



# Astrodienst Ephemeris Tables for the year 1450

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 1450  
geocentric

JANUARY 1450 JC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	7 16 14	19°35'37	21°02'26	0°R40	9°X30	17°M19	16°X18	23°R57	14°R32	28°R 1	3°R30	20°D41	22°X10	24°X50	2°R17	T 1
F 2	7 20 10	20°36'42	4°M 6	29°Z53	10°42	17°57	16°31	23°M57	14°Z29	28°M 1	3°J28	20°X41	22° 7	24°56	2°II15	F 2
S 3	7 24 7	21°37'47	16°29	28°56	11°55	18°34	16°43	23°56	14°27	28° 1	3°27	20°43	22° 4	25° 3	2°13	S 3
S 4	7 28 3	22°38'51	28°36	27°51	13° 7	19°12	16°55	23°55	14°24	28° 0	3°26	20°45	22° 1	25°10	2°11	S 4
M 5	7 32 0	23°39'55	10°A34	26°40	14°19	19°49	17° 7	23°54	14°22	28° 0	3°24	20°46	21°58	25°16	2° 9	M 5
T 6	7 35 56	24°40'58	22°26	25°25	15°31	20°27	17°20	23°52	14°19	27°59	3°23	20°R47	21°54	25°23	2° 8	T 6
W 7	7 39 53	25°42'01	4°M18	24° 8	16°44	21° 4	17°32	23°51	14°16	27°59	3°22	20°47	21°51	25°30	2° 6	W 7
T 8	7 43 49	26°43'03	16°14	22°52	17°56	21°42	17°44	23°50	14°14	27°58	3°20	20°45	21°48	25°37	2° 4	T 8
F 9	7 47 46	27°44'05	28°19	21°39	19° 9	22°19	17°56	23°48	14°11	27°57	3°19	20°43	21°45	25°43	2° 3	F 9
S 10	7 51 43	28°45'06	10°X37	20°30	20°21	22°56	18° 8	23°46	14° 9	27°57	3°17	20°40	21°42	25°50	2° 1	S 10
S 11	7 55 39	29°46'06	23°11	19°28	21°34	23°34	18°20	23°45	14° 6	27°56	3°16	20°36	21°38	25°57	2° 0	S 11
M12	7 59 36	0°X47'06	6°Z 3	18°33	22°46	24°11	18°31	23°43	14° 4	27°55	3°15	20°33	21°35	26° 3	1°58	M12
T 13	8 3 32	1°48'04	19°13	17°46	23°59	24°49	18°43	23°41	14° 1	27°55	3°13	20°30	21°32	26°10	1°57	T 13
W14	8 7 29	2°49'02	2°X41	17° 8	25°12	25°26	18°55	23°39	13°59	27°54	3°12	20°28	21°29	26°17	1°56	W14
T 15	8 11 25	3°49'59	16°25	16°38	26°24	26° 3	19° 6	23°37	13°57	27°53	3°10	20°D28	21°26	26°24	1°55	T 15
F 16	8 15 22	4°50'54	0°X21	16°17	27°37	26°40	19°18	23°35	13°54	27°52	3° 9	20°28	21°23	26°30	1°54	F 16
S 17	8 19 19	5°51'48	14°28	16° 5	28°50	27°18	19°29	23°32	13°52	27°51	3° 8	20°29	21°19	26°37	1°53	S 17
S 18	8 23 15	6°52'41	28°40	16°D 0	0°Z 3	27°55	19°40	23°30	13°49	27°51	3° 6	20°30	21°16	26°44	1°52	S 18
M19	8 27 12	7°53'32	12°Y55	16° 3	1°16	28°32	19°52	23°27	13°47	27°50	3° 5	20°31	21°13	26°50	1°51	M19
T 20	8 31 8	8°54'22	27° 9	16°14	2°29	29° 9	20° 3	23°25	13°45	27°49	3° 3	20°32	21°10	26°57	1°50	T 20
W21	8 35 5	9°55'10	11°X21	16°30	3°42	29°46	20°14	23°22	13°43	27°48	3° 2	20°R32	21° 7	27° 4	1°49	W21
T 22	8 39 1	10°55'56	25°27	16°53	4°55	0°X23	20°25	23°19	13°40	27°47	3° 1	20°31	21° 4	27°10	1°49	T 22
F 23	8 42 58	11°56'42	9°II27	17°22	6° 8	1° 0	20°36	23°16	13°38	27°46	2°59	20°31	21° 0	27°17	1°48	F 23
S 24	8 46 54	12°57'25	23°18	17°55	7°21	1°37	20°46	23°13	13°36	27°45	2°58	20°30	20°57	27°24	1°48	S 24
S 25	8 50 51	13°58'07	6°Z59	18°34	8°34	2°14	20°57	23°10	13°34	27°44	2°56	20°29	20°54	27°31	1°47	S 25
M26	8 54 48	14°58'47	20°27	19°16	9°47	2°51	21° 8	23° 7	13°32	27°43	2°55	20°28	20°51	27°37	1°47	M26
T 27	8 58 44	15°59'26	3°J42	20° 3	11° 0	3°28	21°18	23° 4	13°30	27°41	2°54	20°28	20°48	27°44	1°47	T 27
W28	9 2 41	17° 0'03	16°43	20°53	12°13	4° 5	21°29	23° 1	13°28	27°40	2°52	20°D28	20°44	27°51	1°47	W28
T 29	9 6 37	18° 0'39	29°29	21°47	13°26	4°42	21°39	22°57	13°25	27°39	2°51	20°28	20°41	27°57	1°D47	T 29
F 30	9 10 34	19° 1'13	12°M 0	22°44	14°40	5°19	21°49	22°54	13°23	27°38	2°50	20°28	20°38	28° 4	1°47	F 30
S 31	9 14 30	20°X1'45	24°M18	23°Z43	15°Z53	5°X55	21°X59	22°M50	13°Z22	27°M37	2°J48	20°R28	20°X35	28°X11	1°II47	S 31

Delta T = 06m29s

Julian Calendar 1 Jan. 1450 == Greg. Calendar 10 Jan. 1450

FEBRUARY 1450 JC

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	9 18 27	21°X2'17	6°X25	24°Z46	17°Z 6	6°X32	22°X 9	22°R47	13°R20	27°R35	2°R47	20°R28	20°X32	28°X18	1°II47	S 1
M 2	9 22 23	22° 2'46	18°23	25°50	18°19	7° 9	22°19	22°M43	13°Z18	27°M34	2°J46	20°X28	20°29	28°24	1°47	M 2
T 3	9 26 20	23° 3'15	0°M16	26°57	19°33	7°46	22°29	22°39	13°16	27°33	2°44	20°27	20°25	28°31	1°47	T 3
W 4	9 30 17	24° 3'42	12° 8	28° 6	20°46	8°22	22°38	22°36	13°14	27°32	2°43	20°27	20°22	28°38	1°48	W 4
T 5	9 34 13	25° 4'08	24° 4	29°17	21°59	8°59	22°48	22°32	13°12	27°30	2°42	20°D27	20°19	28°44	1°48	T 5
F 6	9 38 10	26° 4'32	6°X 7	0°X30	23°13	9°36	22°57	22°28	13°11	27°29	2°41	20°27	20°16	28°51	1°49	F 6
S 7	9 42 6	27° 4'55	18°24	1°45	24°26	10°12	23° 7	22°24	13° 9	27°28	2°39	20°28	20°13	28°58	1°49	S 7
S 8	9 46 3	28° 5'17	0°Z57	3° 1	25°40	10°49	23°16	22°20	13° 7	27°26	2°38	20°28	20°10	29° 5	1°50	S 8
M 9	9 49 59	29° 5'37	13°51	4°19	26°53	11°25	23°25	22°16	13° 6	27°25	2°37	20°29	20° 6	29°11	1°51	M 9
T 10	9 53 56	0°X5'55	27° 8	5°38	28° 7	12° 1	23°34	22°12	13° 4	27°23	2°36	20°30	20° 3	29°18	1°52	T 10
W11	9 57 52	1° 6'12	10°X49	6°59	29°20	12°38	23°43	22° 7	13° 3	27°22	2°34	20°30	20° 0	29°25	1°53	W11
T 12	10 1 49	2° 6'27	24°51	8°22	0°X34	13°14	23°52	22° 3	13° 1	27°21	2°33	20°R31	19°57	29°31	1°54	T 12
F 13	10 5 46	3° 6'40	9°X12	9°45	1°47	13°50	24° 0	21°59	13° 0	27°19	2°32	20°30	19°54	29°38	1°55	F 13
S 14	10 9 42	4° 6'52	23°47	11°10	3° 1	14°27	24° 9	21°54	12°58	27°18	2°31	20°29	19°50	29°45	1°56	S 14
S 15	10 13 39	5° 7'01	8°Y29	12°36	4°14	15° 3	24°17	21°50	12°57	27°16	2°30	20°27	19°47	29°52	1°57	S 15
M16	10 17 35	6° 7'09	23°11	14° 4	5°28	15°39	24°25	21°46	12°56	27°15	2°29	20°25	19°44	29°58	1°58	M16
T 17	10 21 32	7° 7'14	7°X46	15°32	6°41	16°15	24°33	21°41	12°55	27°13	2°27	20°23	19°41	0°M 5	2° 0	T 17
W18	10 25 28	8° 7'17	22°10	17° 2	7°55	16°51	24°41	21°37	12°53	27°12	2°26	20°22	19°38	0°I2	2° 1	W18
T 19	10 29 25	9° 7'18	6°II19	18°33	9° 8	17°27	24°49	21°32	12°52	27°10	2°25	20°D21	19°35	0°I8	2° 3	T 19
F 20	10 33 21	10° 7'17	20°11	20° 6	10°22	18° 3	24°57	21°28	12°51	27° 8	2°24	20°21	19°31	0°25	2° 4	F 20
S 21	10 37 18	11° 7'13	3°Z47	21°39	11°35	18°39	25° 4	21°23	12°50	27° 7	2°23	20°23	19°28	0°32	2° 6	S 21
S 22	10 41 15	12° 7'07	17° 6	23°13	12°49	19°14	25°12	21°18	12°49	27° 5	2°22	20°24	19°25	0°39	2° 8	S 22
M23	10 45 11	13° 6'59	0°J11	24°49	14° 2	19°50	25°19	21°14	12°48	27° 4	2°21	20°25	19°22	0°45	2°10	M23
T 24	10 49 8	14° 6'49	13° 2	26°26	15°16	20°26	25°26	21° 9	12°47	27° 2	2°20	20°27	19°19	0°52	2°12	T 24
W25	10 53 4	15° 6'37	25°41	28° 4	16°30	21° 1	25°33	21° 4	12°46	27° 0	2°19	20°R27	19°16	0°59	2°14	W25
T 26	10 57 1	16° 6'22	8°M 8	29°44	17°43	21°37	25°40	21° 0	12°46	26°59	2°18	20°25	19°12	1° 5	2°16	T 26
F 27	11 0 57	17° 6'06	20°26	1°X24	18°57	22°12	25°47	20°55	12°45	26°57	2°17	20°23	19° 9	1°12	2°18	F 27
S 28	11 4 54	18°X5'47	2°X35	3°X 6	20°X10	22°X48	25°X53	20°M50	12°Z44	26°M56	2°J16	20°X19	19°X 6	1°M19	2°II20	S 28

