	0.01650	0.55	0.06188	0.05981	0.06394
.11	.02448	.03084	.01811	.56	0.06160	0.05914	0.06406
.12	.02640	.03309	.01971	.57	.06128	.05842	.06413
.13	.02828	.03525	.02130	.58	.06090	.05765	.06415
.14	.03010	.03732	.02288	.59	.06048	.05685	.06410
.15	.03188	.03931	.02444	0.60	0.06000	0.05600	0.06400
.16	.03360	.04122	.02598	.61	.05948	.05511	.06384
.17	.03528	.04304	.02751	.62	.05890	.05419	.06361
.18	.03690	.04477	.02903	.63	.05828	.05322	.06333
.19	.03848	.04643	.03052	.64	.05760	.05222	.06298
0.20	0.04000	0.04800	0.03200	.65	.05688	.05119	.06256
.21	.04148	.04949	.03346	.66	.05610	.05012	.06208
.22	.04290	.05091	.03489	.67	.05528	.04901	.06154
.23	.04428	.05224	.03631	.68	.05440	.04787	.06093
.24	.04560	.05350	.03770	.69	.05348	.04670	.06025
.25	.04688	.05469	.03906	0.70	0.05250	0.04550	0.05950
.26	.04810	.05580	.04040	.71	.05148	.04427	.05868
.27	.04928	.05683	.04172	.72	.05040	.04301	.05779
.28	.05040	.05779	.04301	.73	.04928	.04172	.05683
.29	.05148	.05868	.04427	.74	.04810	.04040	.05580
0.30	0.05250	0.05950	0.04550	.75	.04688	.03906	.05469
.31	.05348	.06025	.04670	.76	.04560	.03770	.05350
.32	.05440	.06093	.04787	.77	.04428	.03631	.05224
.33	.05528	.06154	.04901	.78	.04290	.03489	.05091
.34	.05610	.06208	.05012	.79	.04148	.03346	.04949
.35	.05688	.06256	.05119	0.80	0.04000	0.03200	0.04800
.36	.05760	.06298	.05222	.81	.03848	.03052	.04643
.37	.05828	.06333	.05322	.82	.03690	.02903	.04477
.38	.05890	.06361	.05419	.83	.03528	.02751	.04304
.39	.05948	.06384	.05511	.84	.03360	.02598	.04122
0.40	0.06000	0.06400	0.05600	.85	.03188	.02444	.03931
.41	.06048	.06410	.05685	.86	.03010	.02288	.03732
.42	.06090	.06415	.05765	.87	.02828	.02130	.03525
.43	.06128	.06413	.05842	.88	.02640	.01971	.03309
.44	.06160	.06406	.05914	.89	.02448	.01811	.03084
.45	.06188	.06394	.05981	0.90	0.02250	0.01650	0.02850
.46	.06210	.06376	.06044	.91	.02048	.01488	.02607
.47	.06228	.06352	.06103	.92	.01840	.01325	.02355
.48	.06240	.06323	.06157	.93	.01628	.01161	.02094
.49	.06248	.06289	.06206	.94	.01410	.00996	.01824
0.50	0.06250	0.06250	0.06250	.95	.01188	.00831	.01544
.51	.06248	.06206	.06289	.96	.00960	.00666	.01254
.52	.06240	.06157	.06323	.97	.00728	.00500	.00955
.53	.06228	.06103	.06352	.98	.00490	.00333	.00647
.54	.06210	.06044	.06376	0.99	.00248	.00167	.00328
0.55	0.06188	0.05981	0.06394	1.00	0.00000	0.00000	0.00000

N.B. – The coefficients are all *negative*. For details about Bessel's and Everett's interpolation formula, please see Explanation

TABLE - VIII
EVERETT COEFFICIENTS OF THE SECOND DIFFERENCES
(The coefficients are all negative)

n	E_0''	E_1''		n	E_0''	E_1''		n	E_0''	E_1''	
0.000	0.0002	0.0001	1.000	0.050	0.0156	0.0084	0.950	0.100	0.0286	0.0166	0.900
.001	.0005	.0002	0.999	.051	.0159	.0086	.949	.101	.0289	.0167	.899
.002	.0008	.0004	.998	.052	.0161	.0087	.948	.102	.0291	.0169	.898
.003	.0012	.0006	.997	.053	.0164	.0089	.947	.103	.0293	.0171	.897
.004	.0015	.0007	.996	.054	.0167	.0091	.946	.104	.0296	.0172	.896
.005	.0018	.0009	.995	.055	.0170	.0092	.945	.105	.0298	.0174	.895
.006	.0021	.0011	.994	.056	.0173	.0094	.944	.106	.0300	.0175	.894
.007	.0025	.0012	.993	.057	.0175	.0096	.943	.107	.0303	.0177	.893
.008	.0028	.0014	.992	.058	.0178	.0097	.942	.108	.0305	.0179	.892
.009	.0031	.0016	.991	.059	.0181	.0099	.941	.109	.0307	.0180	.891
.010	.0034	.0017	.990	.060	.0184	.0100	.940	.110	.0310	.0182	.890
.011	.0038	.0019	.989	.061	.0186	.0102	.939	.111	.0312	.0184	.889
.012	.0041	.0021	.988	.062	.0189	.0104	.938	.112	.0314	.0185	.888
.013	.0044	.0022	.987	.063	.0192	.0105	.937	.113	.0316	.0187	.887
.014	.0047	.0024	.986	.064	.0195	.0107	.936	.114	.0319	.0188	.886
.015	.0050	.0026	.985	.065	.0197	.0109	.935	.115	.0321	.0190	.885
.016	.0054	.0027	.984	.066	.0200	.0110	.934	.116	.0323	.0192	.884
.017	.0057	.0029	.983	.067	.0203	.0112	.933	.117	.0325	.0193	.883
.018	.0060	.0031	.982	.068	.0205	.0114	.932	.118	.0328	.0195	.882
.019	.0063	.0032	.981	.069	.0208	.0115	.931	.119	.0330	.0196	.881
.020	.0066	.0034	.980	.070	.0211	.0117	.930	.120	.0332	.0198	.880
.021	.0069	.0036	.979	.071	.0213	.0119	.929	.121	.0334	.0200	.879
.022	.0072	.0037	.978	.072	.0216	.0120	.928	.122	.0336	.0201	.878
.023	.0076	.0039	.977	.073	.0219	.0122	.927	.123	.0339	.0203	.877
.024	.0079	.0041	.976	.074	.0221	.0123	.926	.124	.0341	.0204	.876
.025	.0082	.0042	.975	.075	.0224	.0125	.925	.125	.0343	.0206	.875
.026	.0085	.0044	.974	.076	.0226	.0127	.924	.126	.0345	.0207	.874
.027	.0088	.0046	.973	.077	.0229	.0128	.923	.127	.0347	.0209	.873
.028	.0091	.0047	.972	.078	.0232	.0130	.922	.128	.0349	.0211	.872
.029	.0094	.0049	.971	.079	.0234	.0132	.921	.129	.0351	.0212	.871
.030	.0097	.0051	.970	.080	.0237	.0133	.920	.130	.0354	.0214	.870
.031	.0100	.0052	.969	.081	.0239	.0135	.919	.131	.0356	.0215	.869
.032	.0103	.0054	.968	.082	.0242	.0137	.918	.132	.0358	.0217	.868
.033	.0106	.0056	.967	.083	.0244	.0138	.917	.133	.0360	.0219	.867
.034	.0109	.0057	.966	.084	.0247	.0140	.916	.134	.0362	.0220	.866
.035	.0112	.0059	.965	.085	.0249	.0141	.915	.135	.0364	.0222	.865
.036	.0115	.0061	.964	.086	.0252	.0143	.914	.136	.0366	.0223	.864
.037	.0118	.0062	.963	.087	.0255	.0145	.913	.137	.0368	.0225	.863
.038	.0121	.0064	.962	.088	.0257	.0146	.912	.138	.0370	.0226	.862
.039	.0124	.0066	.961	.089	.0259	.0148	.911	.139	.0372	.0228	.861
.040	.0127	.0067	.960	.090	.0262	.0150	.910	.140	.0374	.0230	.860
.041	.0130	.0069	.959	.091	.0264	.0151	.909	.141	.0376	.0231	.859
.042	.0133	.0071	.958	.092	.0267	.0153	.908	.142	.0378	.0233	.858
.043	.0136	.0072	.957	.093	.0269	.0154	.907	.143	.0380	.0234	.857
.044	.0139	.0074	.956	.094	.0272	.0156	.906	.144	.0382	.0236	.856
.045	.0141	.0076	.955	.095	.0274	.0158	.905	.145	.0384	.0237	.855
.046	.0144	.0077	.954	.096	.0277	.0159	.904	.146	.0386	.0239	.854
.047	.0147	.0079	.953	.097	.0279	.0161	.903	.147	.0388	.0240	.853
.048	.0150	.0081	.952	.098	.0281	.0163	.902	.148	.0390	.0242	.852
.049	0.0153	0.0082	.951	.099	0.0284	0.0164	.901	.149	0.0392	0.0244	.851
0.050			0.950	0.100			0.900	0.150			0.850
	E_1''	E_0''	n		E_1''	E_0''	n		E_1''	E_0''	n

$$\text{Formula : } f_n = f_0 + n \Delta_{1/2} + E_0'' \Delta_0'' + E_1'' \Delta_1''$$

TABLE - VIII ---- contd.
EVERETT COEFFICIENTS OF THE SECOND DIFFERENCES
(The coefficients are all negative)

n	E_0''	E_1''		n	E_0''	E_1''		n	E_0''	E_1''	
0.150	0.0394	0.0245	0.850	0.200	0.0482	0.0321	0.800	0.300	0.0597	0.0457	0.700
.151	.0396	.0247	.849	.202	.0485	.0324	.798	.304	.0600	.0462	.696
.152	.0398	.0248	.848	.204	.0488	.0327	.796	.308	.0602	.0467	.692
.153	.0400	.0250	.847	.206	.0491	.0330	.794	.312	.0605	.0472	.688
.154	.0402	.0251	.846	.208	.0493	.0333	.792	.316	.0608	.0476	.684
.155	.0404	.0253	.845	.210	.0496	.0336	.790	.320	.0611	.0481	.680
.156	.0406	.0254	.844	.212	.0499	.0339	.788	.324	.0613	.0486	.676
.157	.0407	.0256	.843	.214	.0502	.0342	.786	.328	.0615	.0490	.672
.158	.0409	.0258	.842	.216	.0505	.0345	.784	.332	.0618	.0495	.668
.159	.0411	.0259	.841	.218	.0508	.0347	.782	.336	.0620	.0499	.664
.160	.0413	.0261	.840	.220	.0510	.0350	.780	.340	.0622	.0503	.660
.161	.0415	.0262	.839	.222	.0513	.0353	.778	.344	.0624	.0508	.656
.162	.0417	.0264	.838	.224	.0516	.0356	.776	.348	.0626	.0512	.652
.163	.0419	.0265	.837	.226	.0519	.0359	.774	.352	.0627	.0516	.648
.164	.0420	.0267	.836	.228	.0521	.0362	.772	.356	.0629	.0520	.644
.165	.0422	.0268	.835	.230	.0524	.0364	.770	.360	.0631	.0524	.640
.166	.0424	.0270	.834	.232	.0526	.0367	.768	.364	.0632	.0528	.636
.167	.0426	.0271	.833	.234	.0529	.0370	.766	.368	.0633	.0532	.632
.168	.0428	.0273	.832	.236	.0531	.0373	.764	.372	.0634	.0536	.628
.169	.0429	.0274	.831	.238	.0534	.0376	.762	.376	.0636	.0540	.624
.170	.0431	.0276	.830	.240	.0536	.0378	.760	.380	.0637	.0544	.620
.171	.0433	.0277	.829	.242	.0539	.0381	.758	.384	.0638	.0547	.616
.172	.0435	.0279	.828	.244	.0541	.0384	.756	.388	.0638	.0551	.612
.173	.0437	.0280	.827	.246	.0543	.0387	.754	.392	.0639	.0555	.608
.174	.0438	.0282	.826	.248	.0546	.0389	.752	.396	.0640	.0558	.604
.175	.0440	.0283	.825	.250	.0548	.0392	.750	.400	.0640	.0562	.600
.176	.0442	.0285	.824	.252	.0550	.0395	.748	.404	.0641	.0565	.596
.177	.0443	.0287	.823	.254	.0553	.0397	.746	.408	.0641	.0568	.592
.178	.0445	.0288	.822	.256	.0555	.0400	.744	.412	.0641	.0572	.588
.179	.0447	.0290	.821	.258	.0557	.0403	.742	.416	.0641	.0575	.584
.180	.0449	.0291	.820	.260	.0559	.0405	.740	.420	.0641	.0578	.580
.181	.0450	.0293	.819	.262	.0561	.0408	.738	.424	.0641	.0581	.576
.182	.0452	.0294	.818	.264	.0563	.0411	.736	.428	.0641	.0584	.572
.183	.0454	.0296	.817	.266	.0565	.0413	.734	.432	.0641	.0587	.568
.184	.0455	.0297	.816	.268	.0567	.0416	.732	.436	.0641	.0590	.564
.185	.0457	.0299	.815	.270	.0569	.0418	.730	.440	.0640	.0593	.560
.186	.0459	.0300	.814	.272	.0571	.0421	.728	.444	.0640	.0595	.556
.187	.0460	.0302	.813	.274	.0573	.0424	.726	.448	.0639	.0598	.552
.188	.0462	.0303	.812	.276	.0575	.0426	.724	.452	.0639	.0601	.548
.189	.0463	.0304	.811	.278	.0577	.0429	.722	.456	.0638	.0603	.544
.190	.0465	.0306	.810	.280	.0579	.0431	.720	.460	.0637	.0606	.540
.191	.0467	.0307	.809	.282	.0581	.0434	.718	.464	.0636	.0608	.536
.192	.0468	.0309	.808	.284	.0582	.0436	.716	.468	.0635	.0610	.532
.193	.0470	.0310	.807	.286	.0584	.0439	.714	.472	.0634	.0613	.528
.194	.0471	.0312	.806	.288	.0586	.0441	.712	.476	.0633	.0615	.524
.195	.0473	.0313	.805	.290	.0588	.0444	.710	.480	.0632	.0617	.520
.196	.0475	.0315	.804	.292	.0589	.0446	.708	.484	.0630	.0619	.516
.197	.0476	.0316	.803	.294	.0591	.0449	.706	.488	.0629	.0621	.512
.198	.0478	.0318	.802	.296	.0593	.0451	.704	.492	.0627	.0622	.508
.199	.0479	.0319	.801	.298	.0594	.0454	.702	.496	.0626	.0624	.504
0.200			0.800	0.300			0.700	0.500			0.500
	E_1''	E_0''	n		E_1''	E_0''	n		E_1''	E_0''	n

N. B. -- The table is to be used like a critical table without interpolation

TABLE - IX
JULIAN DAY NUMBER
DAYS ELAPSED AT GREENWICH NOON OF JANUARY 0

Yr. A.D.	100	200	300	400	500	600	700	800	900	1000
0	175 7582	179 4107	183 0632	186 7157	190 3682	194 0207	197 6732	201 3257	204 9782	208 6307
20	176 4887	180 1412	183 7937	187 4462	191 0987	194 7512	198 4037	202 0562	205 7087	209 3612
40	177 2192	180 8717	184 5242	188 1767	191 8292	195 4817	199 1342	202 7867	206 4392	210 0917
60	177 9497	181 6022	185 2547	188 9072	192 5597	196 2122	199 8647	203 5172	207 1697	210 8222
80	178 6802	182 3327	185 9852	189 6377	193 2902	196 9427	200 5952	204 2477	207 9002	211 5527
Yr. A.D.	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
0	212 2832	215 9357	219 5882	223 2407	226 8932	230 5447	234 1971	237 8495	241 5020	245 1544
20	213 0137	216 6662	220 3187	223 9712	227 6237	231 2752	234 9276	238 5806	242 2324	245 8849
40	213 7442	217 3967	221 0492	224 7017	228 3542	232 0057	235 6581	239 3105	242 9629	246 6154
60	214 4747	218 1272	221 7797	225 4322	229 0847	232 7362	236 3886	240 0410	243 6934	247 3459
80	215 2052	218 8577	222 5102	226 1627	229 8152	233 4667	237 1191	240 7715	244 4239	248 0764
100	215 9357	219 5882	223 2407	226 8932	230 5447 [†]	234 1971	237 8495	241 5020	245 1544	248 8069

NUMBER OF DAYS TO BE ADDED TO REDUCE TO THE BEGINNING OF EACH MONTH

Year	Jan. 0	Feb. 0	Mar. 0	Apr. 0	May 0	Jun. 0	July 0	Aug. 0	Sept. 0	Oct. 0	Nov. 0	Dec. 0
0	*	*										
1	0	31	60	91	121	152	182	213	244	274	305	335
2	366	397	425	456	486	517	547	578	609	639	670	700
3	731	762	790	821	851	882	912	943	974	1004	1035	1065
4	1096	1127	1155	1186	1216	1247	1277	1308	1339	1369	1400	1430
5	1461	1492	1521	1552	1582	1613	1643	1674	1705	1735	1766	1796
6	1827	1858	1886	1917	1947	1978	2008	2039	2070	2100	2131	2161
7	2192	2223	2251	2282	2312	2343	2373	2404	2435	2465	2496	2526
8	2557	2588	2616	2647	2677	2708	2738	2769	2800	2830	2861	2891
9	2922	2953	2982	3013	3043	3074	3104	3135	3166	3196	3227	3257
10	3288	3319	3347	3378	3408	3439	3469	3500	3531	3561	3592	3622
11	3353	3684	3712	3743	3773	3804	3834	3865	3896	3926	3957	3987
12	4018	4049	4077	4108	4138	4169	4199	4230	4261	4291	4322	4352
13	4383	4414	4443	4474	4504	4535	4565	4596	4627	4657	4688	4718
14	4749	4780	4808	4839	4869	4900	4930	4961	4992	5022	5053	5083
15	5114	5145	5173	5204	5234	5265	5295	5326	5357	5387	5418	5448
16	5479	5510	5538	5569	5599	5630	5660	5691	5722	5752	5783	5813
17	5844	5875	5904	5935	5965	5996	6026	6057	6088	6118	6149	6179
18	6210	6241	6269	6300	6330	6361	6391	6422	6453	6483	6514	6544
19	6575	6606	6634	6665	6695	6726	6756	6787	6818	6848	6879	6909
20	6940	6971	6999	7030	7060	7091	7121	7152	7183	7213	7244	7274

[†] From 1582 October 15 to 1599 December 31 inclusive, Gregorian calendar, the numbers given by the above tables must be diminished by 10.

* The numbers given for the years 1700, 1800 and 1900 which are not leap years, are for January - 1 and consequently the numbers 0 and 31 for January 0 and February 0 of these years must be increased by 1 and read as 1 and 32 respectively.

N.B. To find the Julian Day Number for a B.C. date, first express the year astronomically, i.e. diminish it by 1 and put a negative sign before it. Then make the number positive by adding the smallest multiple of 1000. The Julian Day Number for the date thus obtained diminished by 365250 for each multiple of 1000 added will give the required Julian Day Number for the B.C. date in question.

The Julian Day is completed at noon. In order to obtain the Julian Day Number for 0^h U.T., diminish the figure obtained from the above tables by 0.5.

The tables give the Day Numbers upto 1582, Oct. 4 for the Julian calendar and from 1582, Oct. 15 onward for the Gregorian calendar.

TABLE – X
ATMOSPHERIC REFRACTION
 MEAN REFRACTION FOR TEMPERATURE 25° C AND PRESSURE 1000 mb

Apparent Altitude	Mean Refraction	Apparent Altitude	Mean Refraction	Apparent Altitude	Mean Refraction	Apparent Altitude	Mean Refraction
° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "
-1 00	46 17.5	6 10	7 39.0	17 30	2 49.6	53	0 40.8
0 00	30 59.6	20	7 28.5	18 00	2 44.7	54	39.3
+0 10	29 09.3	30	7 18.5	18 30	2 40.0	55	37.9
20	27 28.9	40	7 08.9	19 00	2 35.6	56	36.5
30	25 57.8	6 50	6 59.7	19 30	2 31.4	57	35.1
0 40	24 34.6	7 00	6 50.8	20 00	2 27.3	58	33.8
0 50	23 18.3	7 10	6 42.3	21 00	2 19.8	59	0 32.6
1 00	22 07.9	20	6 34.1	22 00	2 12.9	60	31.2
10	21 02.6	30	6 26.3	23 00	2 06.6	61	30.0
20	20 02.4	40	6 18.7	24 00	2 00.8	62	28.8
30	19 07.0	7 50	6 11.4	25 00	1 55.4	63	27.6
1 40	18 15.6	8 00	6 04.4	26 00	1 50.4	64	26.4
1 50	17 28.2	8 10	5 57.6	27 00	1 45.7	65	0 25.2
2 00	16 44.0	20	5 51.2	28 00	1 41.3	66	24.1
10	16 02.6	30	5 44.7	29 00	1 37.2	67	23.0
20	15 24.0	40	5 38.6	30 00	1 33.4	68	21.9
30	14 48.0	8 50	5 32.6	31 00	1 29.8	69	20.8
2 40	14 14.4	9 00	5 26.8	32 00	1 26.3	70	19.7
2 50	13 42.9	9 10	5 21.3	33 00	1 23.1	71	0 18.6
3 00	13 13.5	20	5 15.9	34 00	1 20.0	72	17.6
10	12 45.8	30	5 10.6	35 00	1 17.1	73	16.5
20	12 19.6	40	5 05.5	36 00	1 14.3	74	15.5
30	11 55.0	9 50	5 00.6	37 00	1 11.7	75	14.5
3 40	11 31.9	10 00	4 55.9	38 00	1 09.1	76	13.5
3 50	11 10.0	10 30	4 42.4	39 00	1 06.8	77	0 12.5
4 00	10 49.5	11 00	4 30.0	40 00	1 04.4	78	11.5
10	10 30.1	11 30	4 18.7	41 00	1 02.2	79	10.5
20	10 11.7	12 00	4 08.1	42 00	1 00.0	80	09.5
30	9 54.2	12 30	3 58.4	43 00	0 57.9	81	08.6
4 40	9 37.5	13 00	3 49.3	44 00	0 56.0	82	07.6
4 50	9 21.6	13 30	3 40.8	45 00	0 54.1	83	0 06.6
5 00	9 06.5	14 00	3 32.9	46 00	0 52.2	84	05.7
10	8 52.1	14 30	3 25.6	47 00	0 50.4	85	04.7
20	8 38.6	15 00	3 18.6	48 00	0 48.7	86	03.8
30	8 25.5	15 30	3 12.1	49 00	0 47.0	87	02.8
5 40	8 13.0	16 00	3 06.0	50 00	0 45.4	88	01.9
5 50	8 01.2	16 30	3 00.2	51 00	0 43.8	89	0 00.9
6 00	7 49.8	17 00	2 54.8	52 00	0 42.2	90	0 00.0
6 10	7 39.0	17 30	2 49.6	53 00	0 40.8		

Rule: True altitude of a celestial object = Its apparent or observed altitude - refraction.

N.B.-The figures of mean refraction given in the above table are for temperature 25° C and pressure 1000 mb. (750.06 mm. Or 29.530 inches of mercury barometer). For other values of temperature and pressure, corrections from the tables on the following two pages are to be taken and applied to the mean refraction.

TABLE - Xa
ATMOSPHERIC REFRACTION
CORRECTION OF MEAN REFRACTION FOR DIFFERENT VALUES OF TEMPERATURE

Apparent Altitude	- 10° C (14° F)	0° C (32° F)	10° C (50° F)	20° C (68° F)	25° C (77° F)	30° C (86° F)	40° C (104° F)	50° C (122° F)
° ' "	' "	' "	' "	' "	' "	' "	' "	' "
- 1 00	+ 13 31.7	+ 9 17.8	+ 5 13.4	+ 1 37.7	0 00.0	- 1 32.6	- 4 22.5	- 6 54.8
0 00	7 16.3	5 04.8	2 53.4	0 54.8	0 00.0	0 52.1	2 29.6	3 58.2
+ 0 30	5 39.4	3 57.4	2 15.6	0 42.8	0 00.0	0 41.2	1 58.4	3 09.1
1 00	4 27.7	3 07.8	1 47.8	0 34.7	0 00.0	0 32.1	1 33.8	2 30.7
1 30	3 38.4	2 33.1	1 27.9	0 27.8	0 00.0	0 27.1	1 18.1	2 05.2
2 00	3 00.9	2 07.0	1 13.1	0 23.4	0 00.0	0 22.4	1 05.0	1 44.5
2 30	+ 2 32.9	+ 1 48.1	+ 1 02.1	+ 0 19.6	0 00.0	- 0 19.5	- 0 56.0	- 1 29.9
3 00	2 12.7	1 33.2	0 53.8	0 17.2	0 00.0	0 16.7	0 48.2	1 17.5
3 30	1 56.6	1 21.9	0 47.3	0 15.1	0 00.0	0 14.6	0 42.4	1 08.3
4 00	1 43.2	1 12.5	0 42.0	0 13.5	0 00.0	0 12.9	0 37.6	1 00.6
4 30	1 32.5	1 05.0	0 37.9	0 12.0	0 00.0	0 11.7	0 33.9	0 54.5
5 00	1 23.7	0 58.9	0 35.0	0 10.9	0 00.0	0 10.6	0 30.7	0 49.5
6 00	+ 1 10.2	+ 0 49.4	+ 0 30.0	+ 0 09.1	0 00.0	- 0 09.0	- 0 25.8	- 0 41.5
7 00	1 00.3	0 42.5	0 25.6	0 07.9	0 00.0	0 07.6	0 22.1	0 35.7
8 00	0 52.7	0 37.1	0 21.4	0 06.9	0 00.0	0 06.6	0 19.4	0 31.3
9 00	0 46.8	0 32.9	0 19.1	0 06.1	0 00.0	0 05.9	0 17.2	0 27.8
10 00	0 43.0	0 29.6	0 17.1	0 05.4	0 00.0	0 05.3	0 15.5	0 25.0
11 00	0 39.4	0 26.9	0 15.6	0 05.0	0 00.0	0 04.8	0 14.1	0 22.8
12 00	+ 0 35.7	+ 0 24.3	+ 0 14.2	+ 0 04.6	0 00.0	- 0 04.4	- 0 12.8	- 0 20.7
13 00	0 33.1	0 22.6	0 13.2	0 04.2	0 00.0	0 04.0	0 11.9	0 19.2
14 00	0 30.4	0 21.0	0 12.1	0 03.9	0 00.0	0 03.7	0 11.0	0 17.7
15 00	0 28.4	0 19.6	0 11.3	0 03.6	0 00.0	0 03.5	0 10.2	0 16.5
16 00	0 26.4	0 18.2	0 10.3	0 03.4	0 00.0	0 03.3	0 09.5	0 15.4
17 00	0 24.8	0 17.2	0 09.9	0 03.2	0 00.0	0 03.1	0 08.9	0 14.4
18 00	+ 0 23.3	+ 0 16.2	+ 0 09.3	+ 0 03.0	0 00.0	- 0 02.9	- 0 08.4	- 0 13.5
19 00	0 22.1	0 15.2	0 08.8	0 02.7	0 00.0	0 02.7	0 07.9	0 12.8
20 00	0 20.9	0 14.3	0 08.3	0 02.5	0 00.0	0 02.6	0 07.5	0 12.1
25 00	0 16.3	0 11.2	0 06.5	0 02.1	0 00.0	0 02.0	0 05.9	0 09.4
30 00	0 13.1	0 09.0	0 05.2	0 01.7	0 00.0	0 01.6	0 04.7	0 07.6
35 00	0 10.8	0 07.4	0 04.3	0 01.4	0 00.0	0 01.3	0 03.9	0 06.3
40 00	+ 0 09.0	+ 0 06.2	+ 0 03.6	+ 0 01.2	0 00.0	- 0 01.1	- 0 03.2	- 0 05.2
45 00	0 07.5	0 05.2	0 03.0	0 01.0	0 00.0	0 00.9	0 02.7	0 04.4
50 00	0 06.0	0 04.4	0 02.5	0 00.8	0 00.0	0 00.8	0 02.3	0 03.7
55 00	0 05.3	0 03.6	0 02.1	0 00.7	0 00.0	0 00.7	0 02.0	0 03.1
60 00	0 04.4	0 03.0	0 01.8	0 00.6	0 00.0	0 00.6	0 01.6	0 02.5
65 00	0 03.6	0 02.4	0 01.4	0 00.5	0 00.0	0 00.5	0 01.3	0 02.1
70 00	+ 0 02.8	+ 0 01.9	+ 0 01.1	+ 0 00.4	0 00.0	- 0 00.4	- 0 01.0	- 0 01.6
75 00	0 02.0	0 01.4	0 00.8	0 00.3	0 00.0	0 00.3	0 00.7	0 01.2
80 00	0 01.4	0 00.9	0 00.5	0 00.2	0 00.0	0 00.2	0 00.4	0 00.8
85 00	0 00.7	0 00.4	0 00.2	0 00.1	0 00.0	0 00.1	0 00.2	0 00.4
90 00	+ 0 00.0	+ 0 00.0	+ 0 00.0	+ 0 00.0	0 00.0	- 0 00.0	- 0 00.0	- 0 00.0

TABLE - Xb
ATMOSPHERIC REFRACTION
 PRESSURE CORRECTION OF REFRACTION FOR DIFFERENT VALUES OF PRESSURE

PRESSURE			AMOUNT OF REFRACTION CORRECTED FOR PRESSURE							
			1'	2'	3'	5'	10'	20'	30'	60'
mb	mm	Inch	"	"	"	' "	' "	' "	' "	' "
660	495.0	19.49	- 20.4	- 40.8	- 61.3	- 1 42.3	- 3 26.5	- 7 04.9	- 10 59.1	- 24 19
670	502.5	19.79	19.8	39.7	59.5	1 39.3	3 20.4	6 52.5	10 39.8	23 36
680	510.0	20.08	19.2	38.4	57.7	1 36.3	3 14.3	6 39.8	10 20.2	22 53
690	517.5	20.38	18.6	37.2	55.9	1 33.3	3 08.2	6 27.4	10 00.9	22 10
700	525.0	20.67	18.0	36.0	54.1	1 30.3	3 02.2	6 14.9	9 41.5	21 27
710	532.5	20.97	17.4	34.8	52.3	1 27.3	2 56.1	6 02.5	9 22.2	20 45
720	540.0	21.26	- 16.8	- 33.5	- 50.6	- 1 24.3	- 2 50.0	- 5 50.0	- 9 02.8	- 20 01
730	547.5	21.56	16.2	32.4	48.7	1 21.2	2 43.9	5 37.4	8 43.3	19 18
740	555.0	21.85	15.6	31.2	46.9	1 18.2	2 37.8	5 24.9	8 23.9	18 35
750	562.6	22.15	15.0	30.0	45.1	1 15.2	2 31.8	5 12.4	8 04.6	17 53
760	570.1	22.44	14.4	28.9	43.3	1 12.3	2 25.8	5 00.2	7 45.6	17 21
770	577.6	22.74	13.8	27.6	41.5	1 09.2	2 19.7	4 47.5	7 25.9	16 27
780	585.1	23.03	- 13.2	- 26.4	- 39.7	- 1 06.2	- 2 13.6	- 4 35.0	- 7 06.5	- 15 44
790	592.6	23.33	12.6	25.2	37.9	1 03.2	2 07.6	4 22.5	6 47.2	15 01
800	600.1	23.62	12.0	24.0	36.0	1 00.2	2 01.4	4 09.9	6 27.6	14 18
810	607.6	23.92	11.4	22.8	34.3	0 57.2	1 55.4	3 57.5	6 08.3	13 35
820	615.1	24.22	10.8	21.6	32.4	0 54.2	1 49.3	3 44.9	5 48.9	12 52
830	622.6	24.51	10.2	20.4	30.7	0 51.2	1 43.3	3 32.5	5 29.6	12 10
840	630.1	24.81	- 9.6	- 19.2	- 28.9	- 0 48.2	- 1 37.2	- 3 20.0	- 5 10.2	- 11 27
850	637.6	25.10	9.0	18.0	27.0	0 45.1	1 31.1	3 07.4	4 50.7	10 43
860	645.1	25.40	8.4	16.8	25.2	0 42.1	1 25.0	2 54.9	4 31.3	10 01
870	652.6	25.69	7.8	15.6	23.4	0 39.1	1 19.0	2 42.5	4 12.0	9 18
880	660.1	25.99	7.2	14.4	21.6	0 36.1	1 12.9	2 30.0	3 52.6	8 35
890	667.6	26.28	6.6	13.2	19.8	0 33.1	1 06.8	2 17.5	3 33.3	7 52
900	675.1	26.58	- 6.0	- 12.0	- 18.0	- 0 30.1	- 1 00.7	- 2 04.9	- 3 13.7	- 7 09
910	682.6	26.87	5.4	10.8	16.2	0 27.1	0 54.7	1 52.5	2 54.3	6 26
920	690.1	27.17	4.8	9.6	14.4	0 24.1	0 48.6	1 39.9	2 35.0	5 43
930	697.6	27.46	4.2	8.4	12.6	0 21.1	0 42.5	1 27.5	2 15.7	5 01
940	705.1	27.76	3.6	7.2	10.8	0 18.1	0 36.4	1 15.0	1 50.3	4 17
950	712.6	28.05	3.0	6.0	9.0	0 15.0	0 30.3	1 02.4	1 36.9	3 34
960	720.1	28.35	- 2.4	- 4.8	- 7.2	- 0 12.0	- 0 24.3	- 0 49.9	- 1 17.4	- 2 51
970	727.6	28.64	1.8	3.6	5.4	0 09.0	0 18.2	0 37.5	0 58.2	2 09
980	735.1	28.94	1.2	2.4	3.6	0 06.0	0 12.1	0 25.0	0 38.7	1 26
990	742.6	29.24	- 0.6	- 1.2	- 1.8	- 0 03.0	- 0 06.1	- 0 12.5	- 0 19.4	- 0 43
1000	750.1	29.53	0.0	0.0	0.0	0 00.0	0 00.0	0 00.0	0 00.0	0 00
1010	757.6	29.83	+ 0.6	+ 1.2	+ 1.8	+ 0 03.1	+ 0 06.1	+ 0 12.5	+ 0 19.5	+ 0 43
1020	765.1	30.12	1.2	2.4	3.6	0 06.0	0 12.2	0 25.1	0 38.9	1 26
1030	772.6	30.42	1.8	3.6	5.4	0 09.0	0 18.2	0 37.5	0 58.2	2 09
1040	780.1	30.71	2.4	4.8	7.2	0 12.0	0 24.3	0 50.0	0 77.6	2 52
1050	787.6	31.01	+ 3.0	+ 6.0	+ 9.0	+ 0 15.0	+ 0 30.3	+ 0 62.4	+ 0 96.9	+ 3 24

TABLE - XI
FACTORS FOR COMPUTING THE GEOCENTRIC COORDINATES OF A PLACE

ϕ °	S	C	ϕ °	S	C
0	0.993306	1.000000	45	0.994972	1.001678
1	0.993307	1.000001	46	0.995031	1.001737
2	0.993310	1.000004	47	0.995089	1.001795
3	0.993315	1.000009	48	0.995147	1.001854
4	0.993322	1.000016	49	0.995205	1.001912
5	0.993331	1.000025	50	0.995262	1.001970
6	0.993342	1.000037	51	0.995320	1.002028
7	0.993355	1.000050	52	0.995377	1.002085
8	0.993370	1.000065	53	0.995433	1.002142
9	0.993387	1.000082	54	0.995489	1.002198
10	0.993406	1.000101	55	0.995544	1.002254
11	0.993427	1.000122	56	0.995599	1.002309
12	0.993449	1.000145	57	0.995652	1.002363
13	0.993474	1.000169	58	0.995705	1.002416
14	0.993500	1.000196	59	0.995758	1.002468
15	0.993528	1.000224	60	0.995809	1.002520
16	0.993558	1.000254	61	0.995859	1.002570
17	0.993590	1.000286	62	0.995908	1.002620
18	0.993623	1.000320	63	0.995956	1.002668
19	0.993658	1.000355	64	0.996002	1.002715
20	0.993695	1.000392	65	0.996048	1.002761
21	0.993733	1.000430	66	0.996092	1.002805
22	0.993773	1.000470	67	0.996135	1.002848
23	0.993814	1.000511	68	0.996176	1.002890
24	0.993856	1.000554	69	0.996216	1.002930
25	0.993900	1.000598	70	0.996255	1.002969
26	0.993945	1.000644	71	0.996291	1.003006
27	0.993992	1.000691	72	0.996327	1.003041
28	0.994039	1.000739	73	0.996360	1.003075
29	0.994088	1.000788	74	0.996392	1.003107
30	0.994138	1.000838	75	0.996422	1.003138
31	0.994189	1.000889	76	0.996451	1.003166
32	0.994241	1.000941	77	0.996477	1.003193
33	0.994293	1.000994	78	0.996502	1.003218
34	0.994347	1.001048	79	0.996525	1.003241
35	0.994401	1.001103	80	0.996546	1.003262
36	0.994456	1.001158	81	0.996565	1.003281
37	0.994512	1.001214	82	0.996582	1.003299
38	0.994568	1.001271	83	0.996597	1.003314
39	0.994625	1.001328	84	0.996610	1.003327
40	0.994682	1.001386	85	0.996622	1.003338
41	0.994740	1.001444	86	0.996631	1.003348
42	0.994798	1.001502	87	0.996638	1.003355
43	0.994856	1.001560	88	0.996643	1.003360
44	0.994914	1.001619	89	0.996646	1.003363
45	0.994972	1.001678	90	0.996647	1.003364

$$\rho \sin \phi' = (S+H) \sin \phi$$

$$H = 0.156779 \times \text{elevation in meters} \times 10^{-6}$$

$$\rho \cos \phi' = (C+H) \cos \phi$$

$$H = 0.047786 \times \text{elevation in feet} \times 10^{-6}$$

TABLE - XII
CONVERSION OF GEOGRAPHIC TO GEOCENTRIC COORDINATES

ϕ	$\phi' - \phi$	ρ	ONE DEGREE OF		ϕ	$\phi' - \phi$	ρ	ONE DEGREE OF	
			Latitude	Longitude				Latitude	Longitude
$^{\circ}$	' "		Kilometers	Kilometers	$^{\circ}$	' "		Kilometers	Kilometers
0	0 00.0	1.000000	110.57	111.32	45	- 11 32.7	0.998331	111.13	78.85
1	- 0 24.1	0.999999	110.58	111.30	46	11 32.4	0.998272	111.15	77.46
2	0 48.2	0.999996	110.58	111.25	47	11 31.2	0.998214	111.17	76.06
3	1 12.2	0.999991	110.58	111.17	48	11 29.2	0.998155	111.19	74.63
4	1 36.1	0.999984	110.58	111.05	49	11 26.3	0.998097	111.21	73.17
5	1 59.9	0.999975	110.58	110.90	50	11 22.6	0.998039	111.23	71.70
6	2 23.6	0.999964	110.59	110.71	51	11 18.1	0.997982	111.25	70.20
7	2 47.0	0.999951	110.59	110.50	52	11 12.7	0.997925	111.27	68.68
8	3 10.3	0.999936	110.60	110.24	53	11 06.5	0.997868	111.29	67.14
9	3 33.4	0.999919	110.60	109.96	54	10 59.5	0.997812	111.31	65.58
10	- 3 56.2	0.999900	110.61	109.64	55	- 10 51.7	0.997756	111.32	63.99
11	4 18.7	0.999879	110.62	109.29	56	10 43.1	0.997702	111.34	62.39
12	4 40.9	0.999856	110.62	108.90	57	10 33.7	0.997648	111.36	60.77
13	5 02.8	0.999832	110.63	108.49	58	10 23.5	0.997594	111.38	59.13
14	5 24.3	0.999805	110.64	108.03	59	10 12.6	0.997542	111.40	57.48
15	5 45.4	0.999777	110.65	107.55	60	10 00.9	0.997491	111.41	55.80
16	6 06.0	0.999747	110.66	107.03	61	9 48.5	0.997440	111.43	54.11
17	6 26.3	0.999716	110.67	106.49	62	9 35.4	0.997391	111.45	52.40
18	6 46.1	0.999682	110.68	105.91	63	9 21.5	0.997343	111.46	50.67
19	7 05.4	0.999647	110.69	105.29	64	9 07.0	0.997296	111.48	48.93
20	- 7 24.1	0.999611	110.70	104.65	65	- 8 51.8	0.997250	111.49	47.18
21	7 42.4	0.999573	110.72	103.97	66	8 36.0	0.997206	111.51	45.40
22	8 00.0	0.999533	110.73	103.26	67	8 19.5	0.997163	111.52	43.62
23	8 17.1	0.999492	110.74	102.52	68	8 02.4	0.997121	111.54	41.82
24	8 33.6	0.999449	110.76	101.75	69	7 44.7	0.997081	111.55	40.01
25	8 49.5	0.999405	110.77	100.95	70	7 26.4	0.997042	111.56	38.19
26	9 04.7	0.999360	110.79	100.12	71	7 07.6	0.997005	111.57	36.35
27	9 19.3	0.999314	110.80	99.26	72	6 48.3	0.996970	111.59	34.50
28	9 33.2	0.999266	110.82	98.36	73	6 28.4	0.996936	111.60	32.65
29	9 46.4	0.999217	110.84	97.44	74	6 08.1	0.996904	111.61	30.78
30	- 9 58.9	0.999167	110.85	96.49	75	- 5 47.4	0.996874	111.61	28.90
31	10 10.7	0.999116	110.87	95.50	76	5 26.2	0.996845	111.62	27.02
32	10 21.7	0.999064	110.89	94.49	77	5 04.6	0.996818	111.63	25.12
33	10 32.0	0.999011	110.90	93.45	78	4 42.6	0.996793	111.64	23.22
34	10 41.5	0.998958	110.92	92.39	79	4 20.3	0.996770	111.65	21.31
35	10 50.2	0.998903	110.94	91.29	80	3 57.7	0.996749	111.66	19.39
36	10 58.1	0.998848	110.96	90.16	81	3 34.7	0.996730	111.67	17.47
37	11 05.3	0.998792	110.98	89.01	82	3 11.6	0.996713	111.67	15.54
38	11 11.6	0.998736	111.00	87.83	83	2 48.1	0.996697	111.68	13.61
39	11 17.1	0.998679	111.02	86.63	84	2 24.5	0.996684	111.68	11.67
40	-11 21.8	0.998622	111.03	85.39	85	- 2 00.7	0.996673	111.69	9.73
41	11 25.7	0.998564	111.05	84.14	86	1 36.7	0.996664	111.69	7.79
42	11 28.7	0.998506	111.07	82.85	87	1 12.7	0.996656	111.69	5.85
43	11 30.9	0.998447	111.09	81.54	88	0 48.5	0.996651	111.69	3.90
44	11 32.2	0.998389	111.11	80.21	89	- 0 24.3	0.996648	111.69	1.95
45	-11 32.7	0.998331	111.13	78.85	90	0 00.0	0.996647	111.69	0.00

ϕ and ϕ' are the geographic and geocentric latitude respectively

ρ = radius of the earth.

1 kilometre = 0.621372 miles.

LATITUDE AND LONGITUDE OF PLACES

Place	Altitude (Metre)	Latitude	Longitude		Reduction of Greenwich Sid. Time	Reduction of L.M.T. to Indian Standard Time	$\rho \sin \phi'$	$\rho \cos \phi'$
			In arc	In time				
		° ' "	° ' "	h m s	s	m s		
Agartala	16	+23 31.8	+ 91 09.0	+6 04 36	+59.89	-34 36	+0.39677	0.91734
Agra	160	+27 05.6	+ 77 34.8	+5 10 19	+50.98	+19 51	+0.45272	0.89091
Ahmedabad	49	+23 03.0	+ 72 40.2	+4 50 41	+47.75	+39 19	+0.38912	0.92064
Aizawl	1097	+23 26.4	+ 92 43.2	+6 10 53	+60.93	-40 53	+0.39540	0.91812
Ajmer	486	+26 16.2	+ 74 22.2	+4 57 29	+48.87	+32 31	+0.43996	0.89738
Alibag (Obs.)	7	+19 00.0	+ 72 30.6	+4 50 02	+47.65	+39 58	+0.33350	0.94586
Mumbai,								
Aligarh	187	+27 31.8	+ 78 2.44	+5 12 10	+51.28	+17 47	+0.45946	0.88743
Allahabad	96	+25 16.2	+ 81 26.4	+5 25 46	+53.51	+04 14	+0.42429	0.90487
Amritsar	231	+31 22.8	+ 74 31.2	+4 58 05	+48.97	+31 55	+0.51771	0.85454
Bangalore	921	+12 34.8	+ 77 21.0	+5 09 24	+50.83	+20 36	+0.21641	0.97629
Bangkok, Thailand	16	+13 25.0	+100 18.0	+6 41 12	+65.91	- 71 12	+0.23052	0.97289
Baroda	35	+22 12.0	+ 73 9.6	+4 52 38	+48.07	+37 22	+0.37549	0.92632
Bhopal	506	+23 10.2	+ 77 12.6	+5 08 50	+50.73	+21 10	+0.39106	0.91989
Bhuj	105	+23 09.0	+ 69 24.0	+4 37 36	+45.60	+52 24	+0.39072	0.91997
Bhubaneswar	46	+20 00.0	+ 85 30.0	+5 42 00	+56.18	- 12 00	+0.33987	0.94007
Bikaner	224	+28 01.0	+ 73 10.8	+4 52 43	+48.09	+37 17	+0.46695	0.88349
Bilaspur, (H.P)	502	+31 11.4	+ 76 30.0	+5 06 00	+50.27	+24 00	+0.51491	0.85629
Buenos Aires (Naval Obs.), Argentina	6	-34 21.0	- 58 12.0	- 3 52 48	-38.24	.. ..	-0.56107	0.82649
Cairo	68	+30 01.0	+ 31 09.0	+2 04 36	+20.47	.. ..	+0.49733	0.86662
Canberra (Mount Stromlo), Australia	767	-35 10.2	+149 10.5	+9 56 42	+98.02	.. ..	-0.57285	0.81845
Cape Town (Ast. Obs.), S. Africa	18	-33 33.6	+ 18 15.0	+1 13 00	+11.99	.. ..	-0.54967	0.83416
Chandigarh	347	+30 25.2	+ 76 32.0	+5 06 08	+50.29	+23 52	+0.50340	0.86312
Chennai (or Madras) Obs.	7	+13 00.0	+ 80 06.6	+5 20 26	+52.64	+ 9 34	+0.22348	0.97454
Chittagong, Bangladesh	27	+22 12.6	+ 91 31.8	+6 06 07	+60.14	- 36 07	+0.37565	0.92625
Colaba Obs. Mumbai, (Bombay)	14	+19 04.2	+ 72 31.0	+4 50 04	+47.65	+39 56	+0.32465	0.94546
Colombo (Obs.), Srilanka	6	+ 6 33.6	+ 79 33.6	+5 18 14	+52.28	+11 46	+0.11348	0.99350
Cuttack	26	+20 16.8	+ 85 33.6	+5 42 14	+56.42	- 12 14	+0.34443	0.93839
Dacca, Bangladesh	7	+23 25.8	+ 90 15.6	+6 01 02	+59.31	- 31 02	+0.39518	0.91803
Darjeeling	2128	+27 02.0	+ 88 10.8	+5 52 43	+57.94	- 22 43	+0.45193	0.89166
Dehra Dun	682	+30 11.3	+ 78 01.2	+5 12 05	+51.27	+17 55	+0.49995	0.86520
Delhi	220	+28 21.0	+ 77 07.2	+5 08 29	+50.68	+21 31	+0.47205	0.88076
Dibrugarh	106	+27 17.4	+ 94 06.0	+6 16 24	+61.83	- 46 24	+0.45575	0.88734
Gangtok	1768	+27 12.0	+ 88 22.2	+5 53 29	+58.07	- 23 29	+0.45448	0.89029
Guwahati	55	+26 3.6.0	+ 91 21.0	+6 05 24	+60.03	- 35 24	+0.43666	0.89892
Gauribidanur (Radio Astr. Obs.)	686	+13 36.2	+ 77 26.1	+5 09 44	+50.88	+20 16	+0.23369	0.97223
Gaya	111	+24 27.0	+ 84 34.2	+5 38 17	+55.57	- 8 17	+0.41137	0.91086

1 metre = 3.2808 feet

LATITUDE AND LONGITUDE OF PLACES

Place	Altitude (Metre)	Latitude	Longitude		Reduction of Greenwich Sid. Time	Reduction of L.M.T. to Indian Standard Time	$\rho \sin \phi'$	$\rho \cos \phi'$
			In arc	In time				
Geneva (Obs.), Switzerland	465	+46 07.8	+ 6 04.2	+0 24 17	+ 3.99	m s	+0.71739	0.69428
Greenwich (Royal Obs.).	47	+51 28.6	0 00	0 00 00.0	0.00	.. ..	+0.77872	0.62412
Hanle/ Mt.Saraswati (Indian Ast. Obs.)	4467	+32 46.8	+ 78 57.9	+5 15 51.6	+51.89	+14 8.4	+0.53870	0.84217
Haridwar	274	+29 34.8	+ 78 08.0	+5 12 32.0	+51.34	+ 17 28	+0.49076	0.87041
Heidelberg Obs., Germany	570	+49 14.0	+ 8 25.2	+0 33 41.0	+ 5.53	.. ..	+0.75382	0.65430
Helwan (Obs.), Egypt	116	+29 51.5	+ 31 22.8	+2 05 31.2	+20.62	.. ..	+0.49494	0.86800
Herstmonceux (Royal Obs.), Sussex, U.K.	31	+50 52.0	+ 0 20.3	+0 01 21.0	+ 0.22	.. ..	+0.77205	0.63241
Hyderabad (Nizamiah Obs.)	554	+17 25.9	+ 78 27.2	+5 13 49.0	+51.55	+ 16 11	+0.29768	0.95444
Imphal	801	+24 26.4	+ 93 34.8	+6 14 19.0	+61.49	- 44 19	+0.41126	0.91103
India, Central Station of	-	+23 11.0	+ 82 30.0	+5 30 00.0	+54.21	0 00	+0.39124	0.91973
Indore	556	+22 26.4	+ 75 30.0	+5 02 00.0	+49.61	+ 28 00	+0.37938	0.92481
Istambul (Univ. Obs.), Turkey	65	+41 00.7	+ 28 57.9	+1 55 51.6	+19.03	.. ..	+0.65277	0.75567
IUCAA Giravali Obs., Pune	1000	+18 19.2	+ 73 30.6	+4 54 02.0	+48.3	+35 58	+0.31237	0.94978
Jabalpur	393	+23 07.2	+ 79 34.2	+5 18 17.0	+52.29	+ 11 43	+0.39026	0.92022
Jaipur	436	+26 33.0	+ 75 31.2	+5 02 05.0	+49.62	+ 27 55	+0.44431	0.89520
Jakarta, Indonesia	23	- 6 07.2	+106 30.0	+7 06 00.0	+69.98	.. ..	-0.10590	0.99434
Jamshedpur	152	+22 29.4	+ 86 06.6	+5 44 26.0	+56.58	- 14 26	+0.38016	0.92442
Japal Rangapur (Obs.),	695	+17 05.9	+ 78 43.7	+5 14 55.0	+51.73	+ 15 05	+0.29216	0.95618
Jodhpur	224	+26 10.8	+ 73 00.6	+4 52 02.0	+47.97	+ 37 58	+0.43854	0.89803
Johannesberg, South Africa	1806	- 26 10.9	+ 28 04.5	+1 52 18.0	+18.45	.. ..	-0.43868	0.89824
Kabul, Afghanistan	1766	+34 18.0	+ 69 10.8	+4 36 43.0	+45.46	+ 53 17	+0.56051	0.82721
Kanchipuram	76	+12 30.0	+ 79 27.0	+5 17 48.0	+52.21	+ 12 12	+0.21503	0.97646
Kanpur	126	+26 15.6	+ 80 13.2	+5 20 53.0	+52.71	+ 9 07	+0.43978	0.89740
Karachi, Pakistan	4	+24 53.6	+ 67 02.4	+4 28 10.0	+44.05	+ 61 50	+0.41836	0.90763
Kathmandu, Nepal	1324	+27 23.2	+ 85 07.2	+5 40 29.0	+55.93	- 10 29	+0.45733	0.88874
Kavalur (Vainu Bappu Obs.),	725	+12 34.6	+ 78 49.6	+5 15 18.0	+51.80	+ 14 42	+0.21635	0.97627
Kodaikanal (Solar Obs.)	2343	+10 13.8	+ 77 28.1	+5 09 52.0	+50.90	+ 20 08	+0.17649	0.98457
Kohima	1405	+25 24.0	+ 94 04.8	+6 16 19.0	+61.82	- 46 19	+0.42642	0.90409
Kolkata (Alipore Obs.), (Calcutta)	6	+22 19.2	+ 88 12.0	+5 52 48.0	+57.96	- 22 48	+0.37742	0.92553
Kolkata (Presi. Coll. Obs.)	12	+22 23.4	+ 88 16.2	+5 53 05.0	+58.00	- 23 05	+0.37854	0.92506
Kurnool	281	+15 30.0	+ 78 03.0	+5 12 12.0	+51.29	+ 17 48	+0.26552	0.96390

