



# Astrodienst Ephemeris Tables for the year 1618

tropical geocentric zodiac

contains Sun, Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, True Node, Moon's Node, Lilith, Chiron

Programming  
Dieter Koch and Alois Treindl  
based on Swiss Ephemeris  
Code D5EPH

## ASTRODIENST EPHEMERIS for the year 1618

geocentric

JANUARY 1618 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	6 41 56	10°37'43	0°58'	27°40'	9°19'	29°37'	6°43'	17°R29	17°R 9	7°25'	8°R42	11°53'	13°19'	19°49'	19°10'	M 1
T 2	6 45 53	11°38'54	14°52'	29°11'	10°33'	0°24'	6°57'	17°R27	17°R 6	7°25'	8°R42	11°55'	13°16'	19°56'	19°14'	T 2
W 3	6 49 50	12°40'05	28°52'	0°43'	11°47'	1°11'	7°11'	17°25'	17° 4	7°25'	8°41'	11°56'	13°13'	20° 3	19°17'	W 3
T 4	6 53 46	13°41'15	12°Y59	2°15'	13° 1	1°59'	7°24'	17°23'	17° 1	7°26'	8°41'	11°R57	13°10'	20°10'	19°21'	T 4
F 5	6 57 43	14°42'24	27°10'	3°48'	14°16'	2°46'	7°38'	17°22'	16°58'	7°26'	8°40'	11°56'	13° 6	20°16'	19°25'	F 5
S 6	7 1 39	15°43'33	11°R24	5°21'	15°30'	3°33'	7°52'	17°20'	16°56'	7°26'	8°40'	11°54'	13° 3	20°23'	19°28'	S 6
S 7	7 5 36	16°44'42	25°38'	6°55'	16°44'	4°20'	8° 6	17°19'	16°53'	7°26'	8°40'	11°51'	13° 0	20°30'	19°32'	S 7
M 8	7 9 32	17°45'49	9°II48	8°29'	17°59'	5° 8	8°20'	17°18'	16°50'	7°R26	8°39'	11°48'	12°57'	20°36'	19°36'	M 8
T 9	7 13 29	18°46'57	23°50'	10° 3	19°13'	5°55'	8°34'	17°17'	16°48'	7°26'	8°39'	11°44'	12°54'	20°43'	19°40'	T 9
W10	7 17 26	19°48'03	7°E40	11°38'	20°27'	6°43'	8°47'	17°16'	16°45'	7°26'	8°39'	11°41'	12°51'	20°50'	19°44'	W10
T11	7 21 22	20°49'09	21°16'	13°14'	21°42'	7°30'	9° 1	17°15'	16°43'	7°26'	8°39'	11°39'	12°47'	20°57'	19°48'	T11
F12	7 25 19	21°50'15	4°L33	14°50'	22°56'	8°17'	9°15'	17°14'	16°40'	7°26'	8°38'	11°38'	12°44'	21° 3	19°51'	F12
S13	7 29 15	22°51'20	17°32'	16°26'	24°11'	9° 5	9°29'	17°14'	16°37'	7°26'	8°38'	11°D38	12°41'	21°10'	19°55'	S13
S14	7 33 12	23°52'24	0°II13	18° 4	25°25'	9°52'	9°43'	17°13'	16°35'	7°25'	8°38'	11°39'	12°38'	21°17'	19°59'	S14
M15	7 37 8	24°53'28	12°37'	19°41'	26°39'	10°39'	9°58'	17°13'	16°32'	7°25'	8°38'	11°40'	12°35'	21°23'	20° 3	M15
T16	7 41 5	25°54'31	24°47'	21°19'	27°54'	11°27'	10°12'	17°12'	16°30'	7°25'	8°38'	11°42'	12°32'	21°30'	20° 7	T16
W17	7 45 1	26°55'34	6°E46	22°58'	29° 8	12°14'	10°26'	17°12'	16°27'	7°25'	8°37'	11°43'	12°28'	21°37'	20°11'	W17
T18	7 48 58	27°56'36	18°39'	24°38'	0°E23	13° 2	10°40'	17°D12	16°25'	7°24'	8°37'	11°44'	12°25'	21°44'	20°15'	T18
F19	7 52 55	28°57'38	0°II31	26°18'	1°37'	13°49'	10°54'	17°12'	16°22'	7°24'	8°37'	11°R44	12°22'	21°50'	20°19'	F19
S20	7 56 51	29°58'39	12°27'	27°58'	2°52'	14°37'	11° 8	17°12'	16°20'	7°24'	8°37'	11°44'	12°19'	21°57'	20°23'	S20
S21	8 0 48	0°59'40	24°30'	29°40'	4° 6	15°24'	11°23'	17°12'	16°17'	7°23'	8°37'	11°43'	12°16'	22° 4	20°28'	S21
M22	8 4 44	2° 0'40	6°E46	1°22'	5°21'	16°12'	11°37'	17°13'	16°15'	7°23'	8°D37	11°41'	12°12'	22°10'	20°32'	M22
T23	8 8 41	3° 1'39	19°18'	3° 4	6°36'	16°59'	11°51'	17°13'	16°12'	7°22'	8°37'	11°40'	12° 9	22°17'	20°36'	T23
W24	8 12 37	4° 2'38	2°E 9	4°47'	7°50'	17°46'	12° 5	17°14'	16°10'	7°22'	8°37'	11°39'	12° 6	22°24'	20°40'	W24
T25	8 16 34	5° 3'36	15°19'	6°31'	9° 5	18°34'	12°20'	17°15'	16° 7	7°21'	8°37'	11°38'	12° 3	22°31'	20°44'	T25
F26	8 20 30	6° 4'33	28°49'	8°16'	10°19'	19°21'	12°34'	17°15'	16° 5	7°21'	8°37'	11°38'	12° 0	22°37'	20°48'	F26
S27	8 24 27	7° 5'29	12°38'	10° 1	11°34'	20° 9	12°48'	17°16'	16° 2	7°20'	8°37'	11°D38	11°57'	22°44'	20°53'	S27
S28	8 28 24	8° 6'23	26°41'	11°47'	12°48'	20°56'	13° 3	17°17'	16° 0	7°19'	8°38'	11°38'	11°53'	22°51'	20°57'	S28
M29	8 32 20	9° 7'16	10°E55	13°33'	14° 3	21°44'	13°17'	17°19'	15°58'	7°19'	8°38'	11°38'	11°50'	22°58'	21° 1	M29
T30	8 36 17	10° 8'08	25°15'	15°20'	15°18'	22°31'	13°31'	17°20'	15°55'	7°18'	8°38'	11°38'	11°47'	23° 4	21° 5	T30
W31	8 40 13	11° 8'59	9°Y38	17° 7	16°E32	23°19'	13°46'	17°R21	15°E53	7°17'	8°R38	11°38'	11°44'	23°11'	21° 9	W31

Delta T = 68.44 sec

Greg. Calendar

FEBRUARY 1618 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	8 44 10	12° 9'48	23°Y58	18°55'	17°E47	24° 6	14° 0	17°R23	15°R51	7°R17	8°R38	11°R38	11°41'	23°18'	21°14'	T 1
F 2	8 48 6	13°10'36	8°E13	20°43'	19° 1	24°54'	14°14'	17°24	15°E49	7°E16	8°38'	11°D38	11°38'	23°24	21°18'	F 2
S 3	8 52 3	14°11'21	22°20'	22°32'	20°16'	25°41'	14°29'	17°26	15°46'	7°15'	8°39'	11°38'	11°34'	23°31'	21°22'	S 3
S 4	8 55 59	15°12'06	6°II17	24°20'	21°31'	26°29'	14°43'	17°28	15°44'	7°14'	8°39'	11°38'	11°31'	23°38'	21°26'	S 4
M 5	8 59 56	16°12'49	20° 3	26° 9	22°45'	27°16'	14°57'	17°30	15°42'	7°13'	8°39'	11°39'	11°28'	23°45'	21°31'	M 5
T 6	9 3 53	17°13'30	3°E37	27°57'	24° 0	28° 3	15°12'	17°32	15°40'	7°12'	8°40'	11°39'	11°25'	23°51'	21°35'	T 6
W 7	9 7 49	18°14'09	16°59'	29°44'	25°14'	28°51'	15°26'	17°34	15°38'	7°11'	8°40'	11°40'	11°22'	23°58'	21°39'	W 7
T 8	9 11 46	19°14'47	0°E 8	1°E31	26°29'	29°38'	15°41'	17°36	15°36'	7°10'	8°40'	11°40'	11°18'	24° 5	21°44'	T 8
F 9	9 15 42	20°15'24	13° 4	3°17'	27°44'	0°E25	15°55'	17°39	15°34'	7° 9	8°41'	11°R41	11°15'	24°11'	21°48'	F 9
S10	9 19 39	21°15'58	25°46'	5° 2	28°58'	1°13'	16° 9	17°41	15°32'	7° 8	8°41'	11°40'	11°12'	24°18'	21°52'	S10
S11	9 23 35	22°16'32	8°II16	6°45'	0°E13	2° 0	16°24'	17°44	15°30'	7° 7	8°41'	11°39'	11° 9	24°25'	21°56'	S11
M12	9 27 32	23°17'03	20°33'	8°25'	1°27'	2°47'	16°38'	17°46	15°28'	7° 6	8°42'	11°38'	11° 6	24°32'	22° 1	M12
T13	9 31 28	24°17'34	2°E40	10° 3	2°42'	3°35'	16°52'	17°49	15°26'	7° 5	8°42'	11°36'	11° 3	24°38'	22° 5	T13
W14	9 35 25	25°18'03	14°39'	11°38'	3°57'	4°22'	17° 6	17°52	15°24'	7° 4	8°43'	11°34'	10°59'	24°45'	22° 9	W14
T15	9 39 22	26°18'30	26°33'	13° 9	5°11'	5° 9	17°21'	17°55	15°22'	7° 3	8°43'	11°32'	10°56'	24°52'	22°14'	T15
F16	9 43 18	27°18'56	8°II25	14°36'	6°26'	5°57'	17°35'	17°58	15°21'	7° 2	8°44'	11°30'	10°53'	24°58'	22°18'	F16
S17	9 47 15	28°19'21	20°19'	15°57'	7°40'	6°44'	17°49'	18° 1	15°19'	7° 1	8°44'	11°29'	10°50'	25° 5	22°22'	S17
S18	9 51 11	29°19'44	2°E12	17°13'	8°55'	7°31'	18° 3	18° 5	15°17'	6°59'	8°45'	11°D29	10°47'	25°12'	22°26'	S18
M19	9 55 8	0°E20'06	14°34'	18°23'	10°10'	8°18'	18°18'	18° 8	15°16'	6°58'	8°46'	11°30'	10°44'	25°19'	22°31'	M19
T20	9 59 4	1°20'27	27° 4	19°25'	11°24'	9° 6	18°32'	18°12'	15°14'	6°57'	8°46'	11°31'	10°40'	25°25'	22°35'	T20
W21	10 3 1	2°20'46	9°E54	20°20'	12°39'	9°53'	18°46'	18°15'	15°12'	6°56'	8°47'	11°33'	10°37'	25°32'	22°39'	W21
T22	10 6 57	3°21'04	23° 8	21° 7	13°53'	10°40'	19° 0	18°19'	15°11'	6°54'	8°47'	11°34'	10°34'	25°39'	22°43'	T22
F23	10 10 54	4°21'20	6°E46	21°46'	15° 8	11°27'	19°14'	18°23'	15° 9	6°53'	8°48'	11°R35	10°31'	25°45'	22°48'	F23
S24	10 14 51	5°21'34	20°50'	22°15'	16°23'	12°14'	19°29'	18°27'	15° 8	6°52'	8°49'	11°35'	10°28'	25°52'	22°52'	S24
S25	10 18 47	6°21'46	5°E14	22°36'	17°37'	13° 1	19°43'	18°31'	15° 7	6°50'	8°49'	11°33'	10°24'	25°59'	22°56'	S25
M26	10 22 44	7°21'57	19°55'	22°46'	18°52'	13°48'	19°57'	18°35'	15° 5	6°49'	8°50'	11°31'	10°21'	26° 6	23° 0	M26
T27	10 26 40	8°22'05	4°Y45	22°R48	20° 6	14°35'	20°11'	18°39'	15° 4	6°48'	8°51'	11°27'	10°18'	26°12'	23° 4	T27
W28	10 30 37	9°E22'12	19°Y35	22°E40	21°21'	15°E22	20°25'	18°E43	15°E 3	6°46'	8°E52	11°E23	10°E15	26°E19	23° 8	W28