Delta T = 06m29s

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1450  
geocentric

MARCH 1450 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	11 8 50	19°52'26"	14°37'26"	4°49'21"	21°28'23"	23°23'25"	25°25'20"	20°46'12"	12°44'26"	26°54'2°15	20°15'20"	18°14'19"	19°3'11"	18°26'2°22	2°22'2°22	S 1
M 2	11 12 47	20°5'04"	26°33'6"	6°33'22"	23°38'23"	25°58'26"	26°6'20"	20°41'12"	12°43'26"	26°52'2°15	20°15'20"	18°9'19"	19°0'1°32	18°56'1°39	2°24'2°27	M 2
T 3	11 16 43	21°4'40"	8°18'26"	8°18'23"	23°51'24"	24°34'26"	26°12'20"	20°36'12°43	26°51'2°14	20°3'20°3	18°56'18°56	1°39'1°46	2°27'2°29	2°27'2°29	2°27'2°29	T 3
W 4	11 20 40	22°4'14"	20°18'10°5	25°5'25°9	26°18'20°31	12°42'26°49	2°13'19°59	18°53'1°46	2°29'2°52	2°32'2°34	2°34'2°37	2°37'2°37	2°37'2°37	2°37'2°37	2°37'2°37	W 4
T 5	11 24 37	23°3'46"	2°12'11°53	26°18'25°44	26°23'20°27	12°42'26°47	2°12'19°55	18°50'1°52	2°32'2°32	2°32'2°32	2°32'2°32	2°32'2°32	2°32'2°32	2°32'2°32	2°32'2°32	T 5
F 6	11 28 33	24°3'16"	14°14'13°42	27°32'26°19	26°29'20°22	12°41'26°46	2°11'19°53	18°47'1°59	2°34'2°34	2°34'2°34	2°34'2°34	2°34'2°34	2°34'2°34	2°34'2°34	2°34'2°34	F 6
S 7	11 32 30	25°2'44"	26°27'15°32	28°46'26°54	26°34'20°17	12°41'26°44	2°11'19°53	18°44'2°6	2°37'2°37	2°37'2°37	2°37'2°37	2°37'2°37	2°37'2°37	2°37'2°37	2°37'2°37	S 7
S 8	11 36 26	26°2'11"	8°35'17°24	29°59'27°28	26°40'20°13	12°41'26°42	2°10'19°53	18°41'2°13	2°40'2°40	2°40'2°40	2°40'2°40	2°40'2°40	2°40'2°40	2°40'2°40	2°40'2°40	S 8
M 9	11 40 23	27°1'36"	21°46'19°17	1°13'28°3	26°45'20°8	12°41'26°41	2°9'19°55	18°37'2°19	2°42'2°42	2°42'2°42	2°42'2°42	2°42'2°42	2°42'2°42	2°42'2°42	2°42'2°42	M 9
T 10	11 44 19	28°0'59"	5°1'21°11	2°27'28°38	26°50'20°3	12°40'26°39	2°8'19°56	18°34'2°26	2°45'2°45	2°45'2°45	2°45'2°45	2°45'2°45	2°45'2°45	2°45'2°45	2°45'2°45	T 10
W 11	11 48 16	29°0'20"	18°42'23°7	3°40'29°12	26°55'19°59	12°40'26°37	2°8'19°57	18°31'2°33	2°48'2°48	2°48'2°48	2°48'2°48	2°48'2°48	2°48'2°48	2°48'2°48	2°48'2°48	W 11
T 12	11 52 12	29°59'40"	2°12'25°4	4°54'29°47	26°59'19°54	12°40'26°36	2°7'19°56	18°28'2°40	2°51'2°51	2°51'2°51	2°51'2°51	2°51'2°51	2°51'2°51	2°51'2°51	2°51'2°51	T 12
F 13	11 56 9	0°58'57"	17°23'27°2	6°8'0°21	27°4'19°49	12°40'26°34	2°6'19°54	18°25'2°46	2°54'2°54	2°54'2°54	2°54'2°54	2°54'2°54	2°54'2°54	2°54'2°54	2°54'2°54	F 13
S 14	12 0 6	1°58'12"	2°17'29°1	7°21'0°56	27°8'19°45	12°40'26°32	2°6'19°49	18°22'2°53	2°57'2°57	2°57'2°57	2°57'2°57	2°57'2°57	2°57'2°57	2°57'2°57	2°57'2°57	S 14
S 15	12 4 2	2°57'26"	17°22'1°17	8°35'1°30	27°12'19°40	12°40'26°31	2°5'19°43	18°18'3°0	3°0'3°0	3°0'3°0	3°0'3°0	3°0'3°0	3°0'3°0	3°0'3°0	3°0'3°0	S 15
M 16	12 7 59	3°56'37"	2°28'3°3	9°49'2°4	27°16'19°36	12°41'26°29	2°5'19°37	18°15'3°6	3°3'3°3	3°3'3°3	3°3'3°3	3°3'3°3	3°3'3°3	3°3'3°3	3°3'3°3	M 16
T 17	12 11 55	4°55'46"	17°28'5°6	11°2'2°38	27°20'19°31	12°41'26°28	2°4'19°30	18°12'3°13	3°7'3°7	3°7'3°7	3°7'3°7	3°7'3°7	3°7'3°7	3°7'3°7	3°7'3°7	T 17
W 18	12 15 52	5°54'52"	2°11'7°9	12°16'3°12	27°23'19°27	12°41'26°26	2°4'19°25	18°9'3°20	3°10'3°10	3°10'3°10	3°10'3°10	3°10'3°10	3°10'3°10	3°10'3°10	3°10'3°10	W 18
T 19	12 19 48	6°53'57"	16°33'9°13	13°30'3°46	27°27'19°22	12°41'26°24	2°3'19°21	18°6'3°27	3°13'3°13	3°13'3°13	3°13'3°13	3°13'3°13	3°13'3°13	3°13'3°13	3°13'3°13	T 19
F 20	12 23 45	7°52'59"	0°30'11°17	14°43'4°19	27°30'19°18	12°42'26°23	2°3'19°19	18°2'3°33	3°17'3°17	3°17'3°17	3°17'3°17	3°17'3°17	3°17'3°17	3°17'3°17	3°17'3°17	F 20
S 21	12 27 41	8°51'59"	14°3'13°22	15°57'4°53	27°33'19°14	12°42'26°21	2°2'19°19	17°59'3°40	3°20'3°20	3°20'3°20	3°20'3°20	3°20'3°20	3°20'3°20	3°20'3°20	3°20'3°20	S 21
S 22	12 31 38	9°50'56"	27°13'15°27	17°11'5°26	27°36'19°9	12°43'26°19	2°2'19°20	17°56'3°47	3°24'3°24	3°24'3°24	3°24'3°24	3°24'3°24	3°24'3°24	3°24'3°24	3°24'3°24	S 22
M 23	12 35 35	10°49'51"	10°12'17°32	18°24'5°59	27°39'19°5	12°43'26°18	2°2'19°21	17°53'3°53	3°27'3°27	3°27'3°27	3°27'3°27	3°27'3°27	3°27'3°27	3°27'3°27	3°27'3°27	M 23
T 24	12 39 31	11°48'44"	22°40'19°36	19°38'6°33	27°41'19°1	12°44'26°16	2°1'19°21	17°50'4°0	3°31'3°31	3°31'3°31	3°31'3°31	3°31'3°31	3°31'3°31	3°31'3°31	3°31'3°31	T 24
W 25	12 43 28	12°47'34"	5°17°3	21°40'20°51	7°6'27°43	18°57'12°45	2°1'19°20	17°47'4°7	3°35'3°35	3°35'3°35	3°35'3°35	3°35'3°35	3°35'3°35	3°35'3°35	3°35'3°35	W 25
T 26	12 47 24	13°46'22"	17°15'23°42	22°5'7°39	27°46'18°53	12°45'26°13	2°1'19°16	17°43'4°14	3°38'3°38	3°38'3°38	3°38'3°38	3°38'3°38	3°38'3°38	3°38'3°38	3°38'3°38	T 26
F 27	12 51 21	14°45'08"	29°21'25°43	23°19'8°12	27°48'18°49	12°46'26°12	2°0'19°10	17°40'4°20	3°42'3°42	3°42'3°42	3°42'3°42	3°42'3°42	3°42'3°42	3°42'3°42	3°42'3°42	F 27
S 28	12 55 17	15°43'52"	11°21'27°43	24°32'8°44	27°49'18°45	12°47'26°10	2°0'19°2	17°37'4°27	3°46'3°46	3°46'3°46	3°46'3°46	3°46'3°46	3°46'3°46	3°46'3°46	3°46'3°46	S 28
S 29	12 59 14	16°42'34"	23°17'29°40	25°46'9°17	27°51'18°41	12°48'26°8	2°0'18°51	17°34'4°34	3°50'3°50	3°50'3°50	3°50'3°50	3°50'3°50	3°50'3°50	3°50'3°50	3°50'3°50	S 29
M 30	13 3 10	17°41'14"	5°11°10	18°35'27°0	9°49'27°52	18°37'12°49	2°0'18°40	17°31'4°40	3°54'3°54	3°54'3°54	3°54'3°54	3°54'3°54	3°54'3°54	3°54'3°54	3°54'3°54	M 30
T 31	13 7 7	18°39'52"	17°12'3°27	28°13'10°22	27°54'18°17	12°49'26°10	2°0'18°29	17°27'4°27	3°58'3°58	3°58'3°58	3°58'3°58	3°58'3°58	3°58'3°58	3°58'3°58	3°58'3°58	T 31

Delta T = 06m29s

Julian Calendar 1 March 1450 == Greg. Calendar 10 March 1450

APRIL 1450 JC

00:00 UT

Day	Sid.t	☉	☾	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	13 11 4	19°38'28	28°15'55	5°16'29	29°37'27	10°35'42	27°55'18	18°R30	12°51'26	26°R 4	1°R59	18°R18	17°22'41	4°15'54	4°11'2	W 1
T 2	13 15 0	20°37'02	10°52'7	7°1'0	0°40'11	11°26'27	27°55'18	18°26'12	12°52'26	26°2	1°59	18°9	17°21'5	5°1'4	4°6'6	T 2
F 3	13 18 57	21°35'35	22°54'8	43'1	54'1	11°58'27	27°56'18	18°22'12	12°53'26	26°1	1°59	18°3	17°18'5	7°10'4	4°10'10	F 3
S 4	13 22 53	22°34'06	5°3'7	10°22'3	8'8	12°29'27	27°57'18	18°19'12	12°54'26	26°0	1°59	17°59	17°15'5	14°5	4°14'4	S 4
S 5	13 26 50	23°32'36	17°33'11	56'4	21'13	13°1'27	27°57'18	18°16'12	12°55'25	25°58'1	1°59	17°58	17°12'5	21'4	4°18'4	S 5
M 6	13 30 46	24°31'03	0°18'13	26'5	35'13	13°32'27	27°R57'18	18°12'12	12°57'25	25°57'1	1°D59	17°D58	17°8'5	27'4	4°22'2	M 6
T 7	13 34 43	25°29'30	13°25'14	51'6	49'4	14°4'27	27°57'18	18°9'12	12°58'25	25°55'1	1°59	17°R58	17°5'5	34'4	4°27'7	T 7
W 8	13 38 39	26°27'54	26°59'16	12'8	2'14	35'27	27°57'18	18°6'12	12°59'25	25°54'1	1°59	17°58	17°2'5	41'4	4°31'8	W 8
T 9	13 42 36	27°26'17	11°2'17	28'9	16'15	6'27	27°56'18	18°3'13	1°1'25	25°53'1	1°59	17°56	16°59'5	48'4	4°35'7	T 9
F 10	13 46 33	28°24'38	25°33'18	40'10	29'15	36'27	27°55'18	18°0'13	2°2'25	25°51'1	1°59	17°52	16°56'5	54'4	4°40'10	F 10
S 11	13 50 29	29°22'58	10°29'19	47'11	43'16	7'27	27°55'17	17°57'13	4°25	25°50'2	°0	17°45	16°53'6	1'4	4°44'4	S 11
S 12	13 54 26	0°21'15	25°42'20	49'12	57'16	37'27	27°54'17	17°54'13	5°25	25°49'2	°0	17°36	16°49'6	8'4	4°49'4	S 12
M13	13 58 22	1°19'31	11°18'21	46'14	10'17	7'27	27°52'17	17°51'13	7°25	25°47'2	°0	17°25	16°46'6	15'4	4°53'3	M13
T 14	14 2 19	2°17'46	26°16'22	38'15	24'17	37'27	27°51'17	17°48'13	9°25	25°46'2	°0	17°15	16°43'6	21'4	4°58'8	T 14
W15	14 6 15	3°15'58	11°15'23	24'16	37'18	7'27	27°49'17	17°46'13	10°25	25°45'2	°0	17°6	16°40'6	28'5	2°15'1	W15
T 16	14 10 12	4°14'09	25°51'24	6'17	51'18	36'27	27°48'17	17°43'13	12°25	25°44'2	°1	16°59	16°37'6	35'5	2°7'1	T 16
F 17	14 14 8	5°12'17	9°58'24	42'19	5'19	6'27	27°46'17	17°41'13	14°25	25°42'2	°1	16°55	16°33'6	41'5	2°11'1	F 17
S 18	14 18 5	6°10'24	23°37'25	13'20	18'19	35'27	27°43'17	17°38'13	16°25	25°41'2	°1	16°53	16°30'6	48'5	2°16'1	S 18
S 19	14 22 2	7°8'29	6°14'25	39'21	32'20	4'27	27°41'17	17°36'13	18°25	25°40'2	°2	16°D52	16°27'6	55'5	2°21'1	S 19
M20	14 25 58	8°6'31	19°38'25	59'22	45'20	32'27	27°39'17	17°34'13	20°25	25°39'2	°2	16°R52	16°24'7	2'5	2°26'2	M20
T 21	14 29 55	9°4'32	2°14'26	14'23	59'21	°1'27	27°36'17	17°32'13	22°25	25°38'2	°2	16°52	16°21'7	8'5	2°30'3	T 21
W22	14 33 51	10°2'30	14°22'26	24'25	13'21	29'27	27°33'17	17°30'13	24°25	25°37'2	°3	16°49	16°18'7	15'5	2°35'3	W22
T 23	14 37 48	11°0'27	26°26'26	26°R29	26'26	26'21	27°30'17	17°28'13	26°25	25°36'2	°3	16°44	16°14'7	22'5	2°40'2	T 23
F 24	14 41 44	11°58'22	8°24'26	29'27	40'22	24'27	27°27'17	17°26'13	28°25	25°35'2	°4	16°37	16°11'7	28'5	2°45'4	F 24
S 25	14 45 41	12°56'15	20°18'26	24'28	53'22	51'27	27°23'17	17°25'13	30°25	25°34'2	°4	16°26	16°8'7	35'5	2°50'5	S 25
S 26	14 49 37	13°54'07	2°10'26	14'26	8'7	23'19	27°20'17	17°23'13	32°25	25°33'2	°5	16°13	16°5'7	42'5	2°54'4	S 26
M27	14 53 34	14°51'57	14°3'25	59'1	20'23	45'27	27°16'17	17°21'13	34°25	25°32'2	°5	15°59	16°2'7	49'5	2°59'5	M27
T 28	14 57 30	15°49'45	25°57'25	41'2	34'24	12'27	27°12'17	17°20'13	37°25	25°31'2	°6	15°45	15°59'7	55'6	2°4'8	T 28
W29	15 1 27	16°47'33	7°54'25	19'3	47'24	38'27	27°8'17	17°19'13	39°25	25°30'2	°6	15°32	15°55'8	2'6	2°9'9	W29
T 30	15 5 24	17°45'19	19°45'24	53'58	1'25	3'27	27°4'17	17°18'13	41°25	25°29'2	°7	15°21	15°52'8	9'6	2°14'1	T 30