1 metre = 3.2808 feet

LATITUDE AND LONGITUDE OF PLACES

Place	Altitude (Metre)	Latitude	Longitude		Reduction of Greenwich Sid. Time	Reduction of L.M.T. to Indian Standard Time	$\rho \sin \phi'$	$\rho \cos \phi'$
			In arc	In time				
		$^{\circ}$ $'$	$^{\circ}$ $'$	h m s	s	m s		
Kyoto (Univ. Ast. Dept. Obs.), Japan	86	+35 00.6	+135 20.4	+9 1 22.0	+88.93	.. ..	+0.57052	0.81997
Lahore, Pakistan	214	+31 22.2	+ 74 15.6	+4 57 02.0	+48.80	+ 32 58	+0.51756	0.85269
Lucknow	113	+26 31.2	+ 80 33.6	+5 22 14.0	+52.94	+ 7 46	+0.44383	0.89539
Maitri (Indian base station at Antarctica)	132	-70 46.0	+ 11 45.0	+0 47 00.0	+ 7.72	.. ..	-0.94069	0.33041
Mangalore	22	+12 33.0	+ 74 31.8	+4 58 07.0	+48.97	+ 31 53	+0.21587	0.97626
Moscow (Sternberg State Ast. Inst.), Russia	195	+55 27.0	+ 37 22.2	+2 29 29.0	+24.56	.. ..	+0.82001	0.56843
Mount Abu (Gurushikhar Obs.)	1700	+24 23.4	+ 72 25.8	+4 49 43.0	+47.59	+40 17	+0.41053	0.91152
Mount Palomar (Obs.), U.S.A.	1706	+33 21.4	-116 51.8	- 7 47 27.2	-76.79	.. ..	+0.54687	0.83633
Mount Wilson (Obs.), U.S.A.	1742	+34 13.0	-118 03.6	- 7 52 14.4	-77.58	.. ..	+0.55931	0.82802
Mysore	767	+12 10.8	+ 76 25.2	+5 05 41.0	+50.22	+ 24 19	+0.20963	0.97775
Nagpur	312	+21 05.4	+ 79 04.2	+5 16 17.0	+51.96	+ 13 43	+0.35760	0.93347
Nainital (Aryabhatta Res. Inst. Of Obs. Sci.)	1927	+29 13.8	+ 79 18.0	+5 17 12.0	+52.11	+ 12 48	+0.48558	0.87363
New York (Rutherford Obs.), U.S.A.	25	+40 25.8	- 74 00.6	- 4 56 02.0	-48.63	.. ..	+0.64509	0.76228
Ottawa, Canada	87	+45 16.2	- 75 22.2	- 5 01 29.0	-49.53	.. ..	+0.70688	0.70497
Panaji	56	+15 18.0	+ 73 33.0	+4 54 12.0	+48.33	+ 35 48	+0.26217	0.96479
Paris (Obs.), France	67	+48 30.0	+ 2 12.0	+0 08 49.0	+ 1.45	.. ..	+0.74535	0.66387
Patiala	251	+30 12.0	+ 76 15.0	+5 05 00.0	+50.10	+ 25 00	+0.50010	0.86504
Patna	53	+25 21.6	+ 85 03.6	+5 40 14.0	+55.89	- 10 14	+0.42570	0.90420
Peshawar, Pakistan	358	+34 01.0	+ 71 34.0	+4 46 15.0	+47.03	+ 43 45	+0.55630	0.82979
Pondicherry	6	+11 34.8	+ 79 29.4	+5 17 58.0	+52.23	+ 12 02	+0.19942	0.97978
Pune	559	+18 19.0	+ 73 30.0	+4 54 00.0	+48.30	+ 36 00	+0.31230	0.94973
Porbandar	7	+21 22.2	+ 69 29.4	+4 37 58.0	+45.66	+ 52 02	+0.36211	0.93166
Port Blair	79	+11 24.0	+ 92 25.8	+6 09 43.0	+60.74	- 39 43	+0.19636	0.98041
Puri	6	+19 28.8	+ 85 29.4	+5 41 58.0	+56.18	- 11 58	+0.33137	0.94311
Quetta, Pakistan	1673	+30 07.2	+ 67 00.0	+4 28 00.0	+44.03	+ 62 00	+0.49901	0.86593
Rajkot	132	+22 10.8	+ 70 33.6	+4 42 14.0	+46.36	+ 47 46	+0.37518	0.92646
Rawalpindi, Pakistan	510	+33 22.2	+ 73 03.6	+4 52 14.0	+48.01	+ 37 46	+0.54696	0.83605
Rome (Obs.), Italy	152	+41 33.0	+ 12 16.8	+0 49 07.2	+ 8.07	.. ..	+0.65982	0.74950
San Fernando (Naval Obs.), Spain	27	+36 28.0	- 6 12.2	-0 24 48.8	- 4.08	.. ..	+0.59108	0.80516
Shillong	1500	+25 20.4	+ 91 33.6	+6 06 14.0	+61.16	- 36 14	+0.42549	0.90455

1 metre = 3.2808 feet

LATITUDE AND LONGITUDE OF PLACES

Place	Altitude (Metre)	Latitude	Longitude		Reduction of Greenwich Sid. Time	Reduction of L.M.T. to Indian Standard Time	$\rho \sin \phi'$	$\rho \cos \phi'$
			In arc	In time				
Sholapur	476	$^{\circ} \quad '$ +17 24.0	$^{\circ} \quad '$ + 75 33.6	$h \quad m \quad s$ +5 02 14	s +49.65	$m \quad s$ + 27 46	+0.29715	0.95460
Siliguri	127	+26 24.0	+ 88 13.2	+5 52 53	+57.97	- 22 53	+0.44196	0.89632
Simla	2202	+31 03.6	+ 77 07.8	+5 08 31	+50.68	+ 21 29	+0.51312	0.85769
Singapore	18	+ 1 10.2	+103 30.6	+6 54 02	+68.02	.. ..	+0.02028	0.99980
Srinagar	1586	+34 03.6	+ 74 30.6	+4 58 02	+48.96	+ 31 58	+0.55704	0.82953
St. Petersburg Univ. Obs., Russia	3	+59 56.5	+ 30 17.7	+2 01 11	+19.91	.. ..	+0.86189	0.50214
Tehran, Iran	1200	+35 24.6	+ 51 15.0	+3 25 00	+33.68	.. ..	+0.57630	0.81610
Tokyo (Hydrographic Obs.), Japan	41	+35 24.0	+138 27.0	+9 13 48	+90.98	.. ..	+0.57605	0.81605
Thiruvananthapuram	61	+ 8 17.4	+ 76 34.2	+5 06 17	+50.31	+ 23 43	+0.14323	0.98963
Udaipur (Solar Obs.)	301	+24 21.0	+ 73 25.2	+4 53 41	+48.24	+ 36 19	+0.40980	0.91161
Udhagamandalam (Ooty) (Rad. Astr. Centre)	2150	+11 22.9	+ 76 40.0	+5 06 40	+50.38	+ 23 20	+0.19611	0.98079
Ujjain	496	+23 06.3	+ 75 28.2	+5 01 53	+49.59	+ 28 07	+0.39002	0.92033
Varanasi	76	+25 10.8	+ 83 00.0	+5 32 00	+54.54	- 2 00	+0.42288	0.90554
Visakhapatnam	38	+17 25.8	+ 83 08.4	+5 32 34	+54.63	- 2 34	+0.29763	0.95438
Washington (U. S. Naval Obs.), U.S.A.	92	+38 33.0	- 77 02.4	- 5 08 10	-50.62	.. ..	+0.61984	0.78309
Yangon, Myanmar	28	+16 27.0	+ 96 7.20	+6 24 29	+63.16	- 54 29	+0.28136	0.95933

1 metre = 3.2808 feet

SEMI-DIURNAL AND SEMI-NOCTURNAL ARCS (FOR TRUE ALTITUDE = 0)

Lat. Decli.	0°	10°	20°	30°	35°	40°	45°	50°	52°	54°	56°	58°	60°
° ' "	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
0 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00	6 00
5 00	6 00	6 04	6 07	6 12	6 14	6 17	6 20	6 24	6 26	6 28	6 30	6 32	6 35
10 00	6 00	6 07	6 15	6 23	6 28	6 34	6 41	6 49	6 52	6 56	7 01	7 06	7 11
15 00	6 00	6 11	6 22	6 36	6 43	6 52	7 02	7 14	7 20	7 27	7 34	7 42	7 51
20 00	6 00	6 15	6 30	6 49	6 59	7 11	7 25	7 43	7 51	8 00	8 11	8 22	8 36
23 00	6 00	6 18	6 36	6 58	7 11	7 25	7 43	8 05	8 15	8 27	8 40	8 56	9 15
25 00	6 00	6 19	6 39	7 02	7 16	7 32	7 51	8 15	8 27	8 40	8 55	9 13	9 35
28 00	6 00	6 22	6 45	7 12	7 27	7 46	8 08	8 37	8 52	9 08	9 28	9 59	10 28
30 00	6 00	6 23	6 49	7 18	7 35	7 56	8 21	8 54	9 11	9 30	9 55	10 30	12 00

When the latitude of the place and the declination of the heavenly body are of the same sign then the figure represent semi-diurnal arc, when of opposite signs then semi-nocturnal arc.

AMPLITUDE OF RISING AND SETTING (FOR TRUE ALTITUDE = 0)

Lat. Decli.	0°	10°	20°	30°	35°	40°	45°	50°	52°	54°	56°	58°	60°
° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
5 00	5 00	5 05	5 19	5 47	6 06	6 32	7 05	7 48	8 08	8 32	8 58	9 28	10 02
10 00	10 00	10 09	10 39	11 34	12 14	13 06	14 13	15 40	16 23	17 11	18 05	19 08	20 19
15 00	15 00	15 14	15 59	17 23	18 25	19 45	21 28	23 45	24 52	26 07	27 34	29 14	31 10
20 00	20 00	20 19	21 21	23 16	24 41	26 31	28 56	32 09	33 45	35 35	37 42	40 12	43 10
23 00	23 00	23 50	25 03	27 21	29 04	31 18	34 15	38 15	40 16	42 37	45 22	48 40	52 44
25 00	25 00	25 25	26 44	29 13	31 04	33 29	36 42	41 06	43 21	45 58	49 06	52 54	57 42
28 00	28 00	28 28	29 58	32 50	34 58	37 48	41 36	46 55	49 41	53 00	57 06	62 22	69 52
30 00	30 00	30 31	32 09	35 16	37 37	40 45	45 00	51 04	54 18	58 17	63 24	70 39	90 00

The amplitude of rising and setting points of a heavenly body is measured from the East or the West point of the horizon towards the northern or southern direction as the case may be. The amplitude is of the same sign as that of declination of the body.

Note - If true zenith distance of the heavenly body at the time of rising or setting be $90^\circ + h$, then the figures of the above two tables would require some correction according to the value of h (vide Explanation).

AUGMENTATION OF MOON'S SEMI-DIAMETER

Moon's Apparent Altitude

Semi-diameter	0°	6°	12°	18°	24°	30°	36°	42°	48°	54°	60°	66°	72°	78°	84°	90°
' " "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "
14 30	0.1	1.5	2.9	4.3	5.6	6.9	8.1	9.2	10.2	11.1	11.8	12.5	13.0	13.4	13.6	13.7
15 00	0.1	1.6	3.1	4.6	6.0	7.3	8.6	9.8	10.9	11.8	12.7	13.4	13.9	14.3	14.6	14.6
15 30	0.1	1.7	3.3	4.9	6.4	7.9	9.2	10.5	11.6	12.7	13.5	14.3	14.9	15.3	15.6	15.6
16 00	0.1	1.9	3.6	5.2	6.8	8.4	9.8	11.2	12.4	13.5	14.4	15.2	15.9	16.3	16.6	16.7
16 30	0.2	2.0	3.8	5.6	7.3	8.9	10.5	11.9	13.2	14.4	15.4	16.2	16.9	17.4	17.6	17.7
17 00	0.2	2.1	4.0	5.9	7.7	9.5	11.1	12.6	14.0	15.3	16.3	17.2	17.9	18.4	18.7	18.8

The visible or apparent semi-diameter of the moon is augmented over the tabulated value due to moon's altitude above the horizon.

NATURAL TRIGONOMETRIC FUNCTIONS

ANGLE		Sin	Cos	Tan	Cot	Sec	Cosec		
Arc	Time								
°	h m							h m	°
0	0 00	0.00000	1.00000	0.00000	Infinity	1.00000	Infinity	6 00	90
1	0 04	.01745	.99985	.01746	57.28996	.00015	57.29869	5 56	89
2	0 08	.03490	.99939	.03492	28.63625	.00061	28.65371	5 52	88
3	0 12	.05234	.99863	.05241	19.08114	.00137	19.10732	5 48	87
4	0 16	.06976	.99756	.06993	14.30067	.00244	14.33559	5 44	86
5	0 20	.08716	.99619	.08749	11.43005	.00382	11.47371	5 40	85
6	0 24	.10453	.99452	.10510	9.51436	.00551	9.56667	5 36	84
7	0 28	.12187	.99255	.12278	8.14435	.00751	8.20551	5 32	83
8	0 32	.13917	.99027	.14054	7.11537	.00983	7.18530	5 28	82
9	0 36	.15643	.98769	.15838	6.31375	.01247	6.39245	5 24	81
10	0 40	.17365	.98481	.17633	5.67128	.01543	5.75877	5 20	80
11	0 44	0.19081	0.98163	0.19438	5.14455	0.01872	5.24084	5 16	79
12	0 48	.20791	.97815	.21256	4.70463	.02234	4.80973	5 12	78
13	0 52	.22495	.97437	.23087	4.33148	.02630	4.44541	5 08	77
14	0 56	.24192	.97030	.24933	4.01078	.03061	4.13357	5 04	76
15	1 00	.25882	.96593	.26795	3.73205	.03528	3.86370	5 00	75
16	1 04	.27564	.96126	.28675	3.48741	.04030	3.62796	4 56	74
17	1 08	.29237	.95630	.30573	3.27085	.04569	3.42030	4 52	73
18	1 12	.30902	.95106	.32492	3.07768	.05146	3.23607	4 48	72
19	1 16	.32557	.94552	.34433	2.90421	.05762	3.07155	4 44	71
20	1 20	.34202	.93969	.36397	2.74748	.06418	2.92380	4 40	70
21	1 24	0.35837	0.93358	0.38386	2.60509	0.07115	2.79043	4 36	69
22	1 28	.37461	.92718	.40403	2.47509	.07853	2.66947	4 32	68
23	1 32	.39073	.92050	.42447	2.35585	.08636	2.55930	4 28	67
24	1 36	.40674	.91355	.44523	2.24604	.09464	2.45859	4 24	66
25	1 40	.42262	.90631	.46631	2.14451	.10338	2.36620	4 20	65
26	1 44	.43837	.89879	.48773	2.05030	.11260	2.28117	4 16	64
27	1 48	.45399	.89101	.50953	1.96261	.12233	2.20269	4 12	63
28	1 52	.46947	.88295	.53171	1.88073	.13257	2.13005	4 08	62
29	1 56	.48481	.87462	.55431	1.80405	.14335	2.06267	4 04	61
30	2 00	.50000	.86603	.57735	1.73205	.15470	2.00000	4 00	60
31	2 04	0.51504	0.85717	0.60086	1.66428	0.16663	1.94160	3 56	59
32	2 08	.52992	.84805	.62487	1.60033	.17918	1.88708	3 52	58
33	2 12	.54464	.83867	.64941	1.53987	.19236	1.83608	3 48	57
34	2 16	.55919	.82904	.67451	1.48256	.20622	1.78829	3 44	56
35	2 20	.57358	.81915	.70021	1.42815	.22077	1.74345	3 40	55
36	2 24	.58779	.80902	.72654	1.37638	.23607	1.70130	3 36	54
37	2 28	.60182	.79864	.75355	1.32704	.25214	1.66164	3 32	53
38	2 32	.61566	.78801	.78129	1.27994	.26902	1.62427	3 28	52
39	2 36	.62932	.77715	.80978	1.23490	.28676	1.58902	3 24	51
40	2 40	.64279	.76604	.83910	1.19175	.30541	1.55572	3 20	50
41	2 44	0.65606	0.75471	0.86929	1.15037	0.32501	1.52425	3 16	49
42	2 48	.66913	.74314	.90040	1.11061	.34563	1.49448	3 12	48
43	2 52	.68200	.73135	.93252	1.07237	.36733	1.46628	3 08	47
44	2 56	.69446	.71934	0.96569	1.03553	.39016	1.43956	3 04	46
45	3 00	0.70711	0.70711	1.00000	1.00000	1.41421	1.41421	3 00	45
		Cos	Sin	Cot	Tan	Cosec	Sec	Time	Arc
		ANGLE							

STANDARD TIMES
LOCAL STANDARD TIME FOR EACH COUNTRY OR AREA
THE AHEAD OF (+) OR BEHIND (-) U.T. OR G.M.T

Country or Area	Standard Time	L.S.T at 12h U.T or 17-30 I.S.T.		Country or Area	Standard Time	L.S.T at 12h U.T or 17-30 I.S.T.	
	h	h	m		h	h	m
Aden	+ 3	15	00	Belgium	+ 1	13	00
Afghanistan	+ 4 1/2	16	30	Belize	- 6Ψ	06	00Ψ
Alaska	-9	03	00	Bermuda	- 4	08	00
- Day light Saving Time	- 8	04	00	Bhutan	+ 6	18	00
Albania	+ 1	13	00	Bolivia	- 4	08	00
- Day light Saving Time	+ 2	14	00	Brazil-			
Aleutian Islands	- 10	02	00	Eastern (including coast)	- 3*	09	00*
Algeria	0	12	00	Western	- 3*	09	00*
Angola	+ 1	13	00	Territory of Acre	- 4*	08	00*
Argentina	- 3	09	00	Bulgaria	+ 2	14	00
Ascension Islands	0	12	00	Cambodia	+ 7	19	00
Australia-				Cameroon	+ 1	13	00
Capital Territory (Canberra), Victoria, New South Wales, Queensland, Tasmania.	+ 10	22	00	Canada-			
South Australia, Northern Territory, Broken Hill Area	+ 9 1/2	21	30	Newfoundland	- 3 1/2*	08	30*
- Day light Saving Time	+ 10 1/2	22	30	East of Long. 63° W	- 4*	08	00*
Western Australia	+ 8	20	00	N W Territories (East of Long. 68° W),			
- Day light Saving Time	+ 9	21	00	New Brunswick			
				Nova Scotia,			
				Prince Edward Island			
				Quebec (West of Long.63°W), Ontario	- 5*	07	00*
				(East of Long 90° W) (Ottawa), Nunavut			
				(East) and NW Territories (Long.. W 68°-85°)			
				Ontario (West of Long. 90° W),	- 6*	06	00*
				Manitoba, NW Territories (Long. W 85°-102°), East			
				Saskatchewan, Nunavut (Central)			
Austria	+ 1	13	00	Alberta	- 7*	05	00*
Azores	- 1	11	00	Yukon Time	- 8	04	00
Bahrain	+ 3	15	00	Canary Island	+ 1	13	00
Bangladesh	+ 6	18	00	Cape Verde Islands	- 1	11	00

STANDARD TIMES
LOCAL STANDARD TIME FOR EACH COUNTRY OR AREA
THE AHEAD OF (+) OR BEHIND (-) U.T. OR G.M.T

Country or Area	Standard Time	L.S.T at 12h U.T or 17-30 I.S.T.	Country or Area	Standard Time	L.S.T at 12h U.T or 17-30 I.S.T.
	h	h m		h	h m
Caroline Islands- Truk, Ponape	+ 11 + 11	23 00 23 00	Ghana	0	12 00
Central African Republic	+ 1	13 00	Gibraltar	+ 1↓	13 00↓
Chile	- 4*	08 00*	Greece	+ 2	14 00
China, People's Republic of	+ 8	20 00	Greenland		
Cocos-keeling Islands	+ 6 1/2	18 30	Angmagssalik, W. Coast	- 3	09 00
Colombia	- 5	07 00	Thule Area	- 4	08 00
Congo Republic	+ 1	13 00	Guam	+ 10	22 00
Cook Islands	- 10	02 00	Guatemala	- 6	06 00
Corsica	+ 1↓	13 00↓	Guiana		
Costa Rica	- 6	06 00	Dutch (Surinam)	- 3	09 00
Croatia	+1	13 00	French	- 3	09 00
Cuba	- 5*	07 00*	Guyana Republic	- 4	08 00
Czech Republic	+1	13 00	Haiti	- 5	07 00
Cyprus	+ 2	14 00	Hawaiian Islands	- 10	02 00
Dahomey Republic (Africa)	+ 1	13 00	Honduras	- 6	06 00
Denmark	+ 1	13 00	Hong Kong	+ 8*	20 00*
Ecuador	- 5	07 00	Hungary	+ 1	13 00
Egypt	+ 2*	14 00*	Iceland	0	12 00
Estonia	+ 2	14 00	India	+ 5 1/2	17 30
El Salvador	- 6	06 00	Indonesia, Republic of-	--	--
Ethiopia	+ 3	15 00	Sumatra, Java, West & Central Kalimantan	+ 7	19 00
Falkland Islands	-4	08 00	Bali, South & East Kalimantan	+ 8	20 00
Fiji	+12	24 00	Irian Jaya, Maluku	+ 9	21 00
Finland	+2	14 00	Iran	+ 3 1/2	15 30
France	+1↓	13 00↓	Iraq	+ 3	15 00
Germany	+1	13 00	Ireland, Republic of	0	12 00
			Israel	+2	14 00
			Italy	+1*	13 00*

STANDARD TIMES
LOCAL STANDARD TIME FOR EACH COUNTRY OR AREA
THE AHEAD OF (+) OR BEHIND (-) U.T. OR G.M.T

Country or Area	Standard Time	L.S.T at 12h U.T or 17-30 I.S.T.	Country or Area	Standard Time	L.S.T at 12h U.T or 17-30 I.S.T.
	h	h m		h	h m
Ivory Coast	0	12 00	Monaco	+ 1	13 00
Japan (and Japan Is.)	+ 9	21 00	Mongolia	+ 8	20 00
Jordan	+ 2	14 00	Morocco	0*	12 00*
Kenya	+ 3	15 00	Mozambique	+ 2	14 00
Korea (North & South)	+ 9	21 00	Nepal	+ 5 3/4	17 45
Kuwait	+ 3	15 00	Netherlands (Holland)	+ 1	13 00
Laos	+ 7	19 00	New Caledonia	+ 11	23 00
Latvia	+ 2	14 00	New Hebrides	+ 11	23 00
Lebanon	+ 2*	14 00*	New Zealand	+ 12	24 00
Liberia	0	12 00	Nicaragua	- 6	06 00
Libya	+ 2	14 00	Niger	+ 1	13 00
Lithuania	+ 3	15 00	Nigeria	+ 1	13 00
Luxembourg	+ 1↓	13 00↓	Norfolk Island	+ 11 1/2	23 30
Madagascar	+ 3	15 00	Norway	+ 1*	13 00*
Madeira	- 1*	11 00*	Oman (Masira, Muscat, Salalah)	+ 4	16 00
Malawi	+ 2	14 00	Pakistan	+ 5	17 00
Malaysia	+ 8	20 00	Papua New Guinea	+ 10	22 00
Maldives Island	+ 5	17 00	Paraguay	- 4	08 00
Malta	+ 1	13 00	Peru	- 5	07 00
Manchuria (China)	+ 8	20 00	Philippines	+ 8	20 00
Mariana Island	+ 10	22 00	Poland	+ 1*	13 00*
Marquesas Islands	- 9 1/2	02 30	Portugal	+ 1	13 00
Marshall Islands	+ 12	24 00	Puerto Rico	- 4	08 00
Mauritania	0	12 00	Reunion	+ 4	16 00
Mauritius	+ 4	16 00	Romania	+ 2	14 00
Mayanmar	+ 6 1/2	18 30	Sakhalin	+ 11	23 00
Mexico-			Samoa	- 11	01 00
Mexico City	- 6	06 00	Sardinia	+ 1	13 00
Sonora, Sinaloa,	- 7	05 00			
Nayarit, Baja					
California Sur					
Baja California	- 8	04 00			

STANDARD TIMES
LOCAL STANDARD TIME FOR EACH COUNTRY OR AREA
THE AHEAD OF (+) OR BEHIND (-) U.T. OR G.M.T

Country or Area	Standard Time	L.S.T at 12h U.T or 17-30 I.S.T.	Country or Area	Standard Time	L.S.T at 12h U.T or 17-30 I.S.T.
	h	h m		h	h m
Saudi Arabia-			Tangier	0	12 00
Jeddah	+ 3	15 00	Thailand	+ 7	19 00
Dhahran	+ 4	16 00	Uganda	+ 3	15 00
Senegal	0	12 00	Ukraine	+ 2	14 00
Serbia	+ 1	13 00	United Arab Emirates	+ 4	16 00
Sierra Leone	0	12 00	USA Aleutian	- 10*	02 00*
Singapore	+ 8	20 30	USA Hawaii	- 10*	02 00*
Solomon Islands	+ 11	23 00	USA Pacific	- 8*	04 00*
Somalia	+ 3	15 00	USA Mountain	- 7*	05 00*
South Africa	+ 2	14 00	USA Arizona	- 7*	05 00*
Spain	+ 1↓	13 00↓	USA Central	- 6*	06 00*
Sri Lanka	+ 5 1/2	17 30	USA Eastern	- 5*	07 00*
Sudan	+ 2	14 00	Uruguay	- 3	09 00
Sweden	+ 1	13 00	Uzbekistan	+ 5	17 00
Switzerland	+ 1	13 00	Zambia	+ 2	14 00
Syria	+ 2*	14 00*	Zimbabwe	+ 2	14 00
Tanzania	+ 3	15 00			

* During summer seasons clock time differs from Standard time.

Ψ Winter time may be kept in these countries.

↓ This time is used throughout the year, but may differ from legal time.

PART - VI

INDIAN CALENDAR
AND
EXPLANATION

INDIAN CALENDAR EXPLANATORY NOTE

The astronomical data included in this section on Indian Calendar have been calculated in accordance with the recommendations of the Calendar Reform Committee, as outlined in its report, and the calculations have been done on the basis of the positions of the Sun, Moon and Planets, as contained in the main tables of the Ephemeris. However, the information on Luni- Solar Calendar in this section have been calculated on the basis of traditional Nirayana Calendric system following the Government's decision not to disturb the traditional procedure in fixing the days of religious festivals. Certain additional data, which are required for the compilation of an Indian Panchang (Almanac), have also been furnished to meet the requirements of the numerous Panchang makers of this country. The tables of this section have been extended beyond December, 2026 and materials up to April 20, 2027 have been furnished in order to facilitate preparation of Almanacs for one complete Indian year. The longitudes of the Sun, Moon and Planets and certain other data relating to their positions for the period of 2026 covered by this calendar have also been given in separate table for the same purpose.

All calculations contained in this section have been done for an adopted Central Station of India situated at $82^{\circ}30'$ longitude East of Greenwich and $23^{\circ}11'$ latitude North (latitude of Ujjain) and accordingly the timings have been expressed in the local mean time of this Central Station, which is also the Indian Standard Time. This time (I.S.T.) is $5^h 30^m$ ahead on the Universal Time or Greenwich Mean Time.

The Calendar used in this section is the 'National Calendar' of India as recommended by the Calendar Reform Committee and introduced by the Government of India with effect from the 22nd March 1957, corresponding to the 1st of Chaitra, 1879 Saka Era. Thereafter, Govt. of India has decided to introduce an all India Nirayana Solar Calendar in addition to the existing National Calendar. This new Calendar has been introduced with effect from 14th April, 2004 corresponding to 1st Vaisakha of 5105 Kali, Kali Era being the Era of this new Calendar and this Calendar have fixed number of days for its months. Dates of the Nirayana Calendar have been indicated in addition to the existing National Calendar. The months of these Calendars, the number of days assigned to each month of the two Calendars, and the dates of the Gregorian calendar corresponding to the first day of each month of both the Calendars are as follows :-

<u>Months of the National Calendar</u>	<u>Gregorian date for 1st of the month</u>	<u>Months of the Nirayana Calendar</u>	<u>Gregorian date for 1st of the month</u>
Chaitra (30 days ; 31 days in a leap-year)	March 22 (March 21 in a leap-year)	Vaisakha (31 days)	April 14
Vaisakha (31 days)	April 21	Jyaishtha (31 days)	May 15
Jyaishtha (31 days)	May 22	Ashadha (31 days)	June 15
Ashadha (31 days)	June 22	Sravana (31 days)	July 16
Sravana (31 days)	July 23	Bhadra (31 days)	August 16
Bhadra (31 days)	August 23	Asvina (30 days)	September 16
Asvina (30 days)	September 23	Kartika (30 days)	October 16
Kartika (30 days)	October 23	Agrahayana (30 days)	November 15
Agrahayana (30 days)	November 22	Pausha (30 days)	December 15
Pausha (30 days)	December 22	Magha (30 days)	January 14
Magha (30 days)	January 21	Phalguna (30 days ; 31 days in a leap-year)	February 13
Phalguna (30 days)	February 20	Chaitra (30 days)	March 15

Different items included in this section are elaborated below :-

The Sunrise and Sunset times, calculated for the Central Station, relate respectively to the appearance and disappearance of the upper limb of the Sun on the horizon. The amount of horizontal refraction taken for this purpose is $31'$ and the semi-diameter of the Sun as $16'$, so that at the given times of Sunrise and Sunset, the centre of the Sun actually $47'$ below the horizon.

The apparent noon is the local mean time of the sun's meridian passage, i.e., the mid-day reduced to the above standard meridian of India ($82\frac{1}{2}^{\circ}$ E. Longitude).

The ending moments of tithis, nakshatras and yogas have been given in Indian Standard Time and shown against their ordinal numbers. The phenomena being geocentric ones, their timings in I.S.T. are applicable for the whole of India without any modification. These timings reduced by a deduction of $5^h 30^m$ would give the G.M.T. applicable for all places on the earth.

The tithi is based on the difference of longitude of the Moon and that of the Sun. A tithi is completed when the longitude of the Moon gains exactly 12° or its integral multiple on that of the Sun and as such there are 30 tithis in lunar month. A difference in longitude of 12° indicates the ending of the 1st tithi, 24° that of the 2nd tithi and so on. The number of tithis have been shown from Sukla 1 to Sukla 15 (full-moon) and again from Krishna 1 to Krishna 14 and Krishna 30 (new moon), using the symbols S and K for Sukla paksha (waxing Moon) and Krishna paksha (waning Moon) respectively.

A nakshatra is completed when the nirayana longitude of the Moon as measured from the initial point attains a value of $13^\circ 20'$ or an integral multiple thereof. When this longitude is $13^\circ 20'$ the 1st nakshatra ends and so on. There are thus 27 nakshatras in a sidereal month and the nakshatra divisions occupy fixed positions in the sphere of stars. In the case of the Sun the calculation also has been done on the same basis. But in this case, the time of Sun's entry into a nakshatra-division has been stated, whereas in the case of the Moon, the time of its exit from the division has been given.

Like nakshatras, there are 27 yogas. Yoga is calculated from the sum of nirayana longitudes of the Sun and the Moon. When the sum amounts to $13^\circ 20'$, the first yoga ends; when it amounts to $26^\circ 40'$, the second yoga ends, and so on. Thus, in all 27 yogas cover 360° . Names of the nakshatras and yogas have been given at the bottom of the table. It will be seen that two of the names Vyatipata and Vaidhriti occur also under Phenomena, where they have been treated as special yogas and calculated by a somewhat different rule. The 27 yogas which have got very little astronomical significance have been included in this publication only to meet the needs of Panchang where the yoga is also one of the components.

For the purpose of calculation of rasis, nakshatras and yogas, an initial point which occupies a fixed position on the ecliptic has been adopted as the origin for the measurement of longitudes. The position of this initial point coincides with the vernal equinoctial point of vernal equinox day of 285 A.D. For the purpose of assigning a precise position to it, the tropical longitude of this initial point has been adopted as $23^\circ 15' 00''$ for 0^h on 21st March, 1956. The tropical longitude of this fixed initial point for any day is known as ayanamsa. The longitude of a celestial body measured from this initial point is known as nirayana longitude.

The entry into different rasis of the Moon and of the Sun have been shown at the bottom of the relevant pages of the calendar and the calculations have been done on the same basis as in the case of nakshatras, utilising the nirayana longitudes. Rasis, which cover arc of 30° of the zodiac belt, are measured along the ecliptic from the above-mentioned initial point.

The tithi, nakshatra and yoga as are current at Sunrise at the Central Station, have been shown against the date with their ending moments in I. S. T. When the time of these or any other phenomena falls after midnight and before the next Sunrise, the time has been expressed after adding 24^h to the I.S.T. without changing the date after midnight in order to maintain continuity of time-reckoning from one Sunrise to the next, in conformity with the system followed in Indian religious calendars.

The solar months recommended for the religious calendar, such as, Saura Vaisakha, Saura Jyaishta, etc., by the Calendar Reform Committee in 1955 have been reckoned from the moments when the apparent longitude of the Sun equals $23^\circ 15'$, $53^\circ 15'$ and so on. The calculation for this purpose thus has not been done with a variable ayanamsa, as in the case of rasis and nakshatras, but with a fixed ayanamsa of $23^\circ 15'$. These months are shown for purpose of illustration only, but are not used in practice for actual luni-solar adjustment.

INDIAN CALENDAR

The lunar months for determining the dates of religious festivals are reckoned from one New-Moon to the next (Sukladi system or mukhya mana). The lunar month for this purpose is named after the Nirayana or Sidereal solar month in which the initial New-Moon from which the month starts, falls.

Phenomena mentioned in the table include New-Moon, Full-Moon, Sayana Vyatipata (when the sum of the tropical longitudes of the Sun and the Moon equals 180°), Sayana Vaidhriti (when the above sum amounts to 360°), eclipses, heliacal rising and setting of Venus, Mars and Jupiter and Jupiter's transit into rasis.

The principal festivals of different states have been fixed on the basis of the criterion stated here, but in doing so, the rules and conventions of the states concerned have been followed as far as practicable.

LIST OF HOLIDAYS

The list of holidays for the Government of India as well as for the State Governments have been prepared in a consolidated form and the dates fixed for them, have been shown in a separate table under the head 'Principal Festivals for Holidays'. The principal festivals of Moslems, Parsis, Jewish and Christians have also been shown separately.

AYANAMSA

The value of ayanamsa has been given in the calendar for the first day of the month and also in a separate table at the end at interval of three days. The ayanamsa value has been calculated from the polynomial of precession in longitude published by N.Capitaine et. al. (2003) in journal Astronomy and Astrophysics. The polynomial for ayanamsa has been introduced in this publication from the year 2021. The polynomial used is as given below.

$$\text{Mean Ayanamsa} = 23^\circ 51' 25''.53 + 5028''.796195 * T + 1''.1054348 * T^2 + 0''.00007964 * T^3 - 0''.00023857 * T^4 - 0''.0000000383 * T^5$$

Where $T = (\text{JD} - 2451545) / 36525$

Ayanamsha for J2000.0 is taken as $23^\circ 51' 25''.53$

The Sayana Vyatipata and Sayana Vaidhriti, reported under the column "Phenomena", are calculated on the basis of definition given in the report of Calendar Reform Committee. These are classified as the Calendar Reform Committee view and no way related to the 'mahapata yoga' defined in some Indian traditional texts (siddhantic treatises).

HELIACAL RISING AND SETTING OF PLANETS, 2027 (JANUARY TO APRIL)

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Planet	National Date		Nirayana Date		Gregorian Date		Time (I.S.T)	
							h	m
Mercury rising West	Pausha	28, 1948 Saka	Magha	05, 5127 Kali	Jan	18, 2027	10	05
Mercury setting West	Magha	24, 1948 Saka	Phalguna	01, 5127 Kali	Feb	13, 2027	21	20
Mercury rising East	Phalguna	04, 1948 Saka	Phalguna	11, 5127 Kali	Feb.	23, 2027	24	38
Mercury setting East	Chaitra	21, 1949 Saka	Chaitra	28, 5127 Kali	Apr.	11, 2027	17	33
Saturn setting West	Chaitra	03, 1949 Saka	Chaitra	10, 5127 Kali	Mar.	24, 2027	23	55

N.B.- Here East means east of the Sun (i.e. Western Horizon) and West means west of the Sun (i.e. Eastern Horizon).

RETROGRESSION OF PLANETS, 2027 (JANUARY TO APRIL)

Planet		National Date		Nirayana Date		Gregorian Date		Time (I.S.T)	
								h	m
Mercury	Retrograde	Magha	20, 1948 Saka	Magha	27, 5127 Kali	Feb.	09, 2027	23	05
Mercury	Direct	Phalguna	12, 1948 Saka	Phalguna	19, 5127 Kali	Mar.	03, 2027	18	06
Mars	Retrograde	Pausha	20, 1948 Saka	Pausha	27, 5127 Kali	Jan.	10, 2027	18	29
Mars	Direct	Chaitra	11, 1949 Saka	Chaitra	18, 5127 Kali	Apr.	01, 2027	19	40
Jupiter	Direct	Chaitra	23, 1949 Saka	Chaitra	30, 5127 Kali	Apr.	13, 2027	07	43
Uranus	Direct	Magha	19, 1948 Saka	Magha	26, 5127 Kali	Feb.	08, 2027	17	58

MEAN RAHU, 2027

Date	Longitude		Date	Longitude		Date	Longitude	
	0	/ //		0	/ //		0	/ //
Jan.	-2	298 45 57	Feb.	7	296 38 46	Mar.	19	294 31 35
	8	298 14 09		17	296 06 59		29	293 59 48
	18	297 42 22		27	295 35 11	Apr.	8	293 28 01
Jan.	28	297 10 34	Mar.	9	295 03 23		18	292 56 12

ECLIPSES, 2027 (JANUARY TO APRIL)

Annular Solar Eclipse **Not visible in India**
17 Magha, 1948 SE, 24 Magha, 5127 KE, 06 February, 2027

INDIAN CALENDAR

SAKA ERA 1947

Makara : Tapas

Month of PAUSHA (30 days)

Winter (Sisira), 1st Month

(Nirayana) 8 Pausha, 5126 Kali Era to (Nirayana) 7 Magha, 5126 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi		Nakshatra		Yoga	
			h m		h m		h m		No.	Ending Moment	No.	Ending Moment	No.	Ending Moment
		2025 A.D.												
1	Mon	Dec. 22	6 37.6	11 58.6	17 19.8	S 2	10 52.3	21	29 32.4	12	16 40.7			
2	Tue	23	6 38.1	11 59.1	17 20.3	3	12 13.3	22	--- ----	13	16 30.3			
3	Wed	24	6 38.5	11 59.6	17 20.8	4	13 11.6	22	7 07.8	14	16 02.3			
4	Thu	25	6 39.0	12 00.1	17 21.4	S 5	13 43.2	23	8 18.6	15	15 13.6			
5	Fri	26	6 39.4	12 00.6	17 22.0	6	13 44.0	24	9 00.6	16	14 01.0			
6	Sat	27	6 39.8	12 01.0	17 22.5	7	13 10.3	25	9 09.8	17	12 21.6			
7	Sun	28	6 40.2	12 01.5	17 23.1	8	11 59.9	26	8 43.5	18	10 13.5			
8	Mon	29	6 40.6	12 02.0	17 23.7	9	10 12.9	27	7 41.1	19	7 36.3			
9	Tue	30	6 40.9	12 02.5	17 24.3	S 10	7 51.6	(1	30 04.5)	(20	28 31.4)			
10	Wed	31	6 41.3	12 03.0	17 25.0	(11	29 01.0)	2	27 58.5	21	25 02.0			
						12	25 48.4	3	25 30.1	22	21 13.5			
		2026 A.D.												
11	Thu	Jan 1	6 41.6	12 03.5	17 25.6	13	22 22.7	4	22 48.5	23	17 12.6			
12	Fri	2	6 41.9	12 03.9	17 26.3	14	18 54.0	5	20 04.1	24	13 07.1			
13	Sat	3	6 42.1	12 04.4	17 26.9	S 15	15 33.0	6	17 28.1	25	9 05.3			
14	Sun	4	6 42.4	12 04.8	17 27.6	K 1	12 30.5	7	15 11.6	(26	29 16.0)			
15	Mon	5	6 42.6	12 05.3	17 28.2	2	9 57.1	8	13 25.1	27	25 47.5			
16	Tue	6	6 42.8	12 05.7	17 28.9	3	8 02.1	9	12 17.9	2	20 21.5			
17	Wed	7	6 43.0	12 06.2	17 29.6	4	6 53.0	10	11 56.7	3	18 33.9			
18	Thu	8	6 43.2	12 06.6	17 30.3	(K5	30 34.1)	11	12 24.6	4	17 25.9			
19	Fri	9	6 43.3	12 07.0	17 31.0	6	7 05.9	12	13 40.9	5	16 55.7			
20	Sat	10	6 43.4	12 07.4	17 31.7	7	8 24.2	13	15 40.0	6	16 58.5			
21	Sun	11	6 43.5	12 07.8	17 32.4	8	10 20.6	14	18 12.3	7	17 27.1			
22	Mon	12	6 43.6	12 08.2	17 33.1	9	12 43.2	15	21 05.5	8	18 12.3			
23	Tue	13	6 43.6	12 08.6	17 33.8	K 10	15 18.4	16	24 06.7	9	19 04.8			
24	Wed	14	6 43.7	12 09.0	17 34.5	11	17 53.2	17	27 03.9	10	19 55.8			
25	Thu	15	6 43.7	12 09.3	17 35.3	12	20 17.0	18	29 47.9	11	20 38.1			
26	Fri	16	6 43.7	12 09.7	17 36.0	13	22 22.1	19	--- ----	12	21 06.6			
27	Sat	17	6 43.6	12 10.0	17 36.7	14	24 04.4	19	8 12.4	13	21 18.1			
28	Sun	18	6 43.5	12 10.3	17 37.4	K 30	25 22.0	20	10 14.3	14	21 11.1			
29	Mon	19	6 43.4	12 10.6	17 38.1	S 1	26 14.6	21	11 52.5	15	20 45.4			
30	Tue	20	6 43.3	12 10.9	17 38.8	S 2	26 43.0	22	13 07.0	16	20 01.1			

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

INDIAN CALENDAR

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Uttarayana
Dakshina Gola

SAKA ERA 1947

Month of PAUSHA (30 days)

Ayanamsa on 1st : 24° 13' 17"

(Nirayana) 8 Pausha, 5126 Kali Era to (Nirayana) 7 Magha, 5126 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun	Phenomena	Festivals	
1	2025A.D. Dec. 22	A	A	7- Sun enters Purvashadha nak. (30 ^h 30 ^m .8)		1- Uttarayana Day	
2						23	
3						24	
4						25	4- Birthday of Sadhu T. L. Vaswani(Sindhi)
5						26	5- Jor Mela-3 days(Punjab)
6						27	6- Guru Gobind Singh’s Birthday
7						28	
8						29	9- Samba Dasami(Odisha), Vaikuntha Ekadasi(S.India)(Smarta), Putrada Ekadasi(Smarta)
9						30	10- Vaikuntha Ekadasi(S.India) (Vaishnava & Vidhava), Putrada Ekadasi(Vaishnava & Vidhava)
10						31	A	P
11	2026A.D. Jan. 1	A	P		11- Sayana Vaidhriti (24 ^h 30 ^m .8) 13- Full Moon (15 ^h 33 ^m .0)		
12						2	
13						3	13- Paushi Purnima, Pushyabhisheka Yatra, Arudra Darsanam (Purvarunodaya) (S.India)
14						4	
15						5	16- Ganesha Sankastha Chaturthi
16						6	
17						7	
18						8	
19						9	20- Birthday of Swami Vivekananda(According to tithi), Astaka (Mamsastaka)
20						10	
21		R	D	21- Sun enters Uttarashadha nak.(8 ^h 36 ^m .2) 23- Saura Maghadi (16 ^h 12 ^m .8)	24- Sayana Vyatipata (16 ^h 36 ^m .0)		
22						11	
23						12	23- Lohri (Punjab, Jammu & Kashmir), Bhogi(S.India)
24						13	24- Sattila Ekadasi, Birthday of Sant Parmanand (Sindhi), Makara Samkranti(Bengal), Magha Bihu (Assam), Makara Samkranti(N. India), Pongal(S.India), Makara Snana, Tila Samkranti
25						14	25- Tai Pongal(Kerala), Mattu Pongal or Kanumu (S.India)
26						15	26- Meru Trayodasi(Jain)
27						16	27- Ratanti Kalika Puja
28						17	28- Mauni Amavasya, Tai Amavasya, Makara Vavu (Kerala)
29						18	29- Magha Sukladi
30						19	
30	Jan. 20	S A U R A	CHANDRA MAGHA	30- Sun Enters Trop.Aquarius (7 ^h 14 ^m .9)			

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.
 Moon enters :- Makara 1,10h07.0m;Kumbha 3,19h46.6m;Mina 5,27h10.7m;Mesha 8,7h41.1m;Vrisha 10,9h23.1m;Mithuna 12,9h26.0m;Karkata 14,9h43.2m;Simha 16,12h17.9m;Kanya 18,18h39.4m;Tula 20,28h52.7m;Vrischika 23,17h21.3m;Dhanus 25,29h47.9m;Makara 28,16h41.1m;Kumbha 30,25h35.6m
Sun enters : Nir. Makara 24, 15h 07.3m

INDIAN CALENDAR

SAKA ERA 1947

Kumbha : Tapasya

Month of MAGHA (30 days)

Winter (Sisira), 2nd Month

(Nirayana) 8 Magha, 5126 Kali Era to (Nirayana) 7 Phalguna, 5126 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi		Nakshatra		Yoga	
									No.	Ending Moment	No.	Ending Moment	No.	Ending Moment
			h	m	h	m	h	m						
		2026 A.D.												
1	Wed	Jan. 21	6	43.2	12	11.2	17	39.6	S 3	26 47.6	23	13 58.4	17	18 58.5
2	Thu	22	6	43.0	12	11.5	17	40.3	4	26 28.9	24	14 27.2	18	17 37.9
3	Fri	23	6	42.9	12	11.8	17	41.0	S 5	25 46.5	25	14 33.1	19	15 59.1
4	Sat	24	6	42.6	12	12.0	17	41.7	6	24 40.4	26	14 16.1	20	14 01.8
5	Sun	25	6	42.4	12	12.2	17	42.4	7	23 10.8	27	13 35.9	21	11 45.9
6	Mon	26	6	42.2	12	12.5	17	43.1	8	21 18.5	1	12 33.0	22	9 11.5
7	Tue	27	6	41.9	12	12.7	17	43.8	9	19 05.8	2	11 09.0	(23) 24	30 19.9
8	Wed	28	6	41.6	12	12.9	17	44.5	K 10	16 36.5	3	9 27.1	25	27 13.0
9	Thu	29	6	41.3	12	13.1	17	45.1	11	13 55.6	4	7 31.8	26	23 54.0
10	Fri	30	6	40.9	12	13.2	17	45.8	12	11 09.6	(5) 6	29 29.5	27	20 27.5
11	Sat	31	6	40.5	12	13.4	17	46.5	13	8 26.0	7	25 34.2	1	16 58.6
12	Sun	Feb. 1	6	40.2	12	13.5	17	47.2	(14) 15	29 53.1	8	23 58.2	3	13 33.5
13	Mon	2	6	39.7	12	13.6	17	47.8	S 15	27 39.3	9	22 48.0	4	10 18.7
14	Tue	3	6	39.3	12	13.7	17	48.5	K 1	25 52.8	10	22 10.9	5	7 20.8
15	Wed	4	6	38.9	12	13.8	17	49.1	2	24 41.2	11	22 13.0	(4) 28	26 39.2
16	Thu	5	6	38.4	12	13.9	17	49.8	3	24 10.1	12	22 57.5	6	25 04.8
17	Fri	6	6	37.9	12	14.0	17	50.4	4	24 22.8	13	22 24.1	7	24 04.3
18	Sat	7	6	37.4	12	14.1	17	51.0	K 5	25 19.1	14	26 28.6	8	23 37.4
19	Sun	8	6	36.9	12	14.1	17	51.6	6	26 54.8	15	29 02.9	9	23 40.7
20	Mon	9	6	36.3	12	14.1	17	52.2	7	29 01.6	16	--- ----	10	24 08.2
21	Tue	10	6	35.7	12	14.2	17	52.9	8	--- ----	17	7 55.4	11	24 52.0
22	Wed	11	6	35.2	12	14.2	17	53.5	9	7 27.7	18	10 53.0	12	25 42.4
23	Thu	12	6	34.6	12	14.2	17	54.0	10	9 59.2	19	13 42.5	13	26 30.0
24	Fri	13	6	33.9	12	14.1	17	54.6	K 11	12 22.6	20	16 12.9	14	27 06.0
25	Sat	14	6	33.3	12	14.1	17	55.2	12	14 26.4	21	18 16.4	15	27 23.5
26	Sun	15	6	32.6	12	14.1	17	55.8	13	16 02.1	22	19 48.4	16	27 17.9
27	Mon	16	6	32.0	12	14.0	17	56.3	14	17 05.3	23	20 47.9	17	26 46.9
28	Tue	17	6	31.3	12	14.0	17	56.9	15	17 34.5	24	21 16.2	18	25 50.1
29	Wed	18	6	30.6	12	13.9	17	57.4	K 30	17 31.1	25	21 16.3	19	24 28.8
30	Thu	19	6	29.9	12	13.8	17	58.0	S 1	16 58.0	26	20 52.0	20	22 45.3
									S 2	15 59.2	27	20 52.0	21	20 42.5

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

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INDIAN CALENDAR

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Uttarayana
Dakshina Gola

SAKA ERA 1947

Month of MAGHA (30 days)

Ayanamsa on 1st : 24° 13' 23"

(Nirayana) 8 Magha, 5126 Kali Era to (Nirayana) 7 Phalguna, 5126 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun Date	Phenomena	Festivals
1	2026A.D. Jan. 21					1- Martyrdom day of Hemu Kalani (Sindhi)
2	22	A				2- Tila Chaturthi, Kunda Chaturthi, Varada Chaturthi, Ganesha Puja (Bengal)
3	23	H	A			3- Sri Panchami, Saraswati Puja, Vasanta Panchami, Netaji's Birthday
4	24	H		4- Sun enters Sravana nak. (10 ^h 50 ^m .4)		5- Ratha Saptami (Purvarunodaya), Vidhana Saptami, Arogya Saptami
5	25	G	H			6- Republic Day, Bhismashtami
6	26	A	G			7- Sayana Vaidhriti (13 ^h 59 ^m .2)
7	27					8- Birthday of Lala Lajpat Rai
8	28	M	A			9- Jaya Ekadasi, Bhaimi Ekadasi (Bengal)
9	29					10- Martyr's day (Mahatma Gandhi Commemoration Day), Desert Festival-3 days (Jaisalmer), Bhisma Dvadasi
10	30		M			12- Full Moon (27 ^h 39 ^m .3)
11	31					12- Venus rises in the West (18 ^h 05 ^m .0)
12	Feb. 1	A				17- Sun enters Dhanistha nak. (14 ^h 05 ^m .1)
13	2					19- Sayana Vyatipata (20 ^h 52 ^m .8)
14	3	R	A			20- Astaka (Sakashtaka), Janaki Janma
15	4					22- Saura Phalgunadi (29 ^h 02 ^m .4)
16	5	U	R			23- Birthday of Swami Dayananda Saraswati (Founder of Arya Samaj)
17	6					24- Vijaya Ekadasi
18	7	A	D			25- Maha Shivaratri (Kashmir)
19	8					26- Maha Shivaratri, Shivaratri (S.India)
20	9	S	A			28- New Moon (17 ^h 31 ^m .1)
21	10		N			28- Annular solar eclipse (Not visible in India)
22	11					30- Birthday of Sri Ramakrishna Paramahansa Deva, Shivaji Jayanti
23	12					
24	13					
25	14					
26	15					
27	16					
28	17					
29	18					
30	Feb. 19					

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Moon enters :- Mina 3, 8h33.8m; Mesha 5, 13h35.9m; Vrisha 7, 16h45.0m; Mithuna 9, 18h31.1m; Karkata 11, 20h01.3m; Simha 13, 22h48.0m; Kanya 15, 28h20.1m; Tula 18, 13h22.0m; Vrishika 20, 25h11.3m; Dhanus 23, 13h42.5m; Makara 25, 24h42.4m; Kumbha 28, 9h05.8m; Mina 30, 15h00.1m

