

SWISS EPHEMERIS for the year 2148

JANUARY 2148

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Day	Sid.t	☉	☽	♀	♁	♂	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
M 1	6 40 29	9°56'36	9°28'	24°R38	21°57	11°28	6°M 2	23°R13	26°M.17	29°27'52	18°R47	21°R21	22°Ω36	15°M 13	10°M.47								
T 2	6 44 25	10°57'44	23° 5	24°31	23° 8	12°10	6°10	23°8'11	26°20	29°54	18°II.46	21°Ω15	22°33	15°20	10°52								
W 3	6 48 22	11°58'51	6°II.31	23°33	24°19	12°52	6°19	23° 8	26°23	29°57	18°45	21° 9	22°30	15°26	10°58								
T 4	6 52 18	12°59'59	19°44	22°43	25°29	13°35	6°27	23° 6	26°26	29°59	18°44	21° 2	22°27	15°33	11° 4								
F 5	6 56 15	14° 1'07	2°34	21°44	26°40	14°17	6°36	23° 4	26°29	0° 1	18°43	20°55	22°24	15°40	11° 9								
S 6	7 0 12	15° 2'15	15°29	20°35	27°51	14°59	6°44	23° 2	26°32	0° 3	18°42	20°50	22°20	15°46	11°15								
S 7	7 4 8	16° 3'22	28° 1	19°20	29° 1	15°42	6°52	23° 0	26°35	0° 5	18°41	20°46	22°17	15°53	11°20								
M 8	7 8 5	17° 4'30	10°Ω18	18° 1	0°II.11	16°24	7° 0	22°58	26°37	0° 8	18°40	20°44	22°14	16° 0	11°26								
T 9	7 12 1	18° 5'38	22°24	16°40	1°22	17° 7	7° 8	22°56	26°40	0°10	18°39	20°D43	22°11	16° 6	11°31								
W10	7 15 58	19° 6'46	4°M 20	15°20	2°32	17°49	7°16	22°55	26°43	0°12	18°38	20°44	22° 8	16°13	11°36								
T 11	7 19 54	20° 7'53	16°10	14° 3	3°41	18°32	7°23	22°53	26°45	0°14	18°37	20°45	22° 4	16°20	11°41								
F 12	7 23 51	21° 9'01	27°58	12°52	4°51	19°15	7°30	22°52	26°48	0°16	18°36	20°47	22° 1	16°26	11°46								
S 13	7 27 47	22°10'09	9°Ω.48	11°49	6° 1	19°57	7°38	22°50	26°50	0°19	18°35	20°49	21°58	16°33	11°51								
S 14	7 31 44	23°11'17	21°46	10°54	7°10	20°40	7°45	22°49	26°53	0°21	18°34	20°R50	21°55	16°40	11°56								
M15	7 35 41	24°12'25	3°M.57	10° 8	8°20	21°23	7°52	22°48	26°55	0°23	18°33	20°49	21°52	16°46	12° 0								
T 16	7 39 37	25°13'32	16°25	9°32	9°29	22° 6	7°59	22°47	26°58	0°25	18°32	20°48	21°49	16°53	12° 5								
W17	7 43 34	26°14'40	29°15	9° 6	10°38	22°48	8° 6	22°46	27° 0	0°27	18°32	20°45	21°45	17° 0	12° 9								
T 18	7 47 30	27°15'48	12°29	8°49	11°47	23°31	8°12	22°45	27° 2	0°29	18°31	20°41	21°42	17° 6	12°14								
F 19	7 51 27	28°16'55	26° 8	8°D42	12°56	24°14	8°19	22°45	27° 5	0°31	18°30	20°38	21°39	17°13	12°18								
S 20	7 55 23	29°18'02	10°31	8°43	14° 4	24°57	8°25	22°44	27° 7	0°33	18°29	20°35	21°36	17°20	12°22								
S 21	7 59 20	0°31'09	24°36	8°53	15°12	25°40	8°31	22°44	27° 9	0°35	18°28	20°32	21°33	17°26	12°26								
M22	8 3 16	1°20'15	9°36	9° 9	16°21	26°23	8°37	22°43	27°11	0°37	18°27	20°31	21°30	17°33	12°30								
T 23	8 7 13	2°21'21	24° 4	9°33	17°29	27° 6	8°43	22°43	27°13	0°39	18°26	20°D31	21°26	17°40	12°34								
W24	8 11 10	3°22'26	8°35	10° 2	18°36	27°49	8°48	22°D43	27°15	0°41	18°26	20°31	21°23	17°46	12°38								
T 25	8 15 6	4°23'30	23°36	10°38	19°44	28°32	8°54	22°43	27°17	0°43	18°25	20°32	21°20	17°53	12°42								
F 26	8 19 3	5°24'32	8°7	11°18	20°51	29°15	8°59	22°43	27°19	0°45	18°24	20°34	21°17	18° 0	12°45								
S 27	8 22 59	6°25'34	22°23	12° 3	21°59	29°59	9° 4	22°43	27°21	0°47	18°23	20°34	21°14	18° 6	12°49								
S 28	8 26 56	7°26'35	6°22	12°52	23° 6	0°342	9° 9	22°44	27°23	0°49	18°23	20°R35	21°10	18°13	12°52								
M29	8 30 52	8°27'35	20° 2	13°45	24°12	1°25	9°14	22°44	27°25	0°51	18°22	20°35	21° 7	18°20	12°55								
T 30	8 34 49	9°28'33	3°II.25	14°41	25°19	2° 8	9°19	22°45	27°27	0°53	18°21	20°34	21° 4	18°26	12°59								
W31	8 38 45	10°29'31	16°II.31	15°340	26°325	2°352	9°M.23	22°346	27°M.28	0°355	18°II.21	20°Ω.33	21°Ω. 1	18°M.33	13°M. 2								