Delta T = 68.36 sec

Greg. Calendar

## ASTRODIENST EPHEMERIS for the year 1618

geocentric

MARCH 1618 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	10 34 33	10♌22'16	4♌19	22♌R23	22♌35	16♌9	20♌39	18♌47	15♌R 2	6♌R45	8♌52	11♌R19	10♌12	26♌26	23♌13	T 1
F 2	10 38 30	11♌22'19	18°50	21♌58	23°50	16°56	20°53	18°52	15♌1	6♌43	8°53	11♌16	10° 9	26°32	23°17	F 2
S 3	10 42 26	12♌22'19	3♌II 4	21°25	25° 5	17°43	21° 6	18°56	14°59	6°42	8°54	11°14	10° 5	26°39	23°21	S 3
S 4	10 46 23	13♌22'17	16°58	20°45	26°19	18°30	21°20	19° 1	14°58	6°40	8°55	11°D14	10° 2	26°46	23°25	S 4
M 5	10 50 20	14♌22'13	0♌33	19°59	27°34	19°17	21°34	19° 6	14°57	6°39	8°56	11°15	9°59	26°53	23°29	M 5
T 6	10 54 16	15♌22'07	13°50	19° 8	28°48	20° 4	21°48	19°10	14°57	6°37	8°57	11°17	9°56	26°59	23°33	T 6
W 7	10 58 13	16♌21'58	26°51	18°14	0♌3	20°51	22° 2	19°15	14°56	6°36	8°57	11°18	9°53	27° 6	23°37	W 7
T 8	11 2 9	17♌21'47	9♌238	17°17	1°17	21°37	22°15	19°20	14°55	6°34	8°58	11°R19	9°50	27°13	23°41	T 8
F 9	11 6 6	18♌21'34	22°13	16°19	2°32	22°24	22°29	19°25	14°54	6°33	8°59	11°18	9°46	27°20	23°45	F 9
S 10	11 10 2	19♌21'19	4♌37	15°22	3°46	23°11	22°43	19°30	14°53	6°31	9° 0	11°16	9°43	27°26	23°49	S 10
S 11	11 13 59	20°21'02	16°53	14°26	5° 0	23°57	22°56	19°35	14°53	6°30	9° 1	11°12	9°40	27°33	23°53	S 11
M12	11 17 55	21°20'42	29° 0	13°32	6°15	24°44	23°10	19°41	14°52	6°28	9° 2	11° 5	9°37	27°40	23°57	M12
T 13	11 21 52	22°20'21	11♌1	12°42	7°29	25°31	23°23	19°46	14°51	6°27	9° 3	10°58	9°34	27°46	24° 1	T 13
W14	11 25 48	23°19'58	22°57	11°56	8°44	26°17	23°37	19°51	14°51	6°25	9° 4	10°50	9°30	27°53	24° 5	W14
T 15	11 29 45	24°19'32	4♌50	11°16	9°58	27° 4	23°50	19°57	14°50	6°23	9° 5	10°42	9°27	28° 0	24° 8	T 15
F 16	11 33 42	25°19'05	16°42	10°40	11°13	27°50	24° 3	20° 2	14°50	6°22	9° 6	10°34	9°24	28° 7	24°12	F 16
S 17	11 37 38	26°18'37	28°36	10°11	12°27	28°37	24°17	20° 8	14°50	6°20	9° 7	10°29	9°21	28°13	24°16	S 17
S 18	11 41 35	27°18'06	10♌36	9°47	13°42	29°23	24°30	20°14	14°49	6°18	9° 8	10°25	9°18	28°20	24°20	S 18
M19	11 45 31	28°17'34	22°47	9°30	14°56	0♌10	24°43	20°19	14°49	6°17	9° 9	10°23	9°15	28°27	24°24	M19
T 20	11 49 28	29°16'59	5♌12	9°18	16°10	0°56	24°56	20°25	14°49	6°15	9°10	10°D23	9°11	28°33	24°27	T 20
W21	11 53 24	0♌16'23	17°57	9°D13	17°25	1°42	25° 9	20°31	14°49	6°14	9°11	10°24	9° 8	28°40	24°31	W21
T 22	11 57 21	1°15'46	1♌6	9°13	18°39	2°29	25°22	20°37	14°49	6°12	9°12	10°25	9° 5	28°47	24°34	T 22
F 23	12 1 17	2°15'06	14°42	9°19	19°54	3°15	25°35	20°43	14°D49	6°10	9°14	10°R26	9° 2	28°54	24°38	F 23
S 24	12 5 14	3°14'25	28°46	9°30	21° 8	4° 1	25°48	20°49	14°49	6° 9	9°15	10°24	8°59	29° 0	24°42	S 24
S 25	12 9 11	4°13'41	13♌18	9°46	22°22	4°47	26° 1	20°55	14°49	6° 7	9°16	10°20	8°55	29° 7	24°45	S 25
M26	12 13 7	5°12'56	28°12	10° 8	23°37	5°33	26°14	21° 1	14°49	6° 5	9°17	10°14	8°52	29°14	24°49	M26
T 27	12 17 4	6°12'08	13♌20	10°34	24°51	6°19	26°26	21° 8	14°49	6° 4	9°18	10° 7	8°49	29°20	24°52	T 27
W28	12 21 0	7°11'19	28°34	11° 5	26° 5	7° 5	26°39	21°14	14°49	6° 2	9°19	9°58	8°46	29°27	24°56	W28
T 29	12 24 57	8°10'27	13♌40	11°39	27°20	7°51	26°51	21°20	14°50	6° 0	9°20	9°49	8°43	29°34	24°59	T 29
F 30	12 28 53	9° 9'33	28°31	12°18	28°34	8°37	27° 4	21°27	14°50	5°59	9°22	9°42	8°40	29°41	25° 2	F 30
S 31	12 32 50	10♌8'37	13♌II 0	13♌1	29♌48	9♌23	27♌16	21♌33	14♌50	5♌57	9♌23	9♌37	8♌36	29♌47	25♌6	S 31

Delta T = 68.28 sec

Greg. Calendar

APRIL 1618 GC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	12 36 46	11♌7'39	27♌II 3	13♌47	1♌2	10♌9	27♌29	21♌40	14♌51	5°R55	9°R24	9°R34	8°33	29♌54	25° 9	S 1
M 2	12 40 43	12° 6'38	10♌39	14°37	2°17	10°55	27°41	21°46	14°51	5♌54	9°25	9°D33	8°30	0♌1	25°12	M 2
T 3	12 44 40	13° 5'35	23°52	15°30	3°31	11°41	27°53	21°53	14°52	5°52	9°26	9°33	8°27	0° 8	25°15	T 3
W 4	12 48 36	14° 4'30	6♌43	16°26	4°45	12°27	28° 5	22° 0	14°52	5°51	9°28	9°R34	8°24	0°14	25°18	W 4
T 5	12 52 33	15° 3'22	19°18	17°24	5°59	13°12	28°17	22° 6	14°53	5°49	9°29	9°33	8°21	0°21	25°22	T 5
F 6	12 56 29	16° 2'12	1♌39	18°26	7°14	13°58	28°29	22°13	14°54	5°47	9°30	9°31	8°17	0°28	25°25	F 6
S 7	13 0 26	17° 0'59	13°50	19°30	8°28	14°43	28°41	22°20	14°55	5°46	9°31	9°26	8°14	0°34	25°28	S 7
S 8	13 4 22	17°59'45	25°53	20°37	9°42	15°29	28°53	22°27	14°55	5°44	9°33	9°19	8°11	0°41	25°31	S 8
M 9	13 8 19	18°58'28	7♌52	21°46	10°56	16°15	29° 4	22°34	14°56	5°42	9°34	9° 8	8° 8	0°48	25°34	M 9
T 10	13 12 15	19°57'09	19°47	22°58	12°10	17° 0	29°16	22°41	14°57	5°41	9°35	8°56	8° 5	0°55	25°36	T 10
W11	13 16 12	20°55'49	1♌40	24°12	13°25	17°45	29°27	22°48	14°58	5°39	9°37	8°43	8° 1	1° 1	25°39	W11
T 12	13 20 9	21°54'26	13°33	25°28	14°39	18°31	29°39	22°55	14°59	5°38	9°38	8°30	7°58	1° 8	25°42	T 12
F 13	13 24 5	22°53'02	25°27	26°46	15°53	19°16	29°50	23° 2	15° 0	5°36	9°39	8°18	7°55	1°15	25°45	F 13
S 14	13 28 2	23°51'36	7♌23	28° 6	17° 7	20° 1	0♌1	23° 9	15° 2	5°35	9°41	8° 8	7°52	1°21	25°48	S 14
S 15	13 31 58	24°50'08	19°25	29°28	18°21	20°47	0°12	23°16	15° 3	5°33	9°42	8° 0	7°49	1°28	25°50	S 15
M16	13 35 55	25°48'38	1♌36	0♌52	19°35	21°32	0°24	23°24	15° 4	5°31	9°43	7°55	7°46	1°35	25°53	M16
T 17	13 39 51	26°47'07	14° 0	2°18	20°49	22°17	0°34	23°31	15° 5	5°30	9°45	7°53	7°42	1°42	25°55	T 17
W18	13 43 48	27°45'34	26°41	3°46	22° 3	23° 2	0°45	23°38	15° 7	5°28	9°46	7°D53	7°39	1°48	25°58	W18
T 19	13 47 44	28°43'59	9♌44	5°16	23°17	23°47	0°56	23°45	15° 8	5°27	9°47	7°R53	7°36	1°55	26° 0	T 19
F 20	13 51 41	29°42'23	23°13	6°48	24°31	24°32	1° 7	23°53	15° 9	5°25	9°49	7°52	7°33	2° 2	26° 3	F 20
S 21	13 55 38	0♌40'46	7♌II 0	8°21	25°45	25°17	1°17	24° 0	15°11	5°24	9°50	7°50	7°30	2° 9	26° 5	S 21
S 22	13 59 34	1°39'06	21°35	9°57	27° 0	26° 2	1°28	24° 8	15°12	5°23	9°51	7°45	7°27	2°15	26° 7	S 22
M23	14 3 31	2°37'25	6♌26	11°34	28°14	26°47	1°38	24°15	15°14	5°21	9°53	7°38	7°23	2°22	26°10	M23
T 24	14 7 27	3°35'42	21°37	13°13	29°28	27°31	1°48	24°22	15°16	5°20	9°54	7°28	7°20	2°29	26°12	T 24
W25	14 11 24	4°33'58	6♌56	14°54	0♌42	28°16	1°58	24°30	15°17	5°18	9°55	7°17	7°17	2°35	26°14	W25
T 26	14 15 20	5°32'12	22°14	16°36	1°56	29° 1	2° 8	24°37	15°19	5°17	9°57	7° 6	7°14	2°42	26°16	T 26
F 27	14 19 17	6°30'24	7♌II 8	18°21	3°10	29°45	2°18	24°45	15°21	5°16	9°58	6°56	7°11	2°49	26°18	F 27
S 28	14 23 13	7°28'35	21°59	20° 7	4°24	0♌30	2°28	24°53	15°23	5°14	9°59	6°49	7° 7	2°56	26°20	S 28
S 29	14 27 10	8°26'43	6♌13	21°55	5°38	1°14	2°38	25° 0	15°24	5°13	10° 1	6°45	7° 4	3° 2	26°22	S 29
M30	14 31 7	9♌24'49	19♌58	23♌45	6♌52	1♌59	2♌47	25♌8	15♌26	5♌12	10♌2	6♌42	7♌1	3♌9	26♌24	M30