Sun enters : Nir. Kumbha 23, 28h 09.0m

INDIAN CALENDAR

SAKA ERA 1947

Mina : Madhu

Month of PHALGUNA (30 days)

Spring (Vasanta), 1st Month

(Nirayana) 8 Phalguna, 5126 Kali Era to (Nirayana) 7 Chaitra, 5126 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi		Nakshatra		Yoga	
									No.	Ending Moment	No.	Ending Moment	No.	Ending Moment
			h	m	h	m	h	m						
		2026 A.D.												
1	Fri	Feb. 20	6	29.1	12	13.7	17	58.5	S 3	14 38.9	26	20 07.6	22	18 23.4
2	Sat	21	6	28.4	12	13.6	17	59.0	4	13 01.3	27	19 07.2	23	15 51.2
3	Sun	22	6	27.6	12	13.5	17	59.5	S 5	11 10.4	1	17 54.8	24	13 08.8
4	Mon	23	6	26.8	12	13.3	18	00.1	6	9 09.8	2	16 33.7	25	10 18.8
5	Tue	24	6	26.1	12	13.2	18	00.6	7	7 02.6	3	15 07.4	26	7 23.9
									(8	28 52.1)			(27	28 26.4)
6	Wed	25	6	25.3	12	13.0	18	01.0	9	26 41.4	4	13 38.9	1	25 28.7
7	Thu	26	6	24.4	12	12.9	18	01.5	S 10	24 33.9	5	12 11.6	2	22 33.6
8	Fri	27	6	23.6	12	12.7	18	02.0	11	22 33.3	6	10 49.0	3	19 43.7
9	Sat	28	6	22.8	12	12.5	18	02.5	12	20 43.7	7	9 35.2	4	17 02.4
10	Sun	Mar. 1	6	21.9	12	12.3	18	03.0	13	19 09.7	8	8 34.5	5	14 33.0
11	Mon	2	6	21.1	12	12.1	18	03.4	14	17 56.2	9	7 51.7	6	12 19.2
12	Tue	3	6	20.2	12	11.9	18	03.9	S 15	17 07.9	10	7 31.7	7	10 24.6
13	Wed	4	6	19.3	12	11.7	18	04.3	K 1	16 49.4	11	7 39.1	8	8 52.6
14	Thu	5	6	18.4	12	11.5	18	04.8	2	17 04.2	12	8 17.8	9	7 45.7
15	Fri	6	6	17.5	12	11.3	18	05.2	3	17 53.9	13	9 30.1	10	7 05.7
16	Sat	7	6	16.6	12	11.0	18	05.6	4	19 17.8	14	11 15.8	11	6 52.5
17	Sun	8	6	15.7	12	10.8	18	06.0	K 5	21 11.6	15	13 31.9	12	7 04.0
18	Mon	9	6	14.8	12	10.5	18	06.5	6	23 27.6	16	16 11.7	13	7 35.8
19	Tue	10	6	13.9	12	10.3	18	06.9	7	25 54.8	17	19 05.3	14	8 21.4
20	Wed	11	6	12.9	12	10.0	18	07.3	8	28 19.9	18	22 00.4	15	9 12.2
21	Thu	12	6	12.0	12	09.8	18	07.7	9	— ———	19	24 43.8	16	9 58.8
22	Fri	13	6	11.1	12	09.5	18	08.1	9	6 29.5	20	27 03.2	17	10 31.7
23	Sat	14	6	10.1	12	09.2	18	08.5	K 10	8 11.4	21	28 49.4	18	10 42.6
24	Sun	15	6	09.2	12	08.9	18	08.9	11	9 17.0	22	29 56.3	19	10 25.5
25	Mon	16	6	08.2	12	08.7	18	09.3	12	9 41.3	23	— ———	20	9 36.7
26	Tue	17	6	07.2	12	08.4	18	09.7	13	9 23.4	23	6 22.4	21	8 15.2
27	Wed	18	6	06.3	12	08.1	18	10.1	14	8 25.9	24	6 09.2	22	6 22.3
											(25	29 21.3)	(23	28 01.3)
28	Thu	19	6	05.3	12	07.8	18	10.5	K 30	6 53.4	26	28 05.0	24	25 17.0
									(S 1	28 52.8)				
29	Fri	20	6	04.3	12	07.5	18	10.9	2	26 31.3	27	26 27.9	25	22 14.9
30	Sat	21	6	03.4	12	07.2	18	11.2	S 3	23 56.9	1	24 37.9	26	19 01.2

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

INDIAN CALENDAR

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Uttarayana
Dakshina Gola

SAKA ERA 1947

Month of PHALGUNA (30 days)

Ayanamsa on 1st : 24° 13' 27"

(Nirayana) 8 Phalguna, 5126 Kali Era to (Nirayana) 7 Chaitra, 5126 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun Date	Phenomena	Festivals
1	2026 A.D. Feb. 20	P H A L G U N A	N A		2- Sayana Vaidhriti (23 ^h 39 ^m .1)	5- Holastaka
2	21					
3	22					
4	23					
5	24					
6	25					
7	26					
8	27					
9	28					
10	Mar. 1					
11	2					
12	3					
13	4	S A U R A	P H A L G U N A	13- Sun enters Purva Bhadrapada nak. (24 ^h 54 ^m .1)	12- Full Moon (17 ^h 07 ^m .9) 12- Total Lunar Eclipse (Visible in India)	12- Holikadahana, Dolayatra, Birthday of Sri Chaitanya, Masi Magham 13- Holi, Hola, Vasantatsava
14	5					
15	6					
16	7					
17	8					
18	9					
19	10					
20	11					
21	12					
22	13					
23	14					
24	15					
25	16	C H A I T R A	C H A N D R A	22- Saura Chaitradi (25 ^h 35 ^m .3)	14- Sayana Vyatipata (27 ^h 58 ^m .1)	24- Papamochini Ekadasi 26- Varuni (Trayodasi upto 9 ^h 23 ^m .4, Satabhisaj starts from 6 ^h 22 ^m .4), Madhu Krishna Trayodasi 28- Cheti Chand (Sindhi New Year's day), Chaitra Sukladi (Gudi Padava, Ugadi), Vasanta Navaratrambha (or Sthapana Navaratrambha), Telugu New year's day 29- Mahavisuva Day
26	17					
27	18					
28	19					
29	20					
30	Mar. 21					

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.
Moon enters :- Mesha 2, 19h 07.2m; Vrisha 4, 22h 12.5m; Mithuna 6, 24h 54.9m; Karkata 8, 27h 52.6m; Simha 11, 7h 51.7m;
Kanya 13, 13h 45.8m; Tula 15, 22h 18.9m; Vrischika 18, 9h 30.0m; Dhanus 20, 22h 00.4m; Makara 23, 9h 33.2m; Kumbha 25,
18h 14.4m; Mina 27, 23h 36.2m; Mesha 29, 26h 27.9m
Sun enters : Nir. Mina 23, 25h 03.1m

INDIAN CALENDAR

SAKA ERA 1948

Mesha : Madhava

Month of CHAITRA (30 days)

Spring (Vasanta), 2nd Month

(Nirayana) 8 Chaitra, 5126 Kali Era to (Nirayana) 7 Vaisakha, 5127 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi				Nakshatra			Yoga				
									No.		Ending Moment		No.		Ending Moment		No.		Ending Moment	
			h	m	h	m	h	m			h	m			h	m			h	m
		2026A.D.																		
1	Sun	Mar.	22	6	02.4	12	06.9	18	11.6	S	4	21	17.1	2	22	42.8	27	15	41.7	
2	Mon		23	6	01.4	12	06.6	18	12.0	S	5	18	38.9	3	20	49.8	1	12	22.1	
3	Tue		24	6	00.4	12	06.3	18	12.4		6	16	08.4	4	19	05.1	2	9	07.6	
4	Wed		25	5	59.5	12	06.0	18	12.7		7	13	50.6	5	17	33.7	3	6	02.3	
5	Thu		26	5	58.5	12	05.7	18	13.1		8	11	49.4	6	16	19.3	(4 5	27 24	09.6) 31.7	
6	Fri	27	5	57.5	12	05.4	18	13.5		9	10	07.4	7	15	24.3	6	22	10.3		
7	Sat	28	5	56.5	12	05.1	18	13.9	S	10	8	46.2	8	14	50.4	7	20	06.1		
8	Sun	29	5	55.6	12	04.8	18	14.2		11	7	46.9	9	14	38.1	8	18	19.7		
9	Mon	30	5	54.6	12	04.5	18	14.6		12	7	10.1	10	14	48.1	9	16	51.3		
10	Tue	31	5	53.6	12	04.2	18	15.0		13	6	56.4	11	15	21.0	10	15	41.5		
11	Wed	Apr.	1	5	52.7	12	03.9	18	15.3		14	7	06.7	12	16	17.7	11	14	50.8	
12	Thu		2	5	51.7	12	03.6	18	15.7	S	15	7	41.9	13	17	38.9	12	14	19.7	
13	Fri		3	5	50.7	12	03.3	18	16.1	K	1	8	42.9	14	19	25.1	13	14	08.7	
14	Sat		4	5	49.8	12	03.0	18	16.4		2	10	09.5	15	21	35.7	14	14	17.2	
15	Sun		5	5	48.8	12	02.7	18	16.8		3	12	00.3	16	24	08.0	15	14	43.9	
16	Mon	6	5	47.9	12	02.4	18	17.2		4	14	11.1	17	26	56.9	16	15	25.4		
17	Tue	7	5	46.9	12	02.2	18	17.6	K	5	16	35.1	18	---	----	17	16	16.6		
18	Wed	8	5	46.0	12	01.9	18	17.9		6	19	02.2	18	5	54.0	18	17	10.4		
19	Thu	9	5	45.1	12	01.6	18	18.3		7	21	20.1	19	8	48.6	19	17	58.2		
20	Fri	10	5	44.2	12	01.3	18	18.7		8	23	16.0	20	11	28.0	20	18	30.6		
21	Sat	11	5	43.2	12	01.1	18	19.1		9	24	38.1	21	13	40.0	21	18	39.0		
22	Sun	12	5	42.3	12	00.8	18	19.5	K	10	25	17.4	22	15	14.2	22	18	15.9		
23	Mon	13	5	41.4	12	00.6	18	19.9		11	25	09.1	23	16	03.7	23	17	16.7		
24	Tue	14	5	40.6	12	00.3	18	20.3		12	24	12.8	24	16	06.0	24	15	39.4		
25	Wed	15	5	39.7	12	00.1	18	20.7		13	22	31.5	25	15	22.7	25	13	25.2		
26	Thu	16	5	38.8	11	59.8	18	21.1		14	20	11.7	26	13	58.9	26	10	37.5		
27	Fri	17	5	37.9	11	59.6	18	21.5	K	30	17	21.7	27	12	02.4	27	7	21.9		
28	Sat	18	5	37.1	11	59.4	18	21.9	S	1	14	11.0	1	9	42.7	(1 2	27 23	45.5) 56.1		
29	Sun	19	5	36.2	11	59.1	18	22.3		2	10	49.8	2	7	10.1	3	20	02.1		
30	Mon	Apr.	20	5	35.4	11	58.9	18	22.7		3	7	28.0	(3 4	28 26	35.4) 08.6	4	16	11.3	
									(S	4	28	15.3)								

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

INDIAN CALENDAR

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Uttarayana
Uttara Gola

SAKA ERA 1948

Month of CHAITRA (30 days)

Ayanamsa on 1st : 24° 13' 30"

(Nirayana) 8 Chaitra, 5126 Kali Era to (Nirayana) 7 Vaisakha, 5127 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun	Phenomena	Festivals
1	2026 A.D Mar.	22				1- Indian New Year Day
2		23	A			2- Sri(Lakshmi)Panchami
3		24	R			3- Skanda Sashti
4		25	A			4- Vastanti Pujarambha, Oli begins(Jain)
5		26	T			5- Annapurna Puja, Asokashtami (Astami upto 11h 49.4m, Punarvasu starts after 16h. 19.3m), Mela Bahu Fort (Jammu), Rama Navami
6		27	I			8- Kamada Ekadasi
7		28	A			9- Ananga Trayodasi
8		29	C			10- Mahavira Jayanti (Jain), Damanaka Chaturdasi (Vishnu damanaka & Shiva Damanaka)
9		30	H			
10		31	A	10-Sun enters Revati nak. (20 ^h 10 ^m .0)	10-Sayana Vyatipata (12 ^h 38 ^m .9)	
11	Apr.	1	C			11- Panguni Uttiram
12		2	H		12-Full moon (7 ^h 41 ^m .9)	12- Chaitri Purnima, Hanumat Jayanti (S.India), Oli Ends(Jain), Trivandrum Arat (Kerala)
13		3	A			15- Birthday Anniversary of Swami Leela Shah(Sindhi)
14		4	C			
15		5	H			
16		6	A			
17		7	R			
18		8	A			
19		9	U			
20		10	R			
21		11	A			
22		12	C			
23		13	H	23- Saura Vaisakhadi (9 ^h 39 ^m .2)		23- Shri Vallabhacharya Jayanti, Varuthini Ekadasi
24		14	A	24- Sun enters Asvini nak. (9 ^h 32 ^m .7)	24-Sayana Vaidhriti (25 ^h 29 ^m .0)	24- Vaisakhi (Punjab, Haryana, H.P, Delhi & Odisha), Mesa Samkranti (Odisha), Visu (Kerala), Chaitra Samkranti, Chadaka Puja (Bengal), Cheiraoba (Manipur), Meshadi (Tamilnadu), Tamil New Year's Day, Beginning of 5127 K.E., Dr.B.R. Ambedkar jayanti
25		15	C			25- Vaisakhadi (Bengal), Bahag Bihu (Assam), Shilhenba (Manipur)
26		16	H			
27		17	A		27-New Moon (17 ^h 21 ^m .7)	
28		18	R		27-Mars rises in the east (25 ^h 49 ^m .0)	28- Tithi of Deva Damodara (Assam)
29		19	A			29- Parasurama Jayanti
30	Apr.	20	C	30- Sun enters trop. Taurus (7 ^h 09 ^m .1)		30- Akshaya Tritiya, Kedar Badri Yatra, Varsitapa Samapana(Jain)

N.B: All the timings are given in I.S.T. or the local mean time of the meridian of 82½° E long. Moon enters: Vrisha 1,28h14.1m; Mithuna 4,6h17.4m; Karkata 6,9h36.1m; Simha 8,14h38.1m; Kanya 10,21h32.9m; Tula 13, 6h 28.9m; Vrischika 15,17h 28.1m; Dhanus 18,5h54.1m; Makara 20,18h 04.1m; Kumbha 22,27h44.8m; Mina 25,9h37.6m; Mesha 27,12h 02.4m; Vrisha 29,12h31.3m
Sun enters :-Nirayana Mesha 24, 9^h 32^m.7.

INDIAN CALENDAR

SAKA ERA 1948

Vrisha : Sukra

Month of VAISAKHA (31 days)

Summer (Grishma), 1st Month

(Nirayana) 8 Vaisakha, 5127 Kali Era to (Nirayana) 7 Jyaishtha, 5127 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi		Nakshatra		Yoga	
									No.	Ending Moment	No.	Ending Moment	No.	Ending Moment
			h	m	h	m	h	m						
		2026 A.D.												
1	Tue	Apr 21	5	34.6	11	58.7	18	23.1	S 5	25 20.4	5	23 58.7	5	12 31.3
2	Wed	22	5	33.8	11	58.5	18	23.5	6	22 50.1	6	22 13.3	6	9 08.4
3	Thu	23	5	33.0	11	58.3	18	23.9	7	20 49.8	7	20 57.6	7	6 7.7
													(8	27 32.6)
4	Fri	24	5	32.2	11	58.2	18	24.4	8	19 22.3	8	20 14.6	9	25 24.5
5	Sat	25	5	31.4	11	58.0	18	24.8	9	18 28.6	9	20 05.0	10	23 43.4
6	Sun	26	5	30.6	11	57.8	18	25.2	S 10	18 07.4	10	20 27.3	11	22 27.9
7	Mon	27	5	29.9	11	57.7	18	25.7	11	18 16.4	11	21 18.9	12	21 35.8
8	Tue	28	5	29.2	11	57.5	18	26.1	12	18 52.3	12	22 36.3	13	21 04.5
9	Wed	29	5	28.4	11	57.4	18	26.5	13	19 52.1	13	24 16.5	14	20 51.6
10	Thu	30	5	27.7	11	57.2	18	27.0	14	21 13.1	14	26 16.9	15	20 55.0
11	Fri	May 1	5	27.0	11	57.1	18	27.4	S 15	22 53.2	15	28 35.5	16	21 13.3
12	Sat	2	5	26.4	11	57.0	18	27.9	K 1	24 50.4	16	— —	17	21 44.9
13	Sun	3	5	25.7	11	56.9	18	28.3	2	27 02.3	16	7 10.1	18	22 28.0
14	Mon	4	5	25.0	11	56.8	18	28.8	3	29 24.8	17	9 58.0	19	23 19.9
15	Tue	5	5	24.4	11	56.7	18	29.2	4	— —	18	12 54.9	20	24 16.6
16	Wed	6	5	23.8	11	56.6	18	29.7	4	7 51.7	19	15 53.9	21	25 12.2
17	Thu	7	5	23.2	11	56.5	18	30.1	K 5	10 14.5	20	18 46.0	22	25 59.5
18	Fri	8	5	22.6	11	56.5	18	30.6	6	12 22.2	21	21 20.1	23	26 30.2
19	Sat	9	5	22.0	11	56.4	18	31.1	7	14 03.3	22	23 24.9	24	26 35.8
20	Sun	10	5	21.5	11	56.4	18	31.5	8	15 07.0	23	24 50.2	25	26 09.0
21	Mon	11	5	21.0	11	56.4	18	32.0	9	15 25.0	24	25 28.8	26	25 04.4
22	Tue	12	5	20.4	11	56.3	18	32.5	K 10	14 52.8	25	25 17.5	27	23 19.5
23	Wed	13	5	20.0	11	56.3	18	32.9	11	13 30.2	26	24 17.6	1	20 54.7
24	Thu	14	5	19.5	11	56.3	18	33.4	12	11 20.9	27	22 33.9	2	17 53.4
25	Fri	15	5	19.0	11	56.3	18	33.9	13	8 31.7	1	20 14.8	3	14 21.2
									(14	29 11.6)				
26	Sat	16	5	18.6	11	56.3	18	34.4	K 30	25 31.0	2	17 30.4	4	10 25.7
27	Sun	17	5	18.2	11	56.4	18	34.9	S 1	21 41.3	3	14 32.2	5	6 15.5
													(6	25 59.8)
28	Mon	18	5	17.7	11	56.4	18	35.3	2	17 53.7	4	11 32.1	7	21 47.9
29	Tue	19	5	17.4	11	56.5	18	35.8	3	14 19.0	5	8 41.8	8	17 48.8
30	Wed	20	5	17.0	11	56.5	18	36.3	4	11 07.3	6	6 12.0	9	14 10.1
											(7	28 12.3)		
31	Thu	21	5	16.6	11	56.6	18	36.7	S 5	8 27.1	8	26 49.7	10	10 58.6

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

INDIAN CALENDAR

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Uttarayana
Uttara Gola

SAKA ERA 1948

Month of VAISAKHA (31 days)

Ayanamsa on 1st : 24⁰ 13'34"

(Nirayana) 8 Vaisakha, 5127 Kali Era to (Nirayana) 7 Jyaishtha, 5127 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun	Phenomena	Festivals
1	2026 A.D. Apr. 21	S				1- Sri Sankaracharya Jayanti
2	22		C			2- Sri Ramanujacharya Jayanti (South India), Sri Ramanujacharya Jayanti
3	23	A	H			3- Gangotpatti, Babu Kuer Singh Day(Bihar)
4	24					
5	25	U	A		5- Sayana Vyatipata (20 ^h 46 ^m .1)	5- Sita Navami
6	26		N			6- Trichur Pooram(Kerala)
7	27	R	D	7- Sun enters Bharani nak. (25 ^h 18 ^m .0)		7- Mohini Ekadasi
8	28					8- Minakshi Kalyanam
9	29	A	R			
10	30		A			10- Nrisimha Chaturdasi
11	May 1				11- Full Moon (22 ^h 53 ^m .2)	11- Vaisakhi Purnima, Buddha Purnima, MayDay
12	2	V	V			
13	3					
14	4	A	A			13-Birthday Anniversary of Dada Chellaram (Sindhi)
15	5	I	I			
16	6	S	S			
17	7					
18	8	A	A			
19	9	K	K		19- Sayana Vaidhriti (11 ^h 19 ^m .9)	19-Birthday of Rabindranath Tagore
20	10					
21	11	H	H	21- Sun enters Krittika nak. (19 ^h 31 ^m .2)		
22	12	A	A			
23	13					23-Apara Ekadasi, Bhadrakali Ekadasi(Punjab)
24	14			24- Saura Jyaishthadi (6 ^h 04 ^m .4)		
25	15					25-Savitri Chaturdasi
26	16	S A U R A JYAISHTHA	CHANDRA JYAISHTHA MALA		26- New Moon (25 ^h 31 ^m .0)	26-Phalaharini Kalika Puja, Vata Savitri Vrata(Amavasya Paksha)
27	17					
28	18					
29	19					
30	20					
31	21			31- Sun enters Trop.Gemini (6 ^h 06 ^m .7)	31- Sayana Vyatipata (8 ^h 10 ^m .9)	

N.B: All the timings are given in I.S.T. or the local mean time of the meridian of 82½° E long.

Moon enters: Mithuna 1,13h01.0m; Karkata 3,15h13.5m; Simha 5,20h05.0m; Kanya 7,27h36.0m; Tula 10, 13h 14.3m; Vrischika 12,24h 30.1m; Dhanus 15,12h54.9m; Makara 17,25h 26.6m; Kumbha 20,12h13.0m; Mina 22,19h 25.0m; Mesha

24,22h 33.9m; Vrisha 26,22h46.7m; Mithuna 28,22h05.0m; Karkata 30,22h39.1m Sun enters :-Nir. Vrisha 25, 6^h 22^m 1

INDIAN CALENDAR

SAKA ERA 1948

Mithuna :Suchi

Month of JYAISHTHA (31 days)

Summer (Grishma), 2nd Month

(Nirayana) 8 Jyaishtha, 5127 Kali Era to (Nirayana) 7 Ashadha, 5127 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi		Nakshatra		Yoga	
									No.	Ending Moment	No.	Ending Moment	No.	Ending Moment
			h m		h m		h m			h m		h m		h m
1	Fri	2026 A.D. May 22	5	16.3	11	56.6	18	37.2	S 6 (7	6 25.0 29 04.9)	9	26 08.3	11	8 19.0
2	Sat	23	5	16.0	11	56.7	18	37.7	8	28 27.6	10	26 09.5	12 (13	6 13.7 28 42.9)
3	Sun	24	5	15.7	11	56.8	18	38.2	9	28 31.2	11	26 51.1	14	27 44.7
4	Mon	25	5	15.4	11	56.9	18	38.6	S 10	29 11.4	12	28 09.0	15	27 15.4
5	Tue	26	5	15.2	11	57.0	18	39.1	11	----	13	----	16	27 10.5
6	Wed	27	5	15.0	11	57.1	18	39.5	11	6 22.2	13	5 56.9	17	27 25.2
7	Thu	28	5	14.7	11	57.3	18	40.0	12	7 57.5	14	8 08.5	18	27 54.8
8	Fri	29	5	14.6	11	57.4	18	40.4	13	9 51.2	15	10 38.1	19	28 35.7
9	Sat	30	5	14.4	11	57.5	18	40.9	14	11 58.4	16	13 20.6	20	----
10	Sun	31	5	14.2	11	57.7	18	41.3	S 15	14 15.2	17	16 12.1	20	5 24.8
11	Mon	June 1	5	14.1	11	57.8	18	41.7	K 1	16 37.7	18	19 08.8	21	6 19.2
12	Tue	2	5	14.0	11	58.0	18	42.2	2	19 01.6	19	22 06.6	22	7 16.2
13	Wed	3	5	13.9	11	58.1	18	42.6	3	21 21.8	20	24 59.9	23	8 12.3
14	Thu	4	5	13.8	11	58.3	18	43.0	4	23 31.0	21	27 41.8	24	9 03.0
15	Fri	5	5	13.7	11	58.5	18	43.4	K 5	25 20.7	22	---	25	9 42.7
16	Sat	6	5	13.7	11	58.6	18	43.8	6	26 41.7	22	6 03.5	26	10 04.6
17	Sun	7	5	13.7	11	58.8	18	44.2	7	27 25.1	23	7 55.8	27	10 02.0
18	Mon	8	5	13.7	11	59.0	18	44.5	8	27 24.2	24	9 10.0	1	9 28.2
19	Tue	9	5	13.7	11	59.2	18	44.9	9	26 35.2	25	9 39.7	2	8 18.5
20	Wed	10	5	13.7	11	59.4	18	45.3	K 10	24 58.2	26	9 21.6	3 (4	6 30.2 28 03.1)
21	Thu	11	5	13.8	11	59.6	18	45.6	11	22 36.6	27	8 16.5	5	25 00.1
22	Fri	12	5	13.8	11	59.8	18	46.0	12	19 37.0	1	6 28.8	6	21 26.2
23	Sat	13	5	13.9	12	00.0	18	46.3	13	16 08.1	3	25 17.1	7	17 28.5
24	Sun	14	5	14.0	12	00.2	18	46.6	14	12 20.2	4	22 14.1	8	13 15.3
25	Mon	15	5	14.1	12	00.5	18	46.9	K 30 (S 1	8 24.2 28 31.3)	5	19 08.7	9 (10	8 55.8 28 39.2)
26	Tue	16	5	14.3	12	00.7	18	47.2	2	24 53.0	6	16 12.6	11	24 34.9
27	Wed	17	5	14.4	12	00.9	18	47.5	3	21 39.3	7	13 37.2	12	20 51.3
28	Thu	18	5	14.6	12	01.1	18	47.7	4	18 59.4	8	11 32.7	13	17 35.6
29	Fri	19	5	14.8	12	01.3	18	48.0	S 5	17 00.4	9	10 07.1	14	14 53.5
30	Sat	20	5	15.0	12	01.5	18	48.2	6	15 47.2	10	9 26.0	15	12 48.5
31	Sun	21	5	15.2	12	01.8	18	48.4	S 7	15 21.2	11	9 31.6	16	11 21.5

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

INDIAN CALENDAR

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Uttarayana
Uttara Gola

SAKA ERA 1948

Month of JYAISHTHA (31 days)

Ayanamsa on 1st : 24⁰ 13' 39"

(Nirayana) 8 Jyaishtha, 5127 Kali Era to (Nirayana) 7 Ashadha, 5127 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun	Phenomena	Festivals
1	2026A.D. May 22	S	C			
2	23		H			
3	24	A	A			
4	25		N	4- Sun enters Rohini nak. (15 ^h 37 ^m .9)		4- Ganga Dasahara(Hasta nak. From 28h 09.0m) (Except Bengal & Odisha)
5	26	U	D			
6	27	R	R			
7	28		A			6- Padmini Ekadasi (Purusottami)
8	29	A				
9	30					
10	31	J	J		10- Full Moon (14 ^h 15 ^m .2)	
11	June 1	Y	Y		11- Jupiter enters Nir. Karkata (25 ^h 49 ^m .9)	
12	2	A	I			
13	3		S		13- Sayana Vaidhriti (17 ^h 17 ^m .3)	
14	4	I	H			
15	5		A			
16	6	S				
17	7					
18	8	H		18- Sun enters Mrigasiras nak. (13 ^h 33 ^m .1)		
19	9		M			21- Kamala Ekadasi (Purusottami)
20	10	T	A			
21	11	H	L			
22	12		A			
23	13	A		24- Saura Ashadhadi (12 ^h 18 ^m .6)		
24	14					
25	15				25- New moon (8 ^h 24 ^m .2)	25- Rajas Sankranti(Odisha)
					25- Sayana Vyatipata (26 ^h 01 ^m .1)	
26	16	SAURA ASHADHA	C H A N D R A J Y A I S H T H A S U D D H A			
27	17					27- Rambhatritiya, Pratap Jayanti (Rajasthan)
28	18					28- Guru Arjan Dev's Martyardom Day(Sikh)
29	19					30- Vindhya Vasini Puja, Aranya Shashthi or Jamatri Shashthi(Bengal)
30	20					
31	June 21			31- Sun enters Trop. Cancer (13 ^h 54.5 ^m)		31- Dakshinayan Day

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.
 Moon enters: Simha 1,26h08.3m; Kanya 4,9h07.4m; Tula 6,19h00.1m; Vrischika 9,6h39.0m; Dhanus 11,19h08.8m; Makara 14,7h41.8m; Kumbha 16,19h04.0m; Mina 18,27h36.7m; Mesha 21,8h16.5m; Vrisha 23,9h25.5m; Mithuna 25,8h40.9m; Karkata 27,8h13.5m; Simha 29,10h07.1m; Kanya 31,15h40.2m
Sun enters :-Nir. Mithuna 25, 12^h 53^m.0.

INDIAN CALENDAR

SAKA ERA 1948

Karkata : Nabhas

Month of ASHADHA (31 days)

Rains (Varsa), 1st Month

(Nirayana 8 Ashadha, 5127 Kali Era to (Nirayana) 7 Sravana, 5127 Kali Era)

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi		Nakshatra		Yoga	
									No.	Ending Moment	No.	Ending Moment	No.	Ending Moment
			h	m	h	m	h	m						
		2026 A.D.												
1	Mon	June 22	5	15.4	12	02.0	18	48.7	S 8	15 40.5	12	10 22.5	17	10 31.1
2	Tue	23	5	15.6	12	02.2	18	48.8	9	16 40.1	13	11 54.1	18	10 13.5
3	Wed	24	5	15.9	12	02.4	18	49.0	S 10	18 12.8	14	13 59.3	19	10 23.2
4	Thu	25	5	16.1	12	02.6	18	49.2	11	20 09.8	15	16 29.4	20	10 53.8
5	Fri	26	5	16.4	12	02.8	18	49.3	12	22 22.7	16	19 16.0	21	11 38.8
6	Sat	27	5	16.7	12	03.0	18	49.4	13	24 43.9	17	22 11.3	22	12 32.5
7	Sun	28	5	17.0	12	03.3	18	49.5	14	27 06.9	18	25 09.0	23	13 29.7
8	Mon	29	5	17.3	12	03.5	18	49.6	S 15	— —	19	28 03.9	24	14 26.4
9	Tue	30	5	17.6	12	03.7	18	49.7	S 15	5 26.7	20	— —	25	15 19.1
10	Wed	July 1	5	18.0	12	03.8	18	49.7	K 1	7 38.7	20	6 51.6	26	16 04.6
11	Thu	2	5	18.3	12	04.0	18	49.8	2	9 38.4	21	9 27.6	27	16 39.5
12	Fri	3	5	18.6	12	04.2	18	49.8	3	11 20.9	22	11 46.9	1	17 00.0
13	Sat	4	5	19.0	12	04.4	18	49.8	4	12 40.5	23	13 44.1	2	17 01.8
14	Sun	5	5	19.4	12	04.6	18	49.8	K 5	13 31.3	24	15 12.9	3	16 40.3
15	Mon	6	5	19.7	12	04.7	18	49.7	6	13 47.7	25	16 07.9	4	15 51.2
16	Tue	7	5	20.1	12	04.9	18	49.6	7	13 25.4	26	16 24.4	5	14 31.1
17	Wed	8	5	20.5	12	05.1	18	49.6	8	12 22.1	27	16 00.4	6	12 38.0
18	Thu	9	5	20.9	12	05.2	18	49.5	9	10 38.3	1	14 56.3	7	10 11.9
19	Fri	10	5	21.3	12	05.4	18	49.3	K 10	8 16.8	2	13 15.4	8	7 14.9
20	Sat	11	5	21.7	12	05.5	18	49.2	11	5 23.2	3	11 03.7	(9) 27	50.9)
									(12	26 04.7)			10	24 05.6
21	Sun	12	5	22.1	12	05.6	18	49.0	13	22 30.4	4	8 29.3	11	20 06.2
22	Mon	13	5	22.5	12	05.8	18	48.9	14	18 50.0	5	5 41.9	12	16 00.6
											(6	26 51.8)		
23	Tue	14	5	23.0	12	05.9	18	48.7	K 30	15 13.7	7	24 10.0	13	11 57.3
24	Wed	15	5	23.4	12	06.0	18	48.5	S 1	11 51.6	8	21 47.0	14	8 04.5
													(15	28 30.5)
25	Thu	16	5	23.8	12	06.1	18	48.2	2	8 53.5	9	19 52.6	16	25 22.5
26	Fri	17	5	24.2	12	06.2	18	48.0	3	6 28.3	10	18 35.1	17	22 46.2
									(4	28 43.2)				
27	Sat	18	5	24.7	12	06.3	18	47.7	S 5	27 43.3	11	18 00.6	18	20 45.8
28	Sun	19	5	25.1	12	06.3	18	47.4	6	27 30.4	12	18 12.2	19	19 23.1
29	Mon	20	5	25.5	12	06.4	18	47.1	7	28 03.4	13	19 09.8	20	18 37.4
30	Tue	21	5	26.0	12	06.4	18	46.7	8	29 17.2	14	20 49.3	21	18 25.6
31	Wed	22	5	26.4	12	06.5	18	46.4	S 9	— —	15	23 03.5	22	18 42.2

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

INDIAN CALENDAR

393

Dakshinayana
Uttara Gola

SAKA ERA 1948

Month of ASHADHA (31 days)

Ayanamsa on 1st : 24° 13' 45"

Nirayana 8 Ashadha, 5127 Kali Era to *(Nirayana)* 7 Sravana, 5127 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun	Phenomena	Festivals	
1	2026 A.D June 22	S A U R A	C H A N D R A	1- Sun enters Ardra nak. (12 ^h 26 ^m .1)	7- Sayana Vaidhriti (22 ^h 36 ^m .8)	1- Mela Kshir Bhawani (Kashmir)	
2	23					3- Ganga Dasahara (Bengal & Odisha) 4- Nirjala Ekadasi 5- Champaka Dvadasi	
3	24						
4	25						
5	26						
6	27					8- Vata Savitri Vrata (Purnima Paksha), Deva Snana Purnima	
7	28						
8	29	A J Y A I S H T H A	9- Full Moon (5 ^h 26 ^m .7)				
9	30			10- Guru Hargobind's Birthday (Jammu&Kashmir)			
10	July 1						
11	2			15- Sun enters Punarvasu nak. (12 ^h 03 ^m .6)			
12	3						
13	4						
14	5			D H A	S U D D H A	20- Sayana Vyatipata (21 ^h 21 ^m .0)	19- Yogini Ekadasi (Smarta)
15	6						20- Yogini Ekadasi (Vaishnava & Vidhava), Trisprisha Mahadvadasi
16	7	22- Martyr's Day (Kashmir)					
17	8						
18	9						
19	10	S A U R A S R A V A N A	C H A N D R A A S H A D H A				24- Saura Sravanadi (23 ^h 00 ^m .1)	24- Jupiter sets in the West (11^{h}10^{m}.0)	24- Manoratha DvitiyaVrata
20	11			25- RathaYatra, Manasa Puja Begins (Bengal)			
21	12						
22	13						
23	14						
24	15			29- Sun enters Pushya nak. (11 ^h 28 ^m .3)		28- Kumara Shashthi (Vrata) 29- Vivasvat Saptami	
25	16	30- KharchiPuja(Tripura)					
26	17						
27	18						
28	19	31- Sun enters trop. Leo (24 ^h 43 ^m .1)		31- Mela Sharik Bhagwati (Kashmir)			
29	20						
30	21						
31	22						

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.
Moon enters: Tula 2,24h53.1m; Vrischika 5,12h33.3m; Dhanus 7,25h09.0m; Makara 10,13h31.9m; Kumbha 12,24h48.6m; Mina 15,9h57.6m; Mesha 17,16h00.4m; Vrisha 19,18h45.0m; Mithuna 21,19h06.6m; Karkata 23,18h49.1m; Simha 25,19h52.6m; Kanya 27,23h59.1m; Tula 30,7h54.7m
Sun enters : Nir. Karkata 25, 23h 39.4m

INDIAN CALENDAR

SAKA ERA 1948

Simha : Nabhasya

Month of SRAVANA (31 days)

Rains (Varsa), 2nd Month

(Nirayana) 8 Sravana, 5127 Kali Era to (Nirayana) 7 Bhadra, 5127 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi			Nakshatra			Yoga		
									No.	Ending Moment		No.	Ending Moment		No.	Ending Moment	
			h	m	h	m	h	m		h	m		h	m		h	m
		2026 A.D.															
1	Thu	Jul. 23	5	26.8	12	06.5	18	46.0	S 9	7	03.8	16	25	42.9	23	19	20.1
2	Fri	24	5	27.3	12	06.5	18	45.6	S 10	9	13.2	17	28	36.8	24	20	11.6
3	Sat	25	5	27.7	12	06.6	18	45.2	11	11	34.8	18	---	---	25	21	08.9
4	Sun	26	5	28.2	12	06.6	18	44.7	12	13	58.3	18	7	35.0	26	22	05.3
5	Mon	27	5	28.6	12	06.6	18	44.3	13	16	15.4	19	10	28.8	27	22	55.0
6	Tue	28	5	29.0	12	06.5	18	43.8	14	18	19.4	20	13	11.3	1	23	33.6
7	Wed	29	5	29.5	12	06.5	18	43.3	S 15	20	05.7	21	15	37.4	2	23	57.9
8	Thu	30	5	29.9	12	06.5	18	42.8	K 1	21	30.8	22	17	43.5	3	24	05.5
9	Fri	31	5	30.3	12	06.4	18	42.2	2	22	32.2	23	19	27.0	4	23	54.4
10	Sat	Aug. 1	5	30.7	12	06.4	18	41.7	3	23	07.8	24	20	45.6	5	23	23.1
11	Sun	2	5	31.2	12	06.3	18	41.1	4	23	15.8	25	21	37.3	6	22	29.9
12	Mon	3	5	31.6	12	06.2	18	40.5	K 5	22	54.7	26	22	00.6	7	21	13.7
13	Tue	4	5	32.0	12	06.1	18	39.9	6	22	03.7	27	21	54.3	8	19	33.5
14	Wed	5	5	32.4	12	06.0	18	39.3	7	20	42.8	1	21	18.3	9	17	29.0
15	Thu	6	5	32.8	12	05.9	18	38.7	8	18	53.1	2	20	13.8	10	15	00.9
16	Fri	7	5	33.3	12	05.8	18	38.0	9	16	37.4	3	18	43.4	11	12	11.0
17	Sat	8	5	33.7	12	05.7	18	37.4	K 10	13	59.7	4	16	51.4	12	9	02.1
18	Sun	9	5	34.1	12	05.6	18	36.7	11	11	05.5	5	14	43.6	13	5	38.3
19	Mon	10	5	34.5	12	05.4	18	36.0	12	8	01.3	6	12	27.1	(14) 26	04.6	
20	Tue	11	5	34.9	12	05.3	18	35.3	(13) 28	54.7					15	22	27.0
21	Wed	12	5	35.3	12	05.1	18	34.5	14	25	53.7	7	10	09.7	16	18	51.9
22	Thu	13	5	35.7	12	04.9	18	33.8	K 30	23	06.8	8	8	00.0	17	15	26.2
23	Fri	14	5	36.1	12	04.7	18	33.0	S 1	20	42.1	9	6	06.9	18	12	16.4
24	Sat	15	5	36.4	12	04.5	18	32.2				(10) 28	38.6				
25	Sun	16	5	36.8	12	04.3	18	31.5	2	18	47.4	11	27	42.9	19	9	28.8
26	Mon	17	5	37.2	12	04.1	18	30.7	3	17	29.5	12	27	25.8	20	7	09.1
27	Tue	18	5	37.6	12	03.9	18	29.8	4	16	53.1	13	27	50.9	(21) 29	21.3	
28	Wed	19	5	37.9	12	03.7	18	29.0	5	17	00.6	14	28	59.0	22	28	08.1
29	Thu	20	5	38.3	12	03.5	18	28.2	6	17	51.2	15	---	---	23	27	29.4
30	Fri	21	5	38.7	12	03.2	18	27.3	7	19	20.0	15	6	47.0	24	27	23.0
31	Sat	22	5	39.0	12	03.0	18	26.5	8	21	18.9	16	9	08.4	25	27	44.1
									9	23	36.7	17	11	53.2	26	28	25.5
									S 10	26	00.8	18	14	49.4	27	29	18.6
															1	---	---

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

Dakshinayana
Uttara Gola

INDIAN CALENDAR

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SAKA ERA 1948

Month of SRAVANA (31 days)

Ayanamsa on 1st : 24° 13' 50''

(Nirayana) 8 Sravana, 5127 Kali Era to (Nirayana) 7 Bhadra, 5127 Kali Era

Date	Gergorian	Solar	Lunar	Transit of the Sun	Phenomena	Festivals
1	2026A.D. July 23	S	A		1- Sayana Vaidhriti (28 ^h 24 ^m .2)	2- Punaryatra, Ultaratha(Odisha), Bahudha Yatra
2	24					3- Harisayani Ekadasi
3	25					
4	26					
5	27					
6	28	A	D			6- Mela Jwalamukhi(Kashmir)
7	29				7- Full Moon (20 ^h 05 ^m .7)	7- Guru Purnima, Vyasa Puja, Asadhi Purnima
8	30	U	S			
9	31					
10	Aug. 1	R	A			10- Tilak Commemoration Day
11	2					
12	3					12- Naga Panchami(Bengal)
13	4	A	S	12- Sun enters Aslesha nak. (10 ^h 24 ^m .3)		13- Ker Puja(Tripura)
14	5					
15	6				15- Sayana Vyatipata (12 ^h 06 ^m .0)	
16	7	S	H			
17	8					
18	9					18- Kamika Ekadasi
19	10				19- Jupiter rises in the East (7 ^h 53 ^m .0)	
20	11	R	A			
21	12				21- New moon (23 ^h 06 ^m .8) 21- Total Solar Eclipse (Not Visible in India)	21- Chitalagi Amavasya (Odisha), Adi Amavasya (Tamilnadu), Karkataka Vavu(Kerala)
22	13	A	N			
23	14					23- Adi Puram (S.India)
24	15					24- Madhusrava Tritiya (Teej), Independence Day
25	16	A	D			
26	17				25- Saura Bhadrpadadi (7 ^h 28 ^m .4)	
27	18	SAURA BHADRAPADA	R			26- Manasa puja Ends(Bengal), Simhadi(Kerala), Beginning of Kollam Era, Naga Panchami
28	19					
29	20				27- Sayana Vaidhriti (12 ^h 11 ^m .7)	28- Goswami Tulasidas Jayanti
30	21					29- Durvashtami (Except Bengal)
31	Aug. 22					

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.
Moon enters: Vrischika 1, 19h01.2m; Dhanus 4, 7h35.0m; Makara 6, 19h49.5m; Kumbha 9, 6h38.3m; Mina 11, 15h27.0m; Mesha 13, 21h54.3m; Vrisha 15, 25h53.5m; Mithuna 17, 27h49.1m; Karkata 19, 28h43.6m; Simha 22, 6h06.9m; Kanya 24, 9h34.8m; Tula 26, 16h19.7m; Vrischika 28, 26h30.5m; Dhanus 31, 14h49.4m
Sun enters : Nir. Simha 26, 7h 58.7m

INDIAN CALENDAR

SAKA ERA 1948

Month of BHADRA (31 days)

Kanya: Isha
Autumn (Sarat), 1st Month

(Nirayana) 8 Bhadra, 5127 Kali Era to (Nirayana) 7 Asvina, 5127 Kali Era

Date	Week Day	Gregorian Date	Sunrise	Apparent Noon	Sunset	Tithi				Nakshatra			Yoga		
						No.	Ending Moment			No.	Ending Moment		No.	Ending Moment	
			h	m	h	m	h	m	h	m	h	m	h	m	h	m
		2026 A.D.													
1	Sun	Aug. 23	5 39.4	12 02.7	18 25.6	S 11	28 19.2	19	17 44.8	1	6 14.5				
2	Mon	24	5 39.7	12 02.4	18 24.7	12	---	20	20 28.4	2	7 04.5				
3	Tue	25	5 40.1	12 02.2	18 23.8	12	6 21.3	21	22 51.5	3	7 41.3				
4	Wed	26	5 40.4	12 01.9	18 22.9	13	7 59.6	22	24 48.2	4	7 59.5				
5	Thu	27	5 40.7	12 01.6	18 22.0	14	9 09.3	23	26 15.7	5	7 55.6				
6	Fri	28	5 41.1	12 01.3	18 21.1	S 15	9 48.5	24	27 13.4	6	7 27.9				
7	Sat	29	5 41.4	12 01.0	18 20.1	K 1	9 57.4	25	27 42.4	7	6 36.3				
8	Sun	30	5 41.7	12 00.7	18 19.2	2	9 37.6	26	27 45.0	(8 29 21.8)	9 27 46.0				
9	Mon	31	5 42.0	12 00.4	18 18.3	3	8 51.6	27	27 24.0	10	25 50.9				
10	Tue	Sep. 1	5 42.4	12 00.1	18 17.3	4	7 42.4	1	26 42.4	11	23 38.9				
11	Wed	2	5 42.7	11 59.8	18 16.3	K 5	6 13.1	2	25 43.2	12	21 12.3				
12	Thu	3	5 43.0	11 59.4	18 15.4	(6 28 26.6)	7 26 25.9	3	24 29.6	13	18 33.2				
13	Fri	4	5 43.3	11 59.1	18 14.4	8	24 14.1	4	23 04.4	14	15 44.0				
14	Sat	5	5 43.6	11 58.8	18 13.4	9	21 54.2	5	21 31.0	15	12 47.1				
15	Sun	6	5 44.0	11 58.4	18 12.4	K 10	19 29.7	6	19 52.9	16	9 45.2				
16	Mon	7	5 44.3	11 58.1	18 11.4	11	17 04.6	7	18 14.3	17	6 41.1				
17	Tue	8	5 44.6	11 57.8	18 10.4	12	14 43.5	8	16 39.7	(18 27 38.3)	19 24 40.7				
18	Wed	9	5 44.9	11 57.4	18 09.4	13	12 31.3	9	15 14.6	20	21 52.4				
19	Thu	10	5 45.2	11 57.1	18 08.4	14	10 33.8	10	14 04.8	21	19 18.0				
20	Fri	11	5 45.5	11 56.7	18 07.4	K 30	8 57.0	11	13 16.4	22	17 02.2				
21	Sat	12	5 45.8	11 56.4	18 06.4	S 1	7 46.8	12	12 55.5	23	15 09.4				
22	Sun	13	5 46.1	11 56.0	18 05.4	2	7 08.9	13	13 07.2	24	13 43.4				
23	Mon	14	5 46.4	11 55.7	18 04.4	3	7 07.4	14	13 55.4	25	12 46.7				
24	Tue	15	5 46.7	11 55.3	18 03.4	4	7 44.7	15	15 21.3	26	12 20.3				
25	Wed	16	5 47.0	11 54.9	18 02.3	S 5	8 59.9	16	17 22.8	27	12 22.7				
26	Thu	17	5 47.3	11 54.6	18 01.3	6	10 48.4	17	19 53.9	1	12 49.7				
27	Fri	18	5 47.7	11 54.2	18 00.3	7	13 01.6	18	22 44.9	2	13 34.8				
28	Sat	19	5 48.0	11 53.9	17 59.3	8	15 27.4	19	25 43.2	3	14 29.1				
29	Sun	20	5 48.3	11 53.5	17 58.3	9	17 52.0	20	28 34.9	4	15 22.8				
30	Mon	21	5 48.6	11 53.2	17 57.2	S 10	20 01.3	21	---	5	16 05.7				
31	Tue	22	5 48.9	11 52.8	17 56.2	S 11	21 43.7	21	7 07.0	6	16 29.3				

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

INDIAN CALENDAR

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Dakshinayana
Uttara Gola

SAKA ERA 1948

Month of BHADRA (31 days)

Ayanamsa on 1st : 24° 13' 55"

(Nirayana) 8 Bhadra, 5127 Kali Era to (Nirayana) 7 Asvina, 5127 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun	Phenomena	Festivals
1	2026 A.D Aug. 23	S	C	1- Sun enters trop. Virgo (7 ^h 48 ^m .8)		1- Jhulana Yatrarambha (Prodosa), Jhulana Yatrarambha(Purvahna), Pavitra Ekadasi
2	24	A	H			2- Vanjuli Mahadvadasi
3	25					3- First Onam Day
4	26		A			4- Rik Upakarma, Onamor Thiru Onam day(Kerala)
5	27	U	N			5- Balabhadra Puja(Odisha),Naroli Purnima, Jhulana Yatra Samapana (Prodosa), Sravani Purnima, Third Onam Day, Yaju Upakarma
6	28	R	D		6- Full Moon (9 ^h 48 ^m .5)	6- Vara Maha Lakshmi Vrata(S.India), Raksha Bandhana, Jhulana Yatra Samapana (Purvahna), Amarnath Yatra, Solono (Rakhi Bandhan), Avani Ayittam(S.India), Gayatri Japam, Fourth Onam Day, Sri Narayan Guru Deva's Birthday(Kerala)
7	29		R	8 - Sun enters Purva Phalguni nak. (27 ^h 59 ^m .2)	6- Partial Lunar Eclipse (Visible in India)	9- Bahula Chaturthi(Sankashta Chaturthi), Teejri(Sindhi)
8	30	A	A		9- Sayana Vyatipata (22 ^h 51 ^m .0)	10- Raksha Panchami(Odisha), Tithi of Sri Madhava Deva(Assam)
9	31		S			12 -Keil Muhurth (Coorg)
10	Sept. 1		R			13-Janmashtami(Smarta) Rohini nak. upto 23h 4m), Gokulashtami(South), Janmashtami(Vaishnava), Sri Krishna Jayanti(Tamilnadu, Kerala Assam), Sri Jayanti(Ramanuja)
11	2	B	A			14-Gokulashtami(Nandotsava)
12	3	H	V			
13	4	A	A			16- Aja Ekadasi
14	5	D	N			17-Paryusana Parvarambha(Chaturthi Paksha-Jain), Paryusana Parvarambha (Panchami Paksha - Jain)
15	6	R	A			18-Aghora Chaturdasi, Kailas Yatra (2 days)
16	7	A				19-Saptapuri Amavasya(Odisha),Pithori
17	8	P			20- New Moon (8 ^h 57 ^m .0)	20 - Kusotpatini (Jain)
18	9	A			21- Sayana Vaidhriti (23 ^h 24 ^m .0)	21-Tithi of Sri Sankara Deva (Assam)
19	10					22-Samaveda Upakarma
20	11			22-Sun enters Uttara Phalguni nak. (21 ^h 47 ^m .9)		23-Haritalika Gauri Tiritiya, Haritalika Chaturthi, Ganesha Chaturthi, Vinayaka Chaturthi(Tamil Nadu)
21	12	A				24-Samvatsari (Chaturthi Paksha-Jain), Samvatsari (Panchami Paksha-Jain), Rishi Panchami
22	13	D				25-Melapat-3days(Jammu & Kashmir)
23	14	A				26-Visvakarma Puja, Surya Shashthi
24	15			25-Saura Asvinadi (7 ^h 41 ^m .9)		27-Maha Lakashmi Vratarambha
25	16					28-Radhashtami, Durvashtami(Bengal)
26	17					
27	18					30-Samadhi Day of Narayan Guru(Kerala)
28	19					31. Parsvaparivartani Ekadasi, Heikru Hidongba (Manipur), Dolgyaras(Madhya Pradesh)
29	20					
30	21					
31	Sept. 22			31-Sun enters trop. Libra (29 ^h 35 ^m .2)		

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.
Moon enters : Makara 2,27h6.4m; Kumbha 5,13h35.7m; Mina 7,21h37.7m; Mesha 9,27h24.0m; Vrisha 12,7h26.1m; Mithuna 14,10h18.5m; Karkata 16,12h38.7m; Simha 18,15h14.6m; Kanya 20,19h08.4m; Tula 22,25h26.7m; Vrischika 25,10h49.3m; Dhanus 27,22h44.9m; Makara 30,11h15.2m
Sun enters : Nir. Kanya 26, 7h 52.9m

INDIAN CALENDAR

SAKA ERA 1948

Tula : Urja

Month of ASVINA (30 days)