# ASTRODIENST EPHEMERIS for the year 1450

## geocentric

MAY 1450 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	15 9 20	18♂43'03	2♂4	24°R25	6♂15	25♂30	26°R59	17°R17	13♂44	25°R28	2♂8	15°R13	15♂49	8♂16	6♂19	F 1
S 2	15 13 17	19°40'47	14°21	23♂54	7°28	25°55	26♂55	17♂16	13°46	25♂27	2°8	15♂8	15°46	8°22	6°24	S 2
S 3	15 17 13	20°38'29	26°50	23°21	8°42	26°20	26°50	17°15	13°49	25°26	2°9	15°5	15°43	8°29	6°29	S 3
M 4	15 21 10	21°36'10	9♂35	22°48	9°55	26°45	26°45	17°14	13°51	25°26	2°10	15°4	15°39	8°36	6°34	M 4
T 5	15 25 6	22°33'50	22°39	22°13	11°9	27°9	26°40	17°13	13°54	25°25	2°11	15°4	15°36	8°42	6°39	T 5
W 6	15 29 3	23°31'29	6♂7	21°39	12°22	27°33	26°35	17°13	13°56	25°24	2°11	15°4	15°33	8°49	6°44	W 6
T 7	15 33 0	24°29'07	20°1	21°5	13°36	27°57	26°30	17°12	13°59	25°24	2°12	15°2	15°30	8°56	6°49	T 7
F 8	15 36 56	25°26'44	4♂21	20°32	14°49	28°20	26°24	17°12	14°2	25°23	2°13	14°58	15°27	9°3	6°55	F 8
S 9	15 40 53	26°24'20	19°6	20°1	16°3	28°43	26°19	17°11	14°4	25°22	2°14	14°51	15°24	9°9	7°0	S 9
S 10	15 44 49	27°21'55	4♂10	19°32	17°17	29°5	26°13	17°11	14°7	25°22	2°15	14°42	15°20	9°16	7°5	S 10
M 11	15 48 46	28°19'29	19°25	19°6	18°30	29°27	26°7	17°D11	14°10	25°21	2°16	14°32	15°17	9°23	7°10	M 11
T 12	15 52 42	29°17'02	4♂38	18°43	19°44	29°49	26°1	17°11	14°13	25°21	2°17	14°21	15°14	9°29	7°15	T 12
W 13	15 56 39	0♂14'34	19°41	18°23	20°57	0♂10	25°55	17°11	14°16	25°20	2°18	14°12	15°11	9°36	7°20	W 13
T 14	16 0 35	1°12'05	4♂22	18°7	22°11	0°31	25°49	17°12	14°18	25°20	2°19	14°5	15°8	9°43	7°25	T 14
F 15	16 4 32	2°9'35	18°37	17°55	23°25	0°51	25°42	17°12	14°21	25°19	2°20	14°0	15°5	9°50	7°31	F 15
S 16	16 8 29	3°7'03	2♂23	17°47	24°38	1°11	25°36	17°12	14°24	25°19	2°21	13°58	15°1	9°56	7°36	S 16
S 17	16 12 25	4°4'30	15°41	17°D44	25°52	1°31	25°29	17°13	14°27	25°18	2°22	13°D58	14°58	10°3	7°41	S 17
M 18	16 16 22	5°1'55	28°33	17°45	27°5	1°50	25°23	17°13	14°30	25°18	2°23	13°58	14°55	10°10	7°46	M 18
T 19	16 20 18	5°59'20	11♂4	17°50	28°19	2°8	25°16	17°14	14°33	25°18	2°24	13°R58	14°52	10°17	7°51	T 19
W 20	16 24 15	6°56'43	23°18	18°0	29°32	2°26	25°9	17°15	14°36	25°17	2°25	13°57	14°49	10°23	7°57	W 20
T 21	16 28 11	7°54'05	5♂20	18°14	0♂46	2°44	25°2	17°16	14°39	25°17	2°26	13°53	14°45	10°30	8°2	T 21
F 22	16 32 8	8°51'26	17°16	18°33	2°0	3°1	24°55	17°17	14°43	25°17	2°27	13°47	14°42	10°37	8°7	F 22
S 23	16 36 4	9°48'46	29°8	18°56	3°13	3°17	24°48	17°18	14°46	25°17	2°28	13°39	14°39	10°43	8°12	S 23
S 24	16 40 1	10°46'04	10♂59	19°24	4°27	3°33	24°41	17°19	14°49	25°17	2°29	13°29	14°36	10°50	8°17	S 24
M 25	16 43 58	11°43'23	22°54	19°56	5°40	3°49	24°34	17°21	14°52	25°16	2°31	13°18	14°33	10°57	8°23	M 25
T 26	16 47 54	12°40'40	4♂52	20°32	6°54	4°4	24°26	17°22	14°55	25°16	2°32	13°7	14°30	11°4	8°28	T 26
W 27	16 51 51	13°37'57	16°56	21°12	8°7	4°18	24°19	17°24	14°58	25°16	2°33	12°56	14°26	11°10	8°33	W 27
T 28	16 55 47	14°35'13	29°7	21°57	9°21	4°32	24°12	17°25	15°2	25°D16	2°34	12°47	14°23	11°17	8°38	T 28
F 29	16 59 44	15°32'28	11♂27	22°45	10°35	4°45	24°4	17°27	15°5	25°16	2°36	12°41	14°20	11°24	8°43	F 29
S 30	17 3 40	16°29'43	23°55	23°37	11°48	4°58	23°57	17°29	15°8	25°16	2°37	12°37	14°17	11°31	8°49	S 30
S 31	17 7 37	17♂26'58	6♂35	24♂33	13♂2	5♂10	23♂49	17♂31	15♂12	25♂16	2♂38	12°D35	14♂14	11♂37	8♂54	S 31

Delta T = 06m29s

Julian Calendar 1 May 1450 == Greg. Calendar 10 May 1450

JUNE 1450 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	17 11 33	18♂24'12	19♂29	25♂33	14♂16	5♂21	23°R42	17♂33	15♂15	25♂16	2♂40	12♂35	14♂11	11♂44	8♂59	M 1
T 2	17 15 30	19°21'25	2♂39	26°37	15°29	5°32	23♂34	17°35	15°18	25°17	2°41	12°36	14°7	11°51	9°4	T 2
W 3	17 19 27	20°18'39	16°7	27°44	16°43	5°42	23°26	17°37	15°22	25°17	2°42	12°R37	14°4	11°57	9°9	W 3
T 4	17 23 23	21°15'52	29°56	28°55	17°56	5°51	23°19	17°40	15°25	25°17	2°44	12°37	14°1	12°4	9°14	T 4
F 5	17 27 20	22°13'06	14♂5	0♂9	19°10	6°0	23°11	17°42	15°28	25°17	2°45	12°35	13°58	12°11	9°19	F 5
S 6	17 31 16	23°10'19	28°35	1°27	20°24	6°7	23°3	17°45	15°32	25°17	2°46	12°31	13°55	12°18	9°25	S 6
S 7	17 35 13	24°7'32	13♂20	2°48	21°37	6°15	22°56	17°47	15°35	25°18	2°48	12°25	13°51	12°24	9°30	S 7
M 8	17 39 9	25°4'45	28°16	4°12	22°51	6°21	22°48	17°50	15°39	25°18	2°49	12°18	13°48	12°31	9°35	M 8
T 9	17 43 6	26°1'58	13♂13	5°40	24°5	6°27	22°40	17°53	15°42	25°18	2°51	12°11	13°45	12°38	9°40	T 9
W 10	17 47 2	26°59'11	28°3	7°12	25°19	6°32	22°33	17°56	15°46	25°19	2°52	12°5	13°42	12°45	9°45	W 10
T 11	17 50 59	27°56'24	12♂37	8°46	26°32	6°37	22°25	17°59	15°49	25°19	2°54	12°0	13°39	12°51	9°50	T 11
F 12	17 54 56	28°53'36	26°49	10°24	27°46	6°40	22°17	18°2	15°53	25°20	2°55	11°58	13°36	12°58	9°55	F 12
S 13	17 58 52	29°50'49	10♂36	12°5	29°0	6°43	22°10	18°5	15°56	25°20	2°57	11°D57	13°32	13°5	10°0	S 13
S 14	18 2 49	0♂48'00	23°56	13°50	0♂13	6°45	22°2	18°8	16°0	25°21	2°58	11°57	13°29	13°11	10°5	S 14
M 15	18 6 45	1°45'11	6♂52	15°37	1°27	6°46	21°55	18°11	16°4	25°21	3°0	11°58	13°26	13°18	10°10	M 15
T 16	18 10 42	2°42'22	19°26	17°27	2°41	6°R47	21°47	18°15	16°7	25°22	3°1	12°0	13°23	13°25	10°15	T 16
W 17	18 14 38	3°39'33	1♂43	19°20	3°55	6°47	21°40	18°18	16°11	25°22	3°3	12°R1	13°20	13°32	10°20	W 17
T 18	18 18 35	4°36'43	13°47	21°16	5°8	6°46	21°33	18°22	16°14	25°23	3°5	12°0	13°17	13°38	10°25	T 18
F 19	18 22 32	5°33'53	25°43	23°14	6°22	6°44	21°25	18°26	16°18	25°24	3°6	11°58	13°13	13°45	10°30	F 19
S 20	18 26 28	6°31'03	7♂36	25°14	7°36	6°42	21°18	18°29	16°22	25°24	3°8	11°55	13°10	13°52	10°35	S 20
S 21	18 30 25	7°28'13	19°29	27°17	8°50	6°39	21°11	18°33	16°25	25°25	3°9	11°50	13°7	13°58	10°39	S 21
M 22	18 34 21	8°25'23	1♂26	29°21	10°3	6°35	21°4	18°37	16°29	25°26	3°11	11°44	13°4	14°5	10°44	M 22
T 23	18 38 18	9°22'33	13°30	1♂27	11°17	6°30	20°57	18°41	16°32	25°27	3°13	11°39	13°1	14°12	10°49	T 23
W 24	18 42 14	10°19'43	25°43	3°34	12°31	6°25	20°50	18°45	16°36	25°28	3°14	11°33	12°57	14°19	10°54	W 24
T 25	18 46 11	11°16'54	8♂6	5°42	13°45	6°18	20°43	18°49	16°40	25°28	3°16	11°29	12°54	14°25	10°58	T 25
F 26	18 50 7	12°14'04	20°41	7°51	14°59	6°12	20°37	18°54	16°43	25°29	3°18	11°26	12°51	14°32	11°3	F 26
S 27	18 54 4	13°11'15	3♂27	10°0	16°12	6°4	20°30	18°58	16°47	25°30	3°19	11°25	12°48	14°39	11°8	S 27
S 28	18 58 1	14°8'26	16°26	12°9	17°26	5°56	20°24	19°2	16°51	25°31	3°21	11°D25	12°45	14°46	11°13	S 28
M 29	19 1 57	15°5'38	29°38	14°18	18°40	5°47	20°17	19°7	16°54	25°32	3°23	11°25	12°42	14°52	11°17	M 29
T 30	19 5 54	16♂2'50	13♂3	16♂26	19♂54	5♂37	20♂11	19♂11	16♂58	25♂33	3♂24	11♂27	12♂38	14♂59	11♂22	T 30