Delta T = 05m13s

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T 1	8 42 42	11°30'27	29°II.22	16°342	27°31	3°35	9°M.28	22°346	27°M.30	0°357	18°R20	20°R31	20°Ω.58	18°M.40	13°M. 5								
F 2	8 46 39	12°31'23	12°30	17°47	28°37	4°18	9°32	22°47	27°31	0°58	18°II.19	20°Ω.30	20°55	18°46	13° 7								
S 3	8 50 35	13°32'17	24°26	18°54	29°42	5° 2	9°36	22°48	27°33	1° 0	18°19	20°29	20°51	18°53	13°10								
S 4	8 54 32	14°33'10	6°Ω.40	20° 3	0°V.47	5°45	9°40	22°49	27°35	1° 2	18°18	20°29	20°48	19° 0	13°13								
M 5	8 58 28	15°34'02	18°46	21°14	1°52	6°29	9°43	22°51	27°36	1° 4	18°18	20°D28	20°45	19° 6	13°15								
T 6	9 2 25	16°34'53	0°M.44	22°27	2°57	7°12	9°47	22°52	27°37	1° 5	18°17	20°28	20°42	19°13	13°17								
W 7	9 6 21	17°35'42	12°36	23°41	4° 1	7°56	9°50	22°54	27°39	1° 7	18°17	20°29	20°39	19°20	13°20								
T 8	9 10 18	18°36'31	24°26	24°58	5° 5	8°39	9°53	22°55	27°40	1° 9	18°16	20°29	20°35	19°26	13°22								
F 9	9 14 14	19°37'19	6°Ω.14	26°15	6° 9	9°23	9°56	22°57	27°41	1°10	18°16	20°29	20°32	19°33	13°24								
S 10	9 18 11	20°38'06	18° 6	27°34	7°12	10° 6	9°59	22°59	27°42	1°12	18°15	20°R29	20°29	19°40	13°26								
S 11	9 22 8	21°38'51	0°M. 4	28°54	8°15	10°50	10° 2	23° 1	27°44	1°14	18°15	20°29	20°26	19°46	13°28								
M12	9 26 4	22°39'36	12°13	0°316	9°18	11°34	10° 4	23° 3	27°45	1°15	18°14	20°29	20°23	19°53	13°29								
T 13	9 30 1	23°40'20	24°37	1°39	10°20	12°18	10° 6	23° 5	27°46	1°17	18°14	20°D29	20°20	20° 0	13°31								
W14	9 33 57	24°41'03	7°321	3° 3	11°22	13° 1	10° 8	23° 7	27°47	1°18	18°13	20°29	20°16	20° 6	13°32								
T 15	9 37 54	25°41'45	20°28	4°28	12°23	13°45	10°10	23° 9	27°48	1°20	18°13	20°29	20°13	20°13	13°34								
F 16	9 41 50	26°42'25	4°3	5°54	13°24	14°29	10°12	23°12	27°48	1°21	18°13	20°30	20°10	20°20	13°35								
S 17	9 45 47	27°43'05	18° 1	7°21	14°25	15°13	10°14	23°14	27°49	1°23	18°12	20°31	20° 7	20°26	13°36								
S 18	9 49 43	28°43'43	2°27	8°49	15°25	15°57	10°15	23°17	27°50	1°24	18°12	20°31	20° 4	20°33	13°37								
M19	9 53 40	29°44'20	17°15	10°18	16°25	16°41	10°16	23°20	27°51	1°26	18°12	20°R32	20° 1	20°40	13°38								
T 20	9 57 37	0°344'56	2°318	11°48	17°24	17°25	10°17	23°23	27°51	1°27	18°12	20°31	19°57	20°46	13°38								
W21	10 1 33	1°45'30	17°28	13°19	18°23	18° 9	10°18	23°26	27°52	1°29	18°11	20°31	19°54	20°53	13°39								
T 22	10 5 30	2°46'02	2°V.34	14°51	19°22	18°53	10°18	23°29	27°53	1°30	18°11	20°29	19°51	20°59	13°40								
F 23	10 9 26	3°46'33	17°29	16°23	20°20	19°37	10°19	23°32	27°53	1°31	18°11	20°28	19°48	21° 6	13°40								
S 24	10 13 23	4°47'02	2°3	17°57	21°17	20°21	10°R19	23°35	27°53	1°32	18°11	20°26	19°45	21°13	13°40								
S 25	10 17 19	5°47'29	16°17	19°32	22°14	21° 5	10°19	23°39	27°54	1°34	18°11	20°25	19°41	21°19	13°40								
M26	10 21 16	6°47'54	0°II. 4	21° 8	23°10	21°49	10°18	23°42	27°54	1°35	18°10	20°24	19°38	21°26	13°R40								
T 27	10 25 12	7°48'17	13°26	22°44	24° 6	22°33	10°18	23°46	27°54	1°36	18°10	20°D24	19°35	21°33	13°40								
W28	10 29 9	8°48'38	26°25	24°22	25° 1	23°18	10°18	23°49	27°55	1°37	18°10	20°25	19°32	21°39	13°40								
T 29	10 33 6	9°48'58	9°3	26°30	25°V.55	24°3	10°M.17	23°353	27°M.55	1°38	18°II.10	20°Ω.26	19°Ω.29	21°M.46	13°M.40								