Delta T = 68.20 sec

Greg. Calendar

## ASTRODIENST EPHEMERIS for the year 1618

geocentric

MAY 1618 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	14 35 3	10♌22°54	3♏14	25♊37	8♋5	2♊43	2♊57	25♊15	15♌28	5♌10	10♌3	6♌42	6♌58	3♌16	26♌26	T 1
W 2	14 39 0	11°20'56	16°6	27°30	9°19	3°28	3°6	25°23	15°30	5♌9	10°5	6♌42	6°55	3°23	26°28	W 2
T 3	14 42 56	12°18'56	28°38	29°26	10°33	4°12	3°15	25°31	15°32	5°8	10°6	6°41	6°52	3°29	26°29	T 3
F 4	14 46 53	13°16'55	10♍54	1♌23	11°47	4°56	3°24	25°38	15°34	5°6	10°7	6°39	6°48	3°36	26°31	F 4
S 5	14 50 49	14°14'51	22°59	3°22	13°1	5°40	3°33	25°46	15°37	5°5	10°9	6°34	6°45	3°43	26°33	S 5
S 6	14 54 46	15°12'46	4♌56	5°23	14°15	6°25	3°42	25°54	15°39	5°4	10°10	6°26	6°42	3°49	26°34	S 6
M 7	14 58 42	16°10'39	16°50	7°25	15°29	7°9	3°50	26°2	15°41	5°3	10°12	6°16	6°39	3°56	26°36	M 7
T 8	15 2 39	17°8'30	28°42	9°29	16°43	7°53	3°59	26°9	15°43	5°2	10°13	6°3	6°36	4°3	26°37	T 8
W 9	15 6 36	18°6'20	10♍34	11°34	17°57	8°37	4°7	26°17	15°46	5°1	10°14	5°50	6°33	4°10	26°39	W 9
T 10	15 10 32	19°4'09	22°29	13°41	19°10	9°21	4°16	26°25	15°48	5°0	10°16	5°36	6°29	4°16	26°40	T 10
F 11	15 14 29	20°1'56	4♌27	15°49	20°24	10°5	4°24	26°33	15°50	4°59	10°17	5°24	6°26	4°23	26°41	F 11
S 12	15 18 25	20°59'41	16°30	17°59	21°38	10°48	4°32	26°40	15°53	4°57	10°18	5°14	6°23	4°30	26°42	S 12
S 13	15 22 22	21°57'26	28°39	20°9	22°52	11°32	4°40	26°48	15°55	4°56	10°20	5°6	6°20	4°36	26°43	S 13
M14	15 26 18	22°55'09	10♌57	22°20	24°6	12°16	4°47	26°56	15°58	4°55	10°21	5°1	6°17	4°43	26°45	M14
T 15	15 30 15	23°52'51	23°27	24°31	25°20	13°0	4°55	27°4	16°0	4°55	10°22	4°59	6°13	4°50	26°46	T 15
W16	15 34 11	24°50'31	6♌11	26°43	26°33	13°43	5°2	27°12	16°3	4°54	10°24	4°D58	6°10	4°57	26°47	W16
T 17	15 38 8	25°48'11	19°13	28°54	27°47	14°27	5°10	27°19	16°5	4°53	10°25	4°R58	6°7	5°3	26°47	T 17
F 18	15 42 5	26°45'50	2♌37	1♌5	29°1	15°10	5°17	27°27	16°8	4°52	10°26	4°58	6°4	5°10	26°48	F 18
S 19	15 46 1	27°43'27	16°26	3°16	0♌15	15°54	5°24	27°35	16°11	4°51	10°28	4°57	6°1	5°17	26°49	S 19
S 20	15 49 58	28°41'04	0♌40	5°25	1°29	16°37	5°31	27°43	16°13	4°50	10°29	4°54	5°58	5°24	26°50	S 20
M21	15 53 54	29°38'40	15°18	7°34	2°42	17°20	5°37	27°51	16°16	4°49	10°30	4°48	5°54	5°30	26°50	M21
T 22	15 57 51	0♌36'15	0♌15	9°41	3°56	18°4	5°44	27°58	16°19	4°48	10°31	4°40	5°51	5°37	26°51	T 22
W23	16 1 47	1°33'49	15°24	11°46	5°10	18°47	5°50	28°6	16°22	4°48	10°33	4°31	5°48	5°44	26°52	W23
T 24	16 5 44	2°31'22	0♌35	13°50	6°24	19°30	5°56	28°14	16°24	4°47	10°34	4°22	5°45	5°50	26°52	T 24
F 25	16 9 40	3°28'54	15°37	15°51	7°37	20°13	6°3	28°22	16°27	4°46	10°35	4°14	5°42	5°57	26°52	F 25
S 26	16 13 37	4°26'24	0♌20	17°51	8°51	20°56	6°8	28°30	16°30	4°46	10°37	4°7	5°39	6°4	26°53	S 26
S 27	16 17 34	5°23'54	14°39	19°48	10°5	21°39	6°14	28°37	16°33	4°45	10°38	4°4	5°35	6°11	26°53	S 27
M28	16 21 30	6°21'22	28°30	21°43	11°19	22°22	6°20	28°45	16°36	4°44	10°39	4°D2	5°32	6°17	26°53	M28
T 29	16 25 27	7°18'50	11♌52	23°35	12°32	23°5	6°25	28°53	16°39	4°44	10°40	4°2	5°29	6°24	26°53	T 29
W30	16 29 23	8°16'15	24°49	25°25	13°46	23°48	6°30	29°1	16°42	4°43	10°42	4°3	5°26	6°31	26°54	W30
T 31	16 33 20	9♌13'40	7♍23	27♌12	15♌0	24♌31	6♌35	29♌8	16♌45	4♌43	10♌43	4°R4	5♌23	6♌38	26°R54	T 31

Delta T = 68.12 sec

Greg. Calendar

JUNE 1618 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	16 37 16	10♌11°03	19♍41	28♌57	16♌13	25♌14	6♌40	29♌16	16♌48	4°R42	10♌44	4°R3	5♌19	6♌44	26°R54	F 1
S 2	16 41 13	11°8'25	1♌45	0♌39	17°27	25°56	6°45	29°24	16°51	4♌42	10°45	4♌1	5°16	6°51	26♌54	S 2
S 3	16 45 9	12°5'46	13°41	2°18	18°41	26°39	6°50	29°32	16°55	4°41	10°46	3°56	5°13	6°58	26°53	S 3
M 4	16 49 6	13°3'07	25°34	3°55	19°55	27°22	6°54	29°39	16°58	4°41	10°48	3°50	5°10	7°4	26°53	M 4
T 5	16 53 3	14°0'26	7♌26	5°29	21°8	28°4	6°58	29°47	17°1	4°41	10°49	3°42	5°7	7°11	26°53	T 5
W 6	16 56 59	14°57'44	19°20	7°0	22°22	28°47	7°2	29°55	17°4	4°40	10°50	3°33	5°4	7°18	26°53	W 6
T 7	17 0 56	15°55'02	1♌19	8°28	23°36	29°29	7°6	0♌11	17°7	4°40	10°51	3°24	5°0	7°25	26°52	T 7
F 8	17 4 52	16°52'18	13°25	9°54	24°49	0♌11	7°10	0°10	17°11	4°40	10°52	3°16	4°57	7°31	26°52	F 8
S 9	17 8 49	17°49'35	25°38	11°17	26°3	0°54	7°13	0°17	17°14	4°40	10°53	3°9	4°54	7°38	26°51	S 9
S 10	17 12 45	18°46'50	7♌59	12°37	27°16	1°36	7°17	0°25	17°17	4°39	10°54	3°5	4°51	7°45	26°51	S 10
M11	17 16 42	19°44'05	20°31	13°54	28°30	2°18	7°20	0°32	17°21	4°39	10°56	3°2	4°48	7°51	26°50	M11
T 12	17 20 39	20°41'20	3♌14	15°8	29°44	3°0	7°23	0°40	17°24	4°39	10°57	3°D1	4°45	7°58	26°49	T 12
W13	17 24 35	21°38'34	16°10	16°19	0♌57	3°42	7°26	0°47	17°27	4°39	10°58	3°2	4°41	8°5	26°49	W13
T 14	17 28 32	22°35'48	29°22	17°27	2°11	4°25	7°28	0°55	17°31	4°39	10°59	3°3	4°38	8°12	26°48	T 14
F 15	17 32 28	23°33'02	12♌50	18°32	3°25	5°7	7°31	1°2	17°34	4°39	11°0	3°4	4°35	8°18	26°47	F 15
S 16	17 36 25	24°30'15	26°36	19°34	4°38	5°48	7°33	1°10	17°38	4°D39	11°1	3°R5	4°32	8°25	26°46	S 16
S 17	17 40 21	25°27'29	10♌42	20°32	5°52	6°30	7°35	1°17	17°41	4°39	11°2	3°4	4°29	8°32	26°45	S 17
M18	17 44 18	26°24'42	25°5	21°27	7°5	7°12	7°37	1°25	17°44	4°39	11°3	3°1	4°25	8°39	26°44	M18
T 19	17 48 14	27°21'55	9♌44	22°19	8°19	7°54	7°38	1°32	17°48	4°39	11°4	2°57	4°22	8°45	26°43	T 19
W20	17 52 11	28°19'09	24°31	23°7	9°33	8°36	7°40	1°39	17°51	4°39	11°5	2°53	4°19	8°52	26°42	W20
T 21	17 56 8	29°16'22	9♌21	23°51	10°46	9°17	7°41	1°46	17°55	4°39	11°6	2°48	4°16	8°59	26°41	T 21
F 22	18 0 4	0♌13'35	24°5	24°32	12°0	9°59	7°42	1°54	17°58	4°39	11°7	2°44	4°13	9°5	26°40	F 22
S 23	18 4 1	1°10'49	8♌36	25°9	13°14	10°41	7°43	2°1	18°2	4°40	11°8	2°40	4°10	9°12	26°38	S 23
S 24	18 7 57	2°8'01	22°48	25°41	14°27	11°22	7°44	2°8	18°5	4°40	11°9	2°39	4°6	9°19	26°37	S 24
M25	18 11 54	3°5'14	6♌36	26°10	15°41	12°4	7°44	2°15	18°9	4°40	11°10	2°D38	4°3	9°26	26°35	M25
T 26	18 15 50	4°2'26	19°59	26°34	16°54	12°45	7°45	2°22	18°13	4°40	11°11	2°39	4°0	9°32	26°34	T 26
W27	18 19 47	4°59'38	2♌59	26°53	18°8	13°26	7°R45	2°29	18°16	4°41	11°11	2°41	3°57	9°39	26°32	W27
T 28	18 23 43	5°56'50	15°37	27°9	19°22	14°8	7°45	2°36	18°20	4°41	11°12	2°42	3°54	9°46	26°31	T 28
F 29	18 27 40	6°54'01	27°57	27°19	20°35	14°49	7°44	2°43	18°23	4°42	11°13	2°43	3°51	9°53	26°29	F 29
S 30	18 31 37	7°51'12	10♌4	27°525	21°549	15♌30	7♌44	2♌50	18♌27	4♌42	11♌14	2°R44	3♌47	9♌59	26♌28	S 30