Autumn (Sarat), 2nd Month

(Nirayana) 8 Asvina, 5127 Kali Era to (Nirayana) 7 Kartika, 5127 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi		Nakshatra		Yoga	
									No.	Ending Moment	No.	Ending Moment	No.	Ending Moment
			h	m	h	m	h	m						
		2026 A.D.												
1	Wed	Sep. 23	5	49.2	11	52.5	17	55.2	S 12	22 50.9	22	9 09.3	7	16 26.9
2	Thu	24	5	49.5	11	52.1	17	54.2	13	23 18.9	23	10 35.3	8	15 54.6
3	Fri	25	5	49.8	11	51.8	17	53.2	14	23 07.2	24	11 22.6	9	14 51.1
4	Sat	26	5	50.2	11	51.4	17	52.2	S 15	22 19.0	25	11 32.2	10	13 17.6
5	Sun	27	5	50.5	11	51.1	17	51.1	K 1	20 59.1	26	11 08.3	11	11 17.0
6	Mon	28	5	50.8	11	50.7	17	50.1	2	19 14.1	27	10 16.5	12	8 53.9
7	Tue	29	5	51.1	11	50.4	17	49.1	3	17 10.7	1	9 03.7	13	6 13.2
8	Wed	30	5	51.5	11	50.1	17	48.1	4	14 55.8	2	7 37.0	(14	27 20.4)
9	Thu	Oct. 1	5	51.8	11	49.7	17	47.2	K 5	12 35.7	3	6 02.9	15	24 20.6
10	Fri	2	5	52.2	11	49.4	17	46.2	6	10 15.7	(4	28 27.4)	16	21 18.4
11	Sat	3	5	52.5	11	49.1	17	45.2	7	8 00.1	5	26 55.2	17	18 17.7
12	Sun	4	5	52.9	11	48.8	17	44.2	(8	29 52.2)	6	25 29.9	18	15 21.7
13	Mon	5	5	53.2	11	48.5	17	43.3	9	27 54.3	7	24 14.1	19	12 32.4
14	Tue	6	5	53.6	11	48.2	17	42.3	K 10	26 08.0	8	23 09.5	20	9 51.6
15	Wed	7	5	53.9	11	47.9	17	41.4	11	24 35.0	9	22 17.8	21	7 20.5
16	Thu	8	5	54.3	11	47.6	17	40.4	12	23 17.0	10	21 40.6	(22	29 00.3)
17	Fri	9	5	54.7	11	47.3	17	39.5	13	22 16.5	11	21 20.4	23	26 52.3
18	Sat	10	5	55.1	11	47.1	17	38.6	14	21 36.3	12	21 20.0	24	24 58.5
19	Sun	11	5	55.5	11	46.8	17	37.7	K 30	21 20.1	13	21 42.9	25	23 21.0
20	Mon	12	5	55.9	11	46.5	17	36.8	S 1	21 31.6	14	22 32.7	26	22 02.5
21	Tue	13	5	56.3	11	46.3	17	35.9	2	22 13.8	15	23 52.4	27	21 05.6
22	Wed	14	5	56.7	11	46.1	17	35.0	3	23 28.3	16	25 43.1	1	20 32.4
23	Thu	15	5	57.1	11	45.8	17	34.1	4	25 13.8	17	28 03.3	2	20 23.9
24	Fri	16	5	57.5	11	45.6	17	33.3	S 5	27 25.7	18	— —	3	20 39.2
25	Sat	17	5	58.0	11	45.4	17	32.4	6	29 54.8	18	6 47.8	4	21 15.1
26	Sun	18	5	58.4	11	45.2	17	31.6	7	— —	19	9 47.3	5	22 05.7
27	Mon	19	5	58.9	11	45.0	17	30.8	8	8 28.6	20	12 49.1	6	23 02.8
28	Tue	20	5	59.3	11	44.8	17	30.0	9	10 52.2	21	15 38.8	7	23 56.1
29	Wed	21	5	59.8	11	44.7	17	29.2	S 10	14 12.3	22	18 02.3	8	24 35.1
30	Thu	22	6	00.2	11	44.5	17	28.4	9	12 50.9	23	19 48.1	9	24 50.0
									S 11	14 48.5	24	20 49.2	10	24 33.1
													11	23 39.7

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

Dakshinayana
Dakshina Gola

INDIAN CALENDAR

399

SAKA ERA 1948

Month of ASVINA (30 days)

Ayanamsa on 1st : 24° 13' 59"

(Nirayana) 8 Asvina, 5127 Kali Era to (Nirayana) 7 Kartika, 5127 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun	Phenomena	Festivals	
1	2026A.D. Sep. 23	S	B H A D R A P A D A	5- Sun enters Hasta nak. (13 ^h 19 ^m .8)	4- Full Moon (22 ^h 19 ^m .0) 4- Sayana Vyatipata (10 ^h 15 ^m .7)	1- Jalavisuva Day, Sravana Dvadasi (Sravana nak.Upto 9h09.3m), Vamana Jayanti, Sakrotthana	
2	24	A					
3	25	U					3- Ananta Chaturdasi
4	26					4- Indra Purnima	
5	27	R					5- Pitri Paksha Tarpana begins
6	28	A					
7	29						
8	30	S					
9	Oct. 1						
10	2						10- Mahatma Gandhi's Birthday
11	3	A	C H A N D R A	18- Sun enters Chitra nak. (26 ^h 20 ^m .1)	16- Sayana Vaidhriti (10 ^h 56 ^m .0) 18- New Moon (21 ^h 20 ^m .1)	11- Maha Lakshmi Vrata Sampana	
12	4					12- Matri Navami	
13	5					14- Indira Ekadasi	
14	6	S					
15	7						
16	8	V					
17	9						
18	10	I				18- Sarva Pitri Amavasya, Tarpana Loiba(Manipur), Mahalaya Amavasya, Gajacchaya Parva	
19	11	N	A S V I N A		21- Venus sets in the West (24 ^h 18 ^m .0)	19- Saradiya Navaratrambha, Maharaja Agrasen's Jayanti	
20	12						
21	13						
22	14						
23	15					A	23- Upanga LalitaVrata (Lalita Panchami)
24	16	24- Saura Kartikadi (20 ^h 03 ^m .9)	24- Saraswati Avahana				
25	17	S A U R A K A R T I K A	C H A N D R A	29- Sayana Vyatipata (21 ^h 18 ^m .0)	25- Kaveri Samkramana Snana, Durga Puja Begins(Saptami)		
26	18				26- Durga Puja Begins (Saptami) (Bengal), Oli Begins		
27	19				27- Mahastami, Ayudha Puja, Saraswati Visarjana		
28	20				28- Maha Navami (Bengal), Vijaya Dasami (Dussehara or Dasahara)		
29	21				29- Vijaya Dasami (Bengal), Vijaya Dasami(Kerala), Madhavacharya Jayanti, Bharat Milap		
30	22				30- Papankusa Ekadasi (Pasankusa)		

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Moon enters :- Kumbha 1,21h57.1m; Mina 4,5h33.2m; Mesha 6,10h16.5m; Vrisha 8,13h13.9m; Mithuna 10,15h40.7m; Karkata 12,18h32.0m; Simha 14,22h17.8m; Kanya 16,27h18.3m; Tula 19,10h04.2m; Vrishchika 21,19h12.6m; Dhanus 24,6h47.8m; Makara 26,19h33.3m; Kumbha 29,7h00.5m

Sun enters : Nir. Tula 25, 19h 51.7m

INDIAN CALENDAR

SAKA ERA 1948

Vrischika : Sahas

Month of KARTIKA (30 days)

Hemanta, 1st Month

(Nirayana) 8 Kartika, 5127 Kali Era to (Nirayana) 7 Agrahayana, 5127 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi			Nakshatra			Yoga		
									No.	Ending Moment		No.	Ending Moment		No.	Ending Moment	
			h	m	h	m	h	m		h	m		h	m		h	m
		2026 A.D.															
1	Fri	Oct. 23	6	00.7	11	44.4	17	27.6	S 12	14	36.3	25	21	03.1	12	22	08.5
2	Sat	24	6	01.2	11	44.2	17	26.9	13	13	37.3	26	20	32.2	13	20	01.2
3	Sun	25	6	01.7	11	44.1	17	26.2	14	11	56.5	27	19	22.2	14	17	22.0
4	Mon	26	6	02.2	11	44.0	17	25.4	S 15	9	41.8	1	17	41.4	15	14	17.0
5	Tue	27	6	02.7	11	43.9	17	24.7	K 1	7	02.1	2	15	39.4	16	10	53.3
									(2	28	07.4)						
6	Wed	28	6	03.2	11	43.8	17	24.1	3	25	07.2	3	13	26.3	17	7	18.6
															(18	27	40.6)
7	Thu	29	6	03.7	11	43.7	17	23.4	4	22	10.7	4	11	11.8	19	24	06.3
8	Fri	30	6	04.3	11	43.7	17	22.7	K 5	19	25.5	5	9	04.7	20	20	41.8
9	Sat	31	6	04.8	11	43.6	17	22.1	6	16	57.9	6	7	12.2	21	17	31.8
												(7	29	39.9)			
10	Sun	Nov. 1	6	05.4	11	43.6	17	21.5	7	14	52.2	8	28	30.9	22	14	39.5
11	Mon	2	6	05.9	11	43.6	17	20.9	8	13	11.0	9	27	46.6	23	12	06.8
12	Tue	3	6	06.5	11	43.6	17	20.3	9	11	55.0	10	27	26.7	24	9	54.1
13	Wed	4	6	07.1	11	43.6	17	19.8	K 10	11	03.7	11	27	30.3	25	8	01.0
14	Thu	5	6	07.6	11	43.6	17	19.3	11	10	36.1	12	27	56.1	26	6	26.5
															(27	29	09.7)
15	Fri	6	6	08.2	11	43.6	17	18.7	12	10	31.1	13	28	43.5	1	28	10.1
16	Sat	7	6	08.8	11	43.7	17	18.2	13	10	48.4	14	29	52.6	2	27	27.8
17	Sun	8	6	09.4	11	43.7	17	17.8	14	11	28.4	15	—	—	3	27	03.2
18	Mon	9	6	10.1	11	43.8	17	17.3	K 30	12	32.1	15	7	24.3	4	26	57.2
19	Tue	10	6	10.7	11	43.9	17	16.9	S 1	14	00.6	16	9	19.5	5	27	09.9
20	Wed	11	6	11.3	11	44.0	17	16.5	2	15	53.9	17	11	38.4	6	27	40.5
21	Thu	12	6	11.9	11	44.1	17	16.1	3	18	09.8	18	14	19.3	7	28	26.5
22	Fri	13	6	12.6	11	44.2	17	15.7	4	20	43.1	19	17	17.4	8	29	23.0
23	Sat	14	6	13.2	11	44.4	17	15.4	S 5	23	24.5	20	20	24.6	9	—	—
24	Sun	15	6	13.9	11	44.6	17	15.1	6	26	01.7	21	23	29.1	9	6	22.7
25	Mon	16	6	14.5	11	44.7	17	14.8	7	28	20.1	22	26	17.2	10	7	16.5
26	Tue	17	6	15.2	11	44.9	17	14.5	8	30	05.6	23	28	34.9	11	7	54.1
27	Wed	18	6	15.8	11	45.1	17	14.3	9	—	—	24	30	10.6	12	8	05.6
28	Thu	19	6	16.5	11	45.3	17	14.0	9	7	06.7	25	—	—	13	7	42.7
29	Fri	20	6	17.2	11	45.6	17	13.8	S 10	7	16.1	25	6	56.8	14	6	40.2
															(15	28	55.8)
30	Sat	21	6	17.8	11	45.8	17	13.7	11	6	32.0	26	6	50.8	16	26	30.9
									(S 12	28	57.0)	(27	29	55.1)			

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

INDIAN CALENDAR

401

Dakshinayana
Dakshina Gola

SAKA ERA 1948

Month of KARTIKA (30 days)

Ayanamsa on 1st : 24° 14' 02"

(Nirayana) 8 Kartika, 5127 Kali Era to (Nirayana) 7 Agrahayana, 5127 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun	Phenomena	Festivals
1	2026 A.D. Oct. 23	KARTIKA	CHANDRA	1- Sun enters trop. Scorpio (15 ^h 07 ^m .9)		
2	24			2- Sun enters Svati nak. (12 ^h 50 ^m .7)		
3	25					3- Kojagari Lakshmi Puja(Bengal), Kumara Purnima (Odisha), Sarat Purnima, Kojagar(Lakshmindra Puja)
4	26				4- Full Moon (9 ^h 41 ^m .8)	4- Maharshi Valmiki's Birthday, Oli Ends(Jain)
5	27					
6	28				6- Venus rises in the East (7 ^h 36 ^m .0)	
7	29					7- Karaka Chaturthi, Dasaratha Chaturthi
8	30					
9	31				9- Jupiter enters Nir. Simha (12 ^h 02 ^m .0)	10- Ahoyi Ashtami, Karashtami, Ahoyi Ashtami(Punjab), Martyrdom Day of Bhagat Kanwar Ram(Sindhi)
10	Nov. 1				11- Sayana Vaidhriti (20 ^h 04 ^m .5)	
11	2	KARTIKA	CHANDRA			14- Govatsa Dvadasi, Rama Ekadasi
12	3					15- Dhana Trayodasi
13	4					
14	5					
15	6			15- Sun enters Visakha nak. (21 ^h 03 ^m .3)		16- Kali Chaturdasi
16	7					17- Naraka Chaturdasi (Purvarunodaya), Lakshmi Puja, Lakshmi Dipam, Kali Puja, Dipavali, Hanumajjanma (N.India) (Purvarunodaya), Mahavira Nirvana (Jain), Kaumudi Dipam, Kedar Gauri Vrata, Dipavali (S.India)
17	8					18- Govardhana Puja, Bali Puja, Annakuta
18	9				18- New Moon (12 ^h 32 ^m .1)	19- Kartika Sukladi
19	10					20- Dwat Puja(Bihar), Bhatri Dvitiya (Bengal), Yama Dvitiya, Visvakarma Day
20	11					23- Children's Day (Nehru's Birthday), Jnana Panchami(Jain)
21	12	SAURAMARGASIRSHA	KARTIKA			24- Pratihara Shashthi or Surya Shashthi(Chhat-Bihar)
22	13					25- Kartika Puja, Trivandrum Arat(Kerala)
23	14					26- Death Anniversary of Lala Lajpat Rai, Gopashtami
24	15			24- Saur Margasirshadi (20 ^h 15 ^m .6)	24- Sayana Vyatipata (27 ^h 54 ^m .6)	Or Gothastami
25	16					27- Jagaddhatri Puja, Akshaya Navami
26	17					29- Birthday celebration of Sri Prof Ram Panjwani (Sindhi), Utthana or Deva Probodhani Ekadasi(Smarta)
27	18					30- Tulsi Vivaha, Utthana or Deva Probodhani Ekadasi (Vaishnava & Vidhava), Trisprisha Mahadvadasi
28	19			28- Sun enters Anuradha nak. (27 ^h 03 ^m .9)		
29	20					
30	Nov. 21					

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Moon enters : Mina 1, 15h 04.0m; Mesha 3, 19h 22.2m; Vrisha 5, 21h 06.8m; Mithuna 7, 22h 06.8m; Karkata 9, 24h 00.9m; Simha 11, 27h 46.6m; Kanya 14, 9h 34.7m; Tula 16, 17h 15.3m; Vrishchika 18, 26h 48.4m; Dhanus 21, 14h 19.3m; Makara 23, 27h 11.5m; Kumbha 26, 15h 30.6m; Mina 28, 24h 50.1m; Mesha 30, 29h 55.1m Sun enters : Nir. Vrishchika 25, 19h 43.2m

INDIAN CALENDAR

SAKA ERA 1948

Month of AGRAHAYANA (30 days)

Dhanus : Sahasya

Hemanta, 2nd Month

(Nirayana) 8 Agrahayana, 5127 Kali Era to (Nirayana) 7 Pausha, 5127 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi		Nakshatra		Yoga	
									No.	Ending Moment	No.	Ending Moment	No.	Ending Moment
			h	m	h	m	h	m						
		2026 A.D.												
1	Sun	Nov. 22	6	18.5	11	46.1	17	13.5	S 13	26 37.5	1	28 15.8	17	23 29.6
2	Mon	23	6	19.2	11	46.3	17	13.4	14	23 42.8	2	26 02.2	18	19 58.6
3	Tue	24	6	19.9	11	46.6	17	13.3	S 15	20 23.5	3	23 25.2	19	16 05.8
4	Wed	25	6	20.6	11	46.9	17	13.2	K 1	16 50.7	4	20 36.4	20	11 59.9
5	Thu	26	6	21.2	11	47.2	17	13.1	2	13 15.7	5	17 47.4	21	7 49.9
													(22	27 44.6)
6	Fri	27	6	21.9	11	47.5	17	13.1	3	9 49.1	6	15 08.9	23	23 51.8
7	Sat	28	6	22.6	11	47.9	17	13.1	4	6 40.4	7	12 50.5	24	20 18.2
									(K 5	27 57.7)				
8	Sun	29	6	23.3	11	48.2	17	13.1	6	25 47.1	8	11 00.0	25	17 09.0
9	Mon	30	6	24.0	11	48.6	17	13.1	7	24 12.3	9	9 42.5	26	14 27.5
10	Tue	Dec. 1	6	24.7	11	48.9	17	13.2	8	23 14.4	10	9 00.9	27	12 15.2
11	Wed	2	6	25.3	11	49.3	17	13.3	9	22 52.5	11	8 55.4	1	10 31.8
12	Thu	2	6	26.0	11	49.7	17	13.4	K 10	23 04.0	12	9 23.8	2	9 15.4
13	Fri	4	6	26.7	11	50.1	17	13.5	11	23 45.2	13	10 23.0	3	8 23.6
14	Sat	5	6	27.4	11	50.5	17	13.7	12	24 52.4	14	11 49.0	4	7 53.2
15	Sun	6	6	28.0	11	50.9	17	13.9	13	26 22.5	15	13 38.4	5	7 41.7
16	Mon	7	6	28.7	11	51.3	17	14.1	14	28 13.0	16	15 48.3	6	7 46.8
17	Tue	8	6	29.3	11	51.8	17	14.3	K 30	30 21.8	17	18 16.5	7	8 06.7
18	Wed	9	6	30.0	11	52.2	17	14.6	S 1	— —	18	21 00.8	8	8 40.0
19	Thu	10	6	30.6	11	52.7	17	14.8	S 1	8 46.5	19	23 58.4	9	9 24.8
20	Fri	11	6	31.3	11	53.1	17	15.1	2	11 23.5	20	27 04.6	10	10 18.4
21	Sat	12	6	31.9	11	53.6	17	15.4	3	14 06.8	21	30 12.4	11	11 17.0
22	Sun	13	6	32.5	11	54.1	17	15.8	4	16 48.1	22	— —	12	12 14.9
23	Mon	14	6	33.1	11	54.5	17	16.1	S 5	19 16.6	22	9 12.5	13	13 04.7
24	Tue	15	6	33.7	11	55.0	17	16.5	6	21 19.9	23	11 53.2	14	13 38.0
25	Wed	16	6	34.3	11	55.5	17	16.9	7	22 46.3	24	14 02.8	15	13 46.2
26	Thu	17	6	34.8	11	56.0	17	17.3	8	23 26.4	25	15 30.9	16	13 21.8
27	Fri	18	6	35.4	11	56.5	17	17.7	9	23 14.6	26	16 10.3	17	12 19.0
28	Sat	19	6	35.9	11	57.0	17	18.2	S 10	22 09.7	27	15 58.1	18	10 35.0
29	Sun	20	6	36.5	11	57.5	17	18.7	11	20 14.9	1	14 55.8	19	8 10.1
													(20	29 07.4)
30	Mon	21	6	37.0	11	57.9	17	19.1	S 12	17 36.7	2	13 08.9	21	25 32.3

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

INDIAN CALENDAR

403

Dakshinayana
Dakshina Gola

SAKA ERA 1948

Month of AGRAHAYANA (30 days)

Ayanamsa on 1st : 24⁰ 14' 06^{//}

(Nirayana) 8 Agrahayana, 5127 Kali Era to (Nirayana) 7 Pausha, 5127 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun	Phenomena	Festivals
1	2026 A.D. Nov. 22	M A R G A S I R S H A	K A R T I K A	1- Sun enters trop. Sagittarius (12 ^h 53 ^m .3)	3- Full Moon (20 ^h 23 ^m .5)	2- Vaikuntha Chaturdasi, Vaikuntha Chaturdasi(Prodosa), Rasayatra(Smarta),Bharani Dipam 3- Guru Tegh Bahadur's Martyrdom Day, Kritika Dipam, Rasayatra(Vaishnava), Tripurotsava,Kartiki Purnima, Guru Nanak's Birtiyhday, Pushkar Fair, Huthri-3 Days (Coorg), Ratha Yatra (Jain)
2	23					
3	24					
4	25					
5	26					
6	27					
7	28					
8	29					
9	30					
10	Dec. 1					
11	2					
12	3					
13	4	S A U R A M A R G A S I R S H A	C H A N D R A	12- Sun enters Jyeshtha nak. (7 ^h 28 ^m .2)	7- Sayana Vaidhriti (7 ^h 17 ^m .3)	10- Kalashtami, Prathamashstami(Odisha), Vaikkatashtami (Kerala)
14	5					
15	6					
16	7					
17	8					
18	9					
19	10					
20	11					
21	12					
22	13					
23	14					
24	15					
25	16	S A U R A P A U S H A	C H A D R A M A R G A S I R S H A	24- Saura Paushadi (11 ^h 08 ^m .9) 25- Sun enters Mula nak.(10 ^h 25 ^m .0)	17- New Moon (30 ^h 21 ^m .8) 20- Sayana Vyatipata (6 ^h 55 ^m .8)	13- Utpanna Ekadasi 24- Champa Shashthi (Maharastra), Mulakarupini Shashthi(Bengal), Subrahmanya Shashthi (S.India), Guha Shashthi 25- Mitra Saptami
26	17					
27	18					
28	19					
29	20					
30	Dec. 21					
				30- Sun enters trop. Capicron (26 ^h 20 ^m .2)		29- Mauna Ekadasi(Jain), Mokshada Ekadasi,Gita Jayanti, Vaikuntha Ekadasi(S.India) 30- Akhanda Dvadasi

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.
Moon enters :- Vrisha 3,7h24.8m;Mithuna 5,7h11.2m;Karkata 7,7h22.7m;Simha 9,9h42.5m; Kanya 11,14h59.4m; Tula 13,23h02.9m;Vrischika 16,9h14.0m;Dhanus 18,21h00.8m;Makara 21,9h51.7m;Kumbha 23,22h36.0m;Mina 26,9h13.2m; Mesha 28,15h 58.1m; Vrisha 30,18h 36.1m
Sun enters: Nir. Dhanus 25, 10h 25.0m

INDIAN CALENDAR

SAKA ERA 1948

Makara : Tapas

Month of PAUSHA (30 days)

Winter (Sisira), 1st Month

(Nirayana) 8 Pausha, 5127 Kali Era to (Nirayana) 7 Magha, 5127 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi			Nakshatra			Yoga		
									No.	Ending Moment		No.	Ending Moment		No.	Ending Moment	
			h	m	h	m	h	m									
1	Tue	2026 A.D. Dec. 22	6	37.5	11	58.4	17	19.6	S 13	14	24.1	3	10	45.7	22	21	32.2
2	Wed	23	6	37.9	11	58.9	17	20.2	14	10	47.5	4	7	56.7	23	17	15.6
3	Thu	24	6	38.4	11	59.4	17	20.7	S 15	6	58.2	6	25	47.3	24	12	51.4
4	Fri	25	6	38.9	11	59.9	17	21.2	(K 1	27	07.5)	7	22	50.3	25	8	28.8
5	Sat	26	6	39.3	12	00.4	17	21.8	2	23	26.6	8	20	13.1	(26	28	16.5)
6	Sun	27	6	39.7	12	00.9	17	22.4	3	20	05.6	9	18	05.0	27	24	22.7
7	Mon	28	6	40.1	12	01.4	17	23.0	4	17	13.8	10	16	33.4	1	20	53.9
8	Tue	29	6	40.5	12	01.9	17	23.6	K 5	14	58.6	11	15	43.3	2	17	55.4
9	Wed	30	6	40.8	12	02.4	17	24.2	6	13	25.4	12	15	37.1	3	15	30.9
10	Thu	31	6	41.2	12	02.9	17	24.8	7	12	36.9	13	16	13.7	4	13	41.5
11	Fri	2027 A.D. Jan. 1	6	41.5	12	03.3	17	25.4	8	12	32.9	14	17	29.8	5	12	26.7
12	Sat	2	6	41.8	12	03.8	17	26.1	9	13	10.5	15	19	19.8	6	11	43.8
13	Sun	3	6	42.1	12	04.3	17	26.7	K 10	14	24.6	16	21	37.1	7	11	28.9
14	Mon	4	6	42.3	12	04.7	17	27.4	11	16	08.8	17	24	15.1	8	11	37.1
15	Tue	5	6	42.6	12	05.2	17	28.1	12	18	16.1	18	27	07.4	9	12	03.5
16	Wed	6	6	42.8	12	05.6	17	28.8	13	20	40.0	19	30	08.4	10	12	43.3
17	Thu	7	6	43.0	12	06.1	17	29.5	14	23	14.6	20	---	---	11	13	32.1
18	Fri	8	6	43.1	12	06.5	17	30.1	K 30	25	54.4	21	9	13.1	12	14	26.3
19	Sat	9	6	43.3	12	06.9	17	30.8	S 1	28	34.0	22	12	16.3	13	15	22.1
20	Sun	10	6	43.4	12	07.3	17	31.5	2	---	---	23	15	12.1	14	16	15.7
21	Mon	11	6	43.5	12	07.7	17	32.3	2	7	07.7	24	17	53.9	15	17	02.9
22	Tue	12	6	43.6	12	08.1	17	33.0	3	9	28.8	25	20	14.1	16	17	38.7
23	Wed	13	6	43.6	12	08.5	17	33.7	4	11	29.7	26	22	04.8	17	17	57.7
24	Thu	14	6	43.7	12	08.9	17	34.4	S 5	13	02.3	27	23	19.0	18	17	54.1
25	Fri	15	6	43.7	12	09.2	17	35.1	6	13	59.0	28	23	51.2	19	17	22.4
26	Sat	16	6	43.7	12	09.6	17	35.8	7	14	13.9	29	23	51.2	20	16	18.2
27	Sun	17	6	43.6	12	09.9	17	36.5	8	13	43.4	1	23	38.9	21	14	38.8
28	Mon	18	6	43.6	12	10.3	17	37.3	9	12	27.1	2	22	42.5	22	12	23.5
29	Tue	19	6	43.5	12	10.6	17	38.0	S 10	10	27.5	3	21	05.5	23	9	33.8
30	Wed	20	6	43.4	12	10.9	17	38.7	11	7	49.9	4	18	54.4	(24	30	13.5)
									(12	28	41.8)	5	16	17.4	25	26	27.7
									S 13	25	12.0	6	17	17.4	26	22	23.4

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

INDIAN CALENDAR

405

Uttarayana
Dakshina Gola

SAKA ERA 1948

Month of PAUSHA (30 days)

Ayanamsa on 1st : 24° 14' 12"

(Nirayana) 8 Pausha, 5127 Kali Era to (Nirayana) 7 Magha, 5127 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun	Phenomena	Festivals		
1	2026A.D. Dec.	22	A		2- Sayana Vaidhriti (24 ^h 24 ^m .3)	1- Uttarayana Day		
2						23	2- Shri Datta Jayanti (Maharashtra) (Mrigasirasnak.Upto28h 53.3m), Dattatreya Jayanti,Margi Purnima	
3						24	3- Arudra Darsanam (Purvarunodaya) (S.India)	
4						25	4- Birthday of Sadhu T.L.Vaswani (Sindhi)	
5						26	5- Jor Mela-3days(Punjab)	
6						27		
7						28		
8						29		
9						30		
10						31		8- Sun enters Purvashadha nak. (12 ^h 44 ^m .3)	9- Ashtaka(Pupashtaka)
11	2027A.D. Jan.	1	P		15- Sayana Vyatipata (9 ^h 22 ^m .3)	12- Birthday of Parsvanath(Jain)		
12						2	13- Saphala Ekadasi	
13						3		
14						4		
15						5	17- New Moon (25 ^h 54 ^m .4)	17- Vakula Amavasya(Odisha)
16						6		
17						7		
18						8		
19						9		
20						10		21- Sun enters Uttarashadha nak.(14 ^h 39 ^m .8)	23- Lohri(Punjab, Jammu & Kashmir)
21	11	S	A	P	23- Saura Maghadi (21 ^h 54 ^m .1)	24- Birthday of Sant Parmanand (Sindhi), Makara Samkranti (Bengal), Magha Bihu(Assam), Makara Samkranti(N. India), Bhogi(S.India)		
22	12					25- Pongal(S.India), Tai Pongal(Kerala), Tila Samkranti, Makara Snana, Guru Gobind Singh’s Birthday		
23	13					26- Mattu Pongal or Kanumu(S.India)		
24	14					28- Sayana Vaidhriti (17 ^h 04 ^m .3)	28- Samba D asami (Odisha), Putrada Ekadasi (Smarta)	
25	15					29- Trisprisha Mahadvadasi, Putrada Ekadasi (Vaishnava& Vidhava)		
26	16							
27	17							
28	18							
29	19							
30	Jan. 20						30- Sun Enters Trop.Aquarius (12 ^h 59 ^m .8)	

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.
Moon enters :- Mithuna 2, 18h 26.0m; Karkata 4, 17h 33.2m; Simha 6, 18h 05.0m; Kanya 8, 21h 37.7m; Tula 10, 28h 47.1m; Vrishchika 13, 15h 00.6m; Dhanus 15, 27h 07.4m; Makara 18, 15h 59.3m; Kumbha 20, 28h 35.2m; Mina 23, 15h 40.3m; Mesha 25, 23h 51.2m; Vrisha 27, 28h 21.9m; Mithuna 30, 5h 38.6m
Sun enters : Nir. Makara 24, 21h 10.4m

INDIAN CALENDAR

SAKA ERA 1948

Kumbha : Tapasya

Month of MAGHA (30 days)

Winter (Sisira), 2nd Month

(Nirayana) 8 Magha, 5127 Kali Era to (Nirayana) 7 Phalguna, 5127 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi		Nakshatra			Yoga	
									No.	Ending Moment	No.	Ending Moment	No.	Ending Moment	
			h	m	h	m	h	m							
		2027 A.D.													
1	Thu	Jan. 21	6	43.2	12	11.2	17	39.4	S 14	21 30.5	6	13 24.2	27	18 08.4	
2	Fri	22	6	43.1	12	11.4	17	40.1	S 15	17 47.4	7	10 25.4	1	13 50.6	
3	Sat	23	6	42.9	12	11.7	17	40.8	K 1	14 13.2	8	7 31.6	2	9 38.5	
											(9	28 53.6)	(3	29 40.2)	
4	Sun	24	6	42.7	12	11.9	17	41.5	2	10 57.8	10	26 41.3	4	26 03.3	
5	Mon	25	6	42.5	12	12.2	17	42.2	3	8 10.9	11	25 03.5	5	22 54.3	
									(4	30 00.6)					
6	Tue	26	6	42.2	12	12.4	17	42.9	K 5	28 33.8	12	24 07.0	6	20 18.5	
7	Wed	27	6	41.9	12	12.6	17	43.6	6	27 54.3	13	23 56.4	7	18 19.3	
8	Thu	28	6	41.6	12	12.8	17	44.3	7	28 03.3	14	24 33.0	8	16 58.0	
9	Fri	29	6	41.3	12	13.0	17	45.0	8	28 58.6	15	25 54.6	9	16 13.5	
10	Sat	30	6	41.0	12	13.2	17	45.7	9	30 34.2	16	27 55.7	10	16 02.2	
11	Sun	31	6	40.6	12	13.3	17	46.3	K 10	— —	17	30 28.1	11	16 18.9	
12	Mon	Feb. 1	6	40.3	12	13.5	17	47.0	K 10	8 41.7	18	— —	12	16 56.4	
13	Tue	2	6	39.8	12	13.6	17	47.7	11	11 10.7	18	9 21.7	13	17 47.5	
14	Wed	3	6	39.4	12	13.7	17	48.3	12	13 50.7	19	12 26.4	14	18 44.9	
15	Thu	4	6	39.0	12	13.8	17	49.0	13	16 31.8	20	15 32.6	15	19 41.9	
16	Fri	5	6	38.5	12	13.9	17	49.6	14	19 05.7	21	18 32.4	16	20 33.1	
17	Sat	6	6	38.0	12	14.0	17	50.3	K 30	21 26.1	22	21 19.5	17	21 14.0	
18	Sun	7	6	37.5	12	14.1	17	50.9	S 1	23 27.8	23	23 49.0	18	21 41.2	
19	Mon	8	6	37.0	12	14.1	17	51.5	2	25 06.9	24	25 57.1	19	21 51.7	
20	Tue	9	6	36.5	12	14.2	17	52.1	3	26 20.3	25	27 40.5	20	21 43.2	
21	Wed	10	6	35.9	12	14.2	17	52.7	4	27 05.0	26	28 56.3	21	21 13.5	
22	Thu	11	6	35.3	12	14.2	17	53.3	S 5	27 18.8	27	29 42.2	22	20 20.5	
23	Fri	12	6	34.7	12	14.2	17	53.9	6	26 59.8	1	29 56.3	23	19 02.7	
24	Sat	13	6	34.1	12	14.2	17	54.5	7	26 07.2	2	29 37.7	24	17 18.9	
25	Sun	14	6	33.5	12	14.2	17	55.1	8	24 41.5	3	28 46.9	25	15 08.8	
26	Mon	15	6	32.8	12	14.1	17	55.7	9	22 44.6	4	27 25.8	26	12 33.2	
27	Tue	16	6	32.1	12	14.1	17	56.2	S 10	20 19.8	5	25 38.2	27	9 34.0	
													(1	30 14.2)	
28	Wed	17	6	31.5	12	14.0	17	56.8	11	17 32.3	6	23 29.3	2	26 38.0	
29	Thu	18	6	30.8	12	13.9	17	57.3	12	14 28.1	7	21 05.9	3	22 50.9	
30	Fri	19	6	30.0	12	13.8	17	57.9	S 13	11 14.8	8	18 35.9	4	18 58.9	

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

INDIAN CALENDAR

407

Uttarayana
Dakshina Gola

SAKA ERA 1948

Month of MAGHA (30 days)

Ayanamsa on 1st : 24° 14' 18"

(Nirayana) 8 Magha, 5127 Kali Era to (Nirayana) 7 Phalguna, 5127 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun Date	Phenomena	Festivals
1	2027A.D. Jan. 21	A	S H A	4- Sun enters Srawana nak. (17 ^h 00 ^m .5)	2-Full Moon (17 ^h 47 ^m .4)	1- Martyrdom day of Hemu Kalani(Sindhi)
2	22					2- Paushi Purnima, Pushyabhisheka Yatra (Pushyanak.Starts at 10h 25.4m) Floating Festival/Tai Poosam
3	23					3- Netaji's Birthday
4	24					5- Ganesha Sankastha Chaturthi
5	25	G	P A U S H A	17- Sun enters Dhanistha nak. (20 ^h 08 ^m .4)	4- Jupiter enters Nir. Karkata (25 ^h 32 ^m .3)	6- Republic Day
6	26	A	C H A N D R A			8- Birthday of Swami Vivekananda (According to tithi), Birthday of Lala Lajpat Rai
7	27	M				9- Astaka(Mamsastaka)
8	28	A				10- Martyr's day (Mahatma Gandhi Commemoration Day)
9	29	R		13- Sattila Ekadasi		
10	30		15- Meru Trayodasi(Jain), Ratanti Kalika Puja			
11	31		17- Mauni Amavasya, Mahodayayoga, Tai Amavasya, Makara Vavu (Kerala)			
12	Feb. 1		18- Magha Sukladi			
13	2	A	M A G H A	17- Annular solar eclipse (Not visible in India)	21- Tila Chaturthi,Kunda Chaturthi, Varada Chaturthi, Ganesha Puja(Bengal)	
14	3				22- Sri Panchami, Saraswati Puja, Vasanta Panchami	
15	4				24- Ratha Saptami(Purvarunodaya), Vidhana Saptami, Arogya Saptami	
16	5				25- Bhismashtami	
17	6	R	C H A N D R A	23- Saura Phalgunadi (10 ^h 40 ^m .7)	23- Sayana Vaidhriti (27 ^h 10 ^m .6)	28- Jaya Ekadasi, Bhaimi Ekadasi (Bengal)
18	7	29- Bhisma Dvadasi				
19	8	30- Desert Festival-3days (Jaisalmer), Sivaji Jayanti				
20	9					
21	10	S	P H A L G U N A	29- Sun enters Trop. Pisces (27 ^h 03 ^m .4)	29- Sun enters Satabhisaj nak. (24 ^h 37 ^m .8)	
22	11					
23	12					
24	13					
25	14	A	C H A N D R A	30- Sun enters Satabhisaj nak. (24 ^h 37 ^m .8)	30- Sun enters Satabhisaj nak. (24 ^h 37 ^m .8)	
26	15					
27	16					
28	17					
29	18	S				
30	Feb. 19	P				

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Moon enters :- Karkata 1,29h10.0m;Simha 3,28h53.6m;Kanya 6,6h45.2m;Tula 8,12h8.8m;Vrischika 10,21h22.2m;Dhanu 13,9h21.7m;Makara 15,22h18.4m;Kumbha 18,10h36.7m;Mina 20,21h17.1m;Mesha 22,29h42.2m;Vrisha 25,11h28.0m;Mithuna 27,14h 35.0m;Karkata 29,15h 42.7m
Sun enters : Nir. Kumbha 24, 10h 09.1m

INDIAN CALENDAR

SAKA ERA 1948

Mina : Madhu

Month of PHALGUNA (30 days)

Spring (Vasanta), 1st Month

(Nirayana) 8 Phalguna, 5127 Kali Era to (Nirayana) 7 Chaitra, 5127 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi		Nakshatra		Yoga	
									No.	Ending Moment	No.	Ending Moment	No.	Ending Moment
			h	m	h	m	h	m						
1	Sat	2027 A.D. Feb. 20	6	29.3	12	13.7	17	58.4	S 14	8 00.4	9	16 08.0	5	15 08.7
2	Sun	21	6	28.6	12	13.6	17	58.9	(S 15	28 53.6)	10	13 51.3	6	11 27.5
3	Mon	22	6	27.8	12	13.5	17	59.4	K 1	26 03.7	11	11 55.1	7	8 02.3
4	Tue	23	6	27.0	12	13.4	17	59.9	2	23 39.6	12	10 28.5	(8	29 00.0)
5	Wed	24	6	26.3	12	13.2	18	00.4	3	21 49.5	13	9 39.2	9	26 26.7
6	Thu	25	6	25.5	12	13.1	18	00.9	4	20 40.7	14	9 33.2	10	24 27.2
7	Fri	26	6	24.6	12	12.9	18	01.4	K 5	20 18.1	15	10 13.7	11	23 04.5
8	Sat	27	6	23.8	12	12.7	18	01.9	6	20 43.6	16	11 40.1	12	22 19.1
9	Sun	28	6	23.0	12	12.6	18	02.4	7	21 55.2	17	13 47.6	13	22 08.8
10	Mon	Mar. 1	6	22.1	12	12.4	18	02.8	8	23 46.6	18	16 27.3	14	22 28.7
11	Tue	2	6	21.3	12	12.2	18	03.3	9	26 07.5	19	19 27.4	15	23 11.1
12	Wed	3	6	20.4	12	12.0	18	03.8	K 10	28 44.8	20	22 34.5	16	24 07.0
13	Thu	4	6	19.5	12	11.8	18	04.2	11	— —	21	25 35.9	17	25 06.6
14	Fri	5	6	18.7	12	11.6	18	04.7	12	7 24.7	22	28 20.9	18	26 00.9
15	Sat	6	6	17.8	12	11.3	18	05.1	13	9 54.4	23	— —	19	26 42.3
16	Sun	7	6	16.9	12	11.1	18	05.5	14	12 04.0	24	6 42.1	20	27 05.2
17	Mon	8	6	16.0	12	10.9	18	06.0	K 14	13 46.8	25	8 35.1	21	27 06.2
18	Tue	9	6	15.0	12	10.6	18	06.4	30	14 59.4	26	9 58.4	22	26 43.9
19	Wed	10	6	14.1	12	10.4	18	06.8	S 1	15 41.2	27	10 52.8	23	25 58.3
20	Thu	11	6	13.2	12	10.1	18	07.2	2	15 53.3	28	11 20.1	24	24 50.4
21	Fri	12	6	12.3	12	09.8	18	07.6	3	15 37.9	29	11 22.7	25	23 22.0
22	Sat	13	6	11.3	12	09.6	18	08.0	4	14 57.6	1	11 22.7	26	21 34.7
23	Sun	14	6	10.4	12	09.3	18	08.4	S 5	13 55.0	2	11 03.2	27	19 30.5
24	Mon	15	6	09.4	12	09.0	18	08.8	6	12 32.4	3	10 23.8	1	17 10.8
25	Tue	16	6	08.5	12	08.8	18	09.2	7	10 51.7	4	9 26.5	2	14 37.0
26	Wed	17	6	07.5	12	08.5	18	09.6	8	8 54.9	5	8 13.2	3	11 50.7
27	Thu	18	6	06.5	12	08.2	18	10.0	9	6 44.1	6	6 46.0	4	8 53.4
28	Fri	19	6	05.6	12	07.9	18	10.4	(S 10	28 21.9)	(7	29 07.5)	(5	29 47.2)
29	Sat	20	6	04.6	12	07.6	18	10.8	11	25 51.6	8	27 21.2	6	26 34.7
30	Sun	21	6	03.6	12	07.3	18	11.2	12	23 17.8	9	25 31.7	7	23 19.5
									13	20 45.7	10	23 44.8	8	20 05.8
									S 14	18 22.0	11	22 07.1	9	16 58.9

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

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INDIAN CALENDAR

409

Uttarayana
Dakshina Gola

SAKA ERA 1948
Month of PHALGUNA (30 days)

Ayanamsa on 1st : 24^o 14' 23^o

(Nirayana) 8 Phalguna, 5127 Kali Era to (Nirayana) 7 Chaitra, 5127 Kali Era

Date	Gregorian Date	Solar Month	Lunar Month	Transit of the Sun Date	Phenomena	Festivals
1	2027A.D. Feb. 20	N A G U G L	A H A M A	14- Sun enters Purva Bhadrapada nak. (6 ^h 57 ^m .7)	1- Full Moon (28 ^h 53 ^m .6)	1- Guru Rabi Das's Birthday, Maghi Purnima
2	21				5- Sayana Vyatipata (21 ^h 30 ^m .8)	2- Masi Magham
3	22					
4	23					
5	24					
6	25					8- Vaikkatashtami (Kerala)
7	26					9- Astaka(Sakashtaka), Janaki Janma
8	27					
9	28					
10	Mar. 1	P H A N D R A	C H A N D R A	23- Saura Chaitradi (7 ^h 10 ^m .3)		11- Birthday of Swami Dayananda Saraswati (Founder of Arya Samaj)
11	2					13- Vijaya Ekadasi
12	3					
13	4					
14	5					15- Maha Shivaratri (Kashmir), Maha Shivaratri, Shivaratri (S.India)
15	6					
16	7					
17	8				17- New Moon (14 ^h 59 ^m .4)	
18	9					
19	10	S A U R A C H A I T R A	P H A L G U N A	27- Sun enters Uttara Bhadrapada nak. (15 ^h 20 ^m .0)		19- Birthday of Sri Ramakrishna Paramahansa Deva
20	11				20- Sayana Vaidhriti (15 ^h 57 ^m .9)	
21	12					
22	13					
23	14					
24	15					24- Holastaka
25	16					
26	17					
27	18					27- Amalaki Ekadasi
28	19	S A U R A C H A I T R A	P H A L G U N A	29- Sun enters Trop. Aries (25 ^h 54 ^m .7)		
29	20					
30	Mar. 21					30- Indian Year Ending Day, Mahavisuva Day

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.
Moon enters :- Simha 1,16h08.0m;Kanya 3,17h30.4m;Tula 5,21h30.6m;Vrischika 7,29h14.4m;Dhanus 10,16h27.3m;Makara 12,29h20.9m;Kumbha 15,17h34.8m;Mina 17,27h40.4m;Mesha 20,11h20.1m;Vrisha 22,16h55.1m;Mithuna 24,20h51.7m;Karkata 26,23h33.0m;Simha 28,25h31.7m;Kanya 30,27h45.0m
Sun enters : Nir. Mina 24, 7h 00.1m

PRINCIPAL FESTIVALS AND ANNIVERSARIES FOR HOLIDAYS (2026-27 A.D.)

Festivals	Criterion	Date
National / Nirayana / Gregorian 1947 S.E/ 5126 K.E./ 2026 A.D.		
62. Bhogi (S.India)	Day before Pongal	Pausha 23/Pausha 30/Jan13
63. Makara Samkranti (Bengal)	The Day of Saura Maghadi	Pausha 24/ Magha1/Jan14
Magha Bihu (Assam)	The Day of Saura Maghadi	Pausha 24/ Magha1/Jan14
Makara Snana, TilaSamkranti,	The Day of Saura Maghadi	Pausha 24/ Magha1/Jan14
Pongal (S.India)	The Day of Saura Maghadi	Pausha 24/ Magha1/Jan14
64. Tai Pongal (Kerala)	The Day of Saura Maghadi (18 Ghatika rule)	Pausha 25/ Magha 2/Jan 15
Mattu Pongal or Kanumu	The Day after Pongal	Pausha 25/Magha 2/Jan 15
65. Netaji's Birthday	Fixed	Magha 3/Magha10/Jan 23
Sri Panchami, Vasanta Panchami	Magha S5	Magha 3/Magha10/Jan 23
66. Republic Day	Fixed	Magha 6/Magha13/Jan 26
67. Guru Ravi Das's Birthday	Magha S15	Magha 12/Magha 19/Feb 1
68. Birthday of Swami Dayananda Saraswati (Founder of AryaSamaj)	Phalguna K10 (Purnimanta)	Magha 23/Magha 30/Feb 12
69. Maha Shivaratri	Magha K14	Magha 26/ Phalguna 3/Feb 15
70. Shivaji Jayanti	Fixed	Magha 30/Phalguna 7/Feb 19
71. Holikadahana	Phalguna S15(Night)	Phalguna 12/ Phalguna 19/Mar3
Dolayatra	Phalguna S15	Phalguna 12/ Phalguna 19/Mar3
72. Holi,	Day after Holikadahana	Phalguna 13/ Phalguna 20/Mar 4
Hola, Vasantatsava	Phalguna K1	Phalguna 13/ Phalguna 20/Mar 4
73. Chaitra Sukladi(GudiPadava,Ugadi),	Chaitra S1	Phalguna 28/Chaitra 5/Mar 19
Cheti Chand (Sindhi New Year's	Chaitra S1	Phalguna 28/Chaitra 5/Mar 19
Day), Telugu New Year's Day,	Chaitra S1	Phalguna 28/Chaitra 5/Mar 19
Vasanta Navaratrarambha	Chaitra S1	Phalguna 28/Chaitra 5/Mar 19
74. Mahavisuva Day	Day of Sun's entry into Trop. Aries (Midnight rule)	Phalguna 29/Chaitra 6/Mar 20
75. Sarhul (Bihar)	Chaitra S3	Phalguna 30/Chaitra 7/Mar 21
1948 S.E/ 5126 K.E./ 2026 A.D.		
1. Indian New Year's Day	Fixed	Chaitra 1/Chaitra 8/ March 22
2. Vasanti Pujarambha	Chaitra S7	Chaitra 4/Chaitra 11/ March 25
3. Oli Begins (Jain)	Eight days before Oli ends	Chaitra 4/Chaitra 11/ March 25
4. Rama Navami	Chaitra S9	Chaitra 5/Chaitra 12/ March 26
5. Mahavira Jayanti	Chaitra S13	Chaitra 10/Chaitra 17/ March 31
6. Oli Ends(Jain)	Chaitra S15(Udayavyapini)	Chaitra 12/Chaitra 19/ Apr 2
1948 S.E/ 5127 K.E./ 2026 A.D.		
7. Chaitra Samkranti, Chadak Puja (Bengal), Cheiraoba(Manipur), Meshadi (T.N), Tamil New Year's Day,	SauraVaisakhadi (Midnight Rule) SauraVaisakhadi (Midnight Rule) SauraVaisakhadi (Sunset Rule)	Chaitra 24/Vaisakha 1/ Apr 14 Chaitra 24/ Vaisakha 1/ Apr 14 Chaitra 24/ Vaisakha 1/ Apr 14
Dr.B.R.Ambedkar Jayanti,Beginning of 5127 K.E.	Fixed	Chaitra 24/ Vaisakha 1/ Apr 14
Vaisakhi(Punjab,Hariyana,H.P.Delhi & Odisha), Visu(Kerala)	SauraVaisakhadi (Sunrise Rule)	Chaitra 24/ Vaisakha 1/ Apr 14
8. Vaisakhadi (Bengal),Bahag Bihu (Assam), Shilhenba (Manipur),	Day following SauraVaisakhadi (Midnight Rule)	Chaitra 25/Vaisakha 2/ Apr 15 Chaitra 25/Vaisakha 2/ Apr 15 Chaitra 25 / Vaisakha 2 / Apr 15
9. Tithi of Deva Damodara (Assam)	S1 of Saura Vaisakha	Chaitra 28 / Vaisakha 5 / Apr 18
10. Akshaya Tritiya	Vaisakha S3	Chaitra 30 / Vaisakha 7 / Apr 20
11. Babu Kuer Singh Day(Bihar)	Fixed	Vaisakha 3/ Vaisakha 10/ Apr 23
12. Buddha Purnima	Vaisakha S15	Vaisakha 11/ Vaisakha 18/ May 1
13. May Day	Fixed	Vaisakha 11/ Vaisakha 18/ May 1
14. Birthday of RabindranathTagore	25 Vaisakha of Beng. Calendar	Vaisakha 19/ Vaisakha 26/ May 9
15. Rajas Samkranti (Odisha)	Saura Ashadhadi (Sunrise rule)	Jyaishtha 25/ Ashadha 1/ June 15
16. Pratap Jayanti (Rajasthan)	Jyaishtha S3	Jyaishtha 27/ Ashadha 3/ June 17
17. Guru Arjan Dev's Martyrdom Day	Jyaishtha S4	Jyaishtha 28/ Ashadha 4/ June 18
18. Rathayatra	Ashadha S2	Ashadha 25/ Sravana 1/July 16
19. Kharchi Puja (Tripura)	Ashadha S8	Ashadha 30/ Sravana 6/July 21