Delta T = 06m29s

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1450  
geocentric

JULY 1450 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	19 9 50	17°03'00"	26°41'41"	18°34'34"	21°08'08"	5°R27	20°R 5	19°16'16"	17°02'02"	25°16'34"	3°02'26"	11°28'28"	12°35'35"	15°16'06"	11°26'26"	W 1
T 2	19 13 47	17°57'16"	10°46'19"	20°41'41"	22°22'22"	5°16'16"	19°59'59"	19°21'21"	17°05'05"	25°35'35"	3°28'28"	11°29'29"	12°32'32"	15°12'12"	11°31'31"	T 2
F 3	19 17 43	18°54'31"	24°39'39"	22°46'46"	23°35'35"	5°05'05"	19°53'53"	19°25'25"	17°09'09"	25°36'36"	3°30'30"	11°R29	12°29'29"	15°19'19"	11°35'35"	F 3
S 4	19 21 40	19°51'46"	8°57'57"	24°51'51"	24°49'49"	4°53'53"	19°47'47"	19°30'30"	17°13'13"	25°37'37"	3°31'31"	11°28'28"	12°26'26"	15°26'26"	11°40'40"	S 4
S 5	19 25 36	20°49'02"	23°23'23"	26°54'54"	26°03'03"	4°40'40"	19°41'41"	19°35'35"	17°16'16"	25°39'39"	3°33'33"	11°27'27"	12°23'23"	15°33'33"	11°44'44"	S 5
M 6	19 29 33	21°46'19"	7°11'55"	28°56'56"	27°17'17"	4°27'27"	19°36'36"	19°40'40"	17°20'20"	25°40'40"	3°35'35"	11°24'24"	12°19'19"	15°39'39"	11°48'48"	M 6
T 7	19 33 30	22°43'37"	22°26'26"	0°05'56"	28°31'31"	4°13'13"	19°31'31"	19°45'45"	17°24'24"	25°41'41"	3°36'36"	11°22'22"	12°16'16"	15°46'46"	11°53'53"	T 7
W 8	19 37 26	23°40'56"	6°55'55"	29°45'45"	29°45'45"	3°59'59"	19°25'25"	19°50'50"	17°27'27"	25°42'42"	3°38'38"	11°20'20"	12°13'13"	15°53'53"	11°57'57"	W 8
T 9	19 41 23	24°38'16"	21°05'05"	4°52'52"	0°05'59"	3°45'45"	19°20'20"	19°56'56"	17°31'31"	25°43'43"	3°40'40"	11°18'18"	12°10'10"	16°00'00"	12°01'01"	T 9
F 10	19 45 19	25°35'36"	5°03'03"	6°48'48"	2°13'13"	3°30'30"	19°15'15"	20°01'01"	17°35'35"	25°45'45"	3°42'42"	11°D17	12°07'07"	16°06'06"	12°06'06"	F 10
S 11	19 49 16	26°32'57"	18°40'40"	8°42'42"	3°27'27"	3°15'15"	19°11'11"	20°06'06"	17°38'38"	25°46'46"	3°44'44"	11°17'17"	12°03'03"	16°13'13"	12°10'10"	S 11
S 12	19 53 12	27°30'18"	1°16'56"	10°34'34"	4°41'41"	2°59'59"	19°06'06"	20°11'11"	17°42'42"	25°47'47"	3°45'45"	11°18'18"	12°00'00"	16°20'20"	12°14'14"	S 12
M13	19 57 09	28°27'40"	14°51'51"	12°25'25"	5°55'55"	2°44'44"	19°01'01"	20°17'17"	17°45'45"	25°49'49"	3°47'47"	11°19'19"	11°57'57"	16°26'26"	12°18'18"	M13
T 14	20 01 05	29°25'03"	27°26'26"	14°13'13"	7°09'09"	2°28'28"	18°57'57"	20°22'22"	17°49'49"	25°50'50"	3°49'49"	11°20'20"	11°54'54"	16°33'33"	12°22'22"	T 14
W15	20 05 02	0°02'22'26"	9°04'45"	16°01'01"	8°23'23"	2°12'12"	18°53'53"	20°28'28"	17°53'53"	25°52'52"	3°51'51"	11°21'21"	11°51'51"	16°40'40"	12°26'26"	W15
T 16	20 08 59	1°19'50"	21°51'51"	17°46'46"	9°37'37"	1°56'56"	18°49'49"	20°34'34"	17°56'56"	25°53'53"	3°52'52"	11°22'22"	11°48'48"	16°47'47"	12°30'30"	T 16
F 17	20 12 55	2°17'15"	3°14'48"	19°30'30"	10°51'51"	1°40'40"	18°45'45"	20°39'39"	18°00'00"	25°55'55"	3°54'54"	11°R22	11°44'44"	16°53'53"	12°34'34"	F 17
S 18	20 16 52	3°14'40"	15°42'42"	21°12'12"	12°05'05"	1°24'24"	18°42'42"	20°45'45"	18°03'03"	25°56'56"	3°56'56"	11°21'21"	11°41'41"	17°00'00"	12°38'38"	S 18
S 19	20 20 48	4°12'06"	27°36'36"	22°53'53"	13°19'19"	1°08'08"	18°38'38"	20°51'51"	18°07'07"	25°58'58"	3°58'58"	11°21'21"	11°38'38"	17°07'07"	12°42'42"	S 19
M20	20 24 45	5°09'33"	9°03'33"	24°32'32"	14°33'33"	0°52'52"	18°35'35"	20°57'57"	18°10'10"	25°59'59"	3°59'59"	11°20'20"	11°35'35"	17°14'14"	12°45'45"	M20
T 21	20 28 41	6°07'01"	21°44'44"	26°09'09"	15°47'47"	0°36'36"	18°32'32"	21°03'03"	18°14'14"	26°01'01"	4°01'01"	11°19'19"	11°32'32"	17°20'20"	12°49'49"	T 21
W22	20 32 38	7°04'30"	4°03'03"	27°45'45"	17°01'01"	0°20'20"	18°29'29"	21°09'09"	18°18'18"	26°02'02"	4°03'03"	11°19'19"	11°29'29"	17°27'27"	12°53'53"	W22
T 23	20 36 34	8°01'59"	16°38'38"	29°19'19"	18°15'15"	0°05'05"	18°26'26"	21°15'15"	18°21'21"	26°04'04"	4°05'05"	11°19'19"	11°25'25"	17°34'34"	12°56'56"	T 23
F 24	20 40 31	8°59'30"	29°28'28"	0°16'52"	19°29'29"	29°05'05"	18°24'24"	21°21'21"	18°25'25"	26°05'05"	4°07'07"	11°18'18"	11°22'22"	17°40'40"	13°00'00"	F 24
S 25	20 44 28	9°57'01"	12°33'34"	2°23'23"	20°43'43"	29°35'35"	18°21'21"	21°27'27"	18°28'28"	26°07'07"	4°08'08"	11°D18	11°19'19"	17°47'47"	13°03'03"	S 25
S 26	20 48 24	10°54'34"	25°56'56"	3°52'52"	21°57'57"	29°21'21"	18°19'19"	21°33'33"	18°31'31"	26°09'09"	4°10'10"	11°R18	11°16'16"	17°54'54"	13°07'07"	S 26
M27	20 52 21	11°52'08"	9°03'33"	5°20'20"	23°11'11"	29°06'06"	18°17'17"	21°39'39"	18°35'35"	26°10'10"	4°12'12"	11°18'18"	11°13'13"	18°01'01"	13°10'10"	M27
T 28	20 56 17	12°49'44"	23°22'22"	6°46'46"	24°25'25"	28°53'53"	18°15'15"	21°46'46"	18°38'38"	26°12'12"	4°14'14"	11°18'18"	11°09'09"	18°07'07"	13°14'14"	T 28
W29	21 00 14	13°47'21"	7°02'22"	8°10'10"	25°39'39"	28°40'40"	18°13'13"	21°52'52"	18°42'42"	26°14'14"	4°15'15"	11°18'18"	11°06'06"	18°14'14"	13°17'17"	W29
T 30	21 04 10	14°44'59"	21°29'29"	9°33'33"	26°53'53"	28°27'27"	18°12'12"	21°58'58"	18°45'45"	26°16'16"	4°17'17"	11°18'18"	11°03'03"	18°21'21"	13°20'20"	T 30
F 31	21 08 07	15°42'39"	5°04'40"	10°16'54"	28°07'07"	28°15'15"	18°01'01"	22°16'16"	18°48'48"	26°17'17"	4°19'19"	11°17'17"	11°00'00"	18°27'27"	13°23'23"	F 31