Delta T = 68.04 sec

Greg. Calendar

# ASTRODIENST EPHEMERIS for the year 1618

## geocentric

JULY 1618 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	18 35 33	8°48'23	22°1	27°R27	23°2	16°II11	7°R43	2°II57	18°231	4°43	11°R15	2°R43	3°44	10°M 6	26°R26	S 1
M 2	18 39 30	9°45'33	3°M55	27°23	24°16	16°52	7°K42	3° 4	18°34	4°43	11°16	2°41	3°41	10°13	26°24	M 2
T 3	18 43 26	10°42'44	15°48	27°15	25°29	17°33	7°41	3°10	18°38	4°44	11°16	2°39	3°38	10°19	26°22	T 3
W 4	18 47 23	11°39'54	27°45	27° 3	26°43	18°14	7°40	3°17	18°42	4°44	11°17	2°35	3°35	10°26	26°20	W 4
T 5	18 51 19	12°37'05	9°A49	26°45	27°56	18°55	7°38	3°24	18°45	4°45	11°18	2°32	3°31	10°33	26°18	T 5
F 6	18 55 16	13°34'16	22° 2	26°24	29°10	19°36	7°37	3°30	18°49	4°45	11°19	2°29	3°28	10°40	26°17	F 6
S 7	18 59 12	14°31'27	4°B27	25°58	0°L23	20°17	7°35	3°37	18°52	4°46	11°19	2°27	3°25	10°46	26°15	S 7
S 8	19 3 9	15°28'38	17° 4	25°29	1°37	20°58	7°33	3°44	18°56	4°47	11°20	2°26	3°22	10°53	26°12	S 8
M 9	19 7 6	16°25'49	29°55	24°57	2°50	21°38	7°31	3°50	19° 0	4°47	11°21	2°D25	3°19	11° 0	26°10	M 9
T 10	19 11 2	17°23'01	12°A58	24°21	4° 4	22°19	7°28	3°56	19° 3	4°48	11°21	2°25	3°16	11° 6	26° 8	T 10
W 11	19 14 59	18°20'13	26°15	23°44	5°17	23° 0	7°26	4° 3	19° 7	4°49	11°22	2°26	3°12	11°13	26° 6	W 11
T 12	19 18 55	19°17'26	9°K45	23° 4	6°31	23°40	7°23	4° 9	19°11	4°50	11°23	2°27	3° 9	11°20	26° 4	T 12
F 13	19 22 52	20°14'39	23°28	22°24	7°44	24°21	7°20	4°15	19°14	4°51	11°23	2°28	3° 6	11°27	26° 2	F 13
S 14	19 26 48	21°11'53	7°P23	21°43	8°58	25° 1	7°17	4°22	19°18	4°52	11°24	2°29	3° 3	11°33	25°59	S 14
S 15	19 30 45	22° 9'08	21°28	21° 2	10°11	25°42	7°14	4°28	19°22	4°52	11°24	2°R29	3° 0	11°40	25°57	S 15
M 16	19 34 41	23° 6'24	5°B43	20°23	11°25	26°22	7°10	4°34	19°25	4°53	11°25	2°29	2°56	11°47	25°54	M 16
T 17	19 38 38	24° 3'41	20° 4	19°45	12°38	27° 2	7° 6	4°40	19°29	4°54	11°25	2°28	2°53	11°54	25°52	T 17
W 18	19 42 35	25° 0'59	4°II28	19°10	13°52	27°43	7° 2	4°46	19°33	4°55	11°26	2°28	2°50	12° 0	25°50	W 18
T 19	19 46 31	25°58'17	18°51	18°37	15° 5	28°23	6°58	4°52	19°36	4°56	11°26	2°27	2°47	12° 7	25°47	T 19
F 20	19 50 28	26°55'37	3°29	18° 9	16°19	29° 3	6°54	4°58	19°40	4°57	11°27	2°26	2°44	12°14	25°45	F 20
S 21	19 54 24	27°52'57	17°16	17°45	17°32	29°43	6°50	5° 3	19°44	4°59	11°27	2°26	2°41	12°20	25°42	S 21
S 22	19 58 21	28°50'18	1°L 9	17°25	18°45	0°23	6°45	5° 9	19°47	5° 0	11°28	2°D26	2°37	12°27	25°39	S 22
M 23	20 2 17	29°47'40	14°45	17°11	19°59	1° 3	6°40	5°15	19°51	5° 1	11°28	2°26	2°34	12°34	25°37	M 23
T 24	20 6 14	0°L45'02	28° 1	17° 2	21°12	1°43	6°36	5°20	19°55	5° 2	11°29	2°26	2°31	12°41	25°34	T 24
W 25	20 10 10	1°42'26	10°M57	16°D59	22°26	2°23	6°31	5°26	19°58	5° 3	11°29	2°26	2°28	12°47	25°31	W 25
T 26	20 14 7	2°39'49	23°34	17° 2	23°39	3° 3	6°25	5°31	20° 2	5° 4	11°29	2°R26	2°25	12°54	25°29	T 26
F 27	20 18 4	3°37'14	5°A55	17°12	24°52	3°43	6°20	5°36	20° 5	5° 6	11°30	2°26	2°22	13° 1	25°26	F 27
S 28	20 22 0	4°34'39	18° 3	17°28	26° 6	4°22	6°14	5°42	20° 9	5° 7	11°30	2°26	2°18	13° 8	25°23	S 28
S 29	20 25 57	5°32'04	0°M 2	17°50	27°19	5° 2	6° 9	5°47	20°12	5° 8	11°30	2°D26	2°15	13°14	25°20	S 29
M 30	20 29 53	6°29'31	11°56	18°19	28°32	5°42	6° 3	5°52	20°16	5°10	11°31	2°26	2°12	13°21	25°17	M 30
T 31	20 33 50	7°L26'58	23°M50	18°254	29°L46	6°21	5°K57	5°II57	20°20	5°L11	11°R31	2°26	2°26	13°M28	25°15	T 31

Delta T = 67.96 sec

Greg. Calendar

AUGUST 1618 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	20 37 46	8°L24'26	5°A48	19°235	0°M59	7°2	5°R51	6°II 2	20°23	5°L12	11°R31	2°26	2°26	13°M34	25°R12	W 1
T 2	20 41 43	9°21'55	17°55	20°23	2°12	7°40	5°K45	6° 7	20°27	5°14	11°31	2°27	2° 2	13°41	25° 9	T 2
F 3	20 45 39	10°19'25	0°B14	21°18	3°26	8°20	5°38	6°12	20°30	5°15	11°31	2°28	1°59	13°48	25° 6	F 3
S 4	20 49 36	11°16'55	12°48	22°18	4°39	8°59	5°32	6°17	20°34	5°17	11°32	2°28	1°56	13°55	25° 3	S 4
S 5	20 53 33	12°14'27	25°39	23°24	5°52	9°38	5°25	6°21	20°37	5°18	11°32	2°29	1°53	14° 1	25° 0	S 5
M 6	20 57 29	13°12'00	8°A49	24°36	7° 5	10°18	5°19	6°26	20°41	5°20	11°32	2°R29	1°50	14° 8	24°57	M 6
T 7	21 1 26	14° 9'33	22°16	25°54	8°18	10°57	5°12	6°30	20°44	5°21	11°32	2°28	1°47	14°15	24°54	T 7
W 8	21 5 22	15° 7'08	5°K59	27°17	9°32	11°36	5° 5	6°35	20°47	5°23	11°32	2°27	1°43	14°21	24°51	W 8
T 9	21 9 19	16° 4'45	19°55	28°45	10°45	12°15	4°58	6°39	20°51	5°24	11°32	2°26	1°40	14°28	24°48	T 9
F 10	21 13 15	17° 2'23	4°Y 2	0°L18	11°58	12°54	4°51	6°43	20°54	5°26	11°32	2°24	1°37	14°35	24°45	F 10
S 11	21 17 12	18° 0'02	18°15	1°55	13°11	13°33	4°44	6°47	20°58	5°27	11°R32	2°22	1°34	14°42	24°42	S 11
S 12	21 21 8	18°57'43	2°B30	3°37	14°24	14°12	4°36	6°52	21° 1	5°29	11°32	2°21	1°31	14°48	24°39	S 12
M 13	21 25 5	19°55'25	16°46	5°21	15°37	14°51	4°29	6°56	21° 4	5°31	11°32	2°D20	1°28	14°55	24°36	M 13
T 14	21 29 2	20°53'10	0°II58	7° 9	16°50	15°30	4°22	6°59	21° 8	5°32	11°32	2°21	1°24	15° 2	24°33	T 14
W 15	21 32 58	21°50'56	15° 5	9° 0	18° 4	16° 9	4°14	7° 3	21°11	5°34	11°32	2°21	1°21	15° 8	24°30	W 15
T 16	21 36 55	22°48'44	29° 5	10°53	19°17	16°47	4° 6	7° 7	21°14	5°36	11°32	2°23	1°18	15°15	24°27	T 16
F 17	21 40 51	23°46'33	12°255	12°48	20°30	17°26	3°59	7°11	21°17	5°38	11°32	2°24	1°15	15°22	24°24	F 17
S 18	21 44 48	24°44'24	26°36	14°45	21°43	18° 5	3°51	7°14	21°21	5°39	11°32	2°R25	1°12	15°29	24°21	S 18
S 19	21 48 44	25°42'17	10°L 4	16°43	22°56	18°43	3°43	7°18	21°24	5°41	11°32	2°25	1° 8	15°35	24°18	S 19
M 20	21 52 41	26°40'11	23°19	18°41	24° 9	19°22	3°36	7°21	21°27	5°43	11°31	2°24	1° 5	15°42	24°15	M 20
T 21	21 56 38	27°38'07	6°M20	20°40	25°22	20° 0	3°28	7°24	21°30	5°45	11°31	2°21	1° 2	15°49	24°12	T 21
W 22	22 0 34	28°36'04	19° 5	22°39	26°35	20°39	3°20	7°27	21°33	5°47	11°31	2°17	0°59	15°56	24° 9	W 22
T 23	22 4 31	29°34'03	1°A37	24°39	27°48	21°17	3°12	7°30	21°36	5°49	11°31	2°13	0°56	16° 2	24° 6	T 23
F 24	22 8 27	0°M32'03	13°54	26°37	29° 1	21°56	3° 4	7°33	21°39	5°50	11°31	2° 8	0°53	16° 9	24° 3	F 24
S 25	22 12 24	1°30'05	26° 0	28°36	0°A14	22°34	2°56	7°36	21°42	5°52	11°30	2° 4	0°49	16°16	24° 0	S 25
S 26	22 16 20	2°28'08	7°M58	0°M33	1°26	23°12	2°48	7°39	21°45	5°54	11°30	2° 0	0°46	16°22	23°57	S 26
M 27	22 20 17	3°26'13	19°51	2°30	2°39	23°50	2°40	7°42	21°48	5°56	11°30	1°58	0°43	16°29	23°54	M 27
T 28	22 24 13	4°24'19	1°A44	4°26	3°52	24°28	2°32	7°44	21°51	5°58	11°29	1°D57	0°40	16°36	23°51	T 28
W 29	22 28 10	5°22'26	13°40	6°22	5° 5	25° 6	2°24	7°47	21°54	6° 0	11°29	1°57	0°37	16°43	23°48	W 29
T 30	22 32 6	6°20'35	25°46	8°16	6°18	25°44	2°16	7°49	21°57	6° 2	11°29	1°59	0°34	16°49	23°45	T 30
F 31	22 36 3	7°M18'46	8°B 6	10°M 9	7°A30	26°22	2°K 9	7°II51	22°20	6°L 4	11°R28	2°26	0°30	16°M56	23°42	F 31