PRINCIPAL FESTIVALS AND ANNIVERSARIES FOR HOLIDAYS

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Festivals	Criterion	Date National / Nirayana / Gregorian 1948 S.E./ 5127 K.E./ 2026 A.D
20. Utlaratha (Odisha),Bahudha Yatra Punaryatra	9th day from Rathayatra Ashadha S10	Sravana 2/ Sravana 9/July 24 Sravana 2/ Sravana 9/July 24
21. Tilak Commemoration Day	Fixed	Sravana 10/ Sravana 17/Aug 1
22. Ker Puja (Tripura)	First Tuesday or Saturday after 14 days from Kharchi Puja not falling on K10	Sarvana 13/ Sravana 20/Aug 4
23. Karkataka Vavu (Kerala)	K30 of Saura Sravana	Sarvana 21/ Sravana 28/Aug 12
24. Independence Day	Fixed	Sarvana 24/ Sravana 31/Aug 15
25. Jhulana Yatrarambha	Sravana S11	Bhadra 1/ Bhadra 8/Aug 23
26. First Onam Day	Day before Thiru Onam Day	Bhadra 3/ Bhadra 10/Aug 25
27. Rik Upakarma	Sravana Nak. of Chandra Sravana	Bhadra 4/ Bhadra 11/Aug 26
Onam or Thiru Onam Day	Sravana Nak. of Saura Bhadra	Bhadra 4/ Bhadra 11/Aug 26
28. Naroli Purnima	Sravana S15 (Aparahna&Sayahna)	Bhadra 5/ Bhadra 12/Aug 27
Third Onam Day	Day after Thiru Onam Day	Bhadra 5/ Bhadra 12/Aug 27
29. Raksha Bandhan	Sravana S15 (Pradosa)	Bhadra 6/ Bhadra 13/Aug 28
Avani Avittam (S.India)	Sravana S15	Bhadra 6/ Bhadra 13/Aug 28
Solono (Rakhi Bandhan)	Sravana S15 (Udayavyapini)	Bhadra 6/ Bhadra 13/Aug 28
Jhulana Yatra Samapanna	Sravana S15 (Purvahna)	Bhadra 6/ Bhadra 13/Aug 28
Fourth Onam Day	Two Days after Thiru Onam Day	Bhadra 6/ Bhadra 13/Aug 28
30. Tithi of Sri Madhava Deva (Assam)	K5 of Saura Bhadra	Bhadra 10/ Bhadra 17/Sep 1
31. Janmashtami (Smarta)	Sravana K8	Bhadra 13/ Bhadra 20/Sep 4
Janmashtami (Vaishnava)	Sravana K8	Bhadra 13/ Bhadra 20/Sep 4
Sri Jayanti (Ramanuja)	Rohini Nakshatra of Saura Bhadra	Bhadra 13/ Bhadra 20/Sep 4
32. Gokulashtami (Nandotsava)	Day after Janmashtami	Bhadra 14/ Bhadra 21/Sep 5
33. Paryusana Parvarambha (Chaturthi Paksha-Jain)	7 Days before Samvatsari (Chaturthi Paksha)	Bhadra 17/ Bhadra 24/Sep 8
ParyusanaParvarambha (Panchami Paksha-Jain)	7 Days before Samvatsari (Panchami Paksha)	Bhadra 17/ Bhadra 24/Sep 8
34. Jain Festival	Sravana K30 (Udayavyapini)	Bhadra 20/ Bhadra 27/Sep 11
35. Tithi of Sri Sankara Deva (Assam)	S2 of Saura Bhadra	Bhadra 21/ Bhadra 28/Sep 12
36. Vinayak Chaturthi (Tamilnadu)	S4 of Saura Bhadra	Bhadra 23/ Bhadra 30/Sep 14
Ganesha Chaturthi	Bhadra S4	Bhadra 23/ Bhadra 30/Sep 14
37. Samvatsari (Chaturthi Paksha-Jain)	Bhadra S4 (Udayavyapini)	Bhadra 24/ Bhadra 31/Sep 15
Samvatsari (Panchami Paksha-Jain)	Bhadra S5 (Current at Sunset)	Bhadra 24/ Bhadra 31/Sep 15
38. Radhashtami	Bhadra S8	Bhadra 28/ Asvina 4/Sep 19
39. Samadhi Day of Narayana Guru (Kerala)	Fixed	Bhadra 30/ Asvina 6/Sep 21
40. Ananta Chaturdasi	Bhadra S14	Asvina 3/Asvina 10/Sep 25
41. Mahatma Gandhi's Birthday	Fixed	Asvina 10/Asvina 17/Oct 2
42. Mahalaya Amavasya, Sarvapitri Amavasya,Tarpana Loiba(Manipur)	Bhadra K30 Bhadra K30	Asvina 18/Asvina 25/Oct 10 Asvina 18/Asvina 25/Oct 10
43. Saradiya Navaratrarambha	Asvina S1	Asvina 19/Asvina 26/Oct 11
44. Kaveri Samkramana Snana	Saura Kartikadi (Midnight Rule)	Asvina 25/Kartika 2/Oct 17
Durga Puja Begins (Saptami)	Asvina S7	Asvina 25/Kartika 2/Oct 17
45. Oli Begins (Jain)	Eight Days before Oli Ends	Asvina 26/Kartika 3/Oct 18
Durga Puja Begins (Saptami) (Bengal)	Asvina S7	Asvina 26/Kartika 3/Oct 18
46. Durga Puja (Mahashtami)	Asvina S8	Asvina 27/Kartika 4/Oct 19
Ayudha Puja	Day before Dussehara	Asvina 27/Kartika 4/Oct 19
47. Durga Puja (Mahanavami)(Bengal)	Asvina S9	Asvina 28/Kartika 5/Oct 20
Vijaya Dasami (Dussehara or Dasahara)	Asvina S10 (Aparahna)	Asvina 28/Kartika 5/Oct 20
48. Vijaya Dasami (Bengal & Kerala)	Asvina S10 (Purvahna)	Asvina 29/Kartika 6/Oct 21
49. Kumara Purnima (Odisha)	Asvina S15(Pradosa)	Kartika 3/Kartika 10/Oct 25
Kojagori Lakshmi Puja (Bengal)	Asvina S15(Pradosa)	Kartika 3/Kartika 10/Oct 25

PRINCIPAL FESTIVALS AND ANNIVERSARIES FOR HOLIDAYS

Festivals	Criterion	Date
National / Nirayana / Gregorian 1948 S.E./ 5127 K.E./ 2026 A.D.		
50. Maharshi Valmiki's Birthday, Oli Ends (Jain)	Asvina S15(Udayavyapini) Asvina S15 (Udayavyapini)	Kartika 4/Kartika 11/Oct 26 Kartika 4/Kartika 11/Oct 26
51. NarakaChaturdasi(Purvarunodaya), Hanumajjanma, Dipavali (S.India), Kali Puja, Dipavali	Asvina K14 (Purvarunodaya) Asvina K14 (Udayavyapini) Asvina K14 Asvina K30	Kartika 17/ Kartika 24/ Nov 8 Kartika 17/ Kartika 24/ Nov 8 Kartika 17/ Kartika 24/ Nov 8 Kartika 17/ Kartika 24/ Nov 8
52. Govardhana Puja Bali Puja	Kartika S1 Kartika S1	Kartika 18/ Kartika 25/ Nov 9 Kartika 18/ Kartika 25/ Nov 9
53. Kartika Sukladi	Kartika S1	Kartika 19/ Kartika 26/ Nov 10
54. Bhratri Dvitiya(Bengal), Tikka Ceremony, Bhai Duj Dwat Puja (Bihar)	Kartika S2 (Aparahna) Kartika S2 (Purvahna)	Kartika 20/ Kartika 27/ Nov 11 Kartika 20/ Kartika 27/ Nov 11
55. Pratihara Shashthi or Surya Shashthi (Chhat - Bihar)	Kartika S6	Kartika 24/Agrahayana 1/ Nov 15
56. Jagaddhatri Puja	Kartika S9	Kartika 27/Agrahayana 4/ Nov 18
57. Rasayatra(Smarta)	Kartika S15	Agrahayana 2/Agrahayana9/Nov23
58. Rathayatra (Jain)	Kartika S15 (Udayavyapini)	Agrahayana 3/Agrahayana10/Nov24
Kartiki Purnima, Guru Nanak's Birthday, Puskar Fair	Kartika S15 Kartika S15(Udayavyapini) Kartika S15	Agrahayana 3/Agrahayana10/Nov24 Agrahayana 3/Agrahayana10/Nov24 Agrahayana 3/Agrahayana10/Nov24
Guru Tegh Bahadur's Martyrdom Day	Fixed	Agrahayana 3/Agrahayana10/Nov24
Huthri-3 Days (Coorg)	S15 to K2 of Saura Margasirsha	Agrahayana 3/Agrahayana10/Nov24
59. Prathamashstami (Odisha)	Kartika K8	Agrahayana10/Agrahayana17/Dec 1
60. Vaikuntha Ekadasi (S.India)	S11 of Saura Pausha	Agrahayana29/Pausha 6/Dec 20
61. Jor Mela-3 Days (Punjab)	Fixed	Pausha 5/Pausha 12/Dec. 26
1948 S.E/ 5127 K.E./ 2027 A.D.		
62. Bhogi (S.India)	Day before Pongal	Pausha 24/ Magha1/Jan14
Makara Samkranti (Bengal)	The Day of Saura Maghadi	Pausha 24/ Magha1/Jan14
Magha Bihu (Assam)	The Day of Saura Maghadi	Pausha 24/ Magha1/Jan14
63. Makara Snana, Tila Samkranti, Pongal (S.India)	The Day of Saura Maghadi	Pausha 25/ Magha2/Jan15
Guru Gobind Singh's Birthday	The Day of Saura Maghadi	Pausha 25/ Magha2/Jan15
Tai Pongal (Kerala)	Pausha S7 The Day of Saura Maghadi (18 Ghatika rule)	Pausha 25/ Magha2/Jan15 Pausha 25/ Magha2/Jan15
64. Mattu Pongal or Kanumu	The Day after Pongal	Pausha 26/Magha 3/Jan 16
65. Netaji's Birthday	Fixed	Magha 3/Magha10/Jan 23
66. Republic Day	Fixed	Magha 6/Magha13/Jan 26
67. Sri Panchami, Vasanta Panchami	Magha S5	Magha 22/Magha 29/Feb 11
68. Shivaji Jayanti	Fixed	Magha 30/Phalgun 7/Feb 19
69. Guru Ravi Das's Birthday	Magha S15	Phalgun 1/Phalgun 8/Feb 20
70. Birthday of Swami Dayananda Saraswati (Founder of Arya Samaj)	Phalgun K10 (Purnimanta)	Phalgun 11/ Phalgun 18/Mar2
71. Maha Shivaratri	Magha K14	Phalgun 15/ Phalgun 22/Mar6
72. Mahavisuva Day	Day of Sun. s entry into Trop. Aries (Midnight rule)	Phalgun 30/Chaitra 7/Mar 21
Special Festivals for Jammu and Kashmir (2026-2027 A.D.)		
Festivals	Criterion	Date
National / Nirayana / Gregorian Saka 1947/ Kali 5126/ 2026A.D.		
7. Lohri	Day before Saura Maghadi (Sunrise Rule)	Pausha 23/ Pausha 30/ Jan13
Saka 1948/ Kali 5126/ 2026 A.D.		
1. Mela Bahu Fort	Chaitra S 8	Chaitra 5/ Chaitra 12/ Mar 26
Saka 1948/ Kali 5127/ 2026 A.D.		
2. Mela Kshir Bhawani	Jyaishtha S 8	Ashadha 1 / Ashadha 8 / June 22
3. Guru Hargobind's Birthday	Jyaishtha K 1	Ashadha 10/ Ashadha 17 / July 1
4. Martyr's Day	Fixed	Ashadha 22 / Ashadha 29 / July 13
5. Kailas Yatra-2days	Sravana K 13 & K 14	Bhadra 18 / Bhadra 25 / Sep 9
6. Mela Pat -3days	Bhadra S 5 to S 7	Bhadra 25 / Asvina 1/ Sep 16
Saka 1948/ Kali 5127/ 2027 A.D.		
7. Lohri	Day before Saura Maghadi (Sunrise Rule)	Pausha 23/ Pausha 30/ Jan 13
Saka 1949/ Kali 5128/ 2027A D.		
8. Mela Bahu Fort	Chaitra S 8	Chaitra 24/ Vaisakha 1/ April 14

Festivals	Criterion	Date
National/Nirayana/Gregorian Saka 1947/Kali 5126/2026 A.D.		
1. Hazrat Ali's Birthday	13 Rajab	Pausha 13/ Pausha 20/Jan 3
2. Sab-e-Miraj*	27 Rajab	Pausha 27/ Magha 4/Jan 17
3. Sab-e-Barat*	15 Shaban	Magha 15/ Magha 22/Feb 4
4. First Day of Ramadan	1 Ramadan	Magha 30/ Phalguna 7/Feb 19
Saka 1947/ Kali 5126/ 2026 A.D.		
5. Shahadat-e-Hazrat Ali	21 Ramadan	Phalguna 20/ Phalguna 27/Mar 11
6. Sab-e-Qadr*	27 Ramadan	Phalguna 26/ Chaitra 3/Mar 17
7. Jumatul Vida	Last Friday of Ramadan	Phalguna 29/ Chaitra 6/Mar 20
8. Id-ul-Fitr	1 Shawwal	Phalguna 30/ Chaitra 7/Mar 21
Saka 1948/ Kali 5127/ 2026 A.D.		
9. Id-uz-Zuha (Bakrid)	10 Zulhijja	Jyaishtha 6/Jyaishtha 13/May 27
10. Muharram	10 Muharram	Ashadha 5/Ashadha 12/June 26
11. Chelhum	Fortieth Day from (39 days after) 10 Muharram	Sravana 13/ Sravana 20/Aug 4
12. Akheri Chahar Shumba Shahadat-e-Iman Hasan	Last Wednesday of Safar 28 Safar	Sravana 21/ Sravana 28/Aug 12 Sravana 21/ Sravana 28/Aug 12
13. Milad-un-Nabi or Id-e-Milad (Birthday of Prophet), Fateha Dwaz Daham or Bara Wafat	12 Rabiul lawwal	Bhadra 4/ Bhadra 11/ Aug 26
14. Id-e-Maulad	17 Rabiul lawwal	Bhadra 9/ Bhadra 16/ Aug 31
15. Fateha Yazdaham (Giarhween Sharif)	11 Rabiul ssani	Asvina 1/ Asvina 8/ Sep 23
16. Hazrat Ali's Birthday	13 Rajab	Pausha 2/ Pausha 9/Dec 23
Saka 1948/ Kali 5127/ 2027 A.D.		
17. Sab-e-Miraj*	27 Rajab	Pausha 16/ Pausha 23/Jan 6
18. Sab-e-Barat*	15 Shaban	Magha 4/ Magha 11/ Jan 24
19. First Day of Ramadan	1 Ramadan	Magha 20/ Magha 27/Feb 9
Saka 1948/ Kali 5127/ 2027 A.D.		
1. Shahadat-e-Hazrat Ali	21 Ramadan	Phalguna 10/ Phalguna 17/Mar 1
2. Jumatul Vida	Last Friday of Ramadan	Phalguna 14/ Phalguna 21/Mar 5
3. Sab-e-Qadr*	27 Ramadan	Phalguna 16/ Phalguna 23/Mar 7
4. Id-ul-Fitr	1 Shawwal	Phalguna 19/ Phalguna 26/Mar 10

*The festival is observed in the preceeding night

The Islamic Calendar (2026-27 A.D.)(Hejira: 1447-1448 A.H.)

The beginning dates of the different months of the Islamic Calendar for the year 2026-27 A.D. determined on the basis of the first visibility of the lunar crescent after the New-Moon day calculated for the Central Station of India are as follows:-

Shaban	1447 A.H.	Jan. 21	2026 A.D.	(29)	Rabiul sani	1448 A.H.	Sept. 13	2026 A.D.	(30)
Ramadan	"	Feb. 19	"	(30)	Jumadu'l awwal	"	Oct 13	"	(30)
Shawwal	"	March 21	"	(29)	Jumadu's sani	"	Nov 12	"	(29)
Zu'lqada	"	April 19	"	(29)	Rajab	"	Dec 11	"	(30)
Zulhijja	"	May 18	"	(30)	Shaban	"	Jan. 10	2027 A.D.	(30)
MUHARRAM	1448 A.H.	June 17	"	(29)	Ramadan	"	Feb 9	"	(29)
Safar	"	July 16	"	(30)	Shawwal	"	March 10	"	(30)
Rabiul lawwal	"	August 15	"	(29)	Zu'lqada	"	April 9	"	(29)

N.B.-Actually the months begin from sunset of the preceding day when the Moon becomes first visible.

Fixed Calendar

According to the Fixed Calendar the beginning dates of different months are as follows : Jan. 20 (2026 A.D.), Feb. 18, Mar. 20, Apr. 18, May 18, June 17, July 17, Aug. 15, Sept. 14, Oct. 13, Nov. 12, Dec. 11, Jan. 10 (2027 A.D.) Feb. 8, Mar. 10, Apr. 8.

THE PARSI (SHAHENSHAHI) CALENDAR, 2026 - 2027 A.D.

(As used by the Indian Parsis)

Yazdejardi Era : 1395 - 1396

The beginning dates of different months of the Parsi Shahenshahi Calendar are as follows :

As regards the Parsi Kadmi Calendar, the months are the same but they begin 30 days earlier.

Shahrivar	1395	Jan. 12	2026 A.D. (30)	Ardibehesht	1396	Sept. 14	2026 A.D. (30)
Meher	"	Feb. 11	" (30)	Khordad	"	Oct. 14	" (30)
Avan	"	Mar. 13	" (30)	Tir	"	Nov. 13	" (30)
Adar	"	Apr. 12	" (30)	Amardad	"	Dec. 13	" (30)
Dei	"	May 12	" (30)	Shahrivar	"	Jan. 12	2027 A.D. (30)
Bahman	"	June 11	" (30)	Meher	"	Feb. 11	" (30)
Aspandad	"	July 11	" (30)	Avan	"	Mar. 13	" (30)
Gathas(I-V)	"	Aug. 10	" (5)	Adar	"	Apr. 12	" (30)
FARVARDIN	1396	Aug. 15	" (30)	Dei	"	May 12	" (30)

PARSI FESTIVALS

Festivals	Criterion	Shahenshahi	Kadmi
		<u>National / Niravana / Gregorian</u> <u>Saka 1948/ Kali 5127/ 2026 A.D.</u>	<u>National / Niravana / Gregorian</u> <u>Saka 1948/ Kali 5127/ 2026 A.D.</u>
Zarthost-no-Diso	11 Dei	Jyaishtha 1 / Jyaishtha 8 / May 22	Vaisakha 2/ Vaisakha 9/ Apr. 22
Gatha Gahambar	Gatha III	Sravana 21 / Sravana 28 / Aug. 12	Ashadha 22/ Ashadha 29/ July 13
Parsi New Year Eve	Gatha V	Sravana 23 / Sravana 30 / Aug. 14	Ashadha 24/ Ashadha 31/ July 15
Parsi New Year's Day	1 Farvardin	Sravana 24 / Sravana 31 / Aug. 15	Ashadha 25/ Sravana 1/ July 16
Khordad Sal (Birthday of Prophet Zarthost)	6 Farvardin	Shravana 29 / Bhadra 5/ Aug. 20	Ashadha 30/ Sravana 6/ July 21

N.B.- Jamshedi Naoroj falls on March 21 every year

THE JEWISH CALENDAR, 2026 - 2027 A.D.**Jewish Era : 5786 - 87 A.M.**

To beginning dates of different months of the Jewish Calendar are as follows:

Shebat	5786 A.M.	Jan. 19	2026 A.D (30)	TISHRI	5787 A.M.	Sept. 12	2026 A.D (30)
Adar	"	Feb. 18	" (29)	Heshvan	"	Oct. 12	" (30)
Nisan	"	Mar. 19	" (30)	Kislev	"	Nov. 11	" (30)
Iyar	"	April 18	" (29)	Tebeth	"	Dec. 11	" (29)
Sivan	"	May 17	" (30)	Shebat	"	Jan. 09	2027 A.D (30)
Tammuz	"	June 16	" (29)	Vedar	"	Feb. 08	" (30)
Ab	"	July 15	" (30)	Adar	"	Mar. 10	" (29)
Ellul	"	Aug. 14	" (29)	Nisan	"	April 08	" (30)

JEWISH FESTIVALS 2026-2027 A.D.

Festivals	Criterion	Date
Purim	14 Adar	<u>National/Niravana/Gregorian</u> <u>Saka 1947 / Kali 5126 / 2026 A.D.</u> Phalguna 12/ Phalguna 19/ March 3
First day of Passover (Pesach)	15 Nisan	<u>Saka 1948 / Kali 5126 / 2026 A.D.</u> Chaitra 12/ Chaitra 19/ April 2
Feast of Weeks (Shebuoth)	6 Sivan	<u>Saka 1948 / Kali 5127 / 2026 A.D.</u> Jyaishtha 1/ Jyaishtha 8/ May 22
Tishabeab	9 Ab	Sravana 1/ Sravana 8/ July 23
Jewish New Year (Rosh Hashanah)	1 Tishri	Bhadra 21/Bhadra 28/ September 12
Day of Atonement (Yom Kippur)	10 Tishri	Bhadra 30/Asvina 6/ September 21
First day of Tabernacles (Succoth)	15 Tishri	Asvina 4/ Asvina 11 / September 26
Last day of Succoth (Simhath Torah)	23 Tishri	Asvina 12/ Asvina 19 / October 4
Hanukah	25 Kislev	Agrahayana 14/ Agrahayana 21/Dec. 5
Purim	14 Adar	<u>Saka 1949 / Kali 5127 / 2027 A.D.</u> Chaitra 2/ Chaitra 9/ March 23
First day of Passover (Pesach)	15 Nisan	<u>Saka 1949 / Kali 5128 / 2027 A.D.</u> Vaisakha 2/ Vaisakha 9/ April 22

Festivals	Criterion	Date
National/Nirayana/Gregorian		
<u>Saka 1947 / Kali 5126/ 2026 A.D.</u>		
1. Christian (English) New Year's Day	Fixed	Pausha 11/Pausha 18/Jan 01
2. Epiphany	Fixed	Pausha 16/Pausha 23/Jan 06
3. Septuagesima Sunday	63 days before Easter Sunday	Magha 12/Magha 19/Feb 1
4. Quinquagesima (Shrove) Sunday	49 days before Easter Sunday	Magha 26/ Phalguna 3/Feb 15
5. Ash Wednesday	46 days before Easter Sunday	Magha 29/Phalguna 6/Feb 18
<u>Saka 1948 / Kali 5126/ 2026 A.D.</u>		
6. Palm Sunday	7 days before Easter Sunday	Chaitra 8/Chaitra 15/ Mar 29
7. Good Friday	2 days before Easter Sunday	Chaitra 13/ Chaitra 20/ April 3
8. Easter (Holy) Saturday	Day before Easter Sunday	Chaitra 14/ Chaitra 21/ April 4
9. Easter Sunday	First Sunday after the 14 th day of the Moon (nearly Full Moon) occurring on or immediately after March 21	Chaitra 15/ Chaitra 22/ April 5
10. Low Sunday	7 days after Easter Sunday	Chaitra 22/ Chaitra 29/April 12
<u>Saka 1948 / Kali 5127/ 2026 A.D.</u>		
11. Rogation Sunday	35 days after Easter Sunday	Vaisakha 20/ Vaisakha 27/May10
12. Ascension Day-Holy Thursday	39 days after Easter Sunday	Vaisakha 24/ Vaisakha 31/May 14
13. Ascension Sunday	3 days after Ascension day	Vaisakha 27/ Jyaishtha 3/ May 17
14. Whit Sunday-Pentecost	49 days after Easter Sunday	Jyaishtha 3/ Jyaishtha 10/ May 24
15. Trinity Sunday	56 days after Easter Sunday	Jyaishtha10/ Jyaishtha17/ May 31
16. Corpus Christi (Thursday)	60 days after Easter Sunday	Jyaishtha 14/ Jyaishtha 21/ June 4
17. First Sunday in Advent	Fourth Sunday before Christmas, i.e., Sunday nearest to Nov.,30.	Agrahayana 8/Agrahayana 15/Nov 29
18. Christmas Eve	Day before Christmas	Pausha 3/Pausha 10/Dec 24
19. Christmas Day	Fixed	Pausha4/Pausha 11/Dec 25
20. New Year Eve	Fixed	Pausha 10/Pausha 17/Dec 31
<u>Saka 1948 / Kali 5127/ 2027 A.D.</u>		
1. Christian (English) New Year's Day	Fixed	Pausha 11/Pausha 18/Jan 01
2. Epiphany	Fixed	Pausha 16/Pausha 23/Jan 06
3. Septuagesima Sunday	63 days before Easter Sunday	Magha 4/Magha 11/ Jan 24
4. Quinquagesima (Shrove) Sunday	49 days before Easter Sunday	Magha 18/ Magha 25/Feb 7
5. Ash Wednesday	46 days before Easter Sunday	Magha 21/ Magha 28/Feb 10
6. Palm Sunday	7 days before Easter Sunday	Phalguna 30/Chaitra 7/ Mar 21
<u>Saka 1949 / Kali 5127/ 2027 A.D.</u>		
7. Good Friday	2 days before Easter Sunday	Chaitra 5/ Chaitra 12/ Mar26
8. Easter (Holy) Saturday	Day before Easter Sunday	Chaitra 6/ Chaitra 13/ Mar27
9. Easter Sunday	First Sunday after the 14 th day of the Moon (nearly Full Moon) occurring on or immediately after March 21	Chaitra 7/ Chaitra 14/ Mar28
10. Low Sunday	7 days after Easter Sunday	Chaitra 14/ Chaitra 21/April 4

THE INDIAN LUNAR CALENDAR
TIME OF NEW MOON(IN I.S.T.) MARKING THE
COMMENCEMENT OF LUNAR MONTHS

CALENDAR OF LUNAR MONTHS												
2008					2011					2014		
(1929-30 S.E.)					(1932-33 S.E.)					(1935-36 S.E.)		
		d	h	m		d	h	m		d	h	m
Pausha	Jan.	08	17	17	Jan.	4	14	33	Jan.	1	16	44
Magha	Feb.	07	09	14	Feb.	3	08	01	Jan.	30	27	09
Phalguna	Mar.	07	22	44	Mar.	4	26	16	Feb.	1	13	30
Chaitra	Apr.	06	09	25	Apr.	3	20	02	Mar.	30	24	15
Vaisakha	May	05	17	48	May	3	12	21	Apr.	29	11	44
Jyaishtha	June	03	24	53	June	1	26	33	May	28	24	10
Ashadha	July	03	07	49	July	1	14	24	June	27	13	39
Sravana	Aug	01	15	43	July	30	24	10	July	26	28	12
Bhadra	Aug	30	25	28	Aug.	29	08	34	Aug.	25	19	43
Asvina	Sept	29	13	42	Sept.	27	16	39	Sept.	24	11	44
Kartika	Oct.	28	28	44	Oct.	26	25	26	Oct.	23	27	27
Margasirsha	Nov	27	22	25	Nov.	25	11	40	Nov.	22	18	02
Pausha	Dec.	27	17	52	Dec.	24	23	36	Dec.	22	07	06
2009					2012					2015		
(1930-31 S.E.)					(1933-34 S.E.)					(1936-37 S.E.)		
		d	h	m		d	h	m		d	h	m
Pausha		---				---				---		
Magha	Jan.	26	13	25	Jan.	23	13	09	Jan.	20	18	44
Phalguna	Feb.	25	07	05	Feb.	21	28	05	Feb.	18	29	17
Chaitra	Mar.	26	21	36	Mar.	22	20	07	Mar.	20	15	06
Vaisakha	Apr.	25	08	53	Apr.	21	12	48	Apr.	18	24	27
Jyaishtha	May	24	17	41	May	20	05	17	May	18	09	43
Ashadha	June	22	25	05	June	19	20	32	June	16	19	35
									July	16	06	54
Sravana	July	22	08	05	July	19	09	54	Aug.	14	20	23
Bhadra	Aug	20	15	32	Aug.	17	21	24	Sept.	13	12	11
					Sept.	16	07	41				
Asvina	Sept	18	24	14	Oct.	15	17	33	Oct.	12	29	36
Kartika	Oct.	18	11	03	Nov.	13	27	38	Nov.	11	23	17
Margasirsha	Nov	16	24	44	Dec.	13	14	12	Dec.	11	15	59
Pausha	Dec.	17	17	32								
2010					2013					2016		
(1931-32 S.E.)					(1934-35 S.E.)					(1937-38 S.E.)		
		d	h	m		d	h	m		d	h	m
Pausha		---			Jan.	11	25	14	Jan.	10	07	01
Magha	Jan.	15	12	41	Feb.	10	12	50	Feb.	8	20	09
Phalguna	Feb.	14	08	21	Mar.	11	25	21	Mar.	9	07	25
Chaitra	Mar.	15	26	31	Apr.	10	15	05	Apr.	7	16	54
Vaisakha	Apr.	14	17	59	May	10	05	58	May	6	25	00
	May	14	06	34								
Jyaishtha	June	12	16	45	June	8	21	26	June	5	08	30
Ashadha	July	11	25	10	July	8	12	44	July	4	16	31
Sravana	Aug	10	08	38	Aug.	6	27	21	Aug.	2	26	15
Bhadra	Sept	8	16	00	Sept.	5	17	06	Sept.	1	14	33
Asvina	Oct.	7	24	15	Oct.	5	06	05	Sept.	30	29	41
Kartika	Nov	6	10	22	Nov.	3	18	20	Oct.	30	23	08
Margasirsha	Dec.	5	23	06	Dec.	2	29	52	Nov.	29	17	48
Pausha		---				---			Dec.	29	12	23

N.B.-The figures in the italics show the beginning of the intercalary (*mala or adhika*) month followed by the normal (*suddha or nija*) month of the same name.

THE INDIAN LUNAR CALENDAR
TIME OF NEW MOON(IN I.S.T.) MARKING THE
COMMENCEMENT OF LUNAR MONTHS

2017					2020					2023					2026				
1938-39 S.E.					1941-42 S.E.					1944-45 S.E.					1947-48 S.E.				
d h m					d h m					d h m					d h m				
Pausha	---				---				---				---						
Magha	Jan.	27	29	37	Jan.	24	27	12	Jan.	21	26	23	Jan.	18	25	22			
Phalguna	Feb	26	20	28	Feb.	23	21	2	Feb.	20	12	36	Feb	17	17	31			
Chaitra	Mar	28	08	27	Mar.	24	14	58	Mar	21	22	53	Mar	19	06	53			
Vaisakha	Apr	26	17	46	Apr.	23	07	56	Apr	20	09	43	Apr.	17	17	22			
Jyaishtha	May	25	25	14	May	22	23	9	May	19	21	23	May	16	25	31			
													June	15	08	24			
Ashadha	June	24	08	01	June	21	12	11	June	18	10	07	July	14	15	14			
Sravana	July	23	15	16	July	20	23	3	July	17	24	02	Aug	12	23	07			
									Aug	16	15	08							
Bhadra	Aug	21	24	00	Aug.	19	08	12	Sept	15	07	10	Sept	11	08	57			
Asvina	Sep	20	11	00	Sept.	17	16	30	Oct.	14	23	25	Oct.	10	21	20			
					Oct.	16	25	1											
Kartika	Oct.	19	24	42	Nov.	15	10	37	Nov	13	14	57	Nov	9	12	32			
Margasirs	Nov	18	17	12	Dec.	14	21	47	Dec	12	29	02	Dec.	8	30	22			
Pausha	Dec	18	12	00	---				---				---						
2018					2021					2024					2027				
1939-40 S.E.					1942-43 S.E.					1945-46 S.E.					1948-49 S.E.				
d h m					d h m					d h m					d h m				
Pausha	---				Jan.	13	10	30	Jan.	11	17	27	Jan.	7	25	54			
Magha	Jan.	17	07	47	Feb.	11	24	36	Feb.	09	28	29	Feb	6	21	26			
Phalguna	Feb	15	26	35	Mar.	13	15	51	Mar	10	14	30	Mar	8	14	59			
Chaitra	Mar	17	18	42	Apr.	12	08	01	Apr	08	23	51	Apr.	6	29	21			
Vaisakha	Apr	16	07	27	May	11	24	30	May	08	08	52	May	6	16	29			
Jyaishtha	May	15	17	18	June	10	16	23	June	06	18	08	June	4	25	10			
	June	13	25	13															
Ashadha	July	13	08	18	July	10	06	47	July	05	28	27	July	4	08	32			
Sravana	Aug	11	15	28	Aug.	08	19	20	Aug	04	16	43	Aug	2	15	35			
Bhadra	Sep	9	23	32	Sept.	07	06	22	Sept	03	07	26	Aug	31	23	11			
Asvina	Oct.	9	09	17	Oct.	06	16	35	Oct.	02	24	19	Sept	30	08	06			
Kartika	Nov	7	21	32	Nov.	04	26	45	Nov	01	17	18	Oct.	29	19	07			
Margasirs	Dec	7	12	50	Dec.	04	13	13	Dec	01	11	51	Nov	28	08	54			
Pausha	---				---				Dec 30 27 57				Dec. 27 25 42						
2019					2022					2025					2028				
1940-41 S.E.					1943-44 S.E.					1946-47 S.E.					1949-50 S.E.				
d h m					d h m					d h m					d h m				
Pausha	Jan.	6	06	58	Jan.	02	24	04	---				---						
Magha	Feb	4	26	34	Feb.	01	11	16	Jan.	29	18	06	Jan.	26	20	43			
Phalguna	Mar	6	21	34	Mar.	02	23	05	Feb	27	30	15	Feb	25	16	07			
Chaitra	Apr	5	14	21	Apr.	01	11	54	Mar	29	16	28	Mar	26	10	01			
Vaisakha	May	4	28	16	Apr.	30	25	58	Apr	27	25	01	Apr.	24	25	17			
Jyaishtha	June	3	15	32	May	30	17	00	May	27	08	32	May	24	13	46			
Ashadha	July	2	24	46	June	29	08	22	June	25	16	02	June	22	23	58			
Sravana	Aug	1	08	42	July	28	23	25	July	24	24	41	July	22	08	32			
Bhadra	Aug	30	16	7	Aug.	27	13	47	Aug	23	11	37	Aug	20	16	15			
Asvina	Sep	28	23	56	Sept.	25	27	25	Sept	21	25	24	Sept	18	23	55			
Kartika	Oct.	28	09	9	Oct.	25	16	19	Oct.	21	17	55	Oct.	18	08	28			
Margasirs	Nov	26	20	36	Nov.	23	28	27	Nov	20	12	17	Nov	16	18	49			
Pausha	Dec	26	10	43	Dec.	23	15	47	Dec	20	07	13	Dec.	16	07	38			

N.B.-The figures in the italics show the beginning of the intercalary(*mala or adhika*) month following the normal (*suddha or nija*) month of the same name.

INDIAN CALENDAR

SAKA ERA 1949

Mesha : Madhava

Month of CHAITRA (30 days)

Spring (Vasanta), 2nd Month

(Nirayana) 8 Chaitra, 5127 Kali Era to (Nirayana) 7 Vaisakha, 5128 Kali Era

Date	Week Day	Gregorian Date	Sunrise		Apparent Noon		Sunset		Tithi		Nakshatra		Yoga	
									No.	Ending Moment	No.	Ending Moment	No.	Ending Moment
			h	m	h	m	h	m						
		2027 A.D.												
1	Mon	Mar. 22	6	02.6	12	07.0	18	11.5	S 15	16 13.8	12	20 46.2	10	14 04.2
2	Tue	23	6	01.7	12	06.7	18	11.9	K 1	14 28.9	13	19 50.0	11	11 27.8
3	Wed	24	6	00.7	12	06.4	18	12.3	2	13 14.7	14	19 25.8	12	9 15.4
4	Thu	25	5	59.7	12	06.1	18	12.7	3	12 38.2	15	19 40.0	13	7 32.1
5	Fri	26	5	58.7	12	05.8	18	13.0	4	12 44.0	16	20 36.3	14	6 21.5
													(15	29 45.3)
6	Sat	27	5	57.8	12	05.5	18	13.4	K 5	13 33.9	17	22 15.1	16	29 42.2
7	Sun	28	5	56.8	12	05.2	18	13.8	6	15 05.4	18	24 32.1	17	--- ---
8	Mon	29	5	55.8	12	04.9	18	14.1	7	17 11.5	19	27 18.4	17	6 07.8
9	Tue	30	5	54.8	12	04.6	18	14.5	8	19 40.3	20	--- ---	18	6 54.8
10	Wed	31	5	53.9	12	04.3	18	14.9	9	22 16.9	20	6 21.3	19	7 53.4
11	Thu	Apr. 1	5	52.9	12	04.0	18	15.3	K 10	24 45.6	21	9 25.6	20	8 52.4
12	Fri	2	5	51.9	12	03.7	18	15.6	11	26 52.4	22	12 16.6	21	9 41.2
13	Sat	3	5	51.0	12	03.4	18	16.0	12	28 27.0	23	14 41.9	22	10 10.6
14	Sun	4	5	50.0	12	03.1	18	16.4	13	29 23.6	24	16 33.3	23	10 14.0
15	Mon	5	5	49.1	12	02.8	18	16.8	14	29 40.9	25	17 47.0	24	9 47.9
16	Tue	6	5	48.1	12	02.5	18	17.1	K 30	29 21.1	26	18 23.3	25	8 51.5
17	Wed	7	5	47.2	12	02.3	18	17.5	S 1	28 29.0	27	18 25.7	26	7 26.5
													(27	29 36.4)
18	Thu	8	5	46.3	12	02.0	18	17.9	2	27 10.6	1	17 59.7	1	27 25.7
19	Fri	9	5	45.3	12	01.7	18	18.3	3	25 32.4	2	17 11.5	2	24 59.2
20	Sat	10	5	44.4	12	01.4	18	18.7	4	23 40.4	3	16 07.6	3	22 21.6
21	Sun	11	5	43.5	12	01.2	18	19.0	S 5	21 40.0	4	14 53.7	4	19 37.0
22	Mon	12	5	42.6	12	00.9	18	19.4	6	19 35.4	5	13 34.4	5	16 48.8
23	Tue	13	5	41.7	12	00.6	18	19.8	7	17 29.4	6	12 13.3	6	13 59.3
24	Wed	14	5	40.8	12	00.4	18	20.2	8	15 24.3	7	10 52.5	7	11 10.4
25	Thu	15	5	39.9	12	00.2	18	20.6	9	13 21.4	8	9 33.8	8	8 23.2
													(9	29 38.8)
26	Fri	16	5	39.0	11	59.9	18	21.0	S 10	11 22.1	9	8 18.5	10	26 58.5
27	Sat	17	5	38.2	11	59.7	18	21.4	11	9 28.3	10	7 08.3	11	24 24.1
28	Sun	18	5	37.3	11	59.4	18	21.8	12	7 42.6	11	6 06.0	12	21 58.3
											(12	29 15.3)		
29	Mon	19	5	36.5	11	59.2	18	22.2	13	6 08.9	13	28 40.9	13	19 44.7
									(14	28 51.8)				
30	Tue	20	5	35.6	11	59.0	18	22.6	S 15	27 57.2	14	28 28.6	14	17 47.2

N.B. - All timings are given in I.S.T. or the local mean time of the meridian of 82½° E. Long.

Names of Nakshatras:- 1.Asvini 2.Bharani 3.Krittika 4.Rohini 5.Mrigasiras 6.Ardra 7.Punarvasu 8.Pushya 9.Aslesha 10.Magha 11.Purva Phalguni 12.Uttara Phalguni 13.Hasta 14.Chitra 15.Svati 16.Visakha 17.Anuradha 18.Jyestha 19.Mula 20.Purvasadha 21.Uttarasadha 22.Sravana 23.Dhanistha 24.Satabhisaj 25.Purva Bhadrapada 26.Uttara Bhadrapada 27.Revati

Names of Yogas:- 1.Viskumbha 2.Priti 3.Ayusman 4.Saubhagya 5.Sobhana 6.Atiganda 7.Sukarma 8.Dhriti 9.Sula 10.Ganda 11.Vridhhi 12.Dhruva 13.Vyaghata 14.Harshana 15.Vajra 16.Siddhi (Asrik) 17.Vyatipata 18.Variyan 19.Parigha 20.Siva 21.Siddha 22.Sadhya 23.Subha 24.Sukla (Sukra) 25.Brahma 26.Indra 27.Vaidhriti

AYANAMSA, 2026
TRUE AYANAMSA FOR 5^h 29^m

Date 2026	Ayanamsa			Date 2026	Ayanamsa			Date 2026	Ayanamsa			Date 2026-27	Ayanamsa		
	°	'	"		°	'	"		°	'	"		°	'	"
Jan. 1	24	13	18.5	May 1	24	13	35.2	Aug. 29	24	13	55.6	Dec. 27	24	14	13.4
4	24	13	19.6	4	24	13	35.6	Sept. 1	24	13	55.6	30	24	14	13.7
7	24	13	20.2	7	24	13	36.3	4	24	13	56.0	Jan. 2	24	14	14.1
10	24	13	20.5	10	24	13	36.9	7	24	13	56.8	5	24	14	14.7
13	24	13	20.9	13	24	13	37.1	10	24	13	57.2	8	24	14	15.5
16	24	13	21.6	16	24	13	37.4	13	24	13	57.2	11	24	14	16.1
19	24	13	22.3	19	24	13	38.2	16	24	13	57.4	14	24	14	16.4
22	24	13	22.8	22	24	13	39.1	19	24	13	57.9	17	24	14	16.7
25	24	13	23.0	25	24	13	39.4	22	24	13	58.4	20	24	14	17.5
28	24	13	23.5	28	24	13	39.6	25	24	13	58.6	23	24	14	18.4
31	24	13	24.4	31	24	13	40.1	28	24	13	58.6	26	24	14	18.8
Feb. 3	24	13	25.0	June 3	24	13	40.9	Oct. 1	24	13	59.0	29	24	14	19.0
6	24	13	25.2	6	24	13	41.6	4	24	13	59.7	Feb. 1	24	14	19.5
9	24	13	25.4	9	24	13	41.9	7	24	14	00.1	4	24	14	20.2
12	24	13	25.9	12	24	13	42.2	10	24	14	00.1	7	24	14	20.7
15	24	13	26.6	15	24	13	43.1	13	24	14	00.3	10	24	14	20.9
18	24	13	27.0	18	24	13	44.0	16	24	14	00.8	13	24	14	16.4
21	24	13	27.0	21	24	13	44.5	19	24	14	01.4	16	24	14	17.0
24	24	13	27.4	24	24	13	44.7	22	24	14	01.7	19	24	14	17.3
27	24	13	28.1	27	24	13	45.3	25	24	14	01.8	22	24	14	17.3
Mar. 2	24	13	28.6	30	24	13	46.1	28	24	14	02.1	25	24	14	17.8
5	24	13	28.7	July 3	24	13	46.7	31	24	14	03.0	28	24	14	18.6
8	24	13	28.8	6	24	13	47.1	Nov. 3	24	14	03.5	Mar. 3	24	14	19.0
11	24	13	29.2	9	24	13	47.3	6	24	14	03.7	6	24	14	19.0
14	24	13	29.8	12	24	13	48.1	9	24	14	03.9	9	24	14	19.2
17	24	13	30.1	15	24	13	49.1	12	24	14	04.5	12	24	14	19.7
20	24	13	30.1	18	24	13	49.5	15	24	14	05.2	15	24	14	20.2
23	24	13	30.4	21	24	13	49.7	18	24	14	05.7	18	24	14	20.4
26	24	13	31.1	24	24	13	50.2	21	24	14	05.9	21	24	14	20.4
29	24	13	31.6	27	24	13	50.9	24	24	14	06.3	24	24	14	20.8
1	24	13	31.7	30	24	13	51.5	27	24	14	07.3	27	24	14	21.6
Apr. 4	24	13	31.7	Aug. 2	24	13	51.8	30	24	14	08.1	30	24	14	21.9
7	24	13	32.1	5	24	13	52.0	Dec. 3	24	14	08.3	Apr. 2	24	14	21.9
10	24	13	32.7	8	24	13	52.5	6	24	14	08.7	5	24	14	22.1
13	24	13	33.1	11	24	13	53.4	9	24	14	09.4	8	24	14	22.6
16	24	13	33.2	14	24	13	53.9	12	24	14	10.2	11	24	14	23.2
19	24	13	33.4	17	24	13	53.9	15	24	14	10.8	14	24	14	23.5
22	24	13	34.2	20	24	13	54.2	18	24	14	11.0	17	24	14	23.5
25	24	13	34.9	23	24	13	54.8	21	24	14	11.5	20	24	14	23.9
28	24	13	35.1	26	24	13	55.4	24	24	14	12.4	23	24	14	24.8
May 1	24	13	35.2	Aug. 29	24	13	55.6	Dec. 27	24	14	13.4	Apr. 26	24	14	25.2

Mean Ayanamsa= 23°51'25".53 for J2000.0

Mean Ayanamsa= 24°13'12".96+ precession from 2026.0 to date

Mean Ayanamsa= 24°14'03".22+ precession from 2027.0 to date

True Ayanamsa= Mean Ayanamsa + nutation in longitude

LONGITUDE OF SUN, MOON AND PLANETS, 2027
APPARENT GEOCENTRIC LONGITUDE FOR 5^h 28^m.8 I.S.T.

Date	Sun	Moon	Mercury	Venus	Mars	Jupiter	Saturn
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "
Jan. 0	279 18 01	191 47 38	278 17 59	232 29 36	159 45 04	146 30 05	8 17 43
1	280 19 10	204 36 14	279 54 03	233 29 22	159 52 15	146 26 32	8 19 55
2	281 20 20	217 07 20	281 30 26	234 29 35	159 58 47	146 22 48	8 22 14
3	282 21 30	229 24 35	283 07 09	235 30 14	160 04 38	146 18 53	8 24 40
4	283 22 40	241 31 19	284 44 13	236 31 18	160 09 47	146 14 48	8 27 11
5	284 23 51	253 30 23	286 21 39	237 32 45	160 14 15	146 10 32	8 29 49
6	285 25 01	265 24 12	287 59 27	238 34 36	160 17 59	146 06 05	8 32 33
7	286 26 12	277 14 45	289 37 38	239 36 49	160 21 00	146 01 29	8 35 23
8	287 27 22	289 03 50	291 16 10	240 39 23	160 23 18	145 56 42	8 38 19
9	288 28 33	300 53 14	292 55 06	241 42 17	160 24 50	145 51 45	8 41 21
10	289 29 43	312 44 53	294 34 24	242 45 32	160 25 38	145 46 39	8 44 29
11	290 30 52	324 41 04	296 14 03	243 49 05	160 25 40	145 41 22	8 47 42
12	291 32 02	336 44 32	297 54 03	244 52 56	160 24 56	145 35 57	8 51 02
13	292 33 10	348 58 31	299 34 23	245 57 05	160 23 25	145 30 22	8 54 27
14	293 34 18	1 26 43	301 15 00	247 01 31	160 21 08	145 24 39	8 57 58
15	294 35 26	14 13 01	302 55 53	248 06 14	160 18 03	145 18 47	9 01 34
16	295 36 33	27 21 10	304 36 58	249 11 13	160 14 12	145 12 46	9 05 16
17	296 37 39	40 54 14	306 18 12	250 16 27	160 09 33	145 06 38	9 09 04
18	297 38 44	54 53 54	307 59 30	251 21 56	160 04 06	145 00 22	9 12 57
19	298 39 49	69 19 38	309 40 46	252 27 40	159 57 52	144 53 58	9 16 56
20	299 40 53	84 08 11	311 21 53	253 33 38	159 50 50	144 47 26	9 20 60
21	300 41 56	99 13 16	313 02 43	254 39 50	159 43 00	144 40 48	9 25 09
22	301 42 58	114 26 14	314 43 05	255 46 15	159 34 23	144 34 03	9 29 23
23	302 43 60	129 37 04	316 22 48	256 52 53	159 24 57	144 27 11	9 33 43
24	303 45 00	144 36 06	318 01 36	257 59 44	159 14 44	144 20 13	9 38 07
25	304 46 01	159 15 25	319 39 14	259 06 47	159 03 44	144 13 08	9 42 37
26	305 47 00	173 29 46	321 15 22	260 14 02	158 51 56	144 05 58	9 47 11
27	306 47 59	187 16 47	322 49 37	261 21 28	158 39 22	143 58 43	9 51 51
28	307 48 57	200 36 42	324 21 33	262 29 06	158 26 01	143 51 22	9 56 35
29	308 49 55	213 31 41	325 50 41	263 36 54	158 11 54	143 43 56	10 01 24
30	309 50 52	226 05 14	327 16 29	264 44 53	157 57 03	143 36 26	10 06 18
31	310 51 49	238 21 29	328 38 19	265 53 02	157 41 28	143 28 52	10 11 17

LONGITUDE OF SUN, MOON AND PLANETS, 2027
 APPARENT GEOCENTRIC LONGITUDE FOR 5^h 28^m.8 I.S.T.

Date		Sun			Moon			Mercury			Venus			Mars			Jupiter			Saturn		
		°	'	"	°	'	"	°	'	"	°	'	"	°	'	"	°	'	"	°	'	"
Feb.	1	311	52	45	250	24	46	329	55	31	267	01	20	157	25	09	143	21	14	10	16	20
	2	312	53	40	262	19	19	331	07	22	268	09	48	157	08	09	143	13	32	10	21	28
	3	313	54	34	274	08	58	332	13	06	269	18	24	156	50	29	143	05	47	10	26	40
	4	314	55	27	285	57	08	333	11	55	270	27	09	156	32	09	142	57	59	10	31	57
	5	315	56	20	297	46	43	334	03	03	271	36	02	156	13	12	142	50	09	10	37	19
	6	316	57	11	309	40	10	334	45	41	272	45	03	155	53	39	142	42	16	10	42	44
	7	317	58	01	321	39	34	335	19	08	273	54	12	155	33	32	142	34	22	10	48	14
	8	318	58	50	333	46	43	335	42	44	275	03	28	155	12	53	142	26	26	10	53	48
	9	319	59	37	346	03	18	335	55	58	276	12	51	154	51	45	142	18	29	10	59	25
	10	321	00	23	358	31	02	335	58	30	277	22	20	154	30	09	142	10	32	11	05	07
	11	322	01	08	11	11	40	335	50	11	278	31	56	154	08	07	142	02	34	11	10	53
	12	323	01	51	24	07	03	335	31	09	279	41	39	153	45	43	141	54	36	11	16	43
	13	324	02	33	37	19	03	335	01	48	280	51	28	153	22	59	141	46	39	11	22	36
	14	325	03	13	50	49	17	334	22	49	282	01	22	152	59	57	141	38	42	11	28	34
	15	326	03	51	64	38	47	333	35	11	283	11	23	152	36	40	141	30	47	11	34	35
	16	327	04	27	78	47	36	332	40	11	284	21	29	152	13	10	141	22	54	11	40	39
	17	328	05	02	93	14	15	331	39	20	285	31	41	151	49	31	141	15	02	11	46	47
	18	329	05	35	107	55	27	330	34	18	286	41	58	151	25	45	141	07	12	11	52	59
	19	330	06	07	122	46	02	329	26	54	287	52	21	151	01	54	140	59	25	11	59	14
	20	331	06	36	137	39	09	328	18	53	289	02	48	150	38	01	140	51	41	12	05	32
	21	332	07	04	152	27	10	327	12	00	290	13	21	150	14	09	140	43	59	12	11	53
	22	333	07	30	167	02	34	326	07	48	291	23	59	149	50	20	140	36	21	12	18	17
	23	334	07	55	181	19	00	325	07	38	292	34	41	149	26	37	140	28	47	12	24	44
	24	335	08	18	195	12	07	324	12	37	293	45	29	149	03	02	140	21	17	12	31	15
	25	336	08	40	208	39	50	323	23	38	294	56	21	148	39	39	140	13	51	12	37	48
	26	337	08	60	221	42	24	322	41	16	296	07	17	148	16	29	140	06	31	12	44	24
	27	338	09	19	234	21	55	322	05	55	297	18	18	147	53	36	139	59	15	12	51	03
	28	339	09	36	246	41	53	321	37	47	298	29	24	147	31	01	139	52	04	12	57	45

LONGITUDE OF SUN, MOON AND PLANETS, 2027
APPARENT GEOCENTRIC LONGITUDE FOR 5^h 28^m.8 I.S.T.

Date		Sun	Moon	Mercury	Venus	Mars	Jupiter	Saturn
		° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "
Mar.	1	340 09 52	258 46 41	321 16 53	299 40 33	147 08 48	139 44 59	13 04 30
	2	341 10 07	270 41 09	321 03 07	300 51 46	146 46 58	139 38 00	13 11 17
	3	342 10 20	282 30 08	320 56 17	302 03 03	146 25 34	139 31 07	13 18 07
	4	343 10 32	294 18 18	320 56 08	303 14 24	146 04 38	139 24 21	13 24 59
	5	344 10 42	306 09 52	321 02 19	304 25 47	145 44 11	139 17 41	13 31 53
	6	345 10 50	318 08 29	321 14 32	305 37 14	145 24 17	139 11 08	13 38 50
	7	346 10 56	330 17 02	321 32 25	306 48 45	145 04 57	139 04 43	13 45 49
	8	347 11 01	342 37 40	321 55 37	308 00 18	144 46 13	138 58 25	13 52 51
	9	348 11 03	355 11 41	322 23 48	309 11 54	144 28 06	138 52 15	13 59 54
	10	349 11 04	7 59 41	322 56 38	310 23 32	144 10 38	138 46 13	14 06 60
	11	350 11 03	21 01 36	323 33 49	311 35 14	143 53 51	138 40 19	14 14 07
	12	351 10 60	34 16 57	324 15 03	312 46 58	143 37 45	138 34 34	14 21 16
	13	352 10 54	47 45 02	325 00 04	313 58 44	143 22 22	138 28 58	14 28 28
	14	353 10 47	61 25 02	325 48 37	315 10 33	143 07 43	138 23 30	14 35 41
	15	354 10 37	75 16 13	326 40 28	316 22 24	142 53 49	138 18 12	14 42 55
	16	355 10 26	89 17 46	327 35 25	317 34 17	142 40 40	138 13 04	14 50 12
	17	356 10 11	103 28 37	328 33 16	318 46 12	142 28 17	138 08 04	14 57 29
	18	357 09 55	117 47 12	329 33 51	319 58 10	142 16 40	138 03 15	15 04 49
	19	358 09 36	132 11 07	330 37 01	321 10 09	142 05 50	137 58 35	15 12 09
	20	359 09 15	146 36 55	331 42 36	322 22 11	141 55 47	137 54 05	15 19 31
	21	0 08 52	161 00 11	332 50 30	323 34 14	141 46 31	137 49 45	15 26 54
	22	1 08 26	175 15 46	334 00 36	324 46 20	141 38 01	137 45 35	15 34 18
	23	2 07 59	189 18 32	335 12 47	325 58 27	141 30 19	137 41 35	15 41 43
	24	3 07 29	203 03 58	336 26 58	327 10 37	141 23 23	137 37 46	15 49 10
	25	4 06 58	216 28 56	337 43 05	328 22 48	141 17 15	137 34 07	15 56 37
	26	5 06 25	229 32 02	339 01 02	329 35 02	141 11 52	137 30 39	16 04 05
	27	6 05 50	242 13 46	340 20 47	330 47 17	141 07 17	137 27 21	16 11 35
	28	7 05 13	254 36 18	341 42 15	331 59 35	141 03 27	137 24 15	16 19 05
	29	8 04 35	266 43 11	343 05 24	333 11 54	141 00 23	137 21 19	16 26 36
	30	9 03 54	278 38 57	344 30 12	334 24 15	140 58 05	137 18 34	16 34 07
	31	10 03 12	290 28 38	345 56 35	335 36 37	140 56 32	137 16 00	16 41 39

LONGITUDE OF SUN, MOON AND PLANETS, 2027
 APPARENT GEOCENTRIC LONGITUDE FOR 5^h 28^m.8 I.S.T.