Delta T = 06m28s Julian Calendar 1 July 1450 == Greg. Calendar 10 July 1450

AUGUST 1450 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	21 12 3	16Ω40'21	19♂54	12♂13	29Ω21	28°R 3	18°R 9	22♂11	18♂52	26♂19	4Ω21	11°D17	10≈57	18♂34	13Ⅱ27	S 1
S 2	21 16 0	17°38'04	4Ⅱ 8	13°30	0♂35	27♂52	18♂ 9	22°18	18°55	26°21	4°22	11≈18	10°54	18°41	13°30	S 2
M 3	21 19 57	18°35'49	18°19	14°46	1°49	27°41	18° 8	22°24	18°58	26°23	4°24	11°18	10°50	18°48	13°33	M 3
T 4	21 23 53	19°33'36	2♂25	15°59	3° 3	27°32	18° 7	22°31	19° 2	26°25	4°26	11°19	10°47	18°54	13°36	T 4
W 5	21 27 50	20°31'25	16°22	17°11	4°17	27°22	18° 7	22°37	19° 5	26°27	4°28	11°20	10°44	19° 1	13°38	W 5
T 6	21 31 46	21°29'15	0°R 9	18°20	5°31	27°14	18°D 7	22°44	19° 8	26°29	4°29	11°20	10°41	19° 8	13°41	T 6
F 7	21 35 43	22°27'07	13°43	19°27	6°45	27° 6	18° 7	22°51	19°11	26°30	4°31	11°R20	10°38	19°15	13°44	F 7
S 8	21 39 39	23°25'00	27° 2	20°32	7°59	26°59	18° 7	22°58	19°15	26°32	4°33	11°20	10°34	19°21	13°47	S 8
S 9	21 43 36	24°22'55	10♂ 6	21°35	9°13	26°53	18° 7	23° 4	19°18	26°34	4°34	11°19	10°31	19°28	13°49	S 9
M10	21 47 32	25°20'51	22°52	22°35	10°27	26°48	18° 8	23°11	19°21	26°36	4°36	11°17	10°28	19°35	13°52	M10
T 11	21 51 29	26°18'48	5♂24	23°32	11°41	26°43	18° 9	23°18	19°24	26°38	4°38	11°15	10°25	19°41	13°54	T 11
W12	21 55 26	27°16'47	17°41	24°27	12°56	26°39	18°10	23°25	19°27	26°40	4°39	11°13	10°22	19°48	13°57	W12
T 13	21 59 22	28°14'48	29°46	25°19	14°10	26°36	18°11	23°32	19°30	26°42	4°41	11°11	10°19	19°55	13°59	T 13
F 14	22 3 19	29°12'50	11♂43	26° 7	15°24	26°34	18°12	23°39	19°33	26°44	4°43	11° 9	10°15	20° 2	14° 2	F 14
S 15	22 7 15	0♂10'53	23°37	26°52	16°38	26°33	18°14	23°46	19°36	26°46	4°44	11° 8	10°12	20° 8	14° 4	S 15
S 16	22 11 12	1° 8'58	5♂30	27°34	17°52	26°D32	18°15	23°53	19°39	26°48	4°46	11°D 8	10° 9	20°15	14° 6	S 16
M17	22 15 8	2° 7'04	17°29	28°12	19° 6	26°32	18°17	24° 0	19°42	26°50	4°48	11° 9	10° 6	20°22	14° 8	M17
T 18	22 19 5	3° 5'12	29°37	28°46	20°20	26°34	18°19	24° 7	19°45	26°52	4°49	11°10	10° 3	20°28	14°10	T 18
W19	22 23 1	4° 3'21	12♂ 0	29°15	21°34	26°35	18°22	24°14	19°48	26°55	4°51	11°12	10° 0	20°35	14°12	W19
T 20	22 26 58	5° 1'32	24°40	29°40	22°48	26°38	18°24	24°21	19°51	26°57	4°52	11°13	9°56	20°42	14°14	T 20
F 21	22 30 55	5°59'44	7≈41	29°59	24° 2	26°42	18°27	24°28	19°54	26°59	4°54	11°R14	9°53	20°49	14°16	F 21
S 22	22 34 51	6°57'58	21° 4	0♂14	25°16	26°46	18°30	24°35	19°56	27° 1	4°56	11°13	9°50	20°55	14°18	S 22
S 23	22 38 48	7°56'13	4Ⅱ48	0°23	26°30	26°51	18°33	24°43	19°59	27° 3	4°57	11°12	9°47	21° 2	14°19	S 23
M24	22 42 44	8°54'31	18°51	0°R27	27°44	26°57	18°36	24°50	20° 2	27° 5	4°59	11° 9	9°44	21° 9	14°21	M24
T 25	22 46 41	9°52'50	3Ⅱ 8	0°24	28°58	27° 4	18°39	24°57	20° 4	27° 7	5° 0	11° 5	9°40	21°16	14°23	T 25
W26	22 50 37	10°51'11	17°36	0°15	0♂12	27°11	18°43	25° 4	20° 7	27° 9	5° 2	11° 1	9°37	21°22	14°24	W26
T 27	22 54 34	11°49'35	2♂ 6	29♂59	1°26	27°19	18°46	25°12	20°10	27°12	5° 3	10°57	9°34	21°29	14°25	T 27
F 28	22 58 30	12°48'00	16°35	29°36	2°40	27°28	18°50	25°19	20°12	27°14	5° 5	10°54	9°31	21°36	14°27	F 28
S 29	23 2 27	13°46'28	0Ⅱ56	29° 7	3°54	27°38	18°54	25°26	20°15	27°16	5° 6	10°51	9°28	21°42	14°28	S 29
S 30	23 6 24	14°44'58	15° 8	28°31	5° 8	27°49	18°58	25°33	20°17	27°18	5° 8	10°D51	9°25	21°49	14°29	S 30
M31	23 10 20	15♂43'30	29Ⅱ 8	27♂48	6♂22	28♂ 0	19♂ 3	25♂41	20♂20	27♂20	5Ω 9	10≈51	9≈21	21♂56	14Ⅲ30	M31

ASTRODIENST EPHEMERIS for the year 1450  
geocentric

SEPTEMBER 1450 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	23 14 17	16 <sup>h</sup> 42'05	12 <sup>h</sup> 54	26°R59	7 <sup>h</sup> 36	28 <sup>h</sup> 12	19 <sup>h</sup> 7	25 <sup>h</sup> 48	20 <sup>h</sup> 22	27 <sup>h</sup> 23	5 <sup>h</sup> 10	10 <sup>h</sup> 53	9 <sup>h</sup> 18	22 <sup>h</sup> 11	14 <sup>h</sup> 31	T 1
W 2	23 18 13	17°40'42	26°29	26 <sup>h</sup> 5	8°50	28°24	19°12	25°55	20°25	27°25	5°12	10°54	9°15	22°9	14°32	W 2
T 3	23 22 10	18°39'21	9 <sup>h</sup> 50	25°7	10°4	28°37	19°17	26°3	20°27	27°27	5°13	10°R55	9°12	22°16	14°33	T 3
F 4	23 26 6	19°38'02	23°0	24°5	11°18	28°51	19°22	26°10	20°29	27°29	5°14	10°54	9°9	22°23	14°34	F 4
S 5	23 30 3	20°36'45	5 <sup>h</sup> 57	23°0	12°32	29°6	19°27	26°18	20°31	27°31	5°16	10°52	9°6	22°29	14°35	S 5
S 6	23 33 59	21°35'30	18°42	21°55	13°46	29°21	19°33	26°25	20°34	27°34	5°17	10°47	9°2	22°36	14°35	S 6
M 7	23 37 56	22°34'17	1 <sup>h</sup> 16	20°51	15°0	29°37	19°38	26°32	20°36	27°36	5°18	10°41	8°59	22°43	14°36	M 7
T 8	23 41 53	23°33'06	13°38	19°49	16°14	29°54	19°44	26°40	20°38	27°38	5°20	10°33	8°56	22°50	14°36	T 8
W 9	23 45 49	24°31'57	25°49	18°51	17°28	0 <sup>h</sup> 11	19°50	26°47	20°40	27°40	5°21	10°25	8°53	22°56	14°37	W 9
T 10	23 49 46	25°30'50	7 <sup>h</sup> 51	17°58	18°42	0°29	19°56	26°55	20°42	27°43	5°22	10°17	8°50	23°3	14°37	T 10
F 11	23 53 42	26°29'45	19°47	17°13	19°56	0°47	20°2	27°2	20°44	27°45	5°23	10°10	8°46	23°10	14°37	F 11
S 12	23 57 39	27°28'42	1 <sup>h</sup> 38	16°36	21°10	1°6	20°8	27°9	20°46	27°47	5°25	10°5	8°43	23°16	14°38	S 12
S 13	0 1 35	28°27'40	13°29	16°8	22°24	1°26	20°15	27°17	20°48	27°49	5°26	10°1	8°40	23°23	14°38	S 13
M14	0 5 32	29°26'41	25°25	15°50	23°38	1°46	20°22	27°24	20°50	27°51	5°27	10°D 0	8°37	23°30	14°R38	M14
T 15	0 9 28	0 <sup>h</sup> 25'43	7 <sup>h</sup> 31	15°D42	24°52	2°7	20°28	27°32	20°51	27°54	5°28	10°0	8°34	23°37	14°38	T 15
W16	0 13 25	1°24'47	19°51	15°45	26°5	2°28	20°35	27°39	20°53	27°56	5°29	10°1	8°31	23°43	14°37	W16
T 17	0 17 22	2°23'53	2 <sup>h</sup> 30	15°58	27°19	2°50	20°42	27°46	20°55	27°58	5°30	10°2	8°27	23°50	14°37	T 17
F 18	0 21 18	3°23'00	15°33	16°21	28°33	3°12	20°50	27°54	20°56	28°0	5°31	10°R 2	8°24	23°57	14°37	F 18
S 19	0 25 15	4°22'10	29°3	16°53	29°47	3°35	20°57	28°1	20°58	28°3	5°33	10°0	8°21	24°3	14°37	S 19
S 20	0 29 11	5°21'21	12 <sup>h</sup> 59	17°35	1 <sup>h</sup> 1	3°58	21°5	28°8	21°0	28°5	5°34	9°56	8°18	24°10	14°36	S 20
M21	0 33 8	6°20'34	27°21	18°26	2°15	4°21	21°12	28°16	21°1	28°7	5°35	9°50	8°15	24°17	14°36	M21
T 22	0 37 4	7°19'49	12 <sup>h</sup> 3	19°24	3°28	4°46	21°20	28°23	21°3	28°9	5°36	9°42	8°11	24°24	14°35	T 22
W23	0 41 1	8°19'06	26°57	20°29	4°42	5°10	21°28	28°31	21°4	28°11	5°37	9°33	8°8	24°30	14°34	W23
T 24	0 44 57	9°18'26	11 <sup>h</sup> 54	21°40	5°56	5°35	21°36	28°38	21°5	28°14	5°38	9°24	8°5	24°37	14°34	T 24
F 25	0 48 54	10°17'48	26°47	22°57	7°10	6°1	21°44	28°45	21°7	28°16	5°38	9°16	8°2	24°44	14°33	F 25
S 26	0 52 50	11°17'12	11 <sup>h</sup> 26	24°18	8°24	6°27	21°53	28°52	21°8	28°18	5°39	9°11	7°59	24°51	14°32	S 26
S 27	0 56 47	12°16'39	25°47	25°44	9°37	6°53	22°1	29°0	21°9	28°20	5°40	9°7	7°56	24°57	14°31	S 27
M28	1 0 44	13°16'08	9 <sup>h</sup> 47	27°13	10°51	7°20	22°10	29°7	21°10	28°22	5°41	9°D 6	7°52	25°4	14°30	M28
T 29	1 4 40	14°15'39	23°27	28°45	12°5	7°47	22°18	29°14	21°11	28°25	5°42	9°6	7°49	25°11	14°29	T 29
W30	1 8 37	15°15'13	6 <sup>h</sup> 48	0 <sup>h</sup> 19	13 <sup>h</sup> 19	8 <sup>h</sup> 14	22 <sup>h</sup> 27	29 <sup>h</sup> 21	21°12	28 <sup>h</sup> 27	5°43	9°R 7	7 <sup>h</sup> 46	25 <sup>h</sup> 17	14 <sup>h</sup> 28	W30