Delta T = 67.88 sec

Greg. Calendar

## ASTRODIENST EPHEMERIS for the year 1618

geocentric

## SEPTEMBER 1618 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	22 40 0	8 <sup>h</sup> 16 <sup>m</sup> 58 <sup>s</sup>	20 <sup>h</sup> 34 <sup>m</sup>	12 <sup>h</sup> 1 <sup>m</sup>	8 <sup>h</sup> 43 <sup>m</sup>	27 <sup>h</sup> 0 <sup>m</sup>	2 <sup>h</sup> R 1	7 <sup>h</sup> II 54	22 <sup>h</sup> 3 3	6 <sup>h</sup> Δ 6	11 <sup>h</sup> R 28	2 <sup>h</sup> Δ 2	0 <sup>h</sup> Δ 27	17 <sup>h</sup> III 3	23 <sup>h</sup> R 39	S 1
S 2	22 43 56	9 <sup>h</sup> 15 <sup>m</sup> 11 <sup>s</sup>	3 <sup>h</sup> Δ 44	13 <sup>h</sup> 52 <sup>m</sup>	9 <sup>h</sup> 56 <sup>m</sup>	27 <sup>h</sup> 38 <sup>m</sup>	1 <sup>h</sup> Δ 53	7 <sup>h</sup> 56 <sup>m</sup>	22 <sup>h</sup> 5 5	6 <sup>h</sup> 8 8	11 <sup>h</sup> Δ 27	2 <sup>h</sup> R 2	0 <sup>h</sup> 24	17 <sup>h</sup> 9 9	23 <sup>h</sup> Δ 36	S 2
M 3	22 47 53	10 <sup>h</sup> 13 <sup>m</sup> 27 <sup>s</sup>	17 <sup>h</sup> 7 7	15 <sup>h</sup> 41 <sup>m</sup>	11 <sup>h</sup> 9 9	28 <sup>h</sup> 16 <sup>m</sup>	1 <sup>h</sup> 45 <sup>m</sup>	7 <sup>h</sup> 58 <sup>m</sup>	22 <sup>h</sup> 8 8	6 <sup>h</sup> 10 10	11 <sup>h</sup> 27 <sup>m</sup>	2 <sup>h</sup> 1 1	0 <sup>h</sup> 21	17 <sup>h</sup> 16 16	23 <sup>h</sup> 33 33	M 3
T 4	22 51 49	11 <sup>h</sup> 11 <sup>m</sup> 43 <sup>s</sup>	0 <sup>h</sup> Δ 53	17 <sup>h</sup> 30 <sup>m</sup>	12 <sup>h</sup> 21 <sup>m</sup>	28 <sup>h</sup> 54 <sup>m</sup>	1 <sup>h</sup> 37 <sup>m</sup>	7 <sup>h</sup> 59 <sup>m</sup>	22 <sup>h</sup> 11 11	6 <sup>h</sup> 12 12	11 <sup>h</sup> 26 <sup>m</sup>	1 <sup>h</sup> 58 <sup>m</sup>	0 <sup>h</sup> 18	17 <sup>h</sup> 23 23	23 <sup>h</sup> 30 30	T 4
W 5	22 55 46	12 <sup>h</sup> 10 <sup>m</sup> 02 <sup>s</sup>	15 <sup>h</sup> 0 0	19 <sup>h</sup> 17 <sup>m</sup>	13 <sup>h</sup> 34 <sup>m</sup>	29 <sup>h</sup> 31 <sup>m</sup>	1 <sup>h</sup> 30 <sup>m</sup>	8 <sup>h</sup> 1 1	22 <sup>h</sup> 14 14	6 <sup>h</sup> 14 14	11 <sup>h</sup> 26 <sup>m</sup>	1 <sup>h</sup> 54 <sup>m</sup>	0 <sup>h</sup> 14	17 <sup>h</sup> 30 30	23 <sup>h</sup> 27 27	W 5
T 6	22 59 42	13 <sup>h</sup> 8 <sup>m</sup> 22 <sup>s</sup>	29 <sup>h</sup> 25 <sup>m</sup>	21 <sup>h</sup> 3 3	14 <sup>h</sup> 47 <sup>m</sup>	0 <sup>h</sup> Δ 9	1 <sup>h</sup> 22 <sup>m</sup>	8 <sup>h</sup> 3 3	22 <sup>h</sup> 16 16	6 <sup>h</sup> 16 16	11 <sup>h</sup> 25 <sup>m</sup>	1 <sup>h</sup> 48 <sup>m</sup>	0 <sup>h</sup> 11	17 <sup>h</sup> 36 36	23 <sup>h</sup> 25 25	T 6
F 7	23 3 39	14 <sup>h</sup> 6 <sup>m</sup> 44 <sup>s</sup>	14 <sup>h</sup> Δ 0	22 <sup>h</sup> 49 <sup>m</sup>	15 <sup>h</sup> 59 <sup>m</sup>	0 <sup>h</sup> 46 <sup>m</sup>	1 <sup>h</sup> 15 <sup>m</sup>	8 <sup>h</sup> 4 4	22 <sup>h</sup> 19 19	6 <sup>h</sup> 19 19	11 <sup>h</sup> 25 <sup>m</sup>	1 <sup>h</sup> 42 <sup>m</sup>	0 <sup>h</sup> 8 8	17 <sup>h</sup> 43 43	23 <sup>h</sup> 22 22	F 7
S 8	23 7 35	15 <sup>h</sup> 5 <sup>m</sup> 09 <sup>s</sup>	28 <sup>h</sup> 38 <sup>m</sup>	24 <sup>h</sup> 33 <sup>m</sup>	17 <sup>h</sup> 12 <sup>m</sup>	1 <sup>h</sup> 24 <sup>m</sup>	1 <sup>h</sup> 7 7	8 <sup>h</sup> 6 6	22 <sup>h</sup> 21 21	6 <sup>h</sup> 21 21	11 <sup>h</sup> 24 <sup>m</sup>	1 <sup>h</sup> 35 <sup>m</sup>	0 <sup>h</sup> 5 5	17 <sup>h</sup> 50 50	23 <sup>h</sup> 19 19	S 8
S 9	23 11 32	16 <sup>h</sup> 3 <sup>m</sup> 35 <sup>s</sup>	13 <sup>h</sup> Δ 14	26 <sup>h</sup> 16 <sup>m</sup>	18 <sup>h</sup> 24 <sup>m</sup>	2 <sup>h</sup> 1 1	1 <sup>h</sup> 0 0	8 <sup>h</sup> 7 7	22 <sup>h</sup> 24 24	6 <sup>h</sup> 23 23	11 <sup>h</sup> 24 <sup>m</sup>	1 <sup>h</sup> 30 <sup>m</sup>	0 <sup>h</sup> 2 2	17 <sup>h</sup> 56 56	23 <sup>h</sup> 16 16	S 9
M10	23 15 29	17 <sup>h</sup> 2 <sup>m</sup> 04 <sup>s</sup>	27 <sup>h</sup> 41 <sup>m</sup>	27 <sup>h</sup> 57 <sup>m</sup>	19 <sup>h</sup> 37 <sup>m</sup>	2 <sup>h</sup> 39 <sup>m</sup>	0 <sup>h</sup> 52 <sup>m</sup>	8 <sup>h</sup> 8 8	22 <sup>h</sup> 26 26	6 <sup>h</sup> 25 25	11 <sup>h</sup> 23 <sup>m</sup>	1 <sup>h</sup> 27 <sup>m</sup>	29 <sup>h</sup> Δ 59	18 <sup>h</sup> 3 3	23 <sup>h</sup> 14 14	M10
T 11	23 19 25	18 <sup>h</sup> 0 <sup>m</sup> 35 <sup>s</sup>	11 <sup>h</sup> II 56	29 <sup>h</sup> 38 <sup>m</sup>	20 <sup>h</sup> 49 <sup>m</sup>	3 <sup>h</sup> 16 <sup>m</sup>	0 <sup>h</sup> 45 <sup>m</sup>	8 <sup>h</sup> 9 9	22 <sup>h</sup> 29 29	6 <sup>h</sup> 27 27	11 <sup>h</sup> 23 <sup>m</sup>	1 <sup>h</sup> D 25	29 <sup>h</sup> 55 55	18 <sup>h</sup> 10 10	23 <sup>h</sup> 11 11	T 11
W12	23 23 22	18 <sup>h</sup> 59 <sup>m</sup> 08 <sup>s</sup>	25 <sup>h</sup> 56 <sup>m</sup>	1 <sup>h</sup> Δ 18	22 <sup>h</sup> 2 2	3 <sup>h</sup> 53 <sup>m</sup>	0 <sup>h</sup> 38 <sup>m</sup>	8 <sup>h</sup> 10 10	22 <sup>h</sup> 31 31	6 <sup>h</sup> 29 29	11 <sup>h</sup> 22 <sup>m</sup>	1 <sup>h</sup> 25 <sup>m</sup>	29 <sup>h</sup> 52 52	18 <sup>h</sup> 17 17	23 <sup>h</sup> 8 8	W12
T 13	23 27 18	19 <sup>h</sup> 57 <sup>m</sup> 43 <sup>s</sup>	9 <sup>h</sup> Δ 41	2 <sup>h</sup> 57 <sup>m</sup>	23 <sup>h</sup> 14 <sup>m</sup>	4 <sup>h</sup> 31 <sup>m</sup>	0 <sup>h</sup> 31 <sup>m</sup>	8 <sup>h</sup> 11 11	22 <sup>h</sup> 34 34	6 <sup>h</sup> 31 31	11 <sup>h</sup> 21 <sup>m</sup>	1 <sup>h</sup> 26 <sup>m</sup>	29 <sup>h</sup> 49 49	18 <sup>h</sup> 23 23	23 <sup>h</sup> 6 6	T 13
F 14	23 31 15	20 <sup>h</sup> 56 <sup>m</sup> 21 <sup>s</sup>	23 <sup>h</sup> 12 <sup>m</sup>	4 <sup>h</sup> 34 <sup>m</sup>	24 <sup>h</sup> 26 <sup>m</sup>	5 <sup>h</sup> 8 8	0 <sup>h</sup> 24 <sup>m</sup>	8 <sup>h</sup> 12 12	22 <sup>h</sup> 36 36	6 <sup>h</sup> 33 33	11 <sup>h</sup> 21 <sup>m</sup>	1 <sup>h</sup> 27 <sup>m</sup>	29 <sup>h</sup> 46 46	18 <sup>h</sup> 30 30	23 <sup>h</sup> 3 3	F 14
S 15	23 35 11	21 <sup>h</sup> 55 <sup>m</sup> 01 <sup>s</sup>	6 <sup>h</sup> Δ 29	6 <sup>h</sup> 11 <sup>m</sup>	25 <sup>h</sup> 39 <sup>m</sup>	5 <sup>h</sup> 45 <sup>m</sup>	0 <sup>h</sup> 17 <sup>m</sup>	8 <sup>h</sup> 13 13	22 <sup>h</sup> 38 38	6 <sup>h</sup> 36 36	11 <sup>h</sup> 20 <sup>m</sup>	1 <sup>h</sup> R 27	29 <sup>h</sup> 43 43	18 <sup>h</sup> 37 37	23 <sup>h</sup> 0 0	S 15