Date	Sun	Moon	Mercury	Venus	Mars	Jupiter	Saturn
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "
Apr. 1	11 02 28	302 17 34	347 24 33	336 49 01	140 55 44	137 13 37	16 49 12
2	12 01 43	314 10 57	348 54 03	338 01 27	140 55 40	137 11 26	16 56 45
3	13 00 55	326 13 32	350 25 05	339 13 54	140 56 19	137 09 25	17 04 19
4	14 00 06	338 29 27	351 57 38	340 26 22	140 57 43	137 07 36	17 11 52
5	14 59 14	351 01 46	353 31 40	341 38 51	140 59 49	137 05 58	17 19 26
6	15 58 21	3 52 18	355 07 12	342 51 21	141 02 38	137 04 31	17 27 01
7	16 57 26	17 01 22	356 44 13	344 03 53	141 06 08	137 03 16	17 34 35
8	17 56 28	30 27 49	358 22 43	345 16 26	141 10 20	137 02 12	17 42 09
9	18 55 29	44 09 12	0 02 42	346 28 59	141 15 13	137 01 19	17 49 44
10	19 54 28	58 02 11	1 44 11	347 41 34	141 20 46	137 00 38	17 57 18
11	20 53 24	72 03 09	3 27 10	348 54 09	141 26 58	137 00 09	18 04 53
12	21 52 18	86 08 46	5 11 39	350 06 45	141 33 49	136 59 51	18 12 27
13	22 51 10	100 16 21	6 57 39	351 19 22	141 41 18	136 59 44	18 20 01
14	23 49 60	114 24 03	8 45 10	352 31 59	141 49 25	136 59 48	18 27 34
15	24 48 47	128 30 39	10 34 13	353 44 38	141 58 07	137 00 04	18 35 07
16	25 47 32	142 35 11	12 24 48	354 57 16	142 07 26	137 00 31	18 42 39
17	26 46 14	156 36 30	14 16 57	356 09 56	142 17 19	137 01 10	18 50 11
18	27 44 55	170 32 58	16 10 38	357 22 36	142 27 47	137 01 59	18 57 42
19	28 43 33	184 22 15	18 05 53	358 35 17	142 38 47	137 02 59	19 05 13
20	29 42 09	198 01 33	20 02 39	359 47 58	142 50 21	137 04 11	19 12 42

SUN AND MOON, 2027

DECLINATION OF SUN, LATITUDE AND DECLINATION OF MOON FOR 5^h 28^m.8 I.S.T.

Date	Declination of Sun			Latitude of Moon		Declination of Moon		Date	Declination of Sun			Latitude of Moon		Declination of Moon	
	°	'		°	'	°	'		°	'		°	'	°	'
Jan.	0	-23	06.7	-3	59.0	-8	19.7	Feb.	1	-17	13.6	-4	58.4	-26	55.6
	1	23	02.2	4	36.9	13	49.2		2	16	56.5	4	29.9	27	42.3
	2	22	57.2	5	00.6	18	37.0		3	16	39.1	3	50.0	27	12.3
	3	22	51.8	5	09.9	22	32.7		4	16	21.4	3	00.5	25	28.3
	4	22	45.9	5	05.1	25	26.4		5	16	03.5	2	03.1	22	36.8
	5	22	39.6	4	47.0	27	09.9		6	15	45.2	-1	00.0	18	47.5
	6	22	32.8	4	16.4	27	37.7		7	15	26.7	+0	06.3	14	11.1
	7	22	25.6	3	35.0	26	49.0		8	15	07.9	1	13.0	8	59.3
	8	22	17.9	2	44.2	24	47.5		9	14	48.9	2	17.2	-3	23.5
	9	22	09.8	1	46.3	21	41.2		10	14	29.6	3	15.9	+2	24.3
	10	22	01.3	-0	43.4	17	40.6		11	14	10.1	4	06.0	8	11.9
	11	21	52.3	+0	22.0	12	56.9		12	13	50.4	4	44.6	13	45.6
	12	21	42.9	1	27.1	7	41.3		13	13	30.4	5	09.3	18	49.1
	13	21	33.1	2	29.2	-2	04.4		14	13	10.2	5	17.6	23	03.5
	14	21	22.8	3	25.6	+3	43.1		15	12	49.8	5	08.0	26	06.6
	15	21	12.2	4	13.3	9	29.7		16	12	29.1	4	39.9	27	36.8
	16	21	01.1	4	49.2	15	01.3		17	12	08.3	3	53.7	27	17.5
	17	20	49.7	5	10.4	20	00.3		18	11	47.3	2	51.5	25	04.2
	18	20	37.8	5	14.2	24	04.0		19	11	26.1	1	37.2	21	07.0
	19	20	25.6	4	58.6	26	45.9		20	11	04.8	+0	16.1	15	47.9
	20	20	13.0	4	23.1	27	41.3		21	10	43.2	-1	05.5	9	34.8
	21	20	60.0	3	28.8	26	35.3		22	10	21.5	2	21.6	+2	56.5
	22	19	46.6	2	19.3	23	30.9		23	9	59.6	3	27.1	-3	41.5
	23	19	32.8	+1	00.1	18	48.4		24	9	37.6	4	18.5	9	57.5
	24	19	18.7	-0	22.4	12	58.1		25	9	15.4	4	53.8	15	34.2
	25	19	04.3	1	41.8	+6	31.6		26	8	53.1	5	12.6	20	17.7
	26	18	49.5	2	52.5	-0	03.6		27	8	30.7	5	15.4	23	57.2
	27	18	34.3	3	50.9	6	25.4		28	-8	08.1	-5	03.5	-26	24.6
	28	18	18.8	4	34.8	12	17.3								
	29	18	03.0	5	03.1	17	26.2								
	30	17	46.8	5	16.1	21	41.3								
31	-17	30.4	-5	14.2	-24	53.6									

SUN AND MOON, 2027

DECLINATION OF SUN, LATITUDE AND DECLINATION OF MOON FOR 5^h 28^m.8 I.S.T.

Date	Declination of Sun	Latitude of Moon	Declination of Moon	Date	Declination of Sun	Latitude of Moon	Declination of Moon
	° ' "	° ' "	° ' "		° ' "	° ' "	° ' "
Mar. 1	-7 45.4	-4 38.4	-27 35.2	Apr. 1	+4 22.1	-1 30.5	-21 07.0
2	7 22.6	4 01.5	27 27.6	2	4 45.3	-0 27.7	17 00.9
3	6 59.7	3 14.6	26 04.7	3	5 08.4	+0 37.1	12 11.6
4	6 36.7	2 19.5	23 32.5	4	5 31.3	1 41.1	6 49.3
5	6 13.5	1 18.2	20 59.6	5	5 54.2	2 41.6	-1 04.8
6	5 50.3	-0 13.0	15 35.9	6	6 17.0	3 35.3	+4 49.9
7	5 27.1	+0 53.6	10 32.1	7	6 39.7	4 18.7	10 40.0
8	5 03.7	1 58.7	-4 59.6	8	7 02.3	4 48.9	16 08.3
9	4 40.3	2 59.0	+0 49.8	9	7 24.7	5 03.1	20 54.2
10	4 16.8	3 51.5	6 42.9	10	7 47.0	4 59.9	24 35.3
11	3 53.3	4 32.9	12 25.0	11	8 09.2	4 38.7	26 50.2
12	3 29.7	5 00.4	17 39.3	12	8 31.3	4 00.6	27 23.4
13	3 06.1	5 12.0	22 06.5	13	8 53.2	3 07.7	26 09.6
14	2 42.4	5 06.2	25 26.2	14	9 14.9	2 03.3	23 15.6
15	2 18.8	4 42.6	27 18.3	15	9 36.5	+0 51.5	18 57.7
16	1 55.1	4 02.0	27 28.2	16	9 58.0	-0 23.3	13 37.1
17	1 31.3	3 06.3	25 50.7	17	10 19.2	1 36.2	7 35.7
18	1 07.6	1 58.5	22 32.3	18	10 40.3	2 42.8	+1 14.9
19	0 43.9	+0 42.9	17 49.6	19	11 01.2	3 39.1	-5 05.3
20	-0 20.2	-0 35.5	12 05.1	20	+11 22.0	-4 22.0	-11 06.2
21	+0 03.5	1 51.3	+5 43.3				
22	0 27.2	2 59.3	-0 51.7				
23	0 50.9	3 55.2	7 17.5				
24	1 14.5	4 36.1	13 14.1				
25	1 38.2	5 00.6	18 24.2				
26	2 01.7	5 08.6	22 33.5				
27	2 25.3	5 01.0	25 31.2				
28	2 48.8	4 39.4	27 10.4				
29	3 12.2	4 05.6	27 29.3				
30	3 35.6	3 21.5	26 30.4				
31	+3 58.9	-2 29.2	-24 20.1				

PLANETS, 2027

GEOCENTRIC LATITUDE AND DECLINATION FOR 5^h 28^m.8 I.S.T.

Date	Mercury		Venus		Mars		Jupiter		Saturn	
	Latitude	Declination	Latitude	Declination	Latitude	Declination	Latitude	Declination	Latitude	Declination
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "
Jan. 0	-1 39.1	-24 49.6	+3 22.5	-15 07.6	+3 14.3	+10 54.6	+0 55.6	+13 33.1	-2 27.6	+1 01.7
2	1 46.9	24 42.8	3 23.2	15 36.4	3 18.5	10 53.3	0 56.0	13 36.0	2 27.1	1 03.9
4	1 53.5	24 30.2	3 23.2	16 04.8	3 22.7	10 53.0	0 56.5	13 39.2	2 26.6	1 06.3
6	1 59.0	24 11.7	3 22.6	16 32.8	3 26.9	10 53.7	0 57.0	13 42.6	2 26.1	1 08.9
8	2 03.2	23 47.0	3 21.3	17 00.2	3 31.1	10 55.6	0 57.4	13 46.2	2 25.6	1 11.6
10	2 05.9	23 16.2	3 19.5	17 26.8	3 35.3	10 58.6	0 57.9	13 50.1	2 25.2	1 14.5
12	2 07.0	22 39.2	3 17.2	17 52.5	3 39.5	11 02.8	0 58.3	13 54.1	2 24.7	1 17.5
14	2 06.3	21 56.0	3 14.3	18 17.2	3 43.7	11 08.1	0 58.8	13 58.3	2 24.2	1 20.6
16	2 03.8	21 06.6	3 11.0	18 40.8	3 47.8	11 14.5	0 59.2	14 02.7	2 23.8	1 23.9
18	1 59.1	20 11.1	3 07.1	19 03.1	3 51.9	11 22.1	0 59.6	14 07.3	2 23.3	1 27.4
20	1 52.1	19 09.8	3 02.9	19 24.0	3 55.9	11 30.9	1 00.0	14 12.0	2 22.9	1 30.9
22	1 42.5	18 03.0	2 58.2	19 43.4	3 59.7	11 40.7	1 00.3	14 16.8	2 22.4	1 34.6
24	1 30.1	16 51.4	2 53.2	20 01.2	4 03.5	11 51.6	1 00.7	14 21.8	2 22.0	1 38.4
26	1 14.7	15 35.6	2 47.8	20 17.3	4 07.1	12 03.6	1 01.1	14 26.8	2 21.6	1 42.4
28	0 56.2	14 17.0	2 42.1	20 31.6	4 10.5	12 16.5	1 01.4	14 32.0	2 21.2	1 46.4
30	0 34.2	12 57.2	2 36.1	20 44.0	4 13.7	12 30.4	1 01.7	14 37.3	2 20.8	1 50.6
Feb. 1	-0 09.0	11 38.3	2 29.8	20 54.5	4 16.6	12 45.1	1 02.0	14 42.6	2 20.4	1 54.9
3	+0 19.4	10 22.9	2 23.3	21 02.9	4 19.3	13 00.6	1 02.3	14 47.9	2 20.0	1 59.3
5	0 50.5	9 14.3	2 16.5	21 09.2	4 21.7	13 16.8	1 02.6	14 53.3	2 19.6	2 03.8
7	1 23.4	8 16.0	2 09.6	21 13.3	4 23.8	13 33.4	1 02.8	14 58.7	2 19.3	2 08.4
9	1 56.8	7 31.4	2 02.4	21 15.2	4 25.5	13 50.5	1 03.0	15 04.1	2 18.9	2 13.1
11	2 29.1	7 03.5	1 55.1	21 14.9	4 26.8	14 07.8	1 03.2	15 09.5	2 18.6	2 17.9
13	2 58.0	6 54.2	1 47.7	21 12.3	4 27.7	14 25.3	1 03.4	15 14.8	2 18.3	2 22.7
15	3 21.2	7 03.8	1 40.2	21 07.3	4 28.3	14 42.7	1 03.6	15 20.1	2 17.9	2 27.7
17	3 36.7	7 30.5	1 32.6	21 00.1	4 28.3	14 59.8	1 03.8	15 25.3	2 17.6	2 32.7
19	3 43.2	8 10.6	1 24.9	20 50.5	4 28.0	15 16.7	1 03.9	15 30.5	2 17.3	2 37.8
21	3 40.5	8 59.2	1 17.1	20 38.6	4 27.2	15 33.1	1 04.0	15 35.5	2 17.1	2 43.0
23	3 29.4	9 51.3	1 09.4	20 24.4	4 26.0	15 48.9	1 04.1	15 40.5	2 16.8	2 48.3
25	3 11.5	10 42.3	1 01.6	20 07.8	4 24.4	16 04.0	1 04.2	15 45.3	2 16.5	2 53.6
27	+2 48.8	-11 28.8	+0 53.9	-19 49.0	+4 22.4	+16 18.3	+1 04.2	+15 50.0	-2 16.3	+2 59.0

PLANETS, 2027

GEOCENTRIC LATITUDE AND DECLINATION FOR 5^h 28^m.8 I.S.T.

Date	Mercury		Venus		Mars		Jupiter		Saturn	
	Latitude	Declination	Latitude	Declination	Latitude	Declination	Latitude	Declination	Latitude	Declination
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "
Mar. 1	+2 23.1	-12 08.8	+0 46.2	-19 27.9	+4 20.1	+16 31.7	+1 04.3	+15 54.5	-2 16.1	+3 04.4
3	1 55.9	12 41.0	0 38.5	19 04.6	4 17.3	16 44.1	1 04.3	15 58.9	2 15.8	3 09.9
5	1 28.5	13 05.2	0 31.0	18 39.0	4 14.2	16 55.5	1 04.3	16 03.2	2 15.6	3 15.4
7	1 01.5	13 21.1	0 23.5	18 11.4	4 10.8	17 05.7	1 04.3	16 07.2	2 15.4	3 21.0
9	0 35.6	13 29.1	0 16.1	17 41.7	4 07.1	17 14.7	1 04.3	16 11.1	2 15.2	3 26.6
11	+0 11.0	13 29.5	0 08.8	17 09.9	4 03.2	17 22.5	1 04.3	16 14.8	2 15.1	3 32.2
13	-0 12.1	13 22.6	+0 01.7	16 36.3	3 59.0	17 29.2	1 04.2	16 18.2	2 14.9	3 37.9
15	0 33.4	13 08.7	-0 05.2	16 00.7	3 54.7	17 34.6	1 04.1	16 21.5	2 14.8	3 43.6
17	0 52.9	12 48.2	0 12.0	15 23.3	3 50.2	17 38.8	1 04.0	16 24.6	2 14.6	3 49.3
19	1 10.7	12 21.3	0 18.7	14 44.2	3 45.6	17 41.8	1 03.9	16 27.4	2 14.5	3 55.1
21	1 26.6	11 48.4	0 25.1	14 03.4	3 40.8	17 43.7	1 03.8	16 30.0	2 14.4	4 00.9
23	1 40.7	11 09.6	0 31.3	13 21.1	3 36.0	17 44.4	1 03.7	16 32.4	2 14.3	4 06.6
25	1 52.9	10 25.2	0 37.3	12 37.2	3 31.1	17 44.1	1 03.6	16 34.6	2 14.2	4 12.4
27	2 03.3	9 35.4	0 43.1	11 51.9	3 26.2	17 42.7	1 03.4	16 36.5	2 14.1	4 18.2
29	2 11.8	8 40.3	0 48.6	11 05.2	3 21.3	17 40.3	1 03.3	16 38.2	2 14.1	4 24.0
31	2 18.4	7 40.2	0 53.9	10 17.3	3 16.4	17 36.9	1 03.1	16 39.7	2 14.0	4 29.8
Apr. 2	2 23.1	6 35.1	0 58.9	9 28.2	3 11.5	17 32.5	1 03.0	16 40.9	2 14.0	4 35.6
4	2 25.9	5 25.4	1 03.6	8 38.0	3 06.7	17 27.3	1 02.8	16 41.9	2 14.0	4 41.4
6	2 26.8	4 11.1	1 08.1	7 46.9	3 01.9	17 21.1	1 02.6	16 42.7	2 14.0	4 47.2
8	2 25.7	2 52.4	1 12.3	6 54.8	2 57.1	17 14.1	1 02.4	16 43.2	2 14.0	4 52.9
10	2 22.7	1 29.5	1 16.2	6 01.9	2 52.4	17 06.3	1 02.2	16 43.5	2 14.0	4 58.7
12	2 17.6	-0 02.5	1 19.8	5 08.3	2 47.7	16 57.6	1 02.0	16 43.5	2 14.0	5 04.4
14	2 10.5	+1 28.2	1 23.1	4 14.1	2 43.1	16 48.2	1 01.8	16 43.4	2 14.1	5 10.1
16	2 01.4	3 02.5	1 26.1	3 19.3	2 38.6	16 38.0	1 01.6	16 42.9	2 14.1	5 15.7
18	1 50.3	4 39.9	1 28.8	2 24.1	2 34.2	16 27.2	1 01.4	16 42.3	2 14.2	5 21.3
20	1 37.2	6 20.1	1 31.3	1 28.5	2 29.8	16 15.6	1 01.2	16 41.4	2 14.3	5 26.9
22	-1 22.2	+8 02.4	-1 33.4	-0 32.6	+2 25.6	+16 03.4	+1 01.0	+16 40.3	-2 14.4	+5 32.5

URANUS, NEPTUNE AND PLUTO, 2027

APPARENT GEOCENTRIC LONGITUDE FOR 5^h 28^m.8 I.S.T.

Date	Uranus	Neptune	Pluto	Date	Uranus	Neptune	Pluto
	° ' "	° ' "	° ' "		° ' "	° ' "	° ' "
Jan. 0	62 19 59	1 42 27	304 19 20	Feb. 25	61 48 12	3 03 19	306 02 48
2	62 16 20	1 43 46	304 22 53	27	61 50 02	3 07 30	306 06 10
4	62 12 50	1 45 13	304 26 28	Mar. 1	61 52 05	3 11 44	306 09 29
6	62 09 29	1 46 49	304 30 06	3	61 54 21	3 16 00	306 12 44
8	62 06 18	1 48 32	304 33 46	5	61 56 48	3 20 20	306 15 55
10	62 03 17	1 50 23	304 37 28	7	61 59 27	3 24 42	306 19 03
12	62 00 27	1 52 22	304 41 11	9	62 02 18	3 29 05	306 22 05
14	61 57 46	1 54 28	304 44 56	11	62 05 20	3 33 31	306 25 04
16	61 55 17	1 56 42	304 48 42	13	62 08 33	3 37 59	306 27 58
18	61 52 60	1 59 04	304 52 29	15	62 11 59	3 42 29	306 30 48
20	61 50 54	2 01 33	304 56 17	17	62 15 35	3 46 59	306 33 33
22	61 48 60	2 04 08	305 00 06	19	62 19 21	3 51 31	306 36 13
24	61 47 17	2 06 51	305 03 55	21	62 23 18	3 56 03	306 38 47
26	61 45 46	2 09 40	305 07 43	23	62 27 25	4 00 35	306 41 17
28	61 44 27	2 12 36	305 11 32	25	62 31 42	4 05 08	306 43 41
30	61 43 21	2 15 38	305 15 21	27	62 36 09	4 09 41	306 45 59
Feb. 1	61 42 27	2 18 46	305 19 09	29	62 40 45	4 14 13	306 48 13
3	61 41 46	2 22 01	305 22 57	31	62 45 31	4 18 46	306 50 20
5	61 41 17	2 25 21	305 26 43	Apr. 2	62 50 25	4 23 18	306 52 22
7	61 41 01	2 28 47	305 30 29	4	62 55 28	4 27 48	306 54 17
9	61 40 58	2 32 19	305 34 13	6	63 00 40	4 32 17	306 56 07
11	61 41 08	2 35 55	305 37 55	8	63 05 60	4 36 45	306 57 50
13	61 41 30	2 39 37	305 41 35	10	63 11 27	4 41 11	306 59 27
15	61 42 05	2 43 23	305 45 14	12	63 17 03	4 45 36	307 00 58
17	61 42 54	2 47 15	305 48 50	14	63 22 46	4 49 59	307 02 22
19	61 43 55	2 51 10	305 52 24	16	63 28 35	4 54 18	307 03 40
21	61 45 08	2 55 10	305 55 55	18	63 34 31	4 58 36	307 04 52
23	61 46 34	2 59 13	305 59 23	20	63 40 33	5 02 50	307 05 56
25	61 48 12	3 03 19	306 02 48	22	63 46 41	5 07 01	307 06 55

In the following pages, a short explanation of the terms used in this Ephemeris has been given and the scope and limitations of the information furnished have been stated in a concise form. The values of the different constants and other data upon which the tabulated quantities are based have also been given in some cases in order to facilitate the use of this Ephemeris. It is not intended to furnish here any detailed explanation about the compilation of the tabular matter for which the reader is referred to the relevant literature.

Many changes have been incorporated in this publication from time to time including several recommendations of IAU at its General Assembly.

THE STANDARD EPOCH AND TIME SCALES

There are two classes of time scales used in Astronomy, one based on the Systeme International (SI) - the atomic second, the other based on the rotation of the Earth. Time scales based on the SI second include TAI and TT for practical applications. Time scale based on the rotation of the Earth include mean and apparent sidereal time and UT1. Because of irregularities in the Earth's rotation and its tidal deceleration, Earth's rotation based time scales do not advance at a uniform rate, and they increasingly lag behind the SI-second-based time scales. The widely disseminated time scale UTC is a hybrid, it advances by SI seconds but is subject to one-second corrections (leap seconds) to keep it within 0^s.9 of UT1.

The standard epoch J 2000.0 corresponds to 2000 January 1, 12^h TT (JD 245 1545.0 TT). A date may be expressed in years as a Julian epoch or for some purposes as a Besselian epoch.

$$\text{Julian epoch} = J [2000.0 + (\text{JD} - 245\,1545.0) / 365.25]$$

Where the quantity in the denominator is the Julian year.

$$\text{Besselian epoch} = B [1900.0 + (\text{JD} - 241\,5020.313\,52) / 365.242\,198\,781]$$

Where the quantity in the denominator is the length of tropical year.

Prefixes J and B stand for the Julian and Besselian epochs respectively.

Various time systems used in this publication and their inter-relationships are described below :

Sidereal time system is derived from the Earth's rotation with respect to the stars. Local sidereal time is defined as the local hour angle of the vernal equinox. It is 0^h at the instant when the vernal equinox is at the upper transit of the local meridian. It is determined from observation of meridian transits of known stars. As the equinox oscillates about its mean position due to the effect of nutation, it gives rise to two kinds of sidereal time : the apparent sidereal time which is the hour angle of the true equinox of date and the mean sidereal time which is the hour angle of the mean equinox of date. The relation between the two is:

$$\text{Apparent sidereal time} = \text{Mean sidereal time} + \text{Equation of Equinoxes}$$

Equation of equinoxes is the total nutation in longitude multiplied by the cosine of the obliquity of the ecliptic. Its value varies within ± 1.2 seconds of time in a period of about 18.6 years.

Sidereal time on the geographic meridian of Greenwich is known as Greenwich sidereal time. Local sidereal time is related to Greenwich sidereal time (mean or apparent as appropriate) as follows:

Local sidereal time = Greenwich sidereal time + λ , where λ is the observer's longitude measured positively to the east (from 1985 onwards the sign convention for east terrestrial longitude to be positive has been adopted).

International Atomic Time (TAI) is a highly precise time scale given by atomic clocks. It is now being used as a standard in astronomy as it is independent of the Earth's rotation. Its fundamental unit, the SI second, is

defined as the duration of 9 192 631 770 cycles of the radiation corresponding to the transition between two hyperfine levels of the ground state of the Cesium 133 atom. This time scale results from analysis of data from atomic time standards of many countries carried out at the Bureau International de l'Heure in Paris.

Universal Time (UT) is used for civil time keeping. It is an outgrowth of the mean solar time system derived from the Earth's rotation with respect to the Sun. It has been formally defined through a strict relationship with the Greenwich mean sidereal time and is, therefore, determined from observation of star transits. The universal time directly derived from observation is designated UT_0 . It contains nonuniformities due to variations in the rotation of the Earth and is peculiar to the observer's geographic location because of polar motion. When UT_0 is corrected for Earth's polar motion, it is called UT1. When UT1 is further corrected for seasonal variation in the Earth's rotation, it is called UT2. Both UT_0 and UT2 are not for general usage. Instead, the national time services provide what is known as co-ordinated universal time (UTC). It is a smoothed version of UT2 and differs from TAI by an integral number of seconds. It contains step adjustments of exactly one second (leap seconds) in order to keep it always within 0.90 seconds of UT1. Beginning with 1972, the step adjustments are usually inserted after the 60th second of the last minute of December 31 or June 30. In this publication, UT1 has been used in computations relating to hour angles, etc., unless otherwise stated.

Dynamical Time replaces ephemeris time (ET) as argument of ephemerides with effect from 1985 in this publication. The concept of different dynamical times for observers in different frames of reference arises out of general theory of relativity. In this publication, terrestrial time (TT) is the tabular argument of the fundamental geocentric ephemerides and barycentric dynamical time (TDB) is the arguments of ephemerides referred to the barycentre of the solar system. The former corresponds to proper time and the latter to co-ordinate time in terms of the general theory of relativity. Both TT and TDB are independent of the Earth's rotation. These scales are so defined that the difference between them is purely periodic. Their difference is given by:-

$TDB = TT + 0^s.001\,657 \sin g + 0^s.000\,022 \sin (L - L_J)$, where higher order terms have been neglected. Here g is the mean anomaly of the Earth in its orbit around the Sun and is given by:-

$$\begin{aligned} g &= 357^\circ.53 + 0^\circ.985\,600\,28 (JD - 245\,1545.0) \\ L - L_J &= 246^\circ.11 + 0.902\,517\,92 (JD - 245\,1545.0) \end{aligned}$$

Where $L - L_J$ is the difference in the mean longitude of the Sun and Jupiter.

Relationship Between universal time and sidereal time

Universal time is defined in terms of Greenwich mean sidereal time by:

$$GMST \text{ at } 0^h UT1 = 6^h 41^m 50^s.549\,377 + 864\,018\,4^s.704\,478 T_u + 0^s.092\,772 T_u^2 - 2^s.93 \times 10^{-8} T_u^3 - 1^s.997 \times 10^{-6} T_u^4 - 2^s.5 \times 10^{-9} T_u^5$$

where T_u is the number of Julian centuries of 36525 days of universal time elapsed since 1 January, 2000, 12^h UT (JD 245 154 5.0). In other words,

$$T_u = (JD - 245\,1545.0) / 36525$$

The above expression implies that the ratio of UT1 to GMST at the epoch J2000.0 is 0.997 269 566 329 084 and its inverse is 1.002 737 909 350 795.

The following relationship holds during 2026:

$$\text{On day of year } d \text{ at } t^h \text{ UT1 } GMST = 6^h.645\,013 + 0^h.065\,709\,8246d + 1^h.002\,737\,91t$$

where day of the year d is tabulated on pages 4 to 12.

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In 2026 :

$$\begin{aligned}
 1 \text{ mean solar day} &= 1.002\,737\,909\,35 \text{ mean sidereal days} \\
 &= 24^{\text{h}}\,03^{\text{m}}\,56^{\text{s}}.555\,37 \text{ of mean sidereal time} \\
 1 \text{ mean sidereal day} &= 0.997\,269\,566\,33 \text{ mean solar days} \\
 &= 23^{\text{h}}\,56^{\text{m}}\,04^{\text{s}}.090\,53 \text{ of mean solar time}
 \end{aligned}$$

Conversion of local mean time to local sidereal time

Calculate local sidereal time at $15^{\text{h}}\,54^{\text{m}}\,42^{\text{s}}$ L.M.T. on 2026 January 1, for Delhi longitude,

$$\lambda = 77^{\circ}\,13'\,00'' \text{ East } (5^{\text{h}}\,08^{\text{m}}\,52^{\text{s}})$$

		h	m	s
1.	Universal time = Local mean time $-\lambda$	10	45	50
2.	Greenwich mean sidereal time at 0^{h} U.T. on January 1, 2026 (Page 13).	6	42	38.602
3.	Add equivalent mean sidereal time for $10\,45\,50$ (UT $\times 1.002\,737\,9093$).	10	47	36.094
4.	Greenwich mean sidereal time at desired L.M.T.	17	30	14.696
5.	Add equation of equinoxes at UT= $0^{\text{d}}.45$ (second order interpolation may be used).			0.3379
6.	Greenwich apparent sidereal time	17	30	15.034
7.	Add longitude (east positive)	5	08	52.000
8.	Local apparent sidereal time	22	39	7.034

For local mean sidereal time, the above process may be repeated by neglecting the equation of equinoxes.

Conversion of local sidereal time to local mean time

Calculate local mean time at $22^{\text{h}}\,40^{\text{m}}\,4.062^{\text{s}}$ local apparent sidereal time on 2026 January 1, for Delhi longitude, $\lambda = 77^{\circ}\,13'\,00'' \text{ East } (5^{\text{h}}\,08^{\text{m}}\,52^{\text{s}})$

		h	m	s
1.	Local apparent sidereal time	22	39	7.034
2.	Subtract longitude (east positive)	5	08	52.000
3.	Greenwich apparent sidereal time	17	30	15.034
4.	Subtract equation of equinox at 0^{h} U.T.			0.3320
5.	Greenwich mean sidereal time (provisional)	17	30	14.702
6.	Subtract Greenwich mean sidereal time at 0^{h} U.T.	6	42	38.602
7.	Mean sidereal time interval (provisional) M.S.T. (P)	10	47	36.100

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7.	Mean sidereal time interval (provisional) M.S.T. (P)	10	47	36.100
8.	Mean time interval in days corresponding to (7) above = (M.S.T. (P) \times 0.997 269 566) = 0 ^d .45 (UT). Subtract the increment to equation of equinoxes for 0 ^d .45 UT (using second order interpolation)	(-)		0.0130
9.	Mean sidereal time	10	47	36.087
10.	Equivalent UT (MST \times 0.997 269 566)	10	45	49.993
11.	Local mean time = UT + λ	15	54	41.993

The mean time from the local mean sidereal time may be worked out on similar lines as above by neglecting the equation of equinoxes.

Notation for time-scales and related quantities

UT1	Universal time (also UT); counted from 0 ^h (mid night); unit is second of mean solar time, affected by irregularities in the Earth's rate of rotation.
UT0	local approximation to universal time; not corrected for polar motion (rarely used).
GMST	Greenwich mean sidereal time; GHA of mean equinox of date.
GAST	Greenwich apparent sidereal time; GHA of true Eqinox of date.
TAI	international atomic time; unit is the SI second of geoid.
UTC	coordinated universal time; differs from TAI by an integral number of seconds, and is the basis of most radio time signals and national and/ or legal time systems.
Δ UT	= UT1 – UTC; increment to be applied to UTC to give UT1
TDB	barycentric dynamical time; used as time-scale of ephemerides, referred to the barycentre of the solar system.
T_{eph}	the independent variable of the equations of motion used by the JPL ephemerides, in particular DE405/LE405. T_{eph} and TDB may be considered to be equivalent.
TT	terrestrial time; used as time-scale of ephemerides for observations from the Earth's surface (geoid).
TT	= TAI + 32 ^s .184.
Δ T	= TT – UT1; increment to be applied to UT1 to give TT. = TAI + 32 ^s .184 – UT1
Δ AT	= TAI – UT1; increment to be applied to UTC to give TAI; an integral number of seconds.
Δ TT	= TT – UTC = Δ AT + 32 ^s .184; increment to be applied to UTC to give TT.
UT1 - UT0	= – (x sin λ + y cos λ) tan ϕ / 15 where λ and ϕ are usual geodetic longitude and latitude of the place, and x and y are the co-ordinates of the pole with respect to the geodetic system, in arcseconds.
GAST	= GMST + ϵ_{γ} / 15, ϵ_{γ} is equation of equinox.

In order to convert the tabulations for 0^h TT to 0^h UT, one may interpolate to Δ T $\delta_{1/2}$ / h where h is the tabular interval and $\delta_{1/2}$ is the first difference of the tabular values.

REDUCTION OF TIME SCALES, 1620-1644

$$\Delta T = ET - UT$$

Year	ΔT s	Year	ΔT s	Year	ΔT s	Year	ΔT s	Year	ΔT s
1620.0	+124	1625.0	+102	1630.0	+85	1635.0	+72	1640.0	+62
1621	119	1626	98	1631	82	1636	70	1641	60
1622	115	1627	95	1632	79	1637	67	1642	58
1623	110	1628	91	1633	77	1638	65	1643	57
1624	+ 106	1629	+ 88	1634	+74	1639	+63	1644	+55

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REDUCTION OF TIME SCALES, 1645-1819

$$\Delta T = ET - UT$$

Year	ΔT s	Year	ΔT s	Year	ΔT s	Year	ΔT s	Year	ΔT s
1645.0	+ 54	1680.0	+ 16	1715.0	+ 10	1750.0	+ 13	1785.0	+ 17
1646	53	1681	15	1716	10	1751	14	1786	17
1647	51	1682	14	1717	11	1752	14	1787	17
1648	50	1683	14	1718	11	1753	14	1788	17
1649	49	1684	13	1719	11	1754	14	1789	17
1650.0	+ 48	1685.0	+ 12	1720.0	+ 11	1755.0	+ 14	1790.0	+ 17
1651	47	1686	12	1721	11	1756	14	1791	17
1652	46	1687	11	1722	11	1757	14	1792	16
1653	45	1688	11	1723	11	1758	15	1793	16
1654	44	1689	10	1724	11	1759	15	1794	16
1655.0	+ 43	1690.0	+ 10	1725.0	+ 11	1760.0	+ 15	1795.0	+ 16
1656	42	1691	10	1726	11	1761	15	1796	15
1657	41	1692	9	1727	11	1762	15	1797	15
1658	40	1693	9	1728	11	1763	15	1798	14
1659	38	1694	9	1729	11	1764	15	1799	14
1660.0	+ 37	1695.0	+ 9	1730.0	+ 11	1765.0	+ 16	1800.0	+ 13.7
1661	36	1696	9	1731	11	1766	16	1801	13.4
1662	35	1697	9	1732	11	1767	16	1802	13.1
1663	34	1698	9	1733	11	1768	16	1803	12.9
1664	33	1699	9	1734	12	1769	16	1804	12.7
1665.0	+ 32	1700.0	+ 9	1735.0	+ 12	1770.0	+ 16	1805.0	+ 12.6
1666	31	1701	9	1736	12	1771	16	1806	12.5
1667	30	1702	9	1737	12	1772	16	1807	12.5
1668	28	1703	9	1738	12	1773	16	1808	12.5
1669	27	1704	9	1739	12	1774	16	1809	12.5
1670.0	+ 26	1705.0	+ 9	1740.0	+ 12	1775.0	+ 17	1810.0	+ 12.5
1671	25	1706	9	1741	12	1776	17	1811	12.5
1672	24	1707	9	1742	12	1777	17	1812	12.5
1673	23	1708	10	1743	12	1778	17	1813	12.5
1674	22	1709	10	1744	13	1779	17	1814	12.5
1675.0	+ 21	1710.0	+ 10	1745.0	+ 13	1780.0	+ 17	1815.0	+ 12.5
1676	20	1711	10	1746	13	1781	17	1816	12.5
1677	19	1712	10	1747	13	1782	17	1817	12.4
1678	18	1713	10	1748	13	1783	17	1818	12.3
1679	+ 17	1714	+ 10	1749	+ 13	1784	+ 17	1819	+ 12.2

This table is based on an adopted value of $-26''/\text{cy}^2$ for the tidal term ($\dot{\mathbf{n}}$) in the mean motion of the Moon from the results of analyses of observations of lunar occultations of stars, eclipses of the Sun and transits of Mercury. (see F.R. Stephenson and L.V. Morrison, 1984 *PhD Trans*, R. Soc. London, Ser A, 313, 47-70).

To calculate the values of ΔT for a different value of the tidal term ($\dot{\mathbf{n}}'$), add $-0.000\,091\,(\dot{\mathbf{n}}' + 26)$ (year $- 1955$)² seconds to the tabulated values of ΔT .

EXPLANATION

REDUCTION OF TIME SCALES FROM 1820

1820 - 1983, $\Delta T = ET - UT$.				From 1984, $\Delta T = TDT - UT$. 2001, $\Delta T = TT - UT$.					
Year	ΔT	Year	ΔT	Year	ΔT	Year	ΔT	Year	ΔT
	s		s		s		s		s
1820.0	+ 12.0	1863	6.97	1906	5.37	1949	28.71	1992	58.31
1821	11.7	1864	6.40	1907	6.14	1950.0	+ 29.15	1993	58.12
1822	11.4	1865.0	6.02	1908	7.75	1951	29.57	1994	59.98
1823	11.1	1866	5.41	1909	9.13	1952	29.97	1995.0	60.78
1824	10.6	1867	4.10	1910.0	+ 10.46	1953	30.36	1996	61.63
1825.0	10.2	1868	2.92	1911	11.53	1954	30.72	1997	62.29
1826	9.60	1869	1.82	1912	13.36	1955.0	31.07	1998	62.97
1827	9.10	1870.0	+ 1.61	1913	14.65	1956	31.35	1999	63.47
1828	8.60	1871	+ 0.10	1914	16.01	1957	31.68	2000.0	+ 63.83
1829	8.00	1872	− 1.02	1915.0	17.20	1958	32.18	2001	64.09
1830.0	+ 7.50	1873	1.28	1916	18.24	1959	32.68	2002	64.30
1831	7.00	1874	2.69	1917	19.06	1960.0	+ 33.15	2003	64.47
1832	6.60	1875.0	3.24	1918	20.25	1961	33.59	2004	64.57
1833	6.30	1876	3.64	1919	20.95	1962	34.00	2005.0	+ 64.69
1834	6.00	1877	4.54	1920.0	+ 21.16	1963	34.47	2006	64.85
1835.0	5.80	1878	4.71	1921	22.25	1964	35.03	2007	65.15
1836	5.70	1879	5.11	1922	22.41	1965.0	35.73	2008	65.46
1837	5.60	1880.0	− 5.40	1923	23.03	1966	36.54	2009	65.78
1838	5.60	1881	5.42	1924	23.49	1967	37.43	2010.0	+ 66.07
1839	5.60	1882	5.20	1925.0	23.62	1968	38.29	2011	66.32
1840.0	+ 5.70	1883	5.46	1926	23.86	1969	39.20	2012	66.60
1841	5.80	1884	5.46	1927	24.49	1970.0	+ 40.18	2013	66.91
1842	5.90	1885.0	5.79	1928	24.34	1971	41.17	2014	67.28
1843	6.10	1886	5.63	1929	24.08	1972	42.23	2015.0	67.64
1844	6.20	1887	5.64	1930.0	+ 24.02	1973	43.37	2016	68.10
1845.0	6.30	1888	5.80	1931	24.00	1974	44.49	2017	68.59
1846	6.50	1889	5.66	1932	23.87	1975.0	45.48	2018	68.97
1847	6.60	1890.0	− 5.87	1933	23.95	1976	46.46	2019	69.22
1848	6.80	1891	6.01	1934	23.86	1977	47.52	2020.0	+ 69.36
1849	6.90	1892	6.19	1935.0	23.93	1978	48.53	2021	69.36
1850.0	+ 7.10	1893	6.64	1936	23.73	1979	49.59	2022	69.29
1851	7.20	1894	6.44	1937	23.92	1980.0	+ 50.54	2023	69.20
1852	7.30	1895.0	6.47	1938	23.96	1981	51.38	2024	69.18
1853	7.40	1896	6.09	1939	24.02	1982	52.17		
1854	7.50	1897	5.76	1940.0	+ 24.33	1983	52.96		
1855.0	7.60	1898	4.66	1941	24.83	1984	53.79		
1856	7.70	1899	3.74	1942	25.30	1985.0	54.34		
1857	7.70	1900.0	− 2.72	1943	25.70	1986	54.87		
1858	7.80	1901	1.54	1944	26.24	1987	55.32		
1859	7.80	1902	− 0.02	1945.0	26.77	1988	55.82		
1860.0	+ 7.88	1903	+ 1.24	1946	27.28	1989	56.30		
1861	7.82	1904	2.64	1947	27.78	1990.0	+ 56.86		
1862	7.54	1905.0	3.86	1948	28.25	1991	57.57		
Extrapolated Values									
2025	+ 69.20	2027	+ 69	2029	+ 69				
2026	+ 69	2028	+ 69						

Difference TAI – UTC = ΔAT							
Date	ΔAT_s	Date	ΔAT_s	Date	ΔAT_s	Date	ΔAT_s
1972 Jul.1	+ 11.00	1979 Jan.1	+ 18.00	1990 Jan.1	+ 25.00	1999 Jan. 1	+ 32.00
1973 Jan.1	+ 12.00	1980 Jan.1	+ 19.00	1991 Jan.1	+ 26.00	2006 Jan. 1	+ 33.00
1974 Jan.1	+ 13.00	1981 Jul.1	+ 20.00	1992 Jul.1	+ 27.00	2009 Jan. 1	+ 34.00
1975 Jan.1	+ 14.00	1982 Jul.1	+ 21.00	1993 Jul.1	+ 28.00	2012 Jul. 1	+ 35.00
1976 Jan.1	+ 15.00	1983 Jul.1	+ 22.00	1994 Jul.1	+ 29.00	2015 Jul. 1	+ 36.00
1977 Jan.1	+ 16.00	1985 Jul.1	+ 23.00	1996 Jan.1	+ 30.00	2017 Jan. 1	+ 37.00
1978 Jan.1	+ 17.00	1988 Jan.1	+ 24.00	1997 Jul.1	+ 31.00	In critical cases descend ΔET $= \Delta\text{AT} + 32^s.184$ ΔTT	
1979 Jan.1		1990 Jan.1		1999 Jan.1			

From 1990 onwards, ΔT is for Jan. 1 0^h UTC.

See page 2 for a summary of the notation for time-scales.

Astronomical Reference System and Reference Frames

A reference system is the complete specification of how a celestial coordinate system is to be formed. Both the origin and the orientation of the fundamental planes (or axes) are defined. A reference system also incorporates a specification of the fundamental models needed to construct the system; that is, the basis for the algorithms used to transform between observable quantities and reference data in the system. A reference frame, on the other hand, consists of a set of identifiable fiducial points on the sky along with their coordinates, which serves as the practical realization of a reference system.

For example, the fundamental plane of an astronomical reference system has conventionally been the extension of the Earth's equatorial plane, at some date, to infinity. Declination is the angular distance north or south of this plane, and right ascension is the angular distance measured eastward along the equator from some defined reference point. This reference point, the right ascension origin, has traditionally been the Equinox: the point at which the Sun, in its yearly circuit of the celestial sphere, crosses the equatorial plane moving from south to north. The Sun's apparent yearly motion lies in the ecliptic, the plane of the Earth's orbit. The equinox, therefore, is a direction in the space along the nodal line defined by the intersection of the ecliptic and equatorial planes; equivalently, on the celestial sphere, the equinox is at one of the two intersections of the great circles representing these planes. Because both of these planes are moving, the coordinate systems that they define must have a date associated with them; such a reference system must therefore be specified as "the equator and equinox of (some date)".

Of course, such a reference system is an idealization, because the theories of motion of the Earth that define how the two planes move are imperfect. In fact, the very definitions of these planes are problematic for high precession work. Even if the fundamental planes of a reference system are defined without any reference to the motions of the Earth, there is no way magically to paint them on the celestial sphere at any particular time. Therefore, in practice, we use a specific reference frame - a set of fiducial objects with assigned coordinates - as the practical representation of an astronomical reference system. The scheme is completely analogous to how terrestrial reference systems are established using survey control stations (geodetic reference point) on the Earth's surface.

Most commonly, a reference frame consists of a catalog of precise positions (and motions, if measurable) of stars or extragalactic objects as seen from the solar system barycenter at a specific epoch (now usually "J2000.0", which is 12h TT on January 2000). Each object's instantaneous position, expressed as right ascension and declination, indicates the object's angular distance from the catalog's equator and origin of right ascension. Any two such objects in the catalog (if they are not coincident or antipodal) therefore uniquely orient a spherical coordinate system on the sky - a reference frame.

A modern astrometric catalog contains data on a large number of objects (N), so the coordinate system is vastly overdetermined. The quality of the reference frame defined by a catalog depends on the extent to which the coordinates of all possible pairs of objects ($N^2/2$) serve to the identical equator and right ascension origin, within the expected random errors. Typically, every catalog contains systematic errors, that is, errors in position that are similar for objects that are in the same area of the sky, or are of the same magnitude (flux) or color (spectral index). Systematic errors mean that the reference frame is warped, or is effectively different for different classes of objects. Obviously, minimizing systematic errors when a catalog is constructed is at least as important as minimizing the random errors.

To be useful, a reference frame must be implemented at the time of actual observations, and this requires the computation of the apparent coordinates of the catalog objects at arbitrary dates and times. The accuracy with which we know the motions of the objects across the sky is an essential factor in this computation. Astrometric star catalogs list proper motions, which are the projection of each star's space motion onto the celestial sphere, expressed as an angular rate in right ascension and declination per unit time. Because the tabulated proper motions are never perfect, any celestial reference frame deteriorates with time. Moreover, systematic errors in the proper motions can produce time-dependent warpings and spurious rotations of the frame. Therefore, the accuracy and consistency of the proper motions are critical to the overall quality, utility, and longevity of reference frames defined by stars. Even reference frames defined by extragalactic objects, which are usually considered to have zero proper motion, may deteriorate, because many of these objects show small apparent motions that are artifacts of their emission mechanisms.

The position of solar system objects can also be used to define a reference frame. For each solar system body involved, an ephemeris is used, which is simply a table of the celestial coordinates of the body as a function of time (or an algorithm that yields such a table). A reference frame defined by the ephemerides of one or more solar system bodies is called a dynamical reference frame. Because the ephemerides used incorporate the motion of the Earth as well as that of the other solar system bodies, dynamical reference frames embody in a very fundamental way the moving equator and ecliptic, hence the equinox. They have therefore been used to correct the orientation of star catalog reference frames (the star positions were systematically adjusted) on the basis of simultaneous observations of star and planets. In a sense, the solar system is used as a gyrocompass. However, dynamical reference frames are not very practical for establishing a coordinate system for day to day astronomical observations.

Descriptions of reference frames and reference systems often refer to three coordinate axes, which are simply the set of right-handed cartesian axes that correspond to the usual celestial spherical coordinate system. The xy -plane is the equator, the z -axis points toward the north celestial pole, and the x -axis points toward the origin of right ascension. Although in principle this allows us to specify the position of any celestial object in rectangular coordinates, the distance scale (based on stellar parallaxes) is not established to high precision beyond the solar system. What a reference system actually defines is the way in which the two conventional astronomical angular coordinates, right ascension and declination, overlay real observable points in the sky.

The fundamental celestial reference system for astronomical application is now the International Celestial Reference System (ICRS) as provided in resolution B2 of 1997. The "realization" of the ICRS, called the International Celestial Reference Frame (ICRF), is a set of high accuracy positions of extragalactic radio sources measured by very long baseline interferometry.

The IAU Working Group on nomenclature for Fundamental Astronomy has recommended the following definitions for ICRS and ICRF:

International Celestial Reference System (ICRS): The idealized barycentric co-ordinate system to which celestial positions are referred. It is kinematically non-rotating with respect to the ensemble of distant extragalactic objects. It has no intrinsic orientation but was aligned close to the mean equator and dynamical equinox of J2000.0 for continuity with previous fundamental reference systems. Its orientation is independent of epoch, ecliptic or equator and is realized by a list of adopted coordinates of extragalactic sources.

International Celestial Reference Frame (ICRF): A set of extragalactic objects whose adopted positions and uncertainties realize the ICRS axes and give the uncertainties of the axes. It is also the name of radio catalogue whose 212 defining sources are currently the most accurate realization of the ICRS. The orientation of the ICRF catalogue was carried over from earlier IERS radio catalogs and was within the errors of the standard stellar and dynamical frames at the time of adoption. Successive revision of the ICRF are intended to minimize rotation from its original orientation.

Some important reference systems and their designations as per IAU 2000 resolution B1.6, B1.7 and B1.8, and IAU 2006 resolutions 1 and 2 are listed below:

(i) Barycentric Celestial Reference System (BCRS): a system of barycentric space-time coordinates for the solar system within the framework of General Relativity. For all practical applications, the BCRS is assumed to be oriented according to the ICRS axes, the directions of which are realized by the International Celestial Reference Frame. The ICRS is not identical to the system defined by the dynamical mean equator and equinox of J2000.0, although the difference in orientation is only about $0''.02$.

(ii) The Geocentric Celestial Reference System (GCRS): is a system of geocentric space-time coordinates within the framework of General Relativity. The directions of the GCRS axes are obtained from those of the BCRS (ICRS) by a relativistic transformation. Positions of stars obtained from ICRS reference data, corrected for proper motion, parallax, light-bending, and aberration (for a geocentric observer) are with respect to the GCRS. The same is true for planetary positions, although the corrections are somewhat different.

(iii) The J2000.0 dynamical reference system: mean equator and equinox of J2000.0; a geocentric system where the origin of right ascension is the intersection of the mean ecliptic and equator of J2000.0; the system in which the IAU 2000 precession-nutation is defined. For precise applications a small rotation (frame bias) should be made to GCRS positions before precession and nutation are applied. The J2000.0 system may also be barycentric, for example as the reference system for catalogues.

(iv) The true system of date (t); true equator and equinox of date: a geocentric system of date, the pole of which is the celestial intermediate pole (CIP), with the origin of right ascension at the equinox on the true equator of date (intermediate equator). It is a system “between” the GCRS and the Terrestrial Intermediate Reference System that separates the components labelled precession-nutation and polar motion.

(v) The Celestial Intermediate Reference System (i): the IAU recommended geocentric system of date, the pole of which is the celestial intermediate pole (CIP), with the origin of right ascension at the celestial intermediate origin (CIO) which is located on the intermediate equator (true equator of date). It is a system “between” (intermediate) the GCRS and the Terrestrial Intermediate Reference System that separates the components labelled precession-nutation and polar motion.

Precession and Nutation

The algorithms for precession were based on the IAU (1976) value for the rate of general precession in ecliptic longitude. Nutation was given by the 1980 IAU Theory of Nutation. However, IAU (1976) rate of precession had been overestimated by approximately 3 milliarcseconds per year. Further observations also revealed periodic errors of a few milliarcseconds in the 1980 IAU Theory of Nutation.

As part of the 2000 IAU resolutions, the IAU 2000A precession-nutation model was introduced, based on an updated value for the rate of precession and a completely new nutation theory. As before, the model actually consists of two parts, a precession algorithm describing the smooth secular motion of the celestial pole and a nutation algorithm describing the small periodic variations in the pole’s position. The precession algorithm consists of short polynomial series for the values of certain angles. The sines and cosines of these angles, in combination, then define the elements of a precession matrix, **P**. The nutation algorithm consists of a rather long series expansion in Fourier terms for the angular offsets, in ecliptic longitude and latitude, of the actual celestial pole (as modeled) from the precession-only pole (true pole - mean pole). The sines and cosines of these offsets, in combination, then define the elements of a nutation matrix, **N**. The **P** and **N** matrices are applied to the coordinates of celestial objects, expressed as 3-vectors, to transform them from the equator and equinox of one epoch to the equator and equinox of another.

EXPLANATION

A precession transformation is applied to celestial coordinates to convert them from the mean equator and equinox of J2000.0 to the mean equator and equinox of another date, t . Nutation is applied to the resulting coordinates to transform them to the true equator and equinox of t . Generally we will start with celestial coordinates in the GCRS, which are obtained from basic ICRS data by applying the usual algorithms for proper place. Therefore before we apply precession and nutation - we must first apply the frame bias correction to transform the GCRS coordinates to the dynamical mean equator and equinox of J2000.0. Schematically,

GCRS => frame bias = mean equator & equinox of J2000.0 = precession =>

mean equator & equinox of t = nutation => true equator & equinox of t .