Delta T = 06m28s

Julian Calendar 1 Sept. 1450 == Greg. Calendar 10 Sept. 1450

OCTOBER 1450 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	1 12 33	16 <sup>h</sup> 44'49	19 <sup>h</sup> 52	1 <sup>h</sup> 56	14 <sup>h</sup> 32	8 <sup>h</sup> 42	22 <sup>h</sup> 36	29 <sup>h</sup> 29	21°13	28 <sup>h</sup> 29	5°43	9°R 6	7 <sup>h</sup> 43	25 <sup>h</sup> 24	14°R26	T 1
F 2	1 16 30	17°14'27	2 <sup>h</sup> 42	3°33	15°46	9°10	22°45	29°36	21°14	28°31	5°44	9 <sup>h</sup> 4	7°40	25°31	14 <sup>h</sup> 25	F 2
S 3	1 20 26	18°14'07	15°20	5°12	17°0	9°39	22°55	29°43	21°15	28°33	5°45	8°59	7°37	25°38	14°24	S 3
S 4	1 24 23	19°13'50	27°48	6°52	18°13	10°7	23°4	29°50	21°16	28°35	5°46	8°50	7°33	25°44	14°22	S 4
M 5	1 28 19	20°13'34	10 <sup>h</sup> 16	8°33	19°27	10°37	23°14	29°57	21°17	28°37	5°46	8°40	7°30	25°51	14°20	M 5
T 6	1 32 16	21°13'21	22°18	10°14	20°41	11°6	23°23	0 <sup>h</sup> 4	21°18	28°40	5°47	8°27	7°27	25°58	14°19	T 6
W 7	1 36 13	22°13'10	4 <sup>h</sup> 11	11°55	21°54	11°36	23°33	0°11	21°18	28°42	5°48	8°13	7°24	26°4	14°17	W 7
T 8	1 40 9	23°13'01	16°21	13°37	23°8	12°6	23°43	0°19	21°19	28°44	5°48	7°59	7°21	26°11	14°15	T 8
F 9	1 44 6	24°12'53	28°11	15°18	24°22	12°37	23°53	0°26	21°20	28°46	5°49	7°47	7°17	26°18	14°13	F 9
S 10	1 48 2	25°12'48	10 <sup>h</sup> 1	16°59	25°35	13°8	24°3	0°32	21°20	28°48	5°49	7°37	7°14	26°25	14°12	S 10
S 11	1 51 59	26°12'44	21°50	18°41	26°49	13°39	24°13	0°39	21°20	28°50	5°50	7°29	7°11	26°31	14°10	S 11
M12	1 55 55	27°12'42	3 <sup>h</sup> 44	20°21	28°2	14°10	24°23	0°46	21°21	28°52	5°50	7°25	7°8	26°38	14°7	M12
T 13	1 59 52	28°12'42	15°46	22°2	29°16	14°42	24°33	0°53	21°21	28°54	5°51	7°23	7°5	26°45	14°5	T 13
W14	2 3 48	29°12'43	28°2	23°42	0 <sup>h</sup> 30	15°14	24°44	1°0	21°22	28°56	5°51	7°D22	7°2	26°51	14°3	W14
T 15	2 7 45	0 <sup>h</sup> 12'47	10 <sup>h</sup> 36	25°22	1°43	15°46	24°54	1°7	21°22	28°58	5°52	7°R22	6°58	26°58	14°1	T 15
F 16	2 11 42	1°12'51	23°34	27°1	2°57	16°18	25°5	1°14	21°22	29°0	5°52	7°21	6°55	27°5	13°59	F 16
S 17	2 15 38	2°12'57	6 <sup>h</sup> 59	28°40	4°10	16°51	25°16	1°20	21°22	29°2	5°52	7°19	6°52	27°12	13°56	S 17
S 18	2 19 35	3°13'05	20°55	0 <sup>h</sup> 19	5°23	17°24	25°27	1°27	21°22	29°4	5°53	7°14	6°49	27°18	13°54	S 18
M19	2 23 31	4°13'14	5°12	1°57	6°37	17°57	25°38	1°34	21°R22	29°6	5°53	7°6	6°46	27°25	13°51	M19
T 20	2 27 28	5°13'25	20°12	3°35	7°50	18°30	25°49	1°40	21°22	29°8	5°53	6°56	6°43	27°32	13°49	T 20
W21	2 31 24	6°13'38	5 <sup>h</sup> 21	5°13	9°4	19°4	26°0	1°47	21°22	29°9	5°53	6°45	6°39	27°38	13°46	W21
T 22	2 35 21	7°13'53	20°39	6°50	10°17	19°38	26°11	1°53	21°22	29°11	5°54	6°33	6°36	27°45	13°43	T 22
F 23	2 39 17	8°14'10	5 <sup>h</sup> 52	8°26	11°30	20°12	26°22	2°0	21°22	29°13	5°54	6°23	6°33	27°52	13°41	F 23
S 24	2 43 14	9°14'28	20°52	10°3	12°44	20°46	26°34	2°6	21°21	29°15	5°54	6°15	6°30	27°59	13°38	S 24
S 25	2 47 11	10°14'49	5 <sup>h</sup> 30	11°39	13°57	21°20	26°45	2°13	21°21	29°17	5°54	6°10	6°27	28°5	13°35	S 25
M26	2 51 7	11°15'11	19°42	13°14	15°10	21°55	26°57	2°19	21°21	29°19	5°54	6°8	6°23	28°12	13°32	M26
T 27	2 55 4	12°15'36	3 <sup>h</sup> 27	14°49	16°24	22°29	27°9	2°25	21°20	29°20	5°54	6°7	6°20	28°19	13°29	T 27
W28	2 59 0	13°16'02	16°47	16°24	17°37	23°4	27°20	2°31	21°20	29°22	5°54	6°7	6°17	28°25	13°26	W28
T 29	3 2 57	14°16'30	29°46	17°59	18°50	23°39	27°32	2°38	21°19	29°24	5°R54	6°6	6°14	28°32	13°23	T 29
F 30	3 6 53	15°17'00	12 <sup>h</sup> 26	19°34	20°3	24°15	27°44	2°44	21°19	29°25	5°54	6°4	6°11	28°39	13°20	F 30
S 31	3 10 50	16°17'32	24 <sup>h</sup> 53	21 <sup>h</sup> 8	21 <sup>h</sup> 16	24 <sup>h</sup> 50	27 <sup>h</sup> 56	2 <sup>h</sup> 50	21°18	29 <sup>h</sup> 27	5°L54	5 <sup>h</sup> 58	6 <sup>h</sup> 8	28 <sup>h</sup> 46	13 <sup>h</sup> 17	S 31