S 16	23 39 8	22 <sup>h</sup> 53 <sup>m</sup> 43 <sup>s</sup>	19 <sup>h</sup> 34 <sup>m</sup>	7 <sup>h</sup> 47 <sup>m</sup>	26 <sup>h</sup> 51 <sup>m</sup>	6 <sup>h</sup> 22 <sup>m</sup>	0 <sup>h</sup> 10 <sup>m</sup>	8 <sup>h</sup> 13 13	22 <sup>h</sup> 40 40	6 <sup>h</sup> 38 38	11 <sup>h</sup> 19 <sup>m</sup>	1 <sup>h</sup> 26 <sup>m</sup>	29 <sup>h</sup> 40 40	18 <sup>h</sup> 43 43	22 <sup>h</sup> 58 58	S 16
M17	23 43 4	23 <sup>h</sup> 52 <sup>m</sup> 27 <sup>s</sup>	2 <sup>h</sup> Δ 27	9 <sup>h</sup> 21 <sup>m</sup>	28 <sup>h</sup> 3 3	6 <sup>h</sup> 59 <sup>m</sup>	0 <sup>h</sup> 4 4	8 <sup>h</sup> 14 14	22 <sup>h</sup> 43 43	6 <sup>h</sup> 40 40	11 <sup>h</sup> 19 <sup>m</sup>	1 <sup>h</sup> 22 <sup>m</sup>	29 <sup>h</sup> 36 36	18 <sup>h</sup> 50 50	22 <sup>h</sup> 55 55	M17
T 18	23 47 1	24 <sup>h</sup> 51 <sup>m</sup> 13 <sup>s</sup>	15 <sup>h</sup> 9 9	10 <sup>h</sup> 55 <sup>m</sup>	29 <sup>h</sup> 16 <sup>m</sup>	7 <sup>h</sup> 36 <sup>m</sup>	29 <sup>h</sup> Δ 57	8 <sup>h</sup> 14 14	22 <sup>h</sup> 45 45	6 <sup>h</sup> 42 42	11 <sup>h</sup> 18 <sup>m</sup>	1 <sup>h</sup> 15 <sup>m</sup>	29 <sup>h</sup> 33 33	18 <sup>h</sup> 57 57	22 <sup>h</sup> 53 53	T 18
W19	23 50 58	25 <sup>h</sup> 50 <sup>m</sup> 01 <sup>s</sup>	27 <sup>h</sup> 40 <sup>m</sup>	12 <sup>h</sup> 28 <sup>m</sup>	0 <sup>h</sup> Δ 28	8 <sup>h</sup> 13 13	29 <sup>h</sup> 51 <sup>m</sup>	8 <sup>h</sup> 14 14	22 <sup>h</sup> 47 47	6 <sup>h</sup> 44 44	11 <sup>h</sup> 17 <sup>m</sup>	1 <sup>h</sup> 7 7	29 <sup>h</sup> 30 30	19 <sup>h</sup> 4 4	22 <sup>h</sup> 51 51	W19
T 20	23 54 54	26 <sup>h</sup> 48 <sup>m</sup> 51 <sup>s</sup>	10 <sup>h</sup> Δ 0	14 <sup>h</sup> 0 0	1 <sup>h</sup> 40 <sup>m</sup>	8 <sup>h</sup> 50 <sup>m</sup>	29 <sup>h</sup> 45 <sup>m</sup>	8 <sup>h</sup> R 14	22 <sup>h</sup> 49 49	6 <sup>h</sup> 47 47	11 <sup>h</sup> 17 <sup>m</sup>	0 <sup>h</sup> 56 <sup>m</sup>	29 <sup>h</sup> 27 27	19 <sup>h</sup> 10 10	22 <sup>h</sup> 48 48	T 20
F 21	23 58 51	27 <sup>h</sup> 47 <sup>m</sup> 44 <sup>s</sup>	22 <sup>h</sup> 11 <sup>m</sup>	15 <sup>h</sup> 31 <sup>m</sup>	2 <sup>h</sup> 52 <sup>m</sup>	9 <sup>h</sup> 26 <sup>m</sup>	29 <sup>h</sup> 38 <sup>m</sup>	8 <sup>h</sup> 14 14	22 <sup>h</sup> 51 51	6 <sup>h</sup> 49 49	11 <sup>h</sup> 16 <sup>m</sup>	0 <sup>h</sup> 46 <sup>m</sup>	29 <sup>h</sup> 24 24	19 <sup>h</sup> 17 17	22 <sup>h</sup> 46 46	F 21
S 22	0 2 47	28 <sup>h</sup> 46 <sup>m</sup> 38 <sup>s</sup>	4 <sup>h</sup> Δ 13	17 <sup>h</sup> 1 1	4 <sup>h</sup> 5 5	10 <sup>h</sup> 3 3	29 <sup>h</sup> 32 <sup>m</sup>	8 <sup>h</sup> 14 14	22 <sup>h</sup> 53 53	6 <sup>h</sup> 51 51	11 <sup>h</sup> 15 <sup>m</sup>	0 <sup>h</sup> 35 <sup>m</sup>	29 <sup>h</sup> 20 20	19 <sup>h</sup> 24 24	22 <sup>h</sup> 44 44	S 22
S 23	0 6 44	29 <sup>h</sup> 45 <sup>m</sup> 34 <sup>s</sup>	16 <sup>h</sup> 7 7	18 <sup>h</sup> 30 <sup>m</sup>	5 <sup>h</sup> 17 <sup>m</sup>	10 <sup>h</sup> 40 <sup>m</sup>	29 <sup>h</sup> 27 <sup>m</sup>	8 <sup>h</sup> 14 14	22 <sup>h</sup> 55 55	6 <sup>h</sup> 53 53	11 <sup>h</sup> 14 <sup>m</sup>	0 <sup>h</sup> 26 <sup>m</sup>	29 <sup>h</sup> 17 17	19 <sup>h</sup> 30 30	22 <sup>h</sup> 41 41	S 23
M24	0 10 40	0 <sup>h</sup> Δ 44 <sup>m</sup> 31 <sup>s</sup>	27 <sup>h</sup> 58 <sup>m</sup>	19 <sup>h</sup> 58 <sup>m</sup>	6 <sup>h</sup> 29 <sup>m</sup>	11 <sup>h</sup> 16 <sup>m</sup>	29 <sup>h</sup> 21 <sup>m</sup>	8 <sup>h</sup> 14 14	22 <sup>h</sup> 57 57	6 <sup>h</sup> 55 55	11 <sup>h</sup> 13 <sup>m</sup>	0 <sup>h</sup> 18 <sup>m</sup>	29 <sup>h</sup> 14 14	19 <sup>h</sup> 37 37	22 <sup>h</sup> 39 39	M24
T 25	0 14 37	1 <sup>h</sup> 43 <sup>m</sup> 31 <sup>s</sup>	9 <sup>h</sup> Δ 48	21 <sup>h</sup> 25 <sup>m</sup>	7 <sup>h</sup> 41 <sup>m</sup>	11 <sup>h</sup> 53 <sup>m</sup>	29 <sup>h</sup> 15 <sup>m</sup>	8 <sup>h</sup> 13 13	22 <sup>h</sup> 59 59	6 <sup>h</sup> 58 58	11 <sup>h</sup> 13 <sup>m</sup>	0 <sup>h</sup> 13 <sup>m</sup>	29 <sup>h</sup> 11 11	19 <sup>h</sup> 44 44	22 <sup>h</sup> 37 37	T 25
W26	0 18 33	2 <sup>h</sup> 42 <sup>m</sup> 33 <sup>s</sup>	21 <sup>h</sup> 42 <sup>m</sup>	22 <sup>h</sup> 51 <sup>m</sup>	8 <sup>h</sup> 53 <sup>m</sup>	12 <sup>h</sup> 29 <sup>m</sup>	29 <sup>h</sup> 10 <sup>m</sup>	8 <sup>h</sup> 13 13	23 <sup>h</sup> 0 0	7 <sup>h</sup> 0 0	11 <sup>h</sup> 12 <sup>m</sup>	0 <sup>h</sup> 11 <sup>m</sup>	29 <sup>h</sup> 8 8	19 <sup>h</sup> 51 51	22 <sup>h</sup> 35 35	W26
T 27	0 22 30	3 <sup>h</sup> 41 <sup>m</sup> 36 <sup>s</sup>	3 <sup>h</sup> Δ 45	24 <sup>h</sup> 16 <sup>m</sup>	10 <sup>h</sup> 5 5	13 <sup>h</sup> 6 6	29 <sup>h</sup> 5 5	8 <sup>h</sup> 12 12	23 <sup>h</sup> 2 2	7 <sup>h</sup> 2 2	11 <sup>h</sup> 11 <sup>m</sup>	0 <sup>h</sup> D 10	29 <sup>h</sup> 5 5	19 <sup>h</sup> 57 57	22 <sup>h</sup> 33 33	T 27
F 28	0 26 27	4 <sup>h</sup> 40 <sup>m</sup> 41 <sup>s</sup>	16 <sup>h</sup> 1 1	25 <sup>h</sup> 40 <sup>m</sup>	11 <sup>h</sup> 17 <sup>m</sup>	13 <sup>h</sup> 42 <sup>m</sup>	29 <sup>h</sup> 0 0	8 <sup>h</sup> 11 11	23 <sup>h</sup> 4 4	7 <sup>h</sup> 4 4	11 <sup>h</sup> 10 <sup>m</sup>	0 <sup>h</sup> 11 <sup>m</sup>	29 <sup>h</sup> 1 1	20 <sup>h</sup> 4 4	22 <sup>h</sup> 31 31	F 28
S 29	0 30 23	5 <sup>h</sup> 39 <sup>m</sup> 48 <sup>s</sup>	28 <sup>h</sup> 37 <sup>m</sup>	27 <sup>h</sup> 3 3	12 <sup>h</sup> 29 <sup>m</sup>	14 <sup>h</sup> 18 <sup>m</sup>	28 <sup>h</sup> 55 <sup>m</sup>	8 <sup>h</sup> 10 10	23 <sup>h</sup> 5 5	7 <sup>h</sup> 7 7	11 <sup>h</sup> 9 9	0 <sup>h</sup> R 11	28 <sup>h</sup> 58 <sup>m</sup>	20 <sup>h</sup> 11 11	22 <sup>h</sup> 29 29	S 29
S 30	0 34 20	6 <sup>h</sup> Δ 38 <sup>m</sup> 57 <sup>s</sup>	11 <sup>h</sup> Δ 36	28 <sup>h</sup> Δ 25	13 <sup>h</sup> Δ 41	14 <sup>h</sup> Δ 54	28 <sup>h</sup> Δ 50	8 <sup>h</sup> II 9	23 <sup>h</sup> Δ 7	7 <sup>h</sup> Δ 9	11 <sup>h</sup> Δ 8	0 <sup>h</sup> Δ 11	28 <sup>h</sup> Δ 55	20 <sup>h</sup> Δ 17	22 <sup>h</sup> Δ 27	S 30