The reduction from a geocentric position \mathbf{r} with respect to the Geocentric Celestial Reference System (GCRS) to a position \mathbf{r}_t with respect to equator and equinox of date, and vice versa, is given by;

$$\mathbf{r}_t = \mathbf{M} \mathbf{r} \quad \text{and} \quad \mathbf{r} = \mathbf{M}^{-1} \mathbf{r}_t$$

Using the 4-rotation Fukushima-Williams (F-W) method, the rotation matrix \mathbf{M} may be written as

$$\mathbf{M} = \mathbf{N} \mathbf{P} \mathbf{B}$$

Since the rotation to orient the GCRS to J2000.0 system are small the following approximate matrix \mathbf{B} is called frame bias matrix, accurate to 2×10^{-9} (1×10^{-14} radians), may be used:

$$\mathbf{B} = \begin{bmatrix} 1 & d\alpha_0 & -\xi_0 \\ -d\alpha_0 & 1 & -\eta_0 \\ \xi_0 & \eta_0 & 1 \end{bmatrix}$$

where $d\alpha_0 = -14.6$ mas, $\xi_0 = -16.6170$ mas, and $\eta_0 = -6.8192$ mas, all converted to radians (divide by 206 264 806.247).

Precession

The time argument T is given by

$$T = (t - 2000.0)/100 = (\text{JD}_{\text{TT}} - 2451545.0)/36525, \text{ which is a function of TT.}$$

The Capitine *et al.* method, the formulation of which separates precession of the equator from precession of the ecliptic, is via the precession angles χ_A , ω_A , ψ_A , which are

$$\psi_A = 5038''.481\,507\,T - 1''.079\,0069\,T^2 - 0''.001\,140\,45\,T^3 + 0''.000\,132\,851\,T^4 - 9''.51 \times 10^{-8}\,T^5$$

$$\omega_A = \varepsilon_0 - 0''.025\,754\,T + 0''.051\,2623\,T^2 - 0''.007\,725\,03\,T^3 - 0''.000\,000\,467\,T^4 + 33''.37 \times 10^{-8}\,T^5$$

$$\chi_A = 10''.556\,403\,T - 2''.381\,4292\,T^2 - 0''.001\,211\,97\,T^3 + 0''.000\,170\,663\,T^4 - 5''.60 \times 10^{-8}\,T^5$$

The mean obliquity of the ecliptic at J2000.0 (or the equivalent TDB date) is $\varepsilon_0 = 84381''.406$

(i) A rotation from the mean equator and equinox of J2000.0 to the mean ecliptic and equinox of J2000.0. This is simply a rotation around the x-axis (the direction toward the mean equinox of J2000.0) by the angle ε_0 , the mean obliquity of J2000.0. After the rotation, the fundamental plane is the ecliptic of J2000.0

(ii) A rotation around the new z-axis (the direction toward the ecliptic pole of J2000.0) by the angle $-\psi_A$, the amount of precession of the equator from J2000.0 to t .

(iii) A rotation around the new x-axis (the direction along the intersection of the mean equator of t with the ecliptic of J2000.0) by the angle $-\omega_A$, the obliquity of the mean equator of t with respect to the ecliptic of J2000.0. After the rotation, the fundamental plane is the mean equator of t .

(iv) A rotation around the new z-axis (the direction toward the mean celestial pole of t) by the angle χ_A , accounting for the precession of the ecliptic along the mean equator of t. After the rotation, the new x-axis is in the direction of the mean equinox of date.

$$\mathbf{P} = \begin{bmatrix} C_4 C_2 - S_2 S_4 C_3 & C_4 S_2 C_1 + S_4 C_3 C_2 C_1 - S_1 S_4 S_3 & C_4 S_2 S_1 + S_4 C_3 C_2 S_1 + C_1 S_4 S_3 \\ -S_4 C_2 - S_2 C_4 C_3 & -S_4 S_2 C_1 + C_4 C_3 C_2 C_1 - S_1 C_4 S_3 & -S_4 S_2 S_1 + C_4 C_3 C_2 S_1 + C_1 C_4 S_3 \\ S_2 S_3 & -S_3 C_2 C_1 - S_1 C_3 & -S_3 C_2 S_1 + C_3 C_1 \end{bmatrix}$$

where

$$\begin{aligned} S_1 &= \sin \varepsilon_0 & S_2 &= \sin (-\psi_A) & S_3 &= \sin (-\omega_A) & S_4 &= \sin \chi_A \\ C_1 &= \cos \varepsilon_0 & C_2 &= \cos (-\psi_A) & C_3 &= \cos (-\omega_A) & C_4 &= \cos \chi_A \end{aligned}$$

Existing applications that use the 3-angle precession formulation of Newcomb and Lieske can be easily modified for the IAU 2000A precession, by replacing the current polynomials for the angles ζ_A , Z_A and θ_A with the following:

$$\zeta_A = 2''.650545 + 2306''.083227 T + 0''.2988499 T^2 + 0''.01801828 T^3 - 0''.000005971 T^4 - 0''.0000003173 T^5$$

$$Z_A = -2''.650545 + 2306''.077181 T + 1''.0927348 T^2 + 0''.01826837 T^3 - 0''.000028596 T^4 - 0''.0000002904 T^5$$

$$\theta_A = 2004''.191903 T - 0''.4294934 T^2 - 0''.04182264 T^3 - 0''.000007089 T^4 - 0''.0000001274 T^5$$

The centennial (per Julian century) rates of general precession in right ascension and declination are given by :

$$m = 4612''.60408 + 2''.7831694 T + 0''.10885995 T^2 - 0''.000138268 T^3 \text{ and}$$

$$n = 2004''.191903 - 0''.8589868 T - 0''.12546792 T^2 - 0''.000028356 T^3$$

The elements of the matrix \mathbf{P} given in terms of ζ_A , Z_A , θ_A are as follows:

$$\mathbf{P} = \begin{bmatrix} \cos \zeta_A \cos \theta_A \cos Z_A - \sin \zeta_A \sin Z_A & -\sin \zeta_A \cos \theta_A \cos Z_A - \cos \zeta_A \sin Z_A & -\sin \theta_A \cos Z_A \\ \cos \zeta_A \cos \theta_A \sin Z_A + \sin \zeta_A \cos Z_A & -\sin \zeta_A \cos \theta_A \sin Z_A + \cos \zeta_A \cos Z_A & -\sin \theta_A \sin Z_A \\ \cos \zeta_A \sin \theta_A & -\sin \zeta_A \sin \theta_A & \cos \theta_A \end{bmatrix}$$

The formula for reduction of precession in right ascension and declination are as follows :

$$\begin{aligned} \sin (\alpha - Z_A) \cos \delta &= \sin (\alpha_o + \zeta_A) \cos \delta_o. \\ \cos (\alpha - Z_A) \cos \delta &= \cos (\alpha_o + \zeta_A) \cos \theta_A \cos \delta_o - \sin \theta_A \sin \delta_o \\ \sin \delta &= \cos (\alpha_o + \zeta_A) \sin \theta_A \cos \delta_o + \cos \theta_A \sin \delta_o \end{aligned}$$

$$\begin{aligned} \sin (\alpha_o + \zeta_A) \cos \delta_o &= \sin (\alpha - Z_A) \cos \delta \\ \cos (\alpha_o + \zeta_A) \cos \delta_o &= \cos (\alpha - Z_A) \cos \theta_A \cos \delta + \sin \theta_A \sin \delta \\ \sin \delta_o &= -\cos (\alpha - Z_A) \sin \theta_A \cos \delta + \cos \theta_A \sin \delta \end{aligned}$$

EXPLANATION

Values of the angles ζ_A, Z_A, θ_A and of the elements of the matrix P for reduction from the standard epoch J 2000.0 to epoch of year are as follows:

Epoch J 2026.5	Rotation matrix P for reduction to epoch J 2026.5
$\zeta_A = +613''.784 = +0^\circ.170496$ $Z_A = +608''.537 = +0^\circ.169038$ $\theta_A = +531''.080 = +0^\circ.147522$	$\mathbf{P} = \begin{bmatrix} +0.999\,979\,13 & -0.005\,925\,93 & -0.002\,574\,73 \\ +0.005\,925\,93 & +0.999\,982\,44 & -0.000\,007\,60 \\ +0.002\,574\,73 & -0.000\,007\,66 & +0.999\,996\,69 \end{bmatrix}$

The obliquity of the ecliptic of date (with respect to the mean equator of date) is given by:

$$\varepsilon = \varepsilon_0 - 46''.836\,769\,T - 0''.000\,183\,1\,T^2 + 0''.002\,003\,4\,T^3 - 0''.000\,000\,576\,T^4 - 0''.000\,000\,043\,4\,T^5$$

where $\varepsilon_0 = 84381''.406$

The precessional motion of the ecliptic specified by the inclination (π_A) and longitude of the node (Π_A) of the ecliptic of date with respect to the ecliptic and equinox of J 2000.0 are given by:

$$\begin{aligned} \sin \pi_A \sin \Pi_A &= +4''.199\,094\,T + 0''.193\,987\,T^2 - 0''.000\,224\,66\,T^3 \\ \sin \pi_A \cos \Pi_A &= -46''.811\,015\,T + 0''.051\,028\,T^2 + 0''.000\,524\,13\,T^3 \end{aligned}$$

For epoch J 2026.5

$$\begin{aligned} \varepsilon &= 23^\circ 26' 9''.93 &= 23^\circ.436\,092 \\ \pi_A &= +11''.513 &= 0^\circ.003\,198\,0 \\ \Pi_A &= 174^\circ 48'.9 &= 174^\circ.815 \end{aligned}$$

Approximate formulae for the reduction of precession in co-ordinates and orbital elements referred to the mean equinox and equator or ecliptic of date (t) are as follows :

Reduction to J 2000.0	Reduction from J 2000.0
$\alpha_o = \alpha - M - N \sin \alpha_m \tan \delta_m$	$\alpha = \alpha_o + M + N \sin \alpha_m \tan \delta_m$
$\delta_o = \delta - N \cos \alpha_m$	$\delta = \delta_o + N \cos \alpha_m$
$\lambda_o = \lambda - a + b \cos (\lambda + c') \tan \beta_o$	$\lambda = \lambda_o + a - b \cos (\lambda_o + c) \tan \beta$
$\beta_o = \beta - b \sin (\lambda + c')$	$\beta = \beta_o + b \sin (\lambda_o + c)$
$\Omega_o = \Omega - a + b \sin (\Omega + c') \cot i_o$	$\Omega = \Omega_o + a - b \sin (\Omega_o + c) \cot i$
$i_o = i - b \cos (\Omega + c')$	$i = i_o + b \cos (\Omega_o + c)$
$\omega_o = \omega - b \sin (\Omega + c') \operatorname{cosec} i_o$	$\omega = \omega_o + b \sin (\Omega_o + c) \operatorname{cosec} i$

The precessional constants M, N etc. are given by :

$$\begin{aligned} M &= 1^\circ.281\,155\,668\,9\,T + 0^\circ.000\,386\,551\,31\,T^2 + 0^\circ.000\,010\,079\,T^3 \\ N &= 0^\circ.556\,719\,973\,1\,T - 0^\circ.000\,119\,303\,72\,T^2 - 0^\circ.000\,011\,617\,4\,T^3 \\ a &= 1^\circ.396\,887\,83\,T + 0^\circ.000\,307\,065\,22\,T^2 \\ b &= 0^\circ.013\,055\,270\,3\,T - 0^\circ.000\,009\,303\,50\,T^2 \\ c &= 5^\circ.125\,890\,67 + 0^\circ.818\,993\,58\,T + 0^\circ.000\,104\,256\,09\,T^2 - 0^\circ.000\,104\,155\,607\,T^3 \\ c' &= 5^\circ.125\,890\,67 - 0^\circ.577\,894\,252\,T - 0^\circ.000\,164\,504\,28\,T^2 - 0^\circ.000\,104\,177\,728\,T^3 \end{aligned}$$

where $T = (t - 2000.0) / 100 = (JD_{TT} - 245\,1545.0) / 36525$

Formulae for the reduction from the mean equinox and equator or ecliptic of the middle of year (t_1) to date (t) are as follows :

$$\begin{aligned}\alpha &= \alpha_1 + \tau (m + n \sin \alpha_1 \tan \delta_1) & \delta &= \delta_1 + \tau n \cos \alpha_1 \\ \lambda &= \lambda_1 + \tau \{p - \pi \cos (\lambda_1 + 6^\circ) \tan \beta\} & \beta &= \beta_1 + \tau \pi \sin (\lambda_1 + 6^\circ) \\ \Omega &= \Omega_1 + \tau \{\rho - \pi \sin (\Omega_1 + 6^\circ) \cot i\} & i &= i_1 + \tau \pi \cos (\Omega_1 + 6^\circ) \\ \omega &= \omega_1 + \tau \pi \sin (\Omega_1 + 6^\circ) \operatorname{cosec} i\end{aligned}$$

where $\tau = t - t_1$ and π is the annual rate of rotation of the ecliptic. The precessional constants p , m , etc. are as follows :

	Epoch J 2026.5
Annual general precession	$p = + 0^\circ.013\,971\,35$
Annual precession in R.A.	$m = + 0^\circ.012\,814\,38$
Annual precession in Dec.	$n = + 0^\circ.005\,566\,90$
Annual rate of rotation	$\pi = + 0^\circ.000\,130\,52$
Longitude of axis	$\Pi = + 175^\circ.1185$
$\gamma = 180^\circ - \Pi = + 4^\circ.8815$	

where Π is the longitude of the instantaneous rotation axis of the ecliptic, measured from the mean equinox of date.

Nutation

The changes in the amplitudes of the nutation components are also not directly taken from the observations; instead a new nutation theory is developed and fit to observations by allowing a small number of geophysical constants to be free parameters. These parameters are constants in a “transfer function” that modifies the amplitudes of the terms from a rigid- Earth nutation development. Since there are fewer solved-for geophysical constants than the number of terms with observed amplitudes, the fit cannot be perfect. For the IAU 2000A model, 7 geophysical parameters were determined based on the observed amplitudes of 21 nutation terms (prograde and retrograde amplitudes for each) together with the apparent change in the rate of precession in longitude. Note that the number of free parameters in the model are both quite small compared to the 1365 terms in the new, full nutation series.

Nutation is conventionally expressed as two small angles, $\Delta\psi$ the nutation in longitude, and $\Delta\varepsilon$, the nutation in obliquity. These angles are measured in the Ecliptic system of date, which is developed as a part of precession formulation. The angle $\Delta\psi$ is the small change in the position of the equinox along the ecliptic due to nutation, so effect of nutation on the ecliptic coordinates of a fixed point in the sky is simply to add $\Delta\psi$ to its ecliptic longitude. The angle $\Delta\varepsilon$ is the small change in the obliquity of the ecliptic due to nutation. The true obliquity of date is $\varepsilon' = \varepsilon + \Delta\varepsilon$. Nutation in obliquity reflects the orientation of the equator in space and does not affect the ecliptic coordinates of a fixed point on the sky.

Formulas for Nutation

l	is the mean anomaly of the Moon.
l'	is the mean anomaly of the Sun (Earth).
Ω	is the longitude of the ascending node of the Moon's mean orbit on the ecliptic, measured from the mean equinox of date.
D	is the mean elongation of the Moon from the Sun.
F	is the difference $L - \Omega$, where L is the mean longitude of the Moon.
ε	$= \varepsilon_0 - 46''.836\,769\,T - 0''.000\,183\,1\,T^2 + 0''.002\,003\,4\,T^3 - 0''.000\,000\,576\,T^4 - 0''.000\,000\,043\,4\,T^5$
where $\varepsilon_0 = 84381''.406$	

EXPLANATION

The fundamental arguments are given by:

The five arguments are the same fundamental luni - solar arguments used in previous nutation theories, but with updated expressions.

$$l = 485\,868''.249\,036 + (1325^r + 715\,923''.2178)T + 31''.8792\,T^2 + 0''.051\,635\,T^3 - 0''.000\,244\,70\,T^4$$

$$l' = 128\,7104''.793\,04 + (99^r + 129\,2581''.048)T - 0''.5532\,T^2 - 0''.000\,136\,T^3 - 0''.000\,011\,49\,T^4$$

$$F = 335\,779''.526\,232 + (1342^r + 295\,262''.8478)T - 12''.7512\,T^2 - 0''.001\,037\,T^3 + 0''.000\,004\,17\,T^4$$

$$D = 107\,2260''.703\,69 + (1236^r + 110\,5601''.209)T - 6''.3706\,T^2 + 0''.006\,593\,T^3 - 0''.000\,031\,69\,T^4$$

$$\Omega = 450\,160''.398\,036 - (5^r + 482\,890''.5431)T + 7''.722\,T^2 + 0''.007\,702\,T^3 - 0''.000\,059\,39\,T^4$$

$$\text{where } l^r = 360^\circ = 129\,6000''$$

Reduction for nutation - rigorous formulae

Nutation in longitude ($\Delta\psi$) and obliquity ($\Delta\varepsilon$) have been calculated using IAU 2000A series definitions (order of 1 μas) with the following adjustments which are required for use at the highest precession with the IAU 2006 precession, viz:

$$\Delta\psi = \Delta\psi_{2000A} + (0.4697 \times 10^{-6} - 2.7774 \times 10^{-6} T) \Delta\psi_{2000A}$$

$$\Delta\varepsilon = \Delta\varepsilon_{2000A} - 2.7774 \times 10^{-6} T \Delta\varepsilon_{2000A}$$

where T is measured in Julian centuries from 245 1545.0 TT. $\Delta\psi$ and $\Delta\varepsilon$ together with the true obliquity of the ecliptic (ε') are tabulated daily at 0^h TT, on page 18 to 32.

Once the nutation series has been evaluated and the values of $\Delta\psi$ and $\Delta\varepsilon$ are available, the nutation matrix can be constructed.

A mean place (\mathbf{r}_m) may be transformed to a true place (\mathbf{r}_t) and vice versa, as follows:

$$\mathbf{r}_t = \mathbf{N} \mathbf{r}_m \quad \mathbf{r}_m = \mathbf{N}^{-1} \mathbf{r}_t$$

$$\text{where } \mathbf{N} = \mathbf{R}_1(-\varepsilon') \mathbf{R}_3(-\Delta\psi) \mathbf{R}_1(+\varepsilon)$$

$$\varepsilon' = \varepsilon + \Delta\varepsilon$$

\mathbf{R}_1 and \mathbf{R}_3 are the standard rotations about the x and z axes respectively.

(i) A rotation from the mean equator and equinox of t to the mean ecliptic and equinox of t. This is simply a rotation around the x - axis (the direction toward the mean equinox of t) by the angle ε , the mean obliquity of t.

(ii) A rotation around the new z-axis (the direction toward the ecliptic pole of t) by the angle $-\Delta\psi$, the amount of nutation in longitude at t. After the rotation, the new x- axis is in the direction of true equinox of t.

(iii) A rotation around the new x-axis (the direction toward true equinox of t by the angle $-\varepsilon'$, the true obliquity of t. After the rotation, the fundamental plane is the true equator of t, orthogonal to the computed position of the CIP at t.

The nutation matrix can be written:

$$\mathbf{N} = \begin{bmatrix} C_2 & S_2 C_1 & S_2 S_1 \\ -S_2 C_3 & C_3 C_2 C_1 - S_1 S_3 & C_3 C_2 S_1 + C_1 S_3 \\ S_2 S_3 & -S_3 C_2 C_1 - S_1 C_3 & -S_3 C_2 S_1 + C_3 C_1 \end{bmatrix}$$

$$\begin{array}{lll} \text{where} & S_1 = \sin(\varepsilon) & S_2 = \sin(-\Delta\psi) & S_3 = \sin(-\varepsilon - \Delta\varepsilon) \\ & C_1 = \cos(\varepsilon) & C_2 = \cos(-\Delta\psi) & C_3 = \cos(-\varepsilon - \Delta\varepsilon) \end{array}$$

Approximate reduction for nutation for converting mean place to true place can be done with the help of the following formulae:

$$\Delta\alpha = (\cos \varepsilon + \sin \varepsilon \sin \alpha \tan \delta) \Delta\psi - \cos \alpha \tan \delta \Delta\varepsilon$$

$$\Delta\delta = \sin \varepsilon \cos \alpha \Delta\psi + \sin \alpha \Delta\varepsilon$$

$$\Delta\lambda = \Delta\psi; \quad \Delta\beta = 0$$

where $\Delta\psi$ and $\Delta\epsilon$ are nutations in longitude and obliquity respectively. Mean rectangular coordinates (x, y, z) can be converted to true rectangular co-ordinates with the help of the following :

$$\Delta x = -(y \cos \epsilon + z \sin \epsilon) \Delta\psi$$

$$\Delta y = +x \Delta\psi \cos \epsilon - z \Delta\epsilon$$

$$\Delta z = +x \Delta\psi \sin \epsilon + y \Delta\epsilon$$

where both $\Delta\psi$ and $\Delta\epsilon$ are in radians.

The elements of the corresponding rotation matrix are:

$$\mathbf{N} = \begin{bmatrix} 1 & -\Delta\psi \cos \epsilon & -\Delta\psi \sin \epsilon \\ +\Delta\psi \cos \epsilon & 1 & -\Delta\epsilon \\ +\Delta\psi \sin \epsilon & +\Delta\epsilon & 1 \end{bmatrix}$$

Daily values of $\Delta\psi$ and $\Delta\epsilon$ during 2026 are tabulated on pages 18 to 32.

Approximate reduction for precession and nutation in right ascension and declination from the standard equinox and equator of J 2000.0 to the true equinox and equator of date during 2026 can be done using the following formulae and table :

$$\alpha = \alpha_0 + f + g \sin (G + \alpha_0) \tan \delta_0$$

$$\delta = \delta_0 + g \cos (G + \alpha_0)$$

where the units of the correction to α_0 and δ_0 are in second of time and minutes of arc respectively.

Date		<i>f</i>	<i>g</i>	<i>g</i>	<i>G</i>	Date		<i>f</i>	<i>g</i>	<i>g</i>	<i>G</i>
2026		s	s	'	h m	2026		s	s	'	h m
Jan.	0*	+80.3	34.9	8.72	23 57	July	9	+82.0	35.7	8.91	23 57
	10	+80.4	34.9	8.73	23 57		19*	+82.2	35.7	8.93	23 57
	20	+80.5	35.0	8.75	23 57		29	+82.3	35.8	8.94	23 57
	30	+80.6	35.0	8.76	23 57	Aug.	8	+82.4	35.8	8.95	23 57
Feb	9*	+80.7	35.1	8.77	23 57		18	+82.5	35.8	8.96	23 57
	19	+80.8	35.1	8.78	23 57		28*	+82.5	35.9	8.97	23 57
	1	+80.9	35.2	8.79	23 57	Sept.	7	+82.6	35.9	8.98	23 57
Mar.	11	+80.9	35.2	8.79	23 57		17	+82.7	35.9	8.98	23 57
	21*	+81.0	35.2	8.80	23 57		27	+82.7	35.9	8.99	23 57
	31	+81.1	35.2	8.81	23 57	Oct.	7*	+82.8	36.0	9.00	23 57
Apr.	10	+81.2	35.3	8.82	23 57		17	+82.9	36.0	9.00	23 57
	20	+81.2	35.3	8.82	23 57		27	+82.9	36.0	9.01	23 57
	30*	+81.3	35.3	8.83	23 57	Nov.	6	+83.0	36.1	9.02	23 57
May	10	+81.4	35.4	8.84	23 57		16*	+83.2	36.1	9.03	23 58
	20	+81.5	35.4	8.85	23 57		26	+83.2	36.2	9.04	23 58
	30	+81.6	35.5	8.86	23 57	Dec.	6	+83.3	36.2	9.05	23 58
June	9*†	+81.7	35.5	8.88	23 57		16	+83.5	36.3	9.07	23 58
	19	+81.9	35.6	8.89	23 57		26*	+83.6	36.3	9.08	23 58
	29	+81.9	35.6	8.90	23 57		36	+83.7	36.4	9.09	23 58
July	9	+82.0	35.7	8.91	23 57		46	+83.8	36.4	9.11	23 58

* 40 - day date

† 400 day date for osculation epoch

Differential Precession and Nutation can be applied to obtain the differences in the mean place of an object relative to a comparison star for a standard epoch (J 2000.0) using the following formulae:

$$\text{correction to R.A. : } e \tan \delta \Delta\alpha - f \sec^2 \delta \Delta\delta$$

$$\text{correction to declination : } f \Delta\alpha$$

where $\Delta\alpha$ and $\Delta\delta$ are the observed differences in right ascension and declination of the object relative to the comparison star and

$$e = -\cos \alpha (n t + \sin \varepsilon \Delta\psi) - \sin \alpha \Delta\varepsilon$$

$$f = +\sin \alpha (n t + \sin \varepsilon \Delta\psi) - \cos \alpha \Delta\varepsilon$$

$$\varepsilon = 23^\circ.44, \sin \varepsilon = 0.398$$

$$n = 0.000\,0972 \text{ radian for epoch J 2026.5}$$

t is the time in years from the standard epoch to the time of observation.

$\Delta\psi, \Delta\varepsilon$ are nutations in longitude and obliquity at the time of observation expressed in radians, ($1'' = 0.000\,004\,8481 \text{ rad}$).

Aberration

Aberration is the displacement of the position of a celestial object due to finite speed of light. The actual velocity of light in space c is the vectorial sum of its velocity relative to the observer c_r and the velocity V of the observer. Although the special theory of relativity has no provision of breaking up aberration of light into components, total effects of aberration in astronomy are broken into stellar, annual, elliptic, secular and planetary aberration for convenience of computation. In case of stars, all that can be determined is the displacement in their positions caused by the motion of the observer alone. It is calculated on the basis of the actual instantaneous motion of the Earth round the barycentre of the solar system.

Earlier, the practice was to resolve the stellar aberration into two components; one contributed by the circular motion of the Earth moving with a constant mean velocity round the Sun, and the other, a nearly constant displacement perpendicular to the major axis of the orbit arising due to ellipticity of the orbit of the Earth. The latter, known as the E-terms of aberration was included in the mean position of the stars as given in star catalogues and was omitted in the computation of day numbers. As a result, the mean places of stars differed from the catalogue mean places. This procedure was adopted to minimise the computation work for the user of star catalogues. However, this practice has caused much confusion lately because the accurate total velocity of the Earth referred to the barycentre of the solar system could not be used in computing stellar aberration. In accordance with a decision of the IAU in 1976, this occasion has been used to simplify this procedure by removing the E terms of aberration from the mean places and to include them in the reduction from mean to apparent place so that the apparent places remain unchanged. Thus, the mean places of FK5 are free from E terms. In other words, they will be the positions of the stars at epoch J 2000.0 as viewed from the barycentre of the solar system, in the co-ordinate system defined by the Earth's mean equator and equinox of J 2000.0.

The conversion of 1950.0 star catalogue positions (α, δ) to actual mean places $(\alpha + \Delta\alpha, \delta + \Delta\delta)$ can be accomplished by :

$$\Delta\alpha = 0^s.0227 \sin(\alpha + 11^h.25) \sec \delta$$

$$\Delta\delta = 0''.341 \cos(\alpha + 11^h.25) \sin \delta + 0''.029 \cos \delta$$

For solar system objects, the displacement of the light source during the time (Δt) taken by light to travel from it to the Earth combined with the effect of relative motion of the Earth and the light is known as planetary aberration. Its computation requires a knowledge of the distance and motion of the light source and can be accomplished as follows. First, the barycentric position of the body at time $t - \Delta t$ is combined with the barycentric position of the Earth at time t and then the correction for annual aberration is applied. Planetary aberration may also be

computed by interpolating the geometric (geocentric) ephemeris of the body to the time $t - \Delta t$. The light time Δt is given by:

$$\Delta t \text{ (in days)} = 0.005\,7755 \times \text{distance in a.u.}$$

Annual aberration for reduction from a geometric place (α_0, δ_0) to an apparent geocentric place (α, δ) is given by :

$$\alpha = \alpha_0 + (-\dot{X} \sin \alpha_0 + \dot{Y} \cos \alpha_0) / (c \cos \delta_0)$$

$\delta = \delta_0 + (-\dot{X} \cos \alpha_0 \sin \delta_0 - \dot{Y} \sin \alpha_0 \sin \delta_0 + \dot{Z} \cos \delta_0) / c$, where $c = 173.14$ a.u./day and $\dot{X}, \dot{Y}, \dot{Z}$ are the velocity components of the Earth (pages 256 to 270).

The reduction of observations of the radial velocity to a common origin at the barycentre is given by adding the component of the Earth's velocity in the direction (α_0, δ_0) of the object :

$$\dot{X} \cos \alpha_0 \cos \delta_0 + \dot{Y} \sin \alpha_0 \cos \delta_0 + \dot{Z} \sin \delta_0$$

Differential annual aberration corrections to be added to the observed differences of right ascension and declination (in the sense moving object minus star) to give true differences are:

$$(\text{R.A.}) a \Delta\alpha + b \Delta\delta \text{ (in units of } 0^{\text{s}}.001) ; \quad (\text{declination}) c \Delta\alpha + d \Delta\delta \text{ (in units of } 0''.01)$$

Here $\Delta\alpha$ is to be taken in units of 1^{m} and $\Delta\delta$ in units of $1'$. The coefficients a, b, c and d are defined by:

$$a = -5.701 \cos (H+\alpha) \sec \delta$$

$$b = -0.380 \sin (H+\alpha) \sec \delta \tan \delta$$

$$c = +8.552 \sin (H+\alpha) \sin \delta$$

$$d = -0.570 \cos (H+\alpha) \cos \delta$$

$$H^h = 23.4 - (\text{day of year}/15.2)$$

(The day of year is tabulated on pages 4 to 12)

Annual parallax correction can be calculated approximately for reduction from the catalogue place (α_0, δ_0) to the geocentric place (α, δ) using the following formulae;

$$\alpha = \alpha_0 + (\pi / 15 \cos \delta_0) (X \sin \alpha_0 - Y \cos \alpha_0) \text{ and } \delta = \delta_0 + \pi (X \cos \alpha_0 \sin \delta_0 + Y \sin \alpha_0 \sin \delta_0 - Z \cos \delta_0)$$

where π is the annual parallax and X, Y, Z, are the coordinates of the Earth as given on pages 256 to 270.

Deflection of light in the gravitational field of the Sun may significantly affect the apparent direction of a star or of a body in the solar system. The elongation (E) from the centre of the Sun is increased by an amount that, for a star, depends on the elongation in the following manner:

$$\Delta E = 0''.004\,07 / \tan (E/2)$$

E	0°.25	0°.5	1°	2°	5°	10°	20°	50°	90°
ΔE	1".866	0".933	0".466	0".233	0".093	0".047	0".023	0".009	0".004

The body disappears behind the Sun when E is less than the limiting grazing value of about $8^{\circ}.25$. The effects in right ascension and declination may be calculated approximately from;

$$\cos E = \sin \delta \sin \delta_0 + \cos \delta \cos \delta_0 \cos (\alpha - \alpha_0)$$

$$\Delta\alpha = 0^{\text{s}}.000\,271 \cos \delta_0 \sin (\alpha - \alpha_0) / (1 - \cos E) \cos \delta$$

$$\Delta\delta = 0''.004\,07 [(\sin \delta \cos \delta_0 \cos (\alpha - \alpha_0) - \cos \delta \sin \delta_0] / (1 - \cos E)$$

where α, δ refer to the star, and α_0, δ_0 to the Sun.

EXPLANATION

TABULAR DATA

PART-I-TIME SCALES AND EPHEMERIDES

Dates of year beginning in 2026 of various Indian and important foreign chronological eras are listed on page 3 followed by Gregorian calendar for the current year (pages 4 to 12). The calendar contains, besides the usual information, a count of Julian Day (JD) number for each date. The system of Julian day numbers maintains a continuous count of astronomical days, beginning with JD = 0 on 1 January 4713 B.C., Julian proleptic calendar. Julian Day numbers for other years can be found from the table on page 359. Various time scales used in this publication, their inter-relationships (as given on page 2) and the basis for computation of sidereal time as tabulated on pages 13 to 16; have been discussed above under the section on time scales. The concept of equation of time defined as the difference between local apparent solar time and local mean solar time (in the sense apparent minus mean) is no longer used in astronomy and therefore, it is no more tabulated in this publication. It can, however, be obtained to a precision of about 1 second using the following relation :

Equation of time at 12^h U.T. = 12^h – tabulated value of TT of Sun's ephemeris transit (pages 19 to 33).

In this publication, the ephemerides of the Sun and planets were reported earlier based on computation jointly made by USNO and JPL by simultaneous numerical integration designated as DE 200/ LE 200. A more recent JPL ephemeris, DE 405/ LE 405 has now come into widespread use, provide barycentric equatorial rectangular coordinates for the period 1600 to 2201. The reference frame for basic ephemerides is the ICRF; the alignment onto this frame has an estimated accuracy of 1 - 2 arcseconds. The JPL DE 405/ LE 405 ephemerides have been developed in a barycentric reference system using a barycentric coordinate time scale T_{eph} . The present edition use the DE 405/ LE 405 ephemerides data on the positions of the Sun, Moon and planets. The value of some astronomical constants based on previously used DE200/ LE200 ephemerides and currently used DE 405/ LE 405 ephemerides are given below.

Constant	DE 405 Value	DE 200/ LE 200 Value
Light-time for unit distance, τ_A	499.004 783 84 s	499.004 7837.....s
Geocentric gravitational constant, GE	$3.986\,004\,418 \times 10^{14} \text{ m}^3 \text{ s}^{-2}$	$3.986\,004\,48..... \times 10^{14} \text{ m}^3 \text{ s}^{-2}$
Heliocentric gravitational constant, GS	$1.327\,124\,42\,099 \times 10^{20} \text{ m}^3 \text{ s}^{-2}$	$1.327\,124\,40..... \times 10^{20} \text{ m}^3 \text{ s}^{-2}$
Ratio of mass of Sun to that of Earth, $(GS)/(GE)$	332 946.0487	332 946.038.....
Ratio of mass of Moon to that of Earth, μ	0.012 300 0371	0.012 300 034
Obliquity of the ecliptic at J2000.0, ϵ	$23^\circ 26' 21''.406$	$23^\circ 26' 21''.4119....$
Unit distance, A	$1.495\,978\,707 \times 10^{11} \text{ m}$	$1.495\,978\,7066 \times 10^{11} \text{ m}$
Ratio of mass of Sun to that of Earth + Moon	328 900.5596	328 900.55
Ratio of mass of Sun to mass of each planet :		
Jupiter	1047.348 644	1047.350
Saturn	3497.9018	3498.0
Uranus	229 02.98	229 60
Pluto	$1.365\,66 \times 10^8$	1.3×10^8
Pallas	9.709×10^9	9.247×10^9
Vesta	7.407×10^9	7.253×10^9

The Sun

Mean elements of the orbit of the Sun can be calculated with the help of the following expressions for use during 2026 only :

Geometric mean longitude	:	$L = 279^{\circ}.680\,957\,40 + 0.985\,647\,36\,d$
Mean longitude of perigee	:	$\Gamma = 283^{\circ}.384\,383\,20 + 0.000\,047\,08\,d$
Mean anomaly	:	$g = 356^{\circ}.296\,574\,20 + 0.985\,600\,28\,d$
Eccentricity	:	$e = 0^{\circ}.016\,697\,68 - 0.000\,000\,001\,d$
Obliquity of the ecliptic w.r.t. mean equator of date	:	$\varepsilon = 23^{\circ}.435\,895\,60 - 0.000\,000\,36\,d$

where d is the interval in days from 2026 January 0 at 0^h TT and is given by

$$d = \text{JD} - 246\,1040.5 = \text{day of the year (pages 4 to 12)} + \text{fraction of day from } 0^{\text{h}} \text{ TT.}$$

The above angular elements are referred to the mean equinox and ecliptic of date. The position of ecliptic of date with respect to the ecliptic of the standard epoch J 2000.0 is given by the formulae given under *Precession*.

The length of the principal years at 2026.0 as derived from the Sun's mean motion are given on page 2.

Geometric longitude of the Sun with respect to the mean equinox of date is tabulated on even numbered pages 18 to 32. Apparent longitude and latitude are with respect to the true equinox and ecliptic of date respectively. The two longitudes are related as follows :

$$\text{Apparent longitude} = \text{Geometric longitude} + \text{nutations in longitude} - 20''.4955/R.$$

Aberration has been computed by dividing $20''.4955$ by the true distance to the Sun. Precession in longitude is the total precessional displacement of a point along the ecliptic since the epoch J 2026.5. Revised value of the annual general precession $p = 0^{\circ}.013\,971\,35$ (for J 2026.5) has been used to compute this quantity. Components of nutation are the results of summation of the revised series of nutation. The sum of the terms with period shorter than 35 days is separately tabulated under Besselian Day numbers (pages 244 to 251).

Apparent Right Ascension and true distance (radius vector), declination (tabulated on odd numbered pages 19 to 33) of the Sun have been computed from the original barycentric rectangular co-ordinates. Although the apparent right ascension and declination have been corrected for light time, the radius vector or the true geocentric distance in astronomical units is the geometric distance at the tabular time.

The Semidiameter is based on a value of $16' 01''.18$ at unit distance being inclusive of an allowance for irradiation of $1''.55$. The tabular value is obtained by dividing $16' 01''.18$ by the radius vector.

Ephemeris Transit is the TT of the transit of the Sun over the ephemeris meridian which according to its definition, is $1.002\,7379\,\Delta T$ east of the Greenwich meridian. Here ΔT is the difference $\text{TT} - \text{UT}$. This transit time. This transit time can be interpolated to other meridians with an interpolating factor p , as follows:

$$p = -\lambda/360 + 1.002\,7379 \times \Delta T/86400$$

where λ is the longitude (east positive). The interpolated TT can be converted into UT by subtracting ΔT from TT.

Equatorial rectangular co-ordinates (geocentric) of the Sun, referred to the ICRS axes, are given in a.u. on pages 34 to 41. The direction of these axes have been defined by the IAU and realized in practice by the coordinates of several hundred extra galactic radio sources.

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Horizontal parallax (page 17) of the Sun is the angle subtended at the Sun by the equatorial radius of the Earth. The new value of the Solar parallax $\Pi_o = 8''.794\ 148$ has been used to compute the horizontal parallax.

Mean longitude and mean anomaly (page 17) of the Sun have been computed using revised expressions for the mean motion of the Earth around the Sun as given on page 447.

Heliographic co-ordinates given on pages 42 to 45 for 0^h UT include the position angle P of the northern extremity of the axis of rotation measured eastward from the north point of the disc and the heliographic latitude B_o and longitude L_o of the central point of the disc.

The observed angular distance ρ_1 from the centre of the disc of the Sun of a feature on the Sun's surface, as seen from the Earth, can be converted into its heliocentric angular distance ρ from the centre of the Sun's disc as follows :

$$\sin (\rho + \rho_1) = \rho_1 / S, \quad \text{where } S \text{ is the semi diameter of the Sun.}$$

The observed position (ρ, θ) of a feature (Sunspot, etc.) with respect to the centre of Sun's disc can be converted into heliographic co-ordinates (L, B) as follows :

$$\begin{aligned} \sin B &= \sin B_o \cos \rho + \cos B_o \sin \rho \cos (P - \theta) \\ \cos B \sin (L - L_o) &= \sin \rho \sin (P - \theta) \\ \cos B \cos (L - L_o) &= \cos \rho \cos B_o - \sin B_o \sin \rho \cos (P - \theta) \end{aligned}$$

The physical ephemeris of the Sun has been calculated from the elements determined by R. C. Carrington (observation of the spots on the Sun, 1863).

The Synodic rotation numbers are given below according to R. C. Carrington's Greenwich photoheliographic series which commenced on 9 November, 1853 with number 1. The standard solar meridian from which heliographic longitudes on the surface of the Sun are measured (positive towards the west) is that which passes through the ascending node of the solar equator on the ecliptic on 1854 January 1, Greenwich mean noon. The beginning of each synodic rotation is the instant at which the standard solar meridian passes through the central point of the apparent disc of the Sun, i.e., when the heliographic longitude L_o of this central point is zero.

SYNODIC ROTATION NUMBERS, 2026

Number	Date of		Number	Date of		Number	Date of	
	Commencement			Commencement			Commencement	
2306	2025	Dec. 27.38	2311	May 12.91		2316	Sep. 26.03	
2307	2026	Jan. 23.71	2312	June 9.12		2317	Oct. 23.31	
2308		Feb. 20.05	2313	July 6.32		2318	Nov. 19.62	
2309		Mar. 19.38	2314	2026 Aug. 2.53		2319	Dec. 16.93	
2310		Apr. 15.67	2315	Aug. 29.76		2320	2027 Jan. 13.27	

At the date of commencement of each synodic rotation period, the value of L_o is zero ; that is, the prime meridian passes through the central point of the disk.

The mean rotational elements of the Sun during 2026 are as follows :

Longitude of the ascending node of the solar equator on the ecliptic of date is $76^\circ.01$, and on the mean equator of date $16^\circ.16$. Inclination of the solar equator on the ecliptic of date is $7^\circ.25$, and on the mean equator of date $26^\circ.10$. The mean position of the pole on the solar equator is at right ascension $286^\circ.16$ and declination $63^\circ.90$. Sidereal period of rotation of the prime meridian is $14^\circ.18\ 44$ per day and its mean synodic period of rotation is 27.2753 days.

The Moon

The ephemerides of the Moon reported in this publication are based on the fundamental arguments developed by Simon et. al (1994). The angular elements are referred to the mean equinox and ecliptic of date. Mean elements of the mean equator and of the orbit of the Moon (page 47) can be computed during 2026 with the help of the following expressions :-

The inclination i of the mean equator of the Moon to the true equator of the Earth is given by :

$$i = 21^{\circ}.973\,957\,03 + 0.000\,463\,97\,d + 0.000\,000\,69\,d^2$$

The arc of the mean equator of the Moon from its ascending node on the true equator of the Earth to its ascending node on the ecliptic of date :

$$\Delta = 161^{\circ}.060\,779\,45 - 0.056\,320\,14\,d + 0.000\,000\,28\,d^2$$

The arc of the true equator of the Earth from the true equinox of date to the ascending node of the mean equator of the Moon :

$$\Omega' = 1^{\circ}.260\,310\,73 + 0.003\,654\,73\,d - 0.000\,000\,30\,d^2$$

The inclination (I) of the mean equator of the Moon to the ecliptic = $1^{\circ}\,32'\,33''.6$.

The ascending node of the mean lunar equator on the ecliptic is at the descending node of the mean lunar orbit on the ecliptic that is at longitude $\Omega + 180^{\circ}$.

The above expressions give the mean elements with respect to the true equator of the Earth to a precision of about $0^{\circ}.001$.

The following expressions for the mean elements of the orbit of the Moon Γ' , Ω mean longitude of the Moon L' and elongation D are referred to the mean equinox and ecliptic of date.

Mean longitude of the Moon, measured along the ecliptic to the mean ascending node and then along the mean orbit :

$$L' = 54^{\circ}.789\,260\,25 + 13.176\,396\,45\,d$$

Mean longitude of the Moon's perigee measured in the same way as L' :

$$\Gamma' = 61^{\circ}.184\,687\,70 + 0.111\,403\,38\,d$$

Mean longitude of the mean ascending node of the lunar orbit on the ecliptic :

$$\Omega = -17^{\circ}.777\,780\,10 - 0.052\,953\,74\,d$$

Mean elongation of the Moon from the Sun :

$$D = L' - L = 135^{\circ}.108\,302\,85 + 12.190\,749\,09\,d$$

Mean inclination of the lunar orbit to the ecliptic = $5^{\circ}.1566898$

The above expressions are valid for use in 2026 only.

In all the above expressions, the time argument d is the interval in days since 0^{h} TT January 0, 2026 and is given by $d = \text{JD} - 246\,1040.5$

The length of the principal mean months at 2026.0 as derived from the above mean orbital elements of the Moon are given on page 2.

The apparent geocentric longitude and latitude of the Moon (pages 48 to 63) are referred to the true equinox and ecliptic of date. The true distance between the centres of the Earth and the Moon is given in a.u. Semi-diameter is derived from the horizontal parallax by $S = \sin^{-1}(k \sin \pi)$ where $k = 0.272\,5076$. The semi-diameter at mean distance is taken to be $15'\,32''.58$ without making any correction for irradiation.

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The right ascension and declination given on pages 64 to 79 for 0 hour & 12 hour of TT are referred to the true equator and equinox of date.

Horizontal parallax is tabulated at twelve hourly intervals on pages 64 to 79. It is derived from $\sin^{-1}(1/r)$ where r is the true distance in units of the Earth's equatorial radius. The tabulated R.A. and declination have been corrected for light time while the horizontal parallax is the geometric value for the tabular time.

The times of New Moon, First Quarter, Full Moon and Last Quarter are the moments at which the excess of the Moon's apparent longitude over that of the Sun is 0° , 90° , 180° and 270° respectively. Moon at Apogee and Perigee are the times when the Moon is at the greatest and least distance from the Earth. The timings are given in U.T. The corresponding timings in U.T. of the phases of the Moon are also given in the calendar portion on pages 4 to 12. For more precise values of the moments of New Moon and Full Moon, a reference may be made to Part VI - Indian Calendar where the times are given in I.S.T.

Moon's Age, given for 0^h TT, is the number of days elapsed since the preceding New Moon (conjunction). The times of Moon's upper and lower transit are given in TT for the ephemeris meridian. Interpolation to any other meridian by means of differences given and with the help of the ephemeris longitude will yield the local mean time of transit. The apparent geocentric declination given for the time of ephemeris transit can also be similarly interpolated.

Physical ephemeris of the Moon (pages 88 to 95) has been computed using the formulae and constants of D. Eckhardt (*The Moon and the Planets*, 253, 1981; *High precision Earth Rotation and Earth-Moon Dynamics*, ed. O. Calame, pages 193-198, 1982) with inclination I as given above (IAU value).

In case of the Moon, selenographic longitudes are measured for a point on the surface of the Moon from the lunar meridian that passes through the mean central point of the visible disc positive towards the west towards Mare Crisium. Selenographic latitudes are reckoned positive towards the north limb. The mean central point of the disc is defined as the point on the lunar surface intersected by the radius of the Moon directed towards the Earth, when the Moon is simultaneously at the ascending node and coincident with the mean longitude.

The Moon presents roughly the same hemisphere to the Earth. However, due to non uniformity of the revolution of the Moon around the Earth (optical libration) and an oscillation of the actual rotational motion of the Moon about its mean rotation (physical libration), about 59% of the Moon's surface can be seen from the Earth. The contribution to the Earth's selenographic longitude and latitude due to physical libration has been tabulated separately. These are geocentric values.

The tabular selenographic longitude and latitude of the Earth are the selenographic co-ordinates of the apparent central point of the Moon from which point the Earth is in selenographic zenith. These co-ordinates are the total librations (sums of optical and physical librations) in longitude and latitude respectively. When the libration in longitude, i.e. the selenographic longitude of the Earth, is positive, the mean central point of the disc is displaced eastward exposing to view a region on the west limb. When the libration in latitude, i.e. the selenographic latitude of the Earth, is positive, a region on the north limb is exposed to view.

The selenographic co-ordinates of the point on the lunar surface where the Sun is in the Zenith are the selenographic co-ordinates of the Sun. The selenographic co-longitude of the Sun tabulated in the ephemeris is obtained by subtracting the selenographic longitude of the Sun from 90° or 450° ; it is approximately 270° , 0° , 90° and 180° at new-moon, first quarter, full-moon and last quarter respectively.

The position angle of the axis is the angle that the lunar meridian through the apparent central point of the disc towards the north lunar pole forms with the declination circle through the central point, reckoned counter clockwise from the north point of the disc.

The position angle of the bright limb is the position angle of the mid point of the illuminated limb, reckoned eastward from the north point of the disc. The position angle of the two cusps may be obtained by adding $\pm 90^\circ$ to that of the bright limb.

The expression for calculating the selenographic altitude (a) of the Sun (above the lunar horizon) at a point at selenographic longitude l and latitude b is as follows :

$\sin a = \sin b_o \sin b + \cos b_o \cos b \sin (c_o + l)$, where (c_o, b_o) are the Sun's co-longitude and latitude at the time.

The following expressions can be used to compute the differential corrections to be applied to the tabular geocentric librations to form the topocentric librations :

$$\Delta l = -\pi' \sin (Q - C) \sec b$$

$$\Delta b = +\pi' \cos (Q - C)$$

$\Delta C = +\sin (b + \Delta b) \Delta l - \pi' \sin Q \tan \delta$, where Q is the geocentric parallactic angle of the Moon and π' is the topocentric horizontal parallax. The latter is obtained from the geocentric horizontal parallax (π) (pages 64 to 79) by using :

$$\pi' = \pi (\sin z + 0.0084 \sin 2z)$$

where z is the geocentric zenith distance of the Moon. The values of z and Q may be calculated from the geocentric R.A. (α) and declination (δ) of the Moon by using :

$$\sin z \sin Q = \cos \phi \sin h$$

$$\sin z \cos Q = \cos \delta \sin \phi - \sin \delta \cos \phi \cos h$$

$$\cos z = \sin \delta \sin \phi + \cos \delta \cos \phi \cos h$$

where ϕ is the geocentric latitude of the observer and h is the local hour angle of the Moon given by :

$$h = \text{local apparent sidereal time} - \alpha$$

Second differences in the tabular values of the geocentric librations must be taken into account in interpolation for the time of observation.

Major Planets

The heliocentric and geocentric positions of the major planets given on pages 96 to 197 have been derived directly from the numerical integration mentioned on page 444.

The heliocentric longitude and latitude are referred to the mean equinox and ecliptic of date. The tabular argument of heliocentric ephemeris is barycentric dynamical time (TDB).

The apparent geocentric longitude and latitude are referred to the true equinox and ecliptic of date and are planetary aberration. The apparent right ascension and declination are also corrected for planetary aberration and referred to the true equinox and equator of date. The tabular argument for both the terrestrial dynamical time (TDT). The TDT of transit over the ephemeris meridian has been furnished, which may be interpolated to any other meridian to obtain the LMT of transit.

As regards Pluto, in addition to the usual data, figures have been furnished for reduction of the apparent right ascension and apparent declination to the corresponding astrometric places referred to the mean equinox and equator of J 2000.0. The astrometric ephemeris is obtained by first adding the usual planetary aberration to the

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planet's true geocentric places referred to the standard equinox J 2000.0 and then subtracting the stellar aberration pertinent to the position occupied by the planet. The astrometric place is thus affected by the amount of the terms in the aberration dependent on the longitude of the Earth's perihelion as are the catalogue mean places of stars in the neighbourhood. The astrometric ephemeris is, therefore, rigorously comparable with photographic observations that are referred to catalogue mean places J 2000.0 of neighbouring stars, it being only necessary to correct the observations for geocentric parallax in case of the planets and proper motion in case of the stars.

The tabular true distance from the Earth is the actual geocentric distance at the tabulated time and not at the instant when the light left the planet.

The horizontal parallax of planets is $8''.794\,143$ divided by the geocentric distance. As regards the semi-diameter, the tabulated value is the value at unit distance divided by the geocentric distance. The semi-diameters at unit distance are as follows : Mercury $3''.36$, Venus $8''.34$, Mars $4''.68$, Jupiter $98''.57$ (Equatorial) and $92''.12$ (Polar), Saturn $83''.13$ (Equatorial) and $74''.96$ (Polar), Uranus $35''.24$, Neptune $34''.14$ and Pluto $2''.07$.

The heliocentric osculating elements of the orbits of the major planets, including Pluto, are given at intervals of 40 days on pages 200 to 201. The osculating elements are the elements of the instantaneous ecliptic orbit of the planet around the Sun determined by its actual position and velocity components for the instant, and as such the elements are affected by the attractions of other planets. The true place of a planet deduced from these elements is thus inclusive of the planetary perturbations, which need not, therefore, be considered separately in such a deduction.

The osculating elements for the Earth refer to the Earth/Moon barycentre. The correction in ecliptic rectangular co-ordinates in conversion from the Earth/Moon barycentre to the Earth's centre is given by :

$$\begin{aligned} \text{Earth's Centre} = (\text{Earth / Moon barycentre}) - (0.000\,0312 \cos L, 0.000\,2865 \sin L, 0.0000124 \sin L, \\ -0.00000718 \sin L, 0.00000657 \cos L, 0.00000285 \cos L) \end{aligned}$$

where $L = 218^\circ + 481\,268^\circ T$, with T measured in Julian centuries from JD 245 1545.0 to 5 decimals; the co-ordinates are in a.u. with reference to mean equinox and ecliptic of date.