Delta T = 06m28s

Julian Calendar

# ASTRODIENST EPHEMERIS for the year 1450

## geocentric

NOVEMBER 1450 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	3 14 46	17 <sup>18</sup> 18'06	7 <sup>18</sup> 8	22 <sup>18</sup> 42	22 <sup>18</sup> 29	25 <sup>18</sup> 26	28 <sup>18</sup> 8	2 <sup>18</sup> 56	21 <sup>18</sup> 18	29 <sup>18</sup> 29	5 <sup>18</sup> R54	5 <sup>18</sup> R50	6 <sup>18</sup> 4	28 <sup>18</sup> 52	13 <sup>18</sup> R14	S 1
M 2	3 18 43	18 <sup>18</sup> 18'41	19 <sup>18</sup> 15	24 <sup>18</sup> 15	23 <sup>18</sup> 43	26 <sup>18</sup> 2	28 <sup>18</sup> 20	3 <sup>18</sup> 2	21 <sup>18</sup> 17	29 <sup>18</sup> 30	5 <sup>18</sup> 54	5 <sup>18</sup> 39	6 <sup>18</sup> 1	28 <sup>18</sup> 59	13 <sup>18</sup> II10	M 2
T 3	3 22 40	19 <sup>18</sup> 19'19	1 <sup>18</sup> 16	25 <sup>18</sup> 49	24 <sup>18</sup> 56	26 <sup>18</sup> 37	28 <sup>18</sup> 32	3 <sup>18</sup> 8	21 <sup>18</sup> 16	29 <sup>18</sup> 32	5 <sup>18</sup> 54	5 <sup>18</sup> 26	5 <sup>18</sup> 58	29 <sup>18</sup> 6	13 <sup>18</sup> 7	T 3
W 4	3 26 36	20 <sup>18</sup> 19'57	13 <sup>18</sup> 12	27 <sup>18</sup> 22	26 <sup>18</sup> 9	27 <sup>18</sup> 13	28 <sup>18</sup> 45	3 <sup>18</sup> 13	21 <sup>18</sup> 15	29 <sup>18</sup> 34	5 <sup>18</sup> 54	5 <sup>18</sup> 11	5 <sup>18</sup> 55	29 <sup>18</sup> 12	13 <sup>18</sup> 4	W 4
T 5	3 30 33	21 <sup>18</sup> 20'38	25 <sup>18</sup> 5	28 <sup>18</sup> 55	27 <sup>18</sup> 22	27 <sup>18</sup> 50	28 <sup>18</sup> 57	3 <sup>18</sup> 19	21 <sup>18</sup> 14	29 <sup>18</sup> 35	5 <sup>18</sup> 54	4 <sup>18</sup> 57	5 <sup>18</sup> 52	29 <sup>18</sup> 19	13 <sup>18</sup> 0	T 5
F 6	3 34 29	22 <sup>18</sup> 21'20	6 <sup>18</sup> 56	0 <sup>18</sup> 28	28 <sup>18</sup> 35	28 <sup>18</sup> 26	29 <sup>18</sup> 9	3 <sup>18</sup> 25	21 <sup>18</sup> 13	29 <sup>18</sup> 37	5 <sup>18</sup> 54	4 <sup>18</sup> 44	5 <sup>18</sup> 49	29 <sup>18</sup> 26	12 <sup>18</sup> 57	F 6
S 7	3 38 26	23 <sup>18</sup> 22'03	18 <sup>18</sup> 46	2 <sup>18</sup> 1	29 <sup>18</sup> 48	29 <sup>18</sup> 3	29 <sup>18</sup> 22	3 <sup>18</sup> 31	21 <sup>18</sup> 12	29 <sup>18</sup> 38	5 <sup>18</sup> 53	4 <sup>18</sup> 33	5 <sup>18</sup> 45	29 <sup>18</sup> 33	12 <sup>18</sup> 54	S 7
S 8	3 42 22	24 <sup>18</sup> 22'47	0 <sup>18</sup> 38	3 <sup>18</sup> 33	1 <sup>18</sup> 1	29 <sup>18</sup> 39	29 <sup>18</sup> 34	3 <sup>18</sup> 36	21 <sup>18</sup> 11	29 <sup>18</sup> 40	5 <sup>18</sup> 53	4 <sup>18</sup> 25	5 <sup>18</sup> 42	29 <sup>18</sup> 39	12 <sup>18</sup> 50	S 8
M 9	3 46 19	25 <sup>18</sup> 23'33	12 <sup>18</sup> 34	5 <sup>18</sup> 6	2 <sup>18</sup> 13	0 <sup>18</sup> 16	29 <sup>18</sup> 47	3 <sup>18</sup> 42	21 <sup>18</sup> 10	29 <sup>18</sup> 41	5 <sup>18</sup> 53	4 <sup>18</sup> 20	5 <sup>18</sup> 39	29 <sup>18</sup> 46	12 <sup>18</sup> 47	M 9
T 10	3 50 15	26 <sup>18</sup> 24'20	24 <sup>18</sup> 37	6 <sup>18</sup> 38	3 <sup>18</sup> 26	0 <sup>18</sup> 53	29 <sup>18</sup> 59	3 <sup>18</sup> 47	21 <sup>18</sup> 9	29 <sup>18</sup> 43	5 <sup>18</sup> 52	4 <sup>18</sup> 18	5 <sup>18</sup> 36	29 <sup>18</sup> 53	12 <sup>18</sup> 43	T 10
W 11	3 54 12	27 <sup>18</sup> 25'08	6 <sup>18</sup> 52	8 <sup>18</sup> 10	4 <sup>18</sup> 39	1 <sup>18</sup> 30	0 <sup>18</sup> 13	3 <sup>18</sup> 53	21 <sup>18</sup> 8	29 <sup>18</sup> 44	5 <sup>18</sup> 52	4 <sup>18</sup> D17	5 <sup>18</sup> 33	29 <sup>18</sup> 59	12 <sup>18</sup> 40	W 11
T 12	3 58 9	28 <sup>18</sup> 25'56	19 <sup>18</sup> 23	9 <sup>18</sup> 42	5 <sup>18</sup> 52	2 <sup>18</sup> 7	0 <sup>18</sup> 25	3 <sup>18</sup> 58	21 <sup>18</sup> 7	29 <sup>18</sup> 45	5 <sup>18</sup> 52	4 <sup>18</sup> 18	5 <sup>18</sup> 29	0 <sup>18</sup> 6	12 <sup>18</sup> 36	T 12
F 13	4 2 5	29 <sup>18</sup> 26'46	2 <sup>18</sup> 15	11 <sup>18</sup> 14	7 <sup>18</sup> 5	2 <sup>18</sup> 44	0 <sup>18</sup> 38	4 <sup>18</sup> 3	21 <sup>18</sup> 5	29 <sup>18</sup> 47	5 <sup>18</sup> 51	4 <sup>18</sup> R18	5 <sup>18</sup> 26	0 <sup>18</sup> 13	12 <sup>18</sup> 32	F 13
S 14	4 6 2	0 <sup>18</sup> 27'37	15 <sup>18</sup> 32	12 <sup>18</sup> 46	8 <sup>18</sup> 17	3 <sup>18</sup> 22	0 <sup>18</sup> 51	4 <sup>18</sup> 8	21 <sup>18</sup> 4	29 <sup>18</sup> 48	5 <sup>18</sup> 51	4 <sup>18</sup> 17	5 <sup>18</sup> 23	0 <sup>18</sup> 20	12 <sup>18</sup> 29	S 14
S 15	4 9 58	1 <sup>18</sup> 28'28	29 <sup>18</sup> 17	14 <sup>18</sup> 17	9 <sup>18</sup> 30	3 <sup>18</sup> 59	1 <sup>18</sup> 4	4 <sup>18</sup> 13	21 <sup>18</sup> 3	29 <sup>18</sup> 49	5 <sup>18</sup> 50	4 <sup>18</sup> 14	5 <sup>18</sup> 20	0 <sup>18</sup> 26	12 <sup>18</sup> 25	S 15
M 16	4 13 55	2 <sup>18</sup> 29'21	13 <sup>18</sup> 33	15 <sup>18</sup> 48	10 <sup>18</sup> 42	4 <sup>18</sup> 37	1 <sup>18</sup> 17	4 <sup>18</sup> 18	21 <sup>18</sup> 1	29 <sup>18</sup> 50	5 <sup>18</sup> 50	4 <sup>18</sup> 8	5 <sup>18</sup> 17	0 <sup>18</sup> 33	12 <sup>18</sup> 21	M 16
T 17	4 17 51	3 <sup>18</sup> 30'14	28 <sup>18</sup> 16	17 <sup>18</sup> 19	11 <sup>18</sup> 55	5 <sup>18</sup> 14	1 <sup>18</sup> 30	4 <sup>18</sup> 23	21 <sup>18</sup> 0	29 <sup>18</sup> 52	5 <sup>18</sup> 50	4 <sup>18</sup> 0	5 <sup>18</sup> 14	0 <sup>18</sup> 40	12 <sup>18</sup> 18	T 17
W 18	4 21 48	4 <sup>18</sup> 31'08	13 <sup>18</sup> 21	18 <sup>18</sup> 50	13 <sup>18</sup> 7	5 <sup>18</sup> 52	1 <sup>18</sup> 43	4 <sup>18</sup> 28	20 <sup>18</sup> 58	29 <sup>18</sup> 53	5 <sup>18</sup> 49	3 <sup>18</sup> 51	5 <sup>18</sup> 10	0 <sup>18</sup> 46	12 <sup>18</sup> 14	W 18
T 19	4 25 44	5 <sup>18</sup> 32'03	28 <sup>18</sup> 40	20 <sup>18</sup> 20	14 <sup>18</sup> 20	6 <sup>18</sup> 30	1 <sup>18</sup> 56	4 <sup>18</sup> 33	20 <sup>18</sup> 57	29 <sup>18</sup> 54	5 <sup>18</sup> 48	3 <sup>18</sup> 42	5 <sup>18</sup> 7	0 <sup>18</sup> 53	12 <sup>18</sup> 10	T 19
F 20	4 29 41	6 <sup>18</sup> 33'00	14 <sup>18</sup> II 0	21 <sup>18</sup> 50	15 <sup>18</sup> 32	7 <sup>18</sup> 8	2 <sup>18</sup> 10	4 <sup>18</sup> 38	20 <sup>18</sup> 55	29 <sup>18</sup> 55	5 <sup>18</sup> 48	3 <sup>18</sup> 33	5 <sup>18</sup> 4	1 <sup>18</sup> 0	12 <sup>18</sup> 7	F 20
S 21	4 33 38	7 <sup>18</sup> 33'57	29 <sup>18</sup> 12	23 <sup>18</sup> 19	16 <sup>18</sup> 44	7 <sup>18</sup> 46	2 <sup>18</sup> 23	4 <sup>18</sup> 42	20 <sup>18</sup> 53	29 <sup>18</sup> 56	5 <sup>18</sup> 47	3 <sup>18</sup> 27	5 <sup>18</sup> 1	1 <sup>18</sup> 6	12 <sup>18</sup> 3	S 21
S 22	4 37 34	8 <sup>18</sup> 34'55	14 <sup>18</sup> 4	24 <sup>18</sup> 48	17 <sup>18</sup> 57	8 <sup>18</sup> 24	2 <sup>18</sup> 36	4 <sup>18</sup> 47	20 <sup>18</sup> 52	29 <sup>18</sup> 57	5 <sup>18</sup> 47	3 <sup>18</sup> 23	4 <sup>18</sup> 58	1 <sup>18</sup> 13	11 <sup>18</sup> 59	S 22
M 23	4 41 31	9 <sup>18</sup> 35'55	28 <sup>18</sup> 30	26 <sup>18</sup> 16	19 <sup>18</sup> 9	9 <sup>18</sup> 2	2 <sup>18</sup> 50	4 <sup>18</sup> 51	20 <sup>18</sup> 50	29 <sup>18</sup> 58	5 <sup>18</sup> 46	3 <sup>18</sup> D21	4 <sup>18</sup> 55	1 <sup>18</sup> 20	11 <sup>18</sup> 55	M 23
T 24	4 45 27	10 <sup>18</sup> 36'55	12 <sup>18</sup> 28	27 <sup>18</sup> 44	20 <sup>18</sup> 21	9 <sup>18</sup> 41	3 <sup>18</sup> 3	4 <sup>18</sup> 56	20 <sup>18</sup> 48	29 <sup>18</sup> 59	5 <sup>18</sup> 45	3 <sup>18</sup> 22	4 <sup>18</sup> 51	1 <sup>18</sup> 27	11 <sup>18</sup> 52	T 24
W 25	4 49 24	11 <sup>18</sup> 37'57	25 <sup>18</sup> 58	29 <sup>18</sup> 10	21 <sup>18</sup> 33	10 <sup>18</sup> 19	3 <sup>18</sup> 16	5 <sup>18</sup> 0	20 <sup>18</sup> 46	0 <sup>18</sup> 0	5 <sup>18</sup> 45	3 <sup>18</sup> 23	4 <sup>18</sup> 48	1 <sup>18</sup> 33	11 <sup>18</sup> 48	W 25
T 26	4 53 20	12 <sup>18</sup> 39'00	9 <sup>18</sup> 11	0 <sup>18</sup> 36	22 <sup>18</sup> 45	10 <sup>18</sup> 57	3 <sup>18</sup> 30	5 <sup>18</sup> 4	20 <sup>18</sup> 44	0 <sup>18</sup> 1	5 <sup>18</sup> 44	3 <sup>18</sup> R23	4 <sup>18</sup> 45	1 <sup>18</sup> 40	11 <sup>18</sup> 44	T 26
F 27	4 57 17	13 <sup>18</sup> 40'03	21 <sup>18</sup> 43	2 <sup>18</sup> 0	23 <sup>18</sup> 57	11 <sup>18</sup> 36	3 <sup>18</sup> 43	5 <sup>18</sup> 9	20 <sup>18</sup> 43	0 <sup>18</sup> 2	5 <sup>18</sup> 43	3 <sup>18</sup> 23	4 <sup>18</sup> 42	1 <sup>18</sup> 47	11 <sup>18</sup> 40	F 27
S 28	5 1 14	14 <sup>18</sup> 41'08	4 <sup>18</sup> 6	3 <sup>18</sup> 23	25 <sup>18</sup> 9	12 <sup>18</sup> 14	3 <sup>18</sup> 57	5 <sup>18</sup> 13	20 <sup>18</sup> 41	0 <sup>18</sup> 3	5 <sup>18</sup> 42	3 <sup>18</sup> 21	4 <sup>18</sup> 39	1 <sup>18</sup> 53	11 <sup>18</sup> 36	S 28
S 29	5 5 10	15 <sup>18</sup> 42'14	16 <sup>18</sup> 17	4 <sup>18</sup> 44	26 <sup>18</sup> 21	12 <sup>18</sup> 53	4 <sup>18</sup> 10	5 <sup>18</sup> 17	20 <sup>18</sup> 39	0 <sup>18</sup> 4	5 <sup>18</sup> 42	3 <sup>18</sup> 17	4 <sup>18</sup> 35	2 <sup>18</sup> 0	11 <sup>18</sup> 33	S 29
M 30	5 9 7	16 <sup>18</sup> 43'20	28 <sup>18</sup> 17	6 <sup>18</sup> 3	27 <sup>18</sup> 32	13 <sup>18</sup> 32	4 <sup>18</sup> 24	5 <sup>18</sup> 20	20 <sup>18</sup> 37	0 <sup>18</sup> 5	5 <sup>18</sup> 41	3 <sup>18</sup> 10	4 <sup>18</sup> 32	2 <sup>18</sup> 7	11 <sup>18</sup> 29	M 30