Delta T = 67.80 sec

Greg. Calendar

## OCTOBER 1618 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	0 38 16	7 <sup>h</sup> Δ38'07	25 <sup>h</sup> Δ 2	29 <sup>h</sup> Δ46	14 <sup>h</sup> Δ52	15 <sup>h</sup> Δ31	28 <sup>h</sup> R45	8 <sup>h</sup> R 8	23 <sup>h</sup> Δ 9	7 <sup>h</sup> Δ 11	11 <sup>h</sup> R 7	0 <sup>h</sup> R 8	28 <sup>h</sup> Δ52	20 <sup>h</sup> Δ24	22 <sup>h</sup> R25	M 1
T 2	0 42 13	8 <sup>h</sup> 37'19	8 <sup>h</sup> Δ57	1 <sup>h</sup> Δ 6	16 <sup>h</sup> 4	16 <sup>h</sup> 7	28 <sup>h</sup> Δ41	8 <sup>h</sup> II 7	23 <sup>h</sup> 10	7 <sup>h</sup> 13	11 <sup>h</sup> Δ 6	0 <sup>h</sup> Δ 3	28 <sup>h</sup> Δ49	20 <sup>h</sup> 31	22 <sup>h</sup> Δ23	T 2
W 3	0 46 9	9 <sup>h</sup> 36'33	23 <sup>h</sup> 18	2 <sup>h</sup> 24	17 <sup>h</sup> 16	16 <sup>h</sup> 43	28 <sup>h</sup> 37	8 <sup>h</sup> 6	23 <sup>h</sup> 12	7 <sup>h</sup> 16	11 <sup>h</sup> 6	29 <sup>h</sup> Δ56	28 <sup>h</sup> Δ45	20 <sup>h</sup> 38	22 <sup>h</sup> 22	W 3
T 4	0 50 6	10 <sup>h</sup> 35'49	8 <sup>h</sup> Δ 3	3 <sup>h</sup> 42	18 <sup>h</sup> 27	17 <sup>h</sup> 18	28 <sup>h</sup> 33	8 <sup>h</sup> 4	23 <sup>h</sup> 13	7 <sup>h</sup> 18	11 <sup>h</sup> 5	29 <sup>h</sup> Δ46	28 <sup>h</sup> Δ42	20 <sup>h</sup> 44	22 <sup>h</sup> 20	T 4
F 5	0 54 2	11 <sup>h</sup> 35'07	23 <sup>h</sup> 2	4 <sup>h</sup> 58	19 <sup>h</sup> 39	17 <sup>h</sup> 54	28 <sup>h</sup> 29	8 <sup>h</sup> 3	23 <sup>h</sup> 14	7 <sup>h</sup> 20	11 <sup>h</sup> 4	29 <sup>h</sup> Δ35	28 <sup>h</sup> Δ39	20 <sup>h</sup> 51	22 <sup>h</sup> 18	F 5
S 6	0 57 59	12 <sup>h</sup> 34'28	8 <sup>h</sup> Δ 6	6 <sup>h</sup> 12	20 <sup>h</sup> 51	18 <sup>h</sup> 30	28 <sup>h</sup> 25	8 <sup>h</sup> 1	23 <sup>h</sup> 16	7 <sup>h</sup> 22	11 <sup>h</sup> 3	29 <sup>h</sup> Δ25	28 <sup>h</sup> Δ36	20 <sup>h</sup> 58	22 <sup>h</sup> 17	S 6
S 7	1 1 55	13 <sup>h</sup> 33'50	23 <sup>h</sup> 6	7 <sup>h</sup> 25	22 <sup>h</sup> 2	19 <sup>h</sup> 6	28 <sup>h</sup> 22	7 <sup>h</sup> 59	23 <sup>h</sup> 17	7 <sup>h</sup> 24	11 <sup>h</sup> 2	29 <sup>h</sup> Δ16	28 <sup>h</sup> Δ33	21 <sup>h</sup> 4	22 <sup>h</sup> 15	S 7
M 8	1 5 52	14 <sup>h</sup> 33'15	7 <sup>h</sup> II 53	8 <sup>h</sup> 36	23 <sup>h</sup> 14	19 <sup>h</sup> 41	28 <sup>h</sup> 18	7 <sup>h</sup> 58	23 <sup>h</sup> 18	7 <sup>h</sup> 27	11 <sup>h</sup> 1	29 <sup>h</sup> Δ 9	28 <sup>h</sup> Δ30	21 <sup>h</sup> 11	22 <sup>h</sup> 14	M 8
T 9	1 9 49	15 <sup>h</sup> 32'42	22 <sup>h</sup> 20	9 <sup>h</sup> 46	24 <sup>h</sup> 25	20 <sup>h</sup> 17	28 <sup>h</sup> 15	7 <sup>h</sup> 56	23 <sup>h</sup> 19	7 <sup>h</sup> 29	11 <sup>h</sup> 0	29 <sup>h</sup> Δ 5	28 <sup>h</sup> Δ26	21 <sup>h</sup> 18	22 <sup>h</sup> 12	T 9
W10	1 13 45	16 <sup>h</sup> 32'12	6 <sup>h</sup> Δ25	10 <sup>h</sup> 53	25 <sup>h</sup> 37	20 <sup>h</sup> 52	28 <sup>h</sup> 12	7 <sup>h</sup> 54	23 <sup>h</sup> 20	7 <sup>h</sup> 31	10 <sup>h</sup> 59	29 <sup>h</sup> Δ 3	28 <sup>h</sup> Δ23	21 <sup>h</sup> 25	22 <sup>h</sup> 11	W10
T 11	1 17 42	17 <sup>h</sup> 31'44	20 <sup>h</sup> 8	11 <sup>h</sup> 59	26 <sup>h</sup> 48	21 <sup>h</sup> 28	28 <sup>h</sup> 10	7 <sup>h</sup> 51	23 <sup>h</sup> 21	7 <sup>h</sup> 33	10 <sup>h</sup> 58	29 <sup>h</sup> ΔD 3	28 <sup>h</sup> Δ20	21 <sup>h</sup> 31	22 <sup>h</sup> 9	T 11
F 12	1 21 38	18 <sup>h</sup> 31'18	3 <sup>h</sup> Δ30	13 <sup>h</sup> 2	27 <sup>h</sup> 59	22 <sup>h</sup> 3	28 <sup>h</sup> 7	7 <sup>h</sup> 49	23 <sup>h</sup> 22	7 <sup>h</sup> 36	10 <sup>h</sup> 57	29 <sup>h</sup> ΔR 3	28 <sup>h</sup> Δ17	21 <sup>h</sup> 38	22 <sup>h</sup> 8	F 12
S 13	1 25 35	19 <sup>h</sup> 30'54	16 <sup>h</sup> 34	14 <sup>h</sup> 3	29 <sup>h</sup> 11	22 <sup>h</sup> 39	28 <sup>h</sup> 5	7 <sup>h</sup> 47	23 <sup>h</sup> 23	7 <sup>h</sup> 38	10 <sup>h</sup> 56	29 <sup>h</sup> Δ 2	28 <sup>h</sup> Δ14	21 <sup>h</sup> 45	22 <sup>h</sup> 7	S 13
S 14	1 29 31	20 <sup>h</sup> 30'33	29 <sup>h</sup> 22	15 <sup>h</sup> 0	0 <sup>h</sup> Δ22	23 <sup>h</sup> 14	28 <sup>h</sup> 3	7 <sup>h</sup> 44	23 <sup>h</sup> 24	7 <sup>h</sup> 40	10 <sup>h</sup> 55	28 <sup>h</sup> Δ59	28 <sup>h</sup> Δ11	21 <sup>h</sup> 51	22 <sup>h</sup> 6	S 14
M15	1 33 28	21 <sup>h</sup> 30'14	11 <sup>h</sup> Δ58	15 <sup>h</sup> 55	1 <sup>h</sup> 33	23 <sup>h</sup> 49	28 <sup>h</sup> 1	7 <sup>h</sup> 42	23 <sup>h</sup> 25	7 <sup>h</sup> 42	10 <sup>h</sup> 54	28 <sup>h</sup> Δ53	28 <sup>h</sup> Δ 7	21 <sup>h</sup> 58	22 <sup>h</sup> 5	M15
T 16	1 37 24	22 <sup>h</sup> 29'57	24 <sup>h</sup> 23	16 <sup>h</sup> 47	2 <sup>h</sup> 44	24 <sup>h</sup> 24	27 <sup>h</sup> 59	7 <sup>h</sup> 39	23 <sup>h</sup> 26	7 <sup>h</sup> 44	10 <sup>h</sup> 53	28 <sup>h</sup> Δ44	28 <sup>h</sup> Δ 4	22 <sup>h</sup> 5	22 <sup>h</sup> 3	T 16
W17	1 41 21	23 <sup>h</sup> 29'42	6 <sup>h</sup> Δ40	17 <sup>h</sup> 35	3 <sup>h</sup> 55	24 <sup>h</sup> 59	27 <sup>h</sup> 57	7 <sup>h</sup> 36	23 <sup>h</sup> 27	7 <sup>h</sup> 47	10 <sup>h</sup> 51	28 <sup>h</sup> Δ32	28 <sup>h</sup> Δ 1	22 <sup>h</sup> 12	22 <sup>h</sup> 2	W17
T 18	1 45 18	24 <sup>h</sup> 29'30	18 <sup>h</sup> 49	18 <sup>h</sup> 18	5 <sup>h</sup> 6	25 <sup>h</sup> 34	27 <sup>h</sup> 56	7 <sup>h</sup> 34	23 <sup>h</sup> 27	7 <sup>h</sup> 49	10 <sup>h</sup> 50	28 <sup>h</sup> Δ19	27 <sup>h</sup> 58	22 <sup>h</sup> 18	22 <sup>h</sup> 2	T 18
F 19	1 49 14	25 <sup>h</sup> 29'19	0 <sup>h</sup> Δ51	18 <sup>h</sup> 57	6 <sup>h</sup> 17	26 <sup>h</sup> 9	27 <sup>h</sup> 55	7 <sup>h</sup> 31	23 <sup>h</sup> 28	7 <sup>h</sup> 51	10 <sup>h</sup> 49	28 <sup>h</sup> Δ 4	27 <sup>h</sup> 55	22 <sup>h</sup> 25	22 <sup>h</sup> 1	F 19
S 20	1 53 11	26 <sup>h</sup> 29'10	12 <sup>h</sup> 47	19 <sup>h</sup> 31	7 <sup>h</sup> 28	26 <sup>h</sup> 43	27 <sup>h</sup> 54	7 <sup>h</sup> 28	23 <sup>h</sup> 28	7 <sup>h</sup> 53	10 <sup>h</sup> 48	27 <sup>h</sup> 49	27 <sup>h</sup> 51	22 <sup>h</sup> 32	22 <sup>h</sup> 0	S 20
S 21	1 57 7	27 <sup>h</sup> 29'04	24 <sup>h</sup> 39	20 <sup>h</sup> 0	8 <sup>h</sup> 39	27 <sup>h</sup> 18	27 <sup>h</sup> 53	7 <sup>h</sup> 24	23 <sup>h</sup> 29	7 <sup>h</sup> 55	10 <sup>h</sup> 47	27 <sup>h</sup> Δ36	27 <sup>h</sup> Δ48	22 <sup>h</sup> Δ38	21 <sup>h</sup> Δ59	S 21
M22	2 1 4	28 <sup>h</sup> 28'59	6 <sup>h</sup> Δ28	20 <sup>h</sup> 22	9 <sup>h</sup> 50	27 <sup>h</sup> 52	27 <sup>h</sup> 53	7 <sup>h</sup> 21	23 <sup>h</sup> 29	7 <sup>h</sup> 57	10 <sup>h</sup> 46	27 <sup>h</sup> Δ26	27 <sup>h</sup> Δ45	22 <sup>h</sup> Δ45	21 <sup>h</sup> Δ58	M22
T 23	2 5 0	29 <sup>h</sup> 28'56	18 <sup>h</sup> 18	20 <sup>h</sup> 38	11 <sup>h</sup> 0	28 <sup>h</sup> 27	27 <sup>h</sup> 52	7 <sup>h</sup> 18	23 <sup>h</sup> 30	7 <sup>h</sup> 59	10 <sup>h</sup> 45	27 <sup>h</sup> Δ18	27 <sup>h</sup> Δ42	22 <sup>h</sup> Δ52	21 <sup>h</sup> Δ58	T 23
W24	2 8 57	0 <sup>h</sup> Δ28'54	0 <sup>h</sup> Δ11	20 <sup>h</sup> 46	12 <sup>h</sup> 11	29 <sup>h</sup> 1	27 <sup>h</sup> Δ52	7 <sup>h</sup> 15	23 <sup>h</sup> 30	8 <sup>h</sup> 1	10 <sup>h</sup> 44	27 <sup>h</sup> Δ13	27 <sup>h</sup> Δ39	22 <sup>h</sup> Δ59	21 <sup>h</sup> Δ57	W24
T 25	2 12 53	1 <sup>h</sup> Δ28'55	12 <sup>h</sup> 11	20 <sup>h</sup> R47	13 <sup>h</sup> 21	29 <sup>h</sup> 36	27 <sup>h</sup> 52	7 <sup>h</sup> 11	23 <sup>h</sup> 30	8 <sup>h</sup> 4	10 <sup>h</sup> 43	27 <sup>h</sup> Δ11	27 <sup>h</sup> Δ36	23 <sup>h</sup> Δ 5	21 <sup>h</sup> Δ57	T 25
F 26	2 16 50	2 <sup>h</sup> Δ28'57	24 <sup>h</sup> 24	20 <sup>h</sup> 39	14 <sup>h</sup> 32	0 <sup>h</sup> Δ10	27 <sup>h</sup> 53	7 <sup>h</sup> 8	23 <sup>h</sup> 31	8 <sup>h</sup> 6	10 <sup>h</sup> 42	27 <sup>h</sup> Δ10	27 <sup>h</sup> Δ32	23 <sup>h</sup> Δ12	21 <sup>h</sup> Δ56	F 26
S 27	2 20 47	3 <sup>h</sup> Δ29'00	6 <sup>h</sup> Δ54	20 <sup>h</sup> 21	15 <sup>h</sup> 42	0 <sup>h</sup> Δ44	27 <sup>h</sup> 53	7 <sup>h</sup> 4	23 <sup>h</sup> 31	8 <sup>h</sup> 8	10 <sup>h</sup> 41	27 <sup>h</sup> Δ10	27 <sup>h</sup> Δ29	23 <sup>h</sup> Δ19	21 <sup>h</sup> Δ56	S 27
S 28	2 24 43	4 <sup>h</sup> Δ29'06	19 <sup>h</sup> 47	19 <sup>h</sup> 55	16 <sup>h</sup> 53	1 <sup>h</sup> 18	27 <sup>h</sup> 54	7 <sup>h</sup> 0	23 <sup>h</sup> 31	8 <sup>h</sup> 10	10 <sup>h</sup> 39	27 <sup>h</sup> Δ10	27 <sup>h</sup> Δ26	23 <sup>h</sup> Δ25	21 <sup>h</sup> Δ56	S 28
M29	2 28 40	5 <sup>h</sup> Δ29'12	3 <sup>h</sup> Δ 7	19 <sup>h</sup> 19	18 <sup>h</sup> 3	1 <sup>h</sup> 52	27 <sup>h</sup> 55	6 <sup>h</sup> 57	23 <sup>h</sup> 31	8 <sup>h</sup> 12	10 <sup>h</sup> 38	27 <sup>h</sup> Δ 7	27 <sup>h</sup> Δ23	23 <sup>h</sup> Δ32	21 <sup>h</sup> Δ55	M29
T 30	2 32 36	6 <sup>h</sup> Δ29'20	16 <sup>h</sup> 58	18 <sup>h</sup> 33	19 <sup>h</sup> 13	2 <sup>h</sup> Δ26	27 <sup>h</sup> 56	6 <sup>h</sup> 53	23 <sup>h</sup> Δ31	8 <sup>h</sup> 14	10 <sup>h</sup> 37	27 <sup>h</sup> Δ 2	27 <sup>h</sup> Δ20	23 <sup>h</sup> Δ39	21 <sup>h</sup> Δ55	T 30
W31	2 36 33	7 <sup>h</sup> Δ29'30	1 <sup>h</sup> Δ18	17 <sup>h</sup> Δ38	20 <sup>h</sup> Δ23	2 <sup>h</sup> Δ59	27 <sup>h</sup> Δ57	6 <sup>h</sup> Δ49	23 <sup>h</sup> Δ31	8 <sup>h</sup> Δ16	10 <sup>h</sup> Δ36	26 <sup>h</sup> Δ55	27 <sup>h</sup> Δ17	23 <sup>h</sup> Δ45	21 <sup>h</sup> Δ55	W31