PART II - STARS

The mean places of 482 stars, apparent places of 68 stars at 10-day intervals. daily apparent place of *Polaris* and tables for finding latitude of place from altitude of polaris and azimuth of polaris are given in this section. The ecliptic co-ordinates (mean longitude and latitude) of 451 stars have also been given. To facilitate reduction from mean to apparent place of a star, Besselian Day Numbers as well as the barycentric position and velocity components of the Earth alongwith rotation matrix elements for precession and nutation have been tabulated.

Mean Places of Stars (pages 215 to 226)

Beginning with the issue for 1988, calculation of the mean and apparent places are based directly on the basic-FK5 compiled by the A.R.I., Heidelberg.

The table for mean places of stars includes all stars of magnitude upto 3.9 as well as the component stars of the different lunar asterisms of the Hindus, Chinese and Arabian even when those are fainter than magnitude 3.9.

In case double or multiple stars, m denotes the mean position of the centre of gravity (*c.g.*) of the system; p the preceding component having less right ascension, f the following component and A the brighter component of the system. The magnitude of the binary stars is the integrated value for the two components.

The mean longitude and latitude of 445 important stars have been computed using the conversion from equatorial mean positions to ecliptic co-ordinates. Similarly, annual variations in longitude and latitude, etc., are the differentials of the conversion formulae. All quantities relate to the middle of the current Julian year.

Apparent Places of Stars (pages 227 to 243)

The apparent places of 68 selected stars are reported under this section. These positions are completely based on the FK5 beginning with the issue for 1988.

Smaller aberration has been computed from the total velocity of the Earth referred to the barycentre of the solar system. The E-terms of aberration are no longer included in the mean places in the FK5, but rather in the reduction from mean to apparent places.

Reductions to apparent places have been computed rigorously and directly without the intermediary of the mean place for the beginning of the year. The rigorous computation also includes effects of relativistic light deflection. Because of this, the apparent places of a star when approaching very closely the Sun cannot be interpolated by the user, but these cases are of no practical interest in normal applications.

Apparent places of 68 bright stars with annual variation and annual proper motion at 10-day interval have been given on pages 227 to 243. The number, name, are taken generally from the FK5, magnitude and spectrum are taken from SIMBAD data base. Corrections for parallax have been applied where appreciable.

The right ascension and declination are referred to the true equator and equinox of date but with the omission of the short period terms of nutation. After interpolating the given apparent places to date and longitude of the station, the following corrections for the effect of short period terms of nutation are to be applied :

$$\begin{aligned}\Delta\alpha &= a d\psi + b d\epsilon && \text{seconds of time} \\ \Delta\delta &= a' d\psi + b' d\epsilon && \text{seconds of arc}\end{aligned}$$

where $d\psi$ and $d\epsilon$ are short period terms of nutation as tabulated on pages 244 to 251. The values of a , b , a' and b' are given for each star under the apparent place.

The Apparent places of Polaris for each day of the year (pages 272 to 274) have been computed rigorously.

Besselian Day Numbers (pages 244 to 251)

All stellar data tabulations are now for the standard epoch at the middle of the current Julian year rather than the beginning of the Besselian year and accordingly the Besselian Day Numbers and second order day numbers are referred to the mean equator and equinox of the epoch, J 2026.5. Although for full precision the reduction to the apparent place has to be computed rigorously as described below, Besselian Day Numbers can still be used for less precision.

In the tabulated data, τ is the fraction of the Julian year since the standard epoch J 2026.5 A, B and E are Besselian Day Numbers designed to incorporate corrections to the position of a star on account of precession and nutation. In this case, the correction due to precession is measured from the middle of the year, and this is secured by incorporating in A the value of the precession corresponding to τ . The terms of short-period in nutation are included in A and B, which are also shown separately on pages 244 to 251.

The Besselian Day Numbers C and D, designed to include the effect of aberration, are now computed based on the total velocity of the Earth.

Second order day numbers, needed only for high declination stars for high accuracy, have been tabulated on pages 252 to 255.

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The barycentric position and velocity components of the Earth and rotation matrix elements for rigorous reduction of precession and nutation have been tabulated on pages 256 to 270. Use of these data with examples is discussed below :-

Apparent place reduction with full precision (rigorous method)

Conversion of the barycentric co-ordinates of a star for the standard equinox and equator of J 2000.0 (TDB) to its apparent geocentric co-ordinates referred to the true equinox and equator of date (TT) can be done rigorously as follows:

The geocentric vector **P** of the star at the required epoch (ignoring the distinction between TDB and TT for the stellar case) is given by:

$$\mathbf{P} = \mathbf{q} + T\mathbf{m} - \pi\mathbf{E}_B \dots\dots\dots(1)$$

Here **q** is the barycentric direction of the star at epoch J 2000.0 referred to the standard equinox and equator of J2000.0 and is given by :-

$$\mathbf{q} = (\cos \alpha_0 \cos \delta_0, \sin \alpha_0 \cos \delta_0, \sin \delta_0)$$

where α_0 and δ_0 are the right ascension and declination for the equator, equinox and epoch of J 2000.0.

The space motion vector $\mathbf{m} = (m_x, m_y, m_z)$ of the star in equation (1), expressed in radians/century, is given by :

$$\begin{aligned} m_x &= -\mu_\alpha \cos \delta_0 \sin \alpha_0 - \mu_\delta \sin \delta_0 \cos \alpha_0 + v\pi \cos \delta_0 \cos \alpha_0 \\ m_y &= \mu_\alpha \cos \delta_0 \cos \alpha_0 - \mu_\delta \sin \delta_0 \sin \alpha_0 + v\pi \cos \delta_0 \sin \alpha_0 \\ m_z &= \mu_\delta \cos \delta_0 + v\pi \sin \delta_0 \end{aligned}$$

where these expressions take into account the radial velocity (v) in au/century (1 km/s = 21.094 952 75 a.u./ century), measured positively away from the Earth as well as proper motion(μ_α, μ_δ) in right ascension and declination in radian/century and π is the parallax in radians.

T is the interval in Julian centuries from J2000.0, given by $T = (JD - 245 1545.0) / 36525$; \mathbf{E}_B and $\dot{\mathbf{E}}_B$ in a.u. per day are Earth's barycentric position and velocity vectors at co-ordinate time $t = \text{TDB}$ referred to the equator and equinox of J 2000.0 (pages 256 to 270).

The heliocentric position of the Earth **E** is given by

$$\mathbf{E} = \mathbf{E}_B - \mathbf{S}_B \dots\dots\dots(2)$$

Where \mathbf{S}_B is the barycentric position of the Sun at time t . This can be obtained from the heliocentric position of the barycentre tabulated on page 202 by reversing the sign of the respective x , y , and z .

The geocentric direction **p** of the star and the unit vector **e** can be computed from $\mathbf{p} = \mathbf{P} / |\mathbf{P}|$ and $\mathbf{e} = \mathbf{E} / |\mathbf{E}|$

The geocentric direction \mathbf{p}_1 of the star after applying the correction for light deflection in the natural frame is obtained as follows:

$$\mathbf{p}_1 = \mathbf{p} + (2 \mu/c^2 E) (\mathbf{e} - (\mathbf{p} \cdot \mathbf{e}) \mathbf{p}) / (1 + \mathbf{p} \cdot \mathbf{e}) \dots\dots\dots(3)$$

Where $\mu/c^2 = 9.87 \times 10^{-9}$ a.u and $E = |\mathbf{E}|$, the vector \mathbf{p}_1 is a unit vector to the order of μ/c^2 and dot (.) indicates scalar product.

The proper direction \mathbf{p}_2 in the geocentric inertial frame, that is moving with the instantaneous velocity \mathbf{V} of the Earth relative to the natural frame, is given by:

$$\mathbf{p}_2 = (\beta^{-1} \mathbf{p}_1 + (1 + \mathbf{p}_1 \cdot \mathbf{V}) / (1 + \beta^{-1})) \mathbf{V} / (1 + \mathbf{p}_1 \cdot \mathbf{V}) \dots \dots \dots (4)$$

Where $\mathbf{V} = \dot{\mathbf{E}}_{\mathbf{B}} / c = 0.0057755 \dot{\mathbf{E}}_{\mathbf{B}}$ and $\beta = (1 - V^2)^{-1/2}$; the velocity \mathbf{V} expressed in units of velocity of light and is equal to the Earth's velocity in the barycentric frame to the order of V^2 .

The apparent geocentric direction \mathbf{p}_3 is obtained by applying precession and nutation to the proper direction \mathbf{p}_2 by multiplying it row by column with the rotation matrix $M = NPB$ (given on pages 257 to 271) as follows:

$$\mathbf{p}_3 = M \mathbf{p}_2 \dots \dots \dots (5)$$

The above direction \mathbf{p}_3 is in rectangular co- ordinates (ξ, η, ζ) . It can be converted into spherical co- ordinates (α, δ) using :

$$\alpha = \tan^{-1} (\eta/\xi) \text{ and } \delta = \tan^{-1} (\zeta/\beta) \dots \dots \dots (6)$$

$$\text{Where } \beta = (\xi^2 + \eta^2)^{1/2}$$

where the quadrant of α can be determined by the signs of ξ and η .

Correction for polar motion :

The apparent geocentric direction \mathbf{p}_3 , given by equation (5) above, is for the true equator and equinox with the z axis pointing towards the celestial ephemeris pole. A further correction for polar motion may be applied to \mathbf{p}_3 to obtain \mathbf{p}_4 i.e. the direction relative to the conventional terrestrial reference system in which the z-axis is in the direction of the adopted mean position of the pole, as follows :

$$\mathbf{p}_4 = \mathbf{R}_2(-x) \mathbf{R}_1(-y) \mathbf{R}_3(\text{GAST}) \mathbf{p}_3$$

where GAST is the Greenwich apparent sidereal time at the corresponding instant of UT and

$$\mathbf{R}_1(\theta) = \begin{bmatrix} 1 & 0 & 0 \\ 0 & \cos \theta & \sin \theta \\ 0 & -\sin \theta & \cos \theta \end{bmatrix} \quad \mathbf{R}_2(\theta) = \begin{bmatrix} \cos \theta & 0 & -\sin \theta \\ 0 & 1 & 0 \\ \sin \theta & 0 & \cos \theta \end{bmatrix}$$

$$\mathbf{R}_3(\theta) = \begin{bmatrix} \cos \theta & \sin \theta & 0 \\ -\sin \theta & \cos \theta & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

are the standard matrices that produce rotations through an angle θ about the x, y and z - axes respectively.

Polar motion is described by x and y, the co- ordinates of the celestial ephemeris pole with respect to the adopted origin; x and y are measured in seconds of arc from the origin along the meridians at longitudes 0° and 270° . Current values for the reduction of observations are published by the International Polar Motion Service and the Bureau International de l' Heure.

EXPLANATION

Example of stellar reduction :

Calculation of apparent position of a fictitious star on 2026, January 1 at 0^h TT from the catalogue data, mean right ascension (α_0), declination (δ_0), centennial proper motion (μ_α , μ_δ) in right ascension and declination, parallax (π) and radial velocity (v) of a fictitious star for the standard equinox and equator of J 2000.0 (TDB) as given below:

$$\begin{aligned}\alpha_0 &= 14^{\text{h}} 39^{\text{m}} 36^{\text{s}}.087 & \mu_\alpha &= -49.486 \text{ s/century} \\ & & &= -0.00359872 \text{ rad/century} \\ \delta_0 &= -60^\circ 50' 07''.14 & \mu_\delta &= +69''.60 \text{ s/century} \\ & & &= +0.0003374 \text{ rad/century} \\ \pi &= 0''.752 & v &= -22.2 \text{ km/s} \\ &= 3.646 \times 10^{-6} \text{ rad} & v\pi &= -0.0017074 \text{ rad/century}\end{aligned}$$

The barycentric position vector of the Sun and the position and velocity vectors of the Earth referred to J2000.0 on 2026 January 1, 0^h TDB (pages 202, 256 to 270) are :

Vector	Julian date	Barycentric Rectangular Components		
		x	y	z
\mathbf{E}_B	246 1041.5	-0.177 348 100	+ 0.882 796 301	+ 0.382 817 686
$\dot{\mathbf{E}}_B$	246 1041.5	-0.017 197 372	-0.002 859 308	-0.001 239 552
\mathbf{S}_B	246 1041.5	-0.003 066 615	-0.005 128 797	-0.002 080 158

In order to calculate the geocentric vector \mathbf{P} of the star at J 2000.0, using equation (1), the vectors \mathbf{q} and \mathbf{m} may be computed using positional data of the star.

$$\begin{aligned}\mathbf{q} &= (-0.373\,854\,098, \quad -0.312\,594\,565, \quad -0.873\,222\,624) \\ \mathbf{m} &= (-0.000\,712\,684, \quad +0.001\,690\,102, \quad +0.001\,655\,340) \\ \mathbf{T} &= (246\,1041.5 - 245\,1545.0)/36525 = +0.26\end{aligned}$$

The geocentric vector \mathbf{P} may be computed from equation (1) by substituting the vectors \mathbf{q} , \mathbf{m} and \mathbf{E}_B and time \mathbf{T} .

$$\mathbf{P} = (-0.374\,038\,749, \quad -0.312\,155\,138, \quad -0.872\,792\,236) \text{ and } |\mathbf{P}| = 0.999\,555\,953$$

The heliocentric position vector \mathbf{E} of earth may be obtained using equation (2)

$$\mathbf{E} = (-0.174\,281\,485, \quad +0.887\,925\,098, \quad +0.384\,897\,844) \text{ and } |\mathbf{E}| = 0.983\,326\,683$$

The unit vectors \mathbf{p} and \mathbf{e} in the direction of \mathbf{P} and \mathbf{E} respectively are as follows :

$$\begin{aligned}\mathbf{p} &= (-0.374\,204\,914, \quad -0.312\,293\,811, \quad -0.873\,179\,969) \\ \mathbf{e} &= (-0.177\,236\,607, \quad +0.902\,980\,783, \quad +0.391\,424\,183)\end{aligned}$$

The scalar product $\mathbf{p} \cdot \mathbf{e} = -0.557\,456\,257$ and $2\mu/c^2 = 1.974 \times 10^{-8}$ a. u. The second term in the equation (3) represents the correction for the light deflection in the natural frame, and is given by the following vector :

$$(2\mu/c^2 \mathbf{E})(\mathbf{e} - (\mathbf{p} \cdot \mathbf{e})\mathbf{p}) / (1 + \mathbf{p} \cdot \mathbf{e}) = (-0.000\,000\,017, \quad +0.000\,000\,032, \quad -0.000\,000\,004)$$

Addition of the above correction to the unit vector \mathbf{p} gives geocentric direction \mathbf{p}_1 of the star :

$$\mathbf{p}_1 = (-0.374\,204\,931, \quad -0.312\,293\,779, \quad -0.873\,179\,973)$$

The velocity vector $\mathbf{V} = 0.000\,1010\,\dot{\mathbf{E}}_{\mathbf{B}}$ and $\beta^{-1} = (1 - V^2)^{1/2}$ are as follows:

$$\mathbf{V} = (-0.000\,099\,323, \quad -0.000\,016\,514, \quad -0.000\,007\,159)$$

$$\beta^{-1} = 0.999\,999\,995$$

The scalar product $\mathbf{p}_1 \cdot \mathbf{V} = +0.000\,048\,576$

Now substituting quantities computed above in the equation (4), the proper direction is obtained as:

$$\mathbf{p}_2 = (-0.374\,286\,074, -0.312\,295\,121, -0.873\,144\,714)$$

The precession and nutation matrix (\mathbf{M}) from page 257 is as follows:

$$\mathbf{M} = \begin{bmatrix} +0.999\,979\,740 & -0.005\,838\,299 & -0.002\,536\,529 \\ +0.005\,838\,200 & +0.999\,982\,956 & -0.000\,046\,442 \\ +0.002\,536\,757 & +0.000\,031\,632 & +0.999\,996\,782 \end{bmatrix}$$

Finally the apparent geocentric direction \mathbf{p}_3 is obtained by multiplying the proper direction \mathbf{p}_2 to the precession and nutation matrix as given by the equation (5).

Thus $\mathbf{p}_3 = (-0.370\,240\,462, -0.314\,434\,405, -0.874\,101\,256)$ and the apparent right ascension and declination:

$$\alpha = \tan^{-1}(\eta/\xi) = 14^{\text{h}}\,41^{\text{m}}\,21^{\text{s}}.665; \quad \delta = \tan^{-1}(\zeta/\beta) = -60^{\circ}\,56'\,19''.63$$

EXPLANATION

PART III - Tables of Sunrise, Sunset, Twilight and Moonrise, Moonset

The times of Sunrise, Sunset and Twilight, which can be obtained immediately from the given tables by simple interpolation for the desired latitude within the scope of the tables, are in local mean time of the place. Strictly speaking, the timings of these events are for places on the meridian of Greenwich. By simple interpolation for longitude, the correct time (L.M.T.) for the station can be obtained, which can thereafter be reduced to the zonal standard time by applying correction of time pertinent to the place.

At the given times of Sunrise and Sunset, the upper limb of the Sun is on the horizon; the true zenith distance of the Sun's center is then taken as $90^\circ 50'$, allowing $16'$ for semi-diameter and $34'$ for horizontal refraction.

The timings of the beginning of morning twilight and ending of evening twilight relate to the instants when the center of the Sun is 18° below the horizon. This is now known as astronomical twilight. The period of twilight has been divided into three parts – Civil when the Sun is 6° below the horizon, Nautical when 12° and Astronomical when 18° and their duration have been given.

The timings of rising and setting in U.T. of a body with right ascension α , declination δ and zenith distance z at latitude ϕ and east longitude λ may be computed from

$$UT = 0.99727 [\alpha - \lambda \pm \cos^{-1} \{(\cos z - \sin \phi \sin \delta) / (\cos \phi \cos \delta)\}] - \text{GAST at } 0^h \text{ UT},$$

where each term is expressed in time measure and GAST at 0^h UT as tabulated on page 13. The negative sign in the expression corresponds to rising and positive sign to setting. If the quantity $\{(\cos z - \sin \phi \sin \delta) / (\cos \phi \cos \delta)\}$ is numerically greater than one, there is no phenomenon. However, the tabulated timings of Moonrise and Moonset have been computed by inverse by interpolation for the zenith distance at $z = 90^\circ 34'.001 - 0.72755 \pi$, where π is the horizontal parallax of the Moon at the time of phenomena. The above value includes semi-diameter and the effect of refraction.

The Sunrise and Sunset times for certain stations in India (Kolkata, Varanasi, Chennai, Delhi, Mumbai) have been separately computed and given in Indian Standard Time. In these calculations the amount of horizontal refraction has been taken as $31'$, the value derived from consideration of the atmospheric conditions in India, and consequently the zenith distance of the Sun's center is $90^\circ 47'$ at the times given. In the section on Indian Calendar, the Sunrise and Sunset times which have been given for latitude $23^\circ 11'$ North and Central Meridian of India, also relates to the times when upper limb of the Sun is on the horizon as in the general tables.

The Moonrise and Moonset times given for certain latitudes relate to the local mean time calculated for the Central Meridian of India. By simple interpolation with the help of a table given on page 313, the local mean time for any other latitude can easily be obtained. At the time given, the Moon's upper limb is on the horizon and so the true geocentric zenith distance of the Moon's center is $90^\circ 34'$ *plus* semi-diameter of the Moon *minus* the horizontal parallax, where $34'$ has been allowed for horizontal refraction. Taking the mean values of the semi-diameter and the parallax, the zenith distance of the Moon at the moment is about $89^\circ 52'$, which varies from $89^\circ 55'$ to $89^\circ 49'$ as the parallax increases from $53'.6$ to $61'.9$.

The times of Moonrise and Moonset for certain stations in India (Kolkata, Chennai, Delhi and Mumbai) are separately calculated and given in I.S.T.

The times of Sunrise, Sunset and Moonrise, Moonset given are for an observer on the surface of the Earth considered to be a flat surface around that point without any obstruction in the directions of rising or setting. For an observer stationed at some elevation above the surface, the rising will be further accelerated and the setting retarded according to the height of the observer. The additional arc of depression to be considered on this account is $2'.10/\sqrt{h}$ where h is the height of the observer in meters above the ground level. The dip of the sensible horizon is however $1'.77/\sqrt{h}$. The effect of atmospheric refraction is included in the above results, without which both the terms would have got reduced to the same value of $1'.93/\sqrt{h}$.

EXPLANATION

The values of the arc of depression according to height of the observer are given below:

Height	Depression	Height	Depression	Height	Depression	Height	Depression
Meters	'	Meters	'	Meters	'	Meters	'
0	0.0	40	13.3	300	36	2000	94
2	3.0	50	14.8	400	42	3000	115
5	4.7	75	18.2	500	47	4000	133
10	6.6	100	21.0	750	58	5000	148
20	9.4	150	25.7	1000	66	6000	163
30	11.5	200	29.7	1500	81	7000	176
40	13.3	300	36.4	2000	94	8000	188

The correction to the rising and setting times due to the above height of the observer may be obtained by multiplying the arc of depression given in the table by the figures from the table below:

Latitude of Station

Decl. of Sun	0°	10°	20°	30°	35°	40°	45°	50°	52°	54°	56°	58°	60°
° ' m	m	m	m	m	m	m	m	m	m	m	m	m	m
0	.067	.068	.071	.077	.082	.087	.094	.104	.108	.113	.119	.126	.133
5	.067	.068	.071	.077	.082	.088	.095	.105	.109	.115	.121	.127	.135
10	.068	.069	.072	.079	.083	.089	.097	.108	.113	.119	.126	.133	.142
15	.069	.070	.074	.081	.086	.093	.101	.113	.119	.127	.134	.144	.156
20	.071	.072	.076	.084	.090	.097	.108	.123	.130	.139	.151	.165	.183
23 27	.073	.074	.078	.087	.093	.102	.114	.132	.142	.155	.171	.192	.223

The deviation of the rising or the setting point on the horizon (i.e., amplitude) on account of the above arc of depression h (obtained after adding to it the normal depression at rising or setting) may be found as $h \tan \phi \sec A$, deviation being towards the north in the northern hemisphere and south in the southern hemisphere. Here A , the amplitude of the rising or setting point measured from the east or west point of the horizon, is obtained from $\sin A = \sin \delta \sec \phi$. The values of the amplitude for certain latitudes and declinations are given in a table on page 369.

PART IV — ECLIPSES AND OCCULTATIONS

Eclipses and Occultations have been calculated on the basis of the tabulated positions of the Sun and the Moon. The semi-diameters of the Sun and the Moon used in these calculations exclude irradiation. The Sun's tabular semi-diameter which includes irradiation is diminished by 1."55 for this purpose.

The semi-diameter of the Moon given by $\sin s = k \sin \pi$, where π is the Moon's horizontal parallax is based on the adopted constant $k = 0.272\ 5076$ to account for the irregularities of the lunar limb. It corresponds to the mean radius of Watt's datum as determined by observations of occultations and to the adopted radius of the Earth, introduced in 1982 and is consistent with the IAU system of Astronomical constants (1976). It is used with effect from 1986 in this publication. Refraction is neglected in calculation of eclipses of both the Sun and the Moon.

EXPLANATION

The circumstances of the phenomena are given provisionally in Universal Time, using $\Delta T(A) = +71^s.0$ and the points on the Earth's surface are also expressed in terms of geographic longitude measured positively to the east.

Lunar Eclipses

In the calculation of lunar eclipses, the semi-diameter of the shadow -cone has been increased by one-fiftieth to take account of the influence of the atmosphere in absorbing Sun's rays passing through it. In the calculation of rising and setting limits, the time when the centre of the Moon becomes visible on the horizon has been considered as rising or setting. Elsewhere in this book the upper limb visible on the horizon is taken as the criterion for rising or setting. The horizontal refraction used in these calculations of rising and setting is $31'$.

The method of computation of a lunar eclipse is detailed below :

Let α, δ be the right ascension and declination of the Moon at an instant T_0 at or very near to the moment of opposition, and let α', δ' be the corresponding co-ordinates of the centre of the Earth's shadow ($\alpha' =$ R. A. of Sun $+ 12^h$, $\delta' =$ Sun's declination). Let π, s be parallax and semi-diameter of the Moon and π', s' be parallax and semi-diameter of the Sun.

As the Earth is not a perfect sphere, its shadow will differ slightly from a cone. It would however, be sufficient for our purpose if we use a mean radius for the Earth, which is equivalent to substituting for π a parallax π_1 , reduced to latitude 45° , so that $\pi_1 = 0.998333 \pi$.

The radius of the shadow-cone at Moon's distance is $1.02 (\pi_1 + \pi' - s')$ for umbra, and $1.02 (\pi_1 + \pi' + s')$ for penumbra.

Let L be the angle between the centre of the Moon and that of the shadow-cone at the desired circumstance of the eclipse, so that

$$L_1 = 1.02 (\pi_1 + \pi' - s') + s \quad \text{for first and last contacts}$$

$$L_2 = 1.02 (\pi_1 + \pi' - s') - s \quad \text{for second and third contacts}$$

For the penumbral eclipse,

$$L' = 1.02 (\pi_1 + \pi' + s') + s \quad \text{for first and last contacts}$$

The Besselian elements x, y may be computed with sufficient accuracy with the following :

$$x = (\alpha - \alpha') \cos \delta \quad x' = \text{hourly variation of } (\alpha - \alpha') \cos \delta$$

$$y = (\delta - \delta') \quad y' = \text{hourly variation of } (\delta - \delta')$$

Let $m \sin M = x$, and $m \cos M = y$, so that $\tan M = x/y$, and $m^2 = x^2 + y^2$. The quantity m , taken always positive at all times, represents the angular distance between the centre of the Moon and of the shadow cone. The angle M may take any value from 0° to 360° .

Again, let $n \sin N = x'$, and $n \cos N = y'$, so that $n^2 = x'^2 + y'^2$, and $\tan N = x'/y'$. The angle N lies in the first or the second quadrant according as y' is positive or negative. The value of n is positive.

The time of greatest obscuration or middle of the eclipse is given by

$$T_0 - 1/n \{ m \cos (M - N) \} \quad \text{or} \quad T_0 - (x x' + y y') / n^2 \quad (\text{hours})$$

EXPLANATION

The auxiliary angle ψ is given by :

$\sin \psi = \{ m \sin (M - N) \} / L = (x y' - y x') / nL$. The value of either L_1 , L_2 or L' should be used or L according to the circumstances of the eclipse under consideration.

Then, time of the beginning or ending = time of middle + $(1/n) (L \cos \psi)$.

The value of ψ should be so taken that $\cos \psi$ may be negative for the beginning and positive for the ending of the phase. In other words, when $\sin \psi$ is positive, i.e., when $(M - N)$ falls in the 1st or the 2nd quadrant, ψ would be in the second quadrant for the beginning and in the first quadrant for the ending; and when $\sin \psi$ is negative, i.e., when $(M - N)$ is in the 3rd or the 4th quadrant, ψ would be in the third quadrant for the beginning and fourth quadrant for the ending.

If greater accuracy is desired, the computations may be repeated using the times obtained above as initial times.

The magnitude of the eclipse, the Moon's diameter being unity, is $(L_1 - \Delta) / 2s$,

where $\Delta = m \sin (M - N)$ is taken positive. When the computations are repeated for greater accuracy, the average values of L_1 , Δ and s for the first and last umbral contacts or those corresponding to the time of greatest obscurations should be used.

When Δ becomes less than L_2 , the eclipse is a total one. The computations of the beginning and ending of the total phase may be done in the same way as above using the value of L_2 .

The position angle of contact P on the Moon's limb, measured from the north point in the direction N.E.S.W. is $180^\circ + N + \psi$ for the first and last contacts both with umbra and penumbra as the case may be, and is $N + \psi$ for the second and third contacts in case of a total eclipse.

When M is calculated for the exact time of the phenomena, i.e., beginning or ending, then P may be obtained by considering $N + \psi = M$, i.e., $P = M + 180^\circ$ or $P = M$ as the case may be.

Solar Eclipses

Computation of the elements and circumstances of solar eclipses has been done following the method of Bessel. The geometric position of the shadow of the Moon relative to the Earth is described by the Besselian elements in a system of geocentric rectangular co-ordinates. In this system, the geocentric plane perpendicular to the axis of the shadow is taken as the xy plane and called the fundamental plane. The x -axis is the intersection of the fundamental plane with the plane of equator and is positive towards east. The y -axis is positive towards the north. The z -axis is parallel to the axis of the shadow and is positive towards the Moon. The tabular values of x and y are the co-ordinates of the axis of the shadow on the fundamental plane in units of the Earth's equatorial radius. The quantities d and μ specify the declination and hour angle of the point on the celestial sphere towards which the axis of the shadow is directed.

The elements l_1 and l_2 are the radii of the penumbral and umbral cones on the fundamental plane. The elements l_2 is regarded as positive for an annular eclipse and negative for a total eclipse. The elements f_1 and f_2 are the angles between the axis of the shadow and the generators of the penumbral and umbral cones respectively.

The Besselian elements x , y , $\sin d$, $\cos d$, μ , l_1 and l_2 are computed and tabulated at an interval of 10 minutes to facilitate the accurate computation of the circumstances of the eclipse. The given eclipse maps show the path of the eclipse, beginning and ending times of the eclipse, the area of visibility and rising and setting limits of the eclipse.

EXPLANATION

The method of computation of the local circumstances of the solar eclipse is given below :

The approximate time (U.T.) of the beginning and ending of a solar eclipse may be obtained from the corresponding eclipse map and used as estimated initial time. To obtain the geocentric rectangular co-ordinates, ξ , η , ζ of the observer located on the surface of the Earth in geographic longitude λ (measured east positive) and latitude ϕ in terms of the Besselian elements, we have;

$$\xi = \rho \cos \phi' \sin H$$

$$\eta = \rho \sin \phi' \cos d - \rho \cos \phi' \sin d \cos H$$

$$\zeta = \rho \sin \phi' \sin d + \rho \cos \phi' \cos d \cos H$$

and their variations per minute as :

$$\xi' = \mu' \rho \cos \phi' \cos H$$

$$\eta' = \mu' \xi \sin d - \zeta d'$$

where $H = \mu + \lambda$ and μ' is variation per minute in hour angle. In most of the cases, the variation ζ' is not needed and may be neglected. The values of $\rho \cos \phi'$ and $\rho \sin \phi'$ used above may be found for the observer's latitude ϕ using Table – XI.

The eclipse begins or ends at the station when $(x - \xi)^2 + (y - \eta)^2 = (L_1 - \zeta \tan f_1)^2$.

Now let $m \sin M = x - \xi$, $m \cos M = y - \eta$ so that $\tan M = (x - \xi)/(y - \eta)$ and $m^2 = (x - \xi)^2 + (y - \eta)^2$. The angle M may have any value from 0° to 360° and m is always positive.

Again let $n \sin N = x' - \xi'$, $n \cos N = y' - \eta'$ so that $\tan N = (x' - \xi')/(y' - \eta')$ and $n^2 = (x' - \xi')^2 + (y' - \eta')^2$. The angle N is in the first two quadrants and n is positive.

The radius of the shadow at a height ζ above the fundamental plane may be determined by $L_1 = l_1 - \zeta \tan f_1$ or $L_2 = l_2 - \zeta \tan f_2$ as the case may be.

Now the required time of the event will be obtained by applying a correction τ to the adopted initial time concerned, given by

$$\tau = - \{m \cos (M - N)\}/n + (L \cos \psi)/n \quad (\text{in minutes}), \quad \text{where } \sin \psi = \{m \sin (M - N)\}/L$$

The value of ψ for which $\cos \psi$ is negative should be taken for the beginning of the eclipse for the beginning of the annular phase or the end of the total phase, and the value of ψ for which $\cos \psi$ is positive is to be taken for the end of the eclipse, for the end of the annular phase or the beginning of the total phase. When $M - N$ falls within 0° to 180° , ψ is in the 2nd or the 1st quadrant according to the required phase of the eclipse, for the other half it is in the 3rd or the 4th quadrant according to the phase.

If the correction τ obtained above exceeds 3 or 4 minutes and greater accuracy is desired, the computation should be repeated using the new times now obtained as initial times.

For finding the time of greatest phase, the calculations should be started adopting a new assumed time midway between the beginning and ending times. The correction to this adopted time is given by:

$$\tau = - \{m \cos (M - N)\}/n \quad (\text{in minutes}).$$

EXPLANATION

The magnitude of greatest partial eclipse is the fraction of the Sun's diameter obscured by the Moon at the time of greatest phase, and is given by : $M_1 = (L_1 - \Delta) / (2L_1 - 0.5459)$ where Δ , the minimum distance between the centres of the two bodies, is given by $m \sin (M - N)$ and is to be taken positive.

The magnitude of the central phase, in the same units, is $M_2 = (0.5459) / (2L_1 - 0.5459)$.

The position angle of the point of contact measured from the north point of the Sun in the direction N. E. S. W. (i.e. clockwise direction) may be obtained from $P = N + \psi$ or if, measured from the vertex, from $V = P - C$ where C , the parallactic angle, is given by $\tan C = (\xi/\eta)$.

Occultations

The occultations of visible planets and certain bright stars (*Aldebaran*, *Regulus*, *Spica* and *Antares*) by the Moon are given whenever they occur, together with the time, area of visibility and the Besselian elements. The area of visibility includes also the regions from which the occultations is visible even during day light hours. The two times given in the first table for the occultations are the times of first and last contact of the shadow cylinder with the Earth and as such the occultation may be expected to be visible only within the period between these times.

The elements are similar to those for solar eclipses and are given for T_0 , the instant of conjunction in R.A. when $x = 0$. The common geocentric hour angle of the bodies, or more precisely of the line passing through the center of the Earth parallel to the line joining the center of the two bodies for the Greenwich meridians is H_0 and its hourly variation is about $60^m.16$ or $15^\circ.04$. Y is the value of y for the instant of conjunction and x' , y' are the hourly variations of x and y . For a place where an occultation is visible, the times of immersion and emersion can be computed with the help of these elements by a method similar to that used in computing the local circumstances of a solar eclipse as explained below:

Let ϕ and λ be respectively the latitude and longitude of the place. The longitude of place is to be taken in hours and minutes and as usual measured positively towards east of Greenwich.

For night visibility of an occultation, the necessary conditions are as follows:

- (1) The Sun must not be much more than an hour above the horizon at the local mean time $T_0 + \lambda$ (and it must be below the horizon at time $T_0 + \lambda + t$).
- (2) The Moon must be above the horizon by an appreciable amount, i.e., the quantity $H_0 + \lambda$, taken without regard to sign for this purpose, must be less than the semidiurnal arc of the star or planet by at least one hour.

For prediction of an occultation, find the approximate time (U.T.) of local apparent conjunction by applying to the given T_0 a correction t (in hours) taken from the following table*:

	$H_0 + \lambda$													
ϕ	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	0-00	0-30	1-00	1-30	2-00	2-30	3-00	3-30	4-00	4-30	5-00	5-30	6-00	
	h	h	h	h	h	h	h	h	h	h	h	h	h	
0°	0.00	0.41	0.77	1.08	1.32	1.50	1.62	1.69	1.72	1.73	1.71	1.65	1.58	
10°	0.00	0.40	0.75	1.06	1.29	1.47	1.59	1.66	1.70	1.70	1.69	1.63	1.56	
20°	0.00	0.37	0.70	0.99	1.21	1.38	1.51	1.58	1.62	1.63	1.61	1.56	1.50	
30°	0.00	0.32	0.62	0.87	1.08	1.24	1.36	1.44	1.49	1.50	1.50	1.45	1.40	
40°	0.00	0.26	0.51	0.73	0.92	1.07	1.18	1.26	1.30	1.32	1.32	1.30	1.26	
50°	0.00	0.20	0.40	0.58	0.73	0.86	0.96	1.03	1.08	1.11	1.11	1.10	1.07	
60°	0.00	0.15	0.29	0.42	0.53	0.63	0.72	0.78	0.83	0.85	0.87	0.86	0.85	

*The value of t has the same sign as that of $\sin (H_0 + \lambda)$.

The Besselian elements x and y at the time of local conjunctions $T_0 + t$ may be calculated as follows :

$$x = x' t, \text{ and } y = Y + y' t.$$

EXPLANATION

Occultations for which $y - \eta$ for the time local conjunction is not within ± 0.35 will not be visible at the place. In order to decide this, an estimated value of η may be used as an approximation for which the following tables are given indicating the minimum and maximum values of η .

Limiting value of η (when on meridian i.e., when $H_0 + \lambda = 0$)

$\phi - d$	0°	10°	20°	30°	40°	50°	60°
η	0.00	0.17	0.34	0.50	0.64	0.76	0.86

The values of η has the same sign as that of $\phi - d$.

(* The table has been constructed taking $x' = 0.5773$; for other values of x' the figures will vary inversely. For this purpose the figures of the table may be multiplied by 1.15 for $x' = 0.50$, by 1.05 for $x' = 0.55$, by 0.95 or $x' = 0.60$ and by 0.89 for $x' = 0.65$)

Limiting value of η (when rising or setting i.e. when $H_0 + \lambda + t = S.D.$ arc)

	Latitude (ϕ)						
d	0°	10°	20°	30°	40°	50°	60°
0°	0.00	0.17	0.34	0.50	0.64	0.76	0.86
± 9	0.00	0.17	0.34	0.50	0.65	0.77	0.87
± 18	0.00	0.18	0.36	0.52	0.67	0.80	0.91
± 27	0.00	0.19	0.38	0.56	0.72	0.86	0.97

The value of η has the same sign that of ϕ

For the instant $T_0 + t$, compute the following quantities in addition to x and y :

Let $H = (H + \lambda) + a t$ (converted into arc). The value of a has been given for planets under elements; it is 1.027 for stars. The observer's position on the fundamental plane is given by:

$$\xi = \rho \cos \phi' \sin H \quad \text{and} \quad \eta = \rho \sin \phi' \cos d - \rho \cos \phi' \sin d \cos H$$

and the hourly variations ;

$$\xi' = 0.2618 a \rho \cos \phi' \cos H, \quad \eta' = 0.2618 a \xi \sin d.$$

The value of the co-efficient 0.2618 a is 0.2625 for stars.

$$\text{Let } u = x - \xi, \quad v = y - \eta, \quad u' = x' - \xi', \quad v' = y' - \eta' \text{ so that } n^2 = u'^2 + v'^2.$$

Now $\sin \psi = (uv' - vu') / nl$, where $l = 0.2725$, for stars, and for planets, it will be found under elements.

The correction τ to the time of immersion and emersion is given by :

$$\tau = - (60 / n^2) (uu' + vv') \mp (60 l / n) \cos \psi$$

The negative sign in the second term is to be taken for immersion or the first contact and the positive sign for emersion or the last contact.

$$\text{Instant of immersion or emersion} = T_0 + t + \tau.$$

If greater accuracy is desired, a second set of calculations may be done in the following way using the new times now obtained as initial times. For the revised time of immersion or emersion T , compute $H = (H + \lambda + at) + a\tau$, x , y , ξ , η , ξ' , η' ; u , v , u' , v' and $D = uu' + vv'$. The second correction t' is given by : $t' = (30/D) \times [l^2 - (u^2 + v^2)]$ in mins. of time.

$$\text{The final time of immersion or emersion} = T + t'.$$

The angles of contact on the Moon's limb:

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$$P = M + 180^\circ, \text{ where } \tan M = (u + u't') / (v + v't'),$$

$$V = P - C, \text{ where } \tan C = (\xi + \xi't') / (\eta + \eta't'),$$

where t' is to be taken in hours.

PART V – Miscellaneous Tables

Phenomena

The stellar magnitudes of planets together with their elongations from the Sun have been given under 'phenomena' at suitable intervals of days. The computation in the next portion of the phenomena has been based on longitude and that in the Astronomical Diary mainly on right ascension, with the exception that the conjunctions, squares and oppositions of planets with the Sun included in the latter have been calculated on the basis of longitudes. In the case of conjunctions in right ascension, the differences in declination between the planets or the Moon and the planet have also been given. The dates of heliacal visibility of planets (Mercury to Saturn) have also been given and these are based on the method given on page 467.

Interpolation

Interpolation Coefficients have been given on pages 355 to 358 according to the formula of both Bessel and Everett, for each hundredth part of the time-interval.

Let the tabular value of a function given at equal intervals be represented by f and the first and second differences by Δ with relevant dashes and subscripts as shown below. It is required to determine the value of the function at some intermediate point.

Function	First difference	Second difference
f_{-1}		
	$\Delta'_{-1/2}$	
f_0		Δ''_0
	$\Delta'_{1/2}$	
f_1		Δ''_1
	$\Delta'_{1 1/2}$	
f_2		

The epochs for which the values of the function are to be taken should be so chosen that the time for which the value of the function is required may fall within the interval f_0 and f_2 and let n be the time interval from f_0 up to the moment for which the value of the function is required. It is expressed as a fraction of the interval at which the given values of the function are tabulated. Let f_n be the value of the function for the desired time which is now required to be determined.

The two formulae for interpolation which are generally used for the purpose are as follows :

$$f_n = f_0 + n \Delta'_{1/2} + B''(\Delta''_0 + \Delta''_1) \dots \dots \dots \text{Bessel}$$

$$f_n = f_0 + n \Delta'_{1/2} + E_0'' \Delta''_0 + E_1'' \Delta''_1 \dots \dots \dots \text{Everett}$$

in which $f_0 + n \Delta'_{1/2}$ may be replaced by $(1-n)f_0 + n f_1$, if necessary, and where

$$B'' = n(n-1)/4, E_0'' = -n(n-1)(n-2)/6 \text{ and } E_1'' = n(n+1)(n-1)/6$$

It will be noted that in Bessel's formula the value of $\Delta''_0 + \Delta''_1$ is the same as $\Delta'_{1 1/2} - \Delta'_{-1/2}$. The value of the coefficients B'' , E_0'' and E_1'' , all of which are negative within the range f_0 to f_1 , will be obtained from the table on page 355 to 358 for the given value of n .

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Bessel's method of interpolation is more simple, but greater accuracy is yielded by Everett's formula on account of the fact that it includes the effect of third differences also.

The more complete formula of Bessel is as follows :

$$f_n = f_0 + n\Delta'_{1/2} + \{n(n-1)(\Delta''_0 + \Delta''_1)\}/4 + \{n(n-1)(n-1/2)\Delta'''_{1/2}\}/6 + \dots$$

The rate of variation of the function at a point, i.e., the instantaneous motion per unit of time interval may be obtained by the following formula :

$$\text{Motion} = \Delta'_{1/2} + C\Delta''_0 + D\Delta''_1, \quad \text{where } C = -(3n^2 - 6n + 2)/6 \text{ and } D = (3n^2 - 1)/6$$

When $n = 0$, the motion $f'_0 = \{(\Delta'_{-1/2} + \Delta'_{1/2})/2\} - (\Delta''_1 - \Delta''_0)/6$,
 when $n = 1/2$, $f'_{1/2} = \Delta'_{1/2} - \{(\Delta''_1 - \Delta''_0)/24\}$ and when $n = 1$, $f'_1 = \{(\Delta'_{1/2} + \Delta'_{3/2})/2\} - (\Delta''_2 - \Delta''_1)/6$

The stationary point (i.e., when $f' = 0$) occurs when $n = 1/2 - (\Delta'_{1/2}/\Delta''_1)$ or $1/2 - (\Delta'_{-1/2}/\Delta''_0)$.

Geocentric Co-ordinates and other Constants

The tables given on pages 363 and 364 are for computing the geocentric co-ordinates of a place for which the geodetic, i.e., geographic or common latitude ϕ is known. From the first table, the values of $\rho \sin \phi'$ and $\rho \cos \phi'$ can be directly obtained, while the second table gives the values of the geocentric latitude ϕ' and the radius of the Earth ρ separately

The constants used for these tables and the others given below are the 1976 I.A.U. System of astronomical constants introduced in this publication with effect from the 1985 issue.

Equatorial radius (a) = 637 8140 m = 3963.20 miles.
 Polar radius (b) = 635 6755 m = 3949.91 miles.
 Flattening of the Earth (f) = $(a-b)/a = 1/298.257 = 0.003\,353\,64$.
 Ellipticity or eccentricity (e) = 0.081 8192, $e^2 = 0.006\,694\,39$.

The following expressions are obtained from the above values of flattening and radius of the Earth.

$$S = 0.994\,9743 - 0.001\,6708 \cos 2\phi + 0.000\,0021 \cos 4\phi$$

$$C = 1.001\,6799 - 0.001\,6820 \cos 2\phi + 0.000\,0021 \cos 4\phi$$

$$\rho = 0.998\,3271 + 0.001\,6764 \cos 2\phi - 0.000\,0035 \cos 4\phi$$

$$\phi' = \phi - 11' 32''.726 \sin 2\phi + 1''.163 \sin 4\phi - 0''.003 \sin 6\phi$$

$$\text{One degree of longitude (in km.)} = 111.4133 \cos \phi - 0.0935 \cos 3\phi$$

$$\text{One degree of latitude (in km.)} = 111.1334 - 0.5598 \cos 2\phi + 0.0012 \cos 4\phi$$

$$g \text{ (cm/sec}^2\text{)} = 978.031 + 5.1859 \sin^2 \phi - 0.0057 \sin^2 2\phi - 0.000\,308H, \text{ where } H \text{ is the elevation in meters above sea level.}$$

Period of Earth satellite of negligible mass = $84.489\,09\,d^{3/2}$ mins., where d is the mean distance of the satellite from the Earth's center measured in units of 6378140 m (Earth's equatorial radius).

$$\text{Invariable plane of the solar system; } \Omega = 106^\circ 35' 01'' + 3452''T, I = 1^\circ 34' 59'' - 18''T$$

$$\text{Pole of galactic plane (1950); } \alpha = 12^h 49^m.0, \delta = +27^\circ 24'$$

$$\text{Solar apex (1950).. } \alpha = 18^h 06^m, \delta = +30^\circ$$

$$\text{Solar motion} = 20.0 \text{ km. or } 12.4 \text{ miles per sec.}$$

$$\text{Speed of the Earth moving around the Sun} = 29.79 \text{ km. or } 18.51 \text{ miles per sec.}$$

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Heliacal Rising and Setting of Planets

The planets Mercury to Saturn (as well as the Moon) remain invisible to the naked eyes for some days at the time of conjunction with the Sun. This phenomenon of planet's invisibility due to its proximity to the Sun is known as combust or heliacal setting of the planets, and it plays an important part in Indian Calendar. The dates of heliacal setting and rising of the planets marking the period of invisibility have been calculated assuming that the phenomenon occurs when, at the given station, the Sun attains a Zenith distance of $90^\circ + h$ at the time when the zenith distance of the planet is 90° . The values of h for different planets adopted for the purpose are as follows :

Mercury 10° (Direct) and 11° (Retrograde)
 Venus 6° , Mars 14° , Jupiter $8^\circ.5$, and Saturn 12°

The day of the first visibility of the lunar crescent after a new-moon day has also been determined in a somewhat similar way on the basis of the following values of the limiting altitude of the Moon above the horizon corresponding to its azimuth difference from the Sun, when the zenith distance of the Sun is 90° .

Azimuth difference	0°	5°	10°	15°	20°
Altitude	$10^\circ.4$	$10^\circ.0$	$9^\circ.3$	$8^\circ.0$	$6^\circ.2$

When the altitude of the Moon at sunset exceeds the above limit, the Moon is likely to be visible in that evening and when the excess is more than a degree, the Moon is sure to be visible. The beginning dates of the months of the Islamic Calendar have been determined on the basis of the above calculations and indicated on the date following that of the first visibility of the Moon.

In the above calculations, the atmospheric refraction and the horizontal parallax of the Moon are neglected.

The computations of heliacal rising and setting of planets and determination of the dates of first visibility of the Moon have been done for the central station of India.

ASTRONOMICAL CONSTANTS*

Units : The units meter (m), kilogram (kg.) and second (s) are the units of length, mass and time in the International System of Unit (SI).

The astronomical unit of time is a time interval of one (D) of 86400 seconds. An interval of 36525 days is one Julian century.

The astronomical unit of mass is the mass of the Sun (S).

The astronomical unit of length is that length (A) for which the Gaussian gravitational constant (k) takes the value of 0.01720209895 when the units of measurement are the astronomical unit of length, mass and time. The dimensions of k^2 are those of the constant of gravitational (G), i.e. $L^3M^{-1}T^{-2}$. The term "unit distance" is also used for the length A .

Defining Constants :

- | | |
|------------------------------------|-------------------------------------|
| 1. Gaussian gravitational constant | $k = 0.017\ 202\ 098\ 95$ |
| 2. Speed of light | $c = 299\ 792\ 458\ \text{ms}^{-1}$ |

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Primary Constants :

3. Light-time for unit distance	$\tau_A = 499.004\ 78384\ \text{s}$
4. Equatorial radius for Earth	$a_e = 637\ 8136.6\ \text{m}$
[IUGG value	$a_e = 637\ 8137\ \text{m}]$
5. Dynamical form-factor for Earth	$J_2 = 0.001\ 082\ 6359$
6. Geocentric gravitational constant	$GE = 3.986\ 004\ 418 \times 10^{14}\ \text{m}^3\ \text{s}^{-2}$
7. Constant of Gravitation	$G = 6.674\ 28 \times 10^{-11}\ \text{m}^3\ \text{kg}^{-1}\ \text{s}^{-2}$
8. Ratio of mass of Moon to that of Earth	$\mu = 0.012\ 300\ 0371$
9. General precession in longitude, per Julian century, at standard epoch J 2000.0	$P = 5028''.796195$
10. Obliquity of the ecliptic, at standard epoch J2000.0	$\varepsilon = 23^\circ\ 26'\ 21''.406$

Derived Constants

11. Constant of nutation at standard epoch J2000.0	$N = 9''.2052\ 331$
12. Unit distance	$c\tau_A = A = 1.495\ 978\ 707 \times 10^{11}\ \text{m}$
13. Solar parallax	$\text{arc sin}(a_e/A) = \pi_\odot = 8''.794143$
14. Constant of aberration for standard Epoch J2000.0	$k = 20''.49551$
15. Flattening factor for the Earth	$f = 0.003\ 352\ 82 = 1/298.25642$
16. Heliocentric gravitational constant	$A^3 k^2/D^2 = GS = 1.327\ 124\ 42099 \times 10^{20}\ \text{m}^3\ \text{s}^{-2}$
17. Ratio of mass of Sun to that of the Earth	$(GS)/(GE) = S/E = 332\ 946.0487$
18. Ratio of mass of Sun to that of Earth + Moon	$(S/E)/(1+\mu) = 328\ 900.5596$
19. Mass of the Sun	$(GS)/G = S = 1.9884 \times 10^{30}\ \text{kg}$
20. System of planetary masses : (Ratios of mass of Sun to those of the planets etc.)	

Mercury	6023600	Jupiter	1047.348644
Venus	408523.719	Saturn	3497.9018
Earth + Moon	328900.5596	Uranus	22902.98
Mars	3098703.59	Neptune	19412.26
		Pluto	136566000

Other quantities for use in the preparation of ephemerides :

It is recommended that the values given in the following list should normally be used in the preparation of new ephemerides.

21. Masses of minor planets in unit of the solar mass :

(1) Ceres	4.72×10^{-10}
(2) Pallas	1.03×10^{-10}
(3) Vesta	1.35×10^{-10}

*See page 442 also for some of the constants actually used in preparation of the ephemerides reported in the publication.

EXPLANATION

22. Masses of satellites in unit of the planet's mass :

Jupiter	Io	4.704×10^{-5}
	Europa	2.528×10^{-5}
	Ganymede	7.805×10^{-5}
	Callisto	5.667×10^{-5}
Saturn	Titan	2.366×10^{-4}
Neptune	Triton	2.089×10^{-4}

23. Equatorial radii in km.

Mercury	2439.7	Jupiter	71492	Pluto	1195
Venus	6051.8	Saturn	60268		
Earth	6378.1366	Uranus	25559	Moon	1737.4
Mars	3396.19	Neptune	24764	Sun	696000

24. Gravity fields of the planets.

	J_2	J_3	J_4
Earth	$+ 1.08263 \times 10^{-3}$	$- 2.54 \times 10^{-6}$	$- 1.61 \times 10^{-6}$
Mars	$+ 1.964 \times 10^{-3}$	$+ 36 \times 10^{-6}$	
Jupiter	$+ 14.75 \times 10^{-3}$		$- 580 \times 10^{-6}$
Saturn	$+ 16.45 \times 10^{-3}$		$- 1000 \times 10^{-6}$
Uranus	$+ 12 \times 10^{-3}$		
Neptune	$+ 4 \times 10^{-3}$		

25. Gravity field of the Moon.

$\gamma = (B-A)/C = 0.000\ 2278$		$C/MR^2 = 0''.392$
$\beta = (C-B)/B = 0.000\ 6313$		$I = 5552''.7 = 1^\circ\ 32'\ 32.7''$
$C_{20} = - 0.000\ 2027$	$C_{30} = - 0.000\ 006$	$C_{32} = + 0.000\ 0048$
$C_{22} = + 0.000\ 0223$	$C_{31} = + 0.000\ 029$	$S_{32} = + 0.000\ 0017$
	$S_{31} = + 0.000\ 004$	$C_{33} = + 0.000\ 0018$
		$S_{33} = - 0.000\ 001$

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