Delta T = 06m28s

Julian Calendar 1 Nov. 1450 == Greg. Calendar 10 Nov. 1450

DECEMBER 1450 JC

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	5 13 3	17 <sup>18</sup> 44'28	10 <sup>18</sup> M12	7 <sup>18</sup> 19	28 <sup>18</sup> 34	14 <sup>18</sup> 11	4 <sup>18</sup> 38	5 <sup>18</sup> 24	20 <sup>18</sup> R35	0 <sup>18</sup> 6	5 <sup>18</sup> R40	3 <sup>18</sup> R 2	4 <sup>18</sup> 29	2 <sup>18</sup> 14	11 <sup>18</sup> R25	T 1
W 2	5 17 0	18 <sup>18</sup> 45'36	22 <sup>18</sup> 4	8 <sup>18</sup> 33	29 <sup>18</sup> 56	14 <sup>18</sup> 49	4 <sup>18</sup> 51	5 <sup>18</sup> 28	20 <sup>18</sup> 33	0 <sup>18</sup> 6	5 <sup>18</sup> 39	2 <sup>18</sup> 53	4 <sup>18</sup> 26	2 <sup>18</sup> 20	11 <sup>18</sup> II21	W 2
T 3	5 20 56	19 <sup>18</sup> 46'45	3 <sup>18</sup> 55	9 <sup>18</sup> 43	1 <sup>18</sup> 7	15 <sup>18</sup> 28	5 <sup>18</sup> 5	5 <sup>18</sup> 32	20 <sup>18</sup> 30	0 <sup>18</sup> 7	5 <sup>18</sup> 38	2 <sup>18</sup> 44	4 <sup>18</sup> 23	2 <sup>18</sup> 27	11 <sup>18</sup> 18	T 3
F 4	5 24 53	20 <sup>18</sup> 47'55	15 <sup>18</sup> 46	10 <sup>18</sup> 50	2 <sup>18</sup> 18	16 <sup>18</sup> 7	5 <sup>18</sup> 19	5 <sup>18</sup> 35	20 <sup>18</sup> 28	0 <sup>18</sup> 8	5 <sup>18</sup> 37	2 <sup>18</sup> 36	4 <sup>18</sup> 20	2 <sup>18</sup> 34	11 <sup>18</sup> 14	F 4
S 5	5 28 49	21 <sup>18</sup> 49'05	27 <sup>18</sup> 41	11 <sup>18</sup> 52	3 <sup>18</sup> 30	16 <sup>18</sup> 46	5 <sup>18</sup> 33	5 <sup>18</sup> 39	20 <sup>18</sup> 26	0 <sup>18</sup> 8	5 <sup>18</sup> 36	2 <sup>18</sup> 29	4 <sup>18</sup> 16	2 <sup>18</sup> 40	11 <sup>18</sup> 10	S 5
S 6	5 32 46	22 <sup>18</sup> 50'15	9 <sup>18</sup> 39	12 <sup>18</sup> 49	4 <sup>18</sup> 41	17 <sup>18</sup> 25	5 <sup>18</sup> 46	5 <sup>18</sup> 42	20 <sup>18</sup> 24	0 <sup>18</sup> 9	5 <sup>18</sup> 35	2 <sup>18</sup> 25	4 <sup>18</sup> 13	2 <sup>18</sup> 47	11 <sup>18</sup> 7	S 6
M 7	5 36 43	23 <sup>18</sup> 51'26	21 <sup>18</sup> 44	13 <sup>18</sup> 40	5 <sup>18</sup> 52	18 <sup>18</sup> 5	6 <sup>18</sup> 0	5 <sup>18</sup> 45	20 <sup>18</sup> 22	0 <sup>18</sup> 10	5 <sup>18</sup> 34	2 <sup>18</sup> 22	4 <sup>18</sup> 10	2 <sup>18</sup> 54	11 <sup>18</sup> 3	M 7
T 8	5 40 39	24 <sup>18</sup> 52'37	3 <sup>18</sup> 56	14 <sup>18</sup> 24	7 <sup>18</sup> 3	18 <sup>18</sup> 44	6 <sup>18</sup> 14	5 <sup>18</sup> 48	20 <sup>18</sup> 19	0 <sup>18</sup> 10	5 <sup>18</sup> 33	2 <sup>18</sup> D21	4 <sup>18</sup> 7	3 <sup>18</sup> 1	10 <sup>18</sup> 59	T 8
W 9	5 44 36	25 <sup>18</sup> 53'48	16 <sup>18</sup> 19	15 <sup>18</sup> 1	8 <sup>18</sup> 14	19 <sup>18</sup> 23	6 <sup>18</sup> 28	5 <sup>18</sup> 51	20 <sup>18</sup> 17	0 <sup>18</sup> 11	5 <sup>18</sup> 32	2 <sup>18</sup> 22	4 <sup>18</sup> 4	3 <sup>18</sup> 7	10 <sup>18</sup> 56	W 9
T 10	5 48 32	26 <sup>18</sup> 55'00	28 <sup>18</sup> 56	15 <sup>18</sup> 29	9 <sup>18</sup> 25	20 <sup>18</sup> 2	6 <sup>18</sup> 42	5 <sup>18</sup> 54	20 <sup>18</sup> 15	0 <sup>18</sup> 11	5 <sup>18</sup> 31	2 <sup>18</sup> 24	4 <sup>18</sup> 1	3 <sup>18</sup> 14	10 <sup>18</sup> 52	T 10
F 11	5 52 29	27 <sup>18</sup> 56'11	11 <sup>18</sup> 49	15 <sup>18</sup> 48	10 <sup>18</sup> 36	20 <sup>18</sup> 42	6 <sup>18</sup> 56	5 <sup>18</sup> 57	20 <sup>18</sup> 12	0 <sup>18</sup> 12	5 <sup>18</sup> 30	2 <sup>18</sup> 25	3 <sup>18</sup> 57	3 <sup>18</sup> 21	10 <sup>18</sup> 49	F 11
S 12	5 56 25	28 <sup>18</sup> 57'22	25 <sup>18</sup> 2	15 <sup>18</sup> R56	11 <sup>18</sup> 46	21 <sup>18</sup> 21	7 <sup>18</sup> 10	6 <sup>18</sup> 0	20 <sup>18</sup> 10	0 <sup>18</sup> 12	5 <sup>18</sup> 29	2 <sup>18</sup> R26	3 <sup>18</sup> 54	3 <sup>18</sup> 27	10 <sup>18</sup> 45	S 12
S 13	6 0 22	29 <sup>18</sup> 58'33	8 <sup>18</sup> 39	15 <sup>18</sup> 54	12 <sup>18</sup> 57	22 <sup>18</sup> 1	7 <sup>18</sup> 23	6 <sup>18</sup> 3	20 <sup>18</sup> 8	0 <sup>18</sup> 13	5 <sup>18</sup> 28	2 <sup>18</sup> 26	3 <sup>18</sup> 51	3 <sup>18</sup> 34	10 <sup>18</sup> 41	S 13
M 14	6 4 18	0 <sup>18</sup> 59'44	22 <sup>18</sup> 40	15 <sup>18</sup> 40	14 <sup>18</sup> 7	22 <sup>18</sup> 40	7 <sup>18</sup> 37	6 <sup>18</sup> 5	20 <sup>18</sup> 5	0 <sup>18</sup> 13	5 <sup>18</sup> 27	2 <sup>18</sup> 24	3 <sup>18</sup> 48	3 <sup>18</sup> 41	10 <sup>18</sup> 38	M 14
T 15	6 8 15	2 <sup>18</sup> 0'54	7 <sup>18</sup> 4	15 <sup>18</sup> 14	15 <sup>18</sup> 18	23 <sup>18</sup> 20	7 <sup>18</sup> 51	6 <sup>18</sup> 8	20 <sup>18</sup> 3	0 <sup>18</sup> 13	5 <sup>18</sup> 26	2 <sup>18</sup> 21	3 <sup>18</sup> 45	3 <sup>18</sup> 47	10 <sup>18</sup> 35	T 15
W 16	6 12 12	3 <sup>18</sup> 2'05	21 <sup>18</sup> 50	14 <sup>18</sup> 36	16 <sup>18</sup> 28	23 <sup>18</sup> 59	8 <sup>18</sup> 5	6 <sup>18</sup> 10	20 <sup>18</sup> 0	0 <sup>18</sup> 13	5 <sup>18</sup> 25	2 <sup>18</sup> 17	3 <sup>18</sup> 41	3 <sup>18</sup> 54	10 <sup>18</sup> 31	W 16
T 17	6 16 8	4 <sup>18</sup> 3'15	6 <sup>18</sup> II51	13 <sup>18</sup> 47	17 <sup>18</sup> 38	24 <sup>18</sup> 39	8 <sup>18</sup> 19	6 <sup>18</sup> 12	19 <sup>18</sup> 58	0 <sup>18</sup> 14	5 <sup>18</sup> 24	2 <sup>18</sup> 13	3 <sup>18</sup> 38	4 <sup>18</sup> 1	10 <sup>18</sup> 28	T 17
F 18	6 20 5	5 <sup>18</sup> 4'25	21 <sup>18</sup> 58	12 <sup>18</sup> 48	18 <sup>18</sup> 48	25 <sup>18</sup> 18	8 <sup>18</sup> 33	6 <sup>18</sup> 14	19 <sup>18</sup> 55	0 <sup>18</sup> 14	5 <sup>18</sup> 23	2 <sup>18</sup> 9	3 <sup>18</sup> 35	4 <sup>18</sup> 8	10 <sup>18</sup> 24	F 18
S 19	6 24 1	6 <sup>18</sup> 5'35	7 <sup>18</sup> 2	11 <sup>18</sup> 40	19 <sup>18</sup> 57	25 <sup>18</sup> 58	8 <sup>18</sup> 47	6 <sup>18</sup> 16	19 <sup>18</sup> 53	0 <sup>18</sup> 14	5 <sup>18</sup> 21	2 <sup>18</sup> 6	3 <sup>18</sup> 32	4 <sup>18</sup> 14	10 <sup>18</sup> 21	S 19
S 20	6 27 58	7 <sup>18</sup> 6'45	21 <sup>18</sup> 54	10 <sup>18</sup> 25	21 <sup>18</sup> 7	26 <sup>18</sup> 37	9 <sup>18</sup> 1	6 <sup>18</sup> 18	19 <sup>18</sup> 50	0 <sup>18</sup> 14	5 <sup>18</sup> 20	2 <sup>18</sup> 5	3 <sup>18</sup> 29	4 <sup>18</sup> 21	10 <sup>18</sup> 18	S 20
M 21	6 31 54	8 <sup>18</sup> 7'55	6 <sup>18</sup> 25	9 <sup>18</sup> 6	22 <sup>18</sup> 16	27 <sup>18</sup> 17	9 <sup>18</sup> 15	6 <sup>18</sup> 20	19 <sup>18</sup> 48	0 <sup>18</sup> 14	5 <sup>18</sup> 19	2 <sup>18</sup> D 4	3 <sup>18</sup> 26	4 <sup>18</sup> 28	10 <sup>18</sup> 15	M 21
T 22	6 35 51	9 <sup>18</sup> 9'05	20 <sup>18</sup> 32	7 <sup>18</sup> 46	23 <sup>18</sup> 26	27 <sup>18</sup> 57	9 <sup>18</sup> 29	6 <sup>18</sup> 22	19 <sup>18</sup> 45	0 <sup>18</sup> 14	5 <sup>18</sup> 18	2 <sup>18</sup> 5	3 <sup>18</sup> 22	4 <sup>18</sup> 34	10 <sup>18</sup> 12	T 22
W 23	6 39 48	10 <sup>18</sup> 10'15	4 <sup>18</sup> 112	6 <sup>18</sup> 26	24 <sup>18</sup> 35	28 <sup>18</sup> 37	9 <sup>18</sup> 43	6 <sup>18</sup> 24	19 <sup>18</sup> 43	0 <sup>18</sup> 15	5 <sup>18</sup> 17	2 <sup>18</sup> 7	3 <sup>18</sup> 19	4 <sup>18</sup> 41	10 <sup>18</sup> 8	W 23
T 24	6 43 44	11 <sup>18</sup> 11'24	17 <sup>18</sup> 125	5 <sup>18</sup> 10	25 <sup>18</sup> 44	29 <sup>18</sup> 16	9 <sup>18</sup> 57	6 <sup>18</sup> 25	19 <sup>18</sup> 40	0 <sup>18</sup> R15	5 <sup>18</sup> 15	2 <sup>18</sup> 8	3 <sup>18</sup> 16	4 <sup>18</sup> 48	10 <sup>18</sup> 5	T 24
F 25	6 47 41	12 <sup>18</sup> 12'34	0 <sup>18</sup> 154	3 <sup>18</sup> 59	26 <sup>18</sup> 53	29 <sup>18</sup> 56	10 <sup>18</sup> 11	6 <sup>18</sup> 27	19 <sup>18</sup> 38	0 <sup>18</sup> 14	5 <sup>18</sup> 14	2 <sup>18</sup> 9	3 <sup>18</sup> 13	4 <sup>18</sup> 55	10 <sup>18</sup> 2	F 25
S 26	6 51 37	13 <sup>18</sup> 13'44	12 <sup>18</sup> 42	2 <sup>18</sup> 55	28 <sup>18</sup> 1	0 <sup>18</sup> 36	10 <sup>18</sup> 25	6 <sup>18</sup> 28	19 <sup>18</sup> 35	0 <sup>18</sup> 14	5 <sup>18</sup> 13	2 <sup>18</sup> R10	3 <sup>18</sup> 10	5 <sup>18</sup> 1	9 <sup>18</sup> 59	S 26
S 27	6 55 34	14 <sup>18</sup> 14'53	24 <sup>18</sup> 54	2 <sup>18</sup> 0	29 <sup>18</sup> 10	1 <sup>18</sup> 16	10 <sup>18</sup> 39	6 <sup>18</sup> 29	19 <sup>18</sup> 32	0 <sup>18</sup> 14	5 <sup>18</sup> 11	2 <sup>18</sup> 10	3 <sup>18</sup> 7	5 <sup>18</sup> 8	9 <sup>18</sup> 56	S 27
M 28	6 59 30	15 <sup>18</sup> 16'03	6 <sup>18</sup> 154	1 <sup>18</sup> 14	0 <sup>18</sup> 18	1 <sup>18</sup> 56	10 <sup>18</sup> 53	6 <sup>18</sup> 30	19 <sup>18</sup> 30	0 <sup>18</sup> 14	5 <sup>18</sup> 10	2 <sup>18</sup> 8	3 <sup>18</sup> 3	5 <sup>18</sup> 15	9 <sup>18</sup> 54	M 28
T 29	7 3 27	16 <sup>18</sup> 17'12	18 <sup>18</sup> 48	0 <sup>18</sup> 37	1 <sup>18</sup> 26	2 <sup>18</sup> 35	11 <sup>18</sup> 7	6 <sup>18</sup> 31	19 <sup>18</sup> 27	0 <sup>18</sup> 14	5 <sup>18</sup> 9	2 <sup>18</sup> 6	3 <sup>18</sup> 0	5 <sup>18</sup> 21	9 <sup>18</sup> 51	T 29
W 30	7 7 23	17 <sup>18</sup> 18'21	0 <sup>18</sup> 38	0 <sup>18</sup> 11	2 <sup>18</sup> 34	3 <sup>18</sup> 15	11 <sup>18</sup> 21	6 <sup>18</sup> 32	19 <sup>18</sup> 25	0 <sup>18</sup> 14	5 <sup>18</sup> 8	2 <sup>18</sup> 4	2 <sup>18</sup> 57	5 <sup>18</sup> 28	9 <sup>18</sup> 48	W 30
T 31	7 11 20	18 <sup>18</sup> 19'30	12 <sup>18</sup> 28	29 <sup>18</sup> 54	3 <sup>18</sup> 42	3 <sup>18</sup> 55	11 <sup>18</sup> 35	6 <sup>18</sup> 33	19 <sup>18</sup> 22	0 <sup>18</sup> 14	5 <sup>18</sup> 6	2 <sup>18</sup> 2	2 <sup>18</sup> 54	5 <sup>18</sup> 35	9 <sup>18</sup> 45	T 31