## ASTRODIENST EPHEMERIS for the year 1618

geocentric

NOVEMBER 1618 GC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	2 40 29	8 <sup>h</sup> 29'42"	16 <sup>h</sup> 06'	16°R35	21°A33	3 <sup>h</sup> 33'	27°A59	6°R45	23°R31	8 <sup>h</sup> 18'	10°R35	26°R45	27°B13	23 <sup>h</sup> 52'	21°R55	T 1
F 2	2 44 26	9°29'55"	1 <sup>h</sup> 15'	15 <sup>h</sup> 24'	22°43'	4° 7'	28° 0'	6 <sup>h</sup> 41'	23°B31	8°20'	10°B34	26°B34	27°10'	23°59'	21°D55	F 2
S 3	2 48 22	10°30'10"	16°34'	14° 9'	23°53'	4°40'	28° 2'	6°37'	23°31'	8°22'	10°33'	26°23'	27° 7'	24° 6'	21°A55	S 3
S 4	2 52 19	11°30'26"	1 <sup>h</sup> 15'	12°50'	25° 2'	5°13'	28° 4'	6°32'	23°30'	8°24'	10°32'	26°13'	27° 4'	24°12'	21°55'	S 4
M 5	2 56 16	12°30'45"	16°57'	11°30'	26°12'	5°47'	28° 7'	6°28'	23°30'	8°26'	10°30'	26° 6'	27° 1'	24°19'	21°55'	M 5
T 6	3 0 12	13°31'06"	1 <sup>h</sup> 42'	10°12'	27°21'	6°20'	28° 9'	6°24'	23°30'	8°28'	10°29'	26° 1'	26°57'	24°26'	21°56'	T 6
W 7	3 4 9	14°31'28"	16° 1'	8°58'	28°31'	6°53'	28°12'	6°20'	23°29'	8°30'	10°28'	25°59'	26°54'	24°32'	21°56'	W 7
T 8	3 8 5	15°31'53"	29°53'	7°51'	29°40'	7°26'	28°15'	6°15'	23°29'	8°31'	10°27'	25°D59	26°51'	24°39'	21°56'	T 8
F 9	3 12 2	16°32'19"	13°21'	6°53'	0°49'	7°59'	28°18'	6°11'	23°28'	8°33'	10°26'	25°R59	26°48'	24°46'	21°57'	F 9
S 10	3 15 58	17°32'47"	26°21'	6° 4'	1°58'	8°31'	28°21'	6° 6'	23°28'	8°35'	10°25'	25°59'	26°45'	24°53'	21°57'	S 10
S 11	3 19 55	18°33'17"	9 <sup>h</sup> 3'	5°27'	3° 7'	9° 4'	28°25'	6° 2'	23°27'	8°37'	10°24'	25°57'	26°42'	24°59'	21°58'	S 11
M12	3 23 51	19°33'49"	21°30'	5° 2'	4°16'	9°36'	28°28'	5°57'	23°26'	8°39'	10°23'	25°52'	26°38'	25° 6'	21°58'	M12
T 13	3 27 48	20°34'23"	3 <sup>h</sup> 44'	4°48'	5°25'	10° 9'	28°32'	5°52'	23°26'	8°41'	10°21'	25°45'	26°35'	25°13'	21°59'	T 13
W14	3 31 45	21°34'58"	15°50'	4°D45	6°33'	10°41'	28°36'	5°48'	23°25'	8°42'	10°20'	25°35'	26°32'	25°19'	22° 0'	W14
T 15	3 35 41	22°35'35"	27°49'	4°54'	7°42'	11°13'	28°40'	5°43'	23°24'	8°44'	10°19'	25°24'	26°29'	25°26'	22° 1'	T 15
F 16	3 39 38	23°36'14"	9 <sup>h</sup> 44'	5°12'	8°50'	11°45'	28°45'	5°38'	23°23'	8°46'	10°18'	25°11'	26°26'	25°33'	22° 1'	F 16
S 17	3 43 34	24°36'54"	21°37'	5°40'	9°58'	12°17'	28°49'	5°33'	23°22'	8°47'	10°17'	24°59'	26°22'	25°39'	22° 2'	S 17
S 18	3 47 31	25°37'36"	3 <sup>h</sup> 27'	6°17'	11° 6'	12°49'	28°54'	5°29'	23°21'	8°49'	10°16'	24°47'	26°19'	25°46'	22° 3'	S 18
M19	3 51 27	26°38'19"	15°18'	7° 0'	12°14'	13°20'	28°59'	5°24'	23°20'	8°51'	10°15'	24°38'	26°16'	25°53'	22° 4'	M19
T 20	3 55 24	27°39'03"	27°11'	7°51'	13°22'	13°52'	29° 4'	5°19'	23°19'	8°52'	10°14'	24°32'	26°13'	26° 0'	22° 6'	T 20
W21	3 59 20	28°39'49"	9° 7'	8°47'	14°29'	14°23'	29°10'	5°14'	23°18'	8°54'	10°13'	24°28'	26°10'	26° 6'	22° 7'	W21
T 22	4 3 17	29°40'36"	21°11'	9°48'	15°36'	14°54'	29°15'	5° 9'	23°17'	8°56'	10°12'	24°D27	26° 7'	26°13'	22° 8'	T 22
F 23	4 7 14	0 <sup>h</sup> 41'24"	3 <sup>h</sup> 26'	10°54'	16°44'	15°26'	29°21'	5° 4'	23°15'	8°57'	10°11'	24°27'	26° 3'	26°20'	22° 9'	F 23
S 24	4 11 10	1°42'12"	15°56'	12° 3'	17°51'	15°56'	29°27'	4°59'	23°14'	8°59'	10°10'	24°28'	26° 0'	26°26'	22°11'	S 24
S 25	4 15 7	2°43'02"	28°45'	13°16'	18°57'	16°27'	29°33'	4°54'	23°13'	9° 0'	10° 9'	24°R29	25°57'	26°33'	22°12'	S 25
M26	4 19 3	3°43'53"	11°57'	14°31'	20° 4'	16°58'	29°39'	4°49'	23°11'	9° 2'	10° 8'	24°29'	25°54'	26°40'	22°14'	M26
T 27	4 23 0	4°44'44"	25°37'	15°49'	21°10'	17°28'	29°46'	4°44'	23°10'	9° 3'	10° 7'	24°26'	25°51'	26°47'	22°15'	T 27
W28	4 26 56	5°45'36"	9°45'	17° 9'	22°16'	17°59'	29°52'	4°39'	23° 8'	9° 5'	10° 6'	24°22'	25°48'	26°53'	22°17'	W28
T 29	4 30 53	6°46'29"	24°20'	18°31'	23°22'	18°29'	29°59'	4°34'	23° 7'	9° 6'	10° 5'	24°16'	25°44'	27° 0'	22°18'	T 29
F 30	4 34 49	7°47'23"	9°19'	19 <sup>h</sup> 55'	24°B28	18 <sup>h</sup> 59'	0 <sup>h</sup> 6'	4 <sup>h</sup> 30'	23°B 5'	9 <sup>h</sup> 7'	10°B 4'	24°B 9'	25°B41	27 <sup>h</sup> 7'	22°A20	F 30

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Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	4 38 46	8 <sup>h</sup> 48'18"	24°B33	21 <sup>h</sup> 19'	25°B33	19 <sup>h</sup> 29'	0 <sup>h</sup> 13'	4°R25	23°R 4'	9 <sup>h</sup> 9'	10°R 3'	24°R 2'	25°B38	27 <sup>h</sup> 13'	22°A22	S 1
S 2	4 42 43	9°49'14"	9 <sup>h</sup> 15'	22°45'	26°39'	19°58'	0°20'	4 <sup>h</sup> 20'	23°B 2'	9°10'	10°B 2'	23°B55	25°35'	27°20'	22°24'	S 2
M 3	4 46 39	10°50'11"	25° 3'	24°12'	27°44'	20°28'	0°27'	4°15'	23° 0'	9°11'	10° 1'	23°51'	25°32'	27°27'	22°26'	M 3
T 4	4 50 36	11°51'09"	9°B59	25°39'	28°48'	20°57'	0°35'	4°10'	22°59'	9°13'	10° 0'	23°48'	25°28'	27°33'	22°28'	T 4
W 5	4 54 32	12°52'08"	24°31'	27° 8'	29°53'	21°27'	0°43'	4° 5'	22°57'	9°14'	9°59'	23°D47	25°25'	27°40'	22°30'	W 5
T 6	4 58 29	13°53'08"	8°B36	28°36'	0°A57	21°56'	0°50'	4° 0'	22°55'	9°15'	9°58'	23°48'	25°22'	27°47'	22°32'	T 6
F 7	5 2 25	14°54'08"	22°12'	0°A 6'	2° 1'	22°24'	0°58'	3°55'	22°53'	9°16'	9°57'	23°49'	25°19'	27°54'	22°34'	F 7
S 8	5 6 22	15°55'10"	5 <sup>h</sup> 22'	1°36'	3° 4'	22°53'	1° 6'	3°51'	22°51'	9°17'	9°56'	23°51'	25°16'	28° 0'	22°36'	S 8
S 9	5 10 19	16°56'13"	18° 8'	3° 6'	4° 7'	23°22'	1°15'	3°46'	22°49'	9°18'	9°55'	23°R51	25°13'	28° 7'	22°38'	S 9
M10	5 14 15	17°57'17"	0°A35	4°36'	5°10'	23°50'	1°23'	3°41'	22°47'	9°19'	9°54'	23°50'	25° 9'	28°14'	22°41'	M10
T 11	5 18 12	18°58'22"	12°46'	6° 7'	6°13'	24°18'	1°32'	3°36'	22°45'	9°20'	9°54'	23°48'	25° 6'	28°20'	22°43'	T 11
W12	5 22 8	19°59'28"	24°48'	7°38'	7°15'	24°46'	1°40'	3°32'	22°43'	9°21'	9°53'	23°43'	25° 3'	28°27'	22°45'	W12
T 13	5 26 5	21° 0'35"	6 <sup>h</sup> 42'	9°10'	8°17'	25°14'	1°49'	3°27'	22°41'	9°22'	9°52'	23°38'	25° 0'	28°34'	22°48'	T 13
F 14	5 30 1	22° 1'42"	18°33'	10°42'	9°18'	25°41'	1°58'	3°23'	22°39'	9°23'	9°51'	23°32'	24°57'	28°40'	22°50'	F 14
S 15	5 33 58	23° 2'51"	0°A23	12°13'	10°20'	26° 8'	2° 7'	3°18'	22°37'	9°24'	9°50'	23°26'	24°54'	28°47'	22°53'	S 15
S 16	5 37 54	24° 4'00"	12°15'	13°46'	11°20'	26°35'	2°17'	3°14'	22°35'	9°25'	9°50'	23°21'	24°50'	28°54'	22°55'	S 16
M17	5 41 51	25° 5'09"	24°10'	15°18'	12°21'	27° 2'	2°26'	3° 9'	22°33'	9°26'	9°49'	23°16'	24°47'	29° 1'	22°58'	M17
T 18	5 45 48	26° 6'19"	6°B10	16°51'	13°20'	27°29'	2°36'	3° 5'	22°30'	9°27'	9°48'	23°14'	24°44'	29° 7'	23° 1'	T 18
W19	5 49 44	27° 7'29"	18°17'	18°23'	14°20'	27°55'	2°45'	3° 1'	22°28'	9°28'	9°47'	23°D12	24°41'	29°14'	23° 3'	W19
T 20	5 53 41	28° 8'39"	0°A32	19°57'	15°19'	28°21'	2°55'	2°56'	22°26'	9°28'	9°47'	23°12'	24°38'	29°21'	23° 6'	T 20
F 21	5 57 37	29° 9'50"	12°58'	21°30'	16°17'	28°47'	3° 5'	2°52'	22°23'	9°29'	9°46'	23°14'	24°35'	29°27'	23° 9'	F 21
S 22	6 1 34	0°B11'00"	25°37'	23° 3'	17°15'	29°13'	3°15'	2°48'	22°21'	9°30'	9°45'	23°15'	24°31'	29°34'	23°12'	S 22
S 23	6 5 30	1°12'11"	8°B31	24°37'	18°13'	29°38'	3°25'	2°44'	22°19'	9°31'	9°45'	23°17'	24°28'	29°41'	23°15'	S 23
M24	6 9 27	2°13'21"	21°44'	26°11'	19°10'	0°A 3'	3°35'	2°40'	22°16'	9°31'	9°44'	23°18'	24°25'	29°47'	23°18'	M24
T 25	6 13 23	3°14'32"	5°B17	27°46'	20° 6'	0°28'	3°46'	2°36'	22°14'	9°32'	9°43'	23°R18	24°22'	29°54'	23°21'	T 25
W26	6 17 20	4°15'42"	19°13'	29°20'	21° 2'	0°53'	3°56'	2°32'	22°11'	9°32'	9°43'	23°18'	24°19'	0°A 1'	23°24'	W26
T 27	6 21 17	5°16'52"	3°B30	0°B55	21°57'	1°17'	4° 7'	2°29'	22° 9'	9°33'	9°42'	23°16'	24°15'	0° 8'	23°27'	T 27
F 28	6 25 13	6°18'01"	18° 7'	2°30'	22°51'	1°41'	4°18'	2°25'	22° 7'	9°33'	9°42'	23°14'	24°12'	0°14'	23°30'	F 28
S 29	6 29 10	7°19'11"	2°B58	4° 6'	23°45'	2° 5'	4°29'	2°21'	22° 4'	9°34'	9°41'	23°12'	24° 9'	0°21'	23°33'	S 29
S 30	6 33 6	8°20'20"	17°58'	5°42'	24°38'	2°28'	4°39'	2°18'	22° 2'	9°34'	9°41'	23°10'	24° 6'	0°28'	23°36'	S 30
M31	6 37 3	9°B21'30"	2°B56	7°B18	25°A30	2°A52	4°B51	2°B14	21°B59	9°A35	9°B40	23°B 9'	24°B 3'	0°A34	23°A39	M31

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