Delta T = 05m13s

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SWISS EPHEMERIS for the year 2148

MARCH 2148

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Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
F 1	10 37 2	10 ^h 49'15"	21 ^h 28'	27 ^h 40'	26 ^h 49'	24 ^h 46'	10 ^h R16	23 ^h 57'	27 ^h M55	1 ^h 39'	18 ^h R10	20 ^h Ω28	19 ^h Ω26	21 ^h η53	13 ^h R39
S 2	10 40 59	11 ^h 49'31"	3 ^h Ω38	29 ^h 21'	27 ^h 42'	25 ^h 30'	10 ^h M15	24 ^h 1'	27 ^h R55	1 ^h 40'	18 ^h D10	20 ^h 29'	19 ^h 22'	21 ^h 59'	13 ^h M39
S 3	10 44 55	12 ^h 49'44"	15 ^h 40'	1 ^h κ 2	28 ^h 35'	26 ^h 15'	10 ^h 13'	24 ^h 5'	27 ^h 55'	1 ^h 41'	18 ^h II10	20 ^h R30	19 ^h 19'	22 ^h 6'	13 ^h 38
M 4	10 48 52	13 ^h 49'56"	27 ^h 35'	2 ^h 45'	29 ^h 26'	26 ^h 59'	10 ^h 12'	24 ^h 9'	27 ^h 55'	1 ^h 42'	18 ^h 10'	20 ^h 30'	19 ^h 16'	22 ^h 13'	13 ^h 38
T 5	10 52 48	14 ^h 50'06"	9 ^h η27	4 ^h 29'	0 ^h 817	27 ^h 43'	10 ^h 10'	24 ^h 13'	27 ^h 55'	1 ^h 43'	18 ^h 10'	20 ^h 28'	19 ^h 13'	22 ^h 19'	13 ^h 37
W 6	10 56 45	15 ^h 50'13"	21 ^h 16'	6 ^h 13'	1 ^h 7'	28 ^h 28'	10 ^h 8'	24 ^h 18'	27 ^h 55'	1 ^h 44'	18 ^h 10'	20 ^h 26'	19 ^h 10'	22 ^h 26'	13 ^h 36
T 7	11 0 41	16 ^h 50'19"	3 ^h Δ 6	7 ^h 59'	1 ^h 57'	29 ^h 12'	10 ^h 6'	24 ^h 22'	27 ^h 54'	1 ^h 45'	18 ^h 10'	20 ^h 22'	19 ^h 7'	22 ^h 33'	13 ^h 35
F 8	11 4 38	17 ^h 50'24"	14 ^h 57'	9 ^h 46'	2 ^h 45'	29 ^h 56'	10 ^h 4'	24 ^h 26'	27 ^h 54'	1 ^h 46'	18 ^h 11'	20 ^h 17'	19 ^h 3'	22 ^h 39'	13 ^h 33
S 9	11 8 35	18 ^h 50'26"	26 ^h 53'	11 ^h 34'	3 ^h 33'	0 ^h ≈41	10 ^h 1'	24 ^h 31'	27 ^h 54'	1 ^h 47'	18 ^h 11'	20 ^h 12'	19 ^h 0'	22 ^h 46'	13 ^h 32
S 10	11 12 31	19 ^h 50'27"	8 ^h M55	13 ^h 23'	4 ^h 19'	1 ^h 25'	9 ^h 59'	24 ^h 36'	27 ^h 53'	1 ^h 48'	18 ^h 11'	20 ^h 7'	18 ^h 57'	22 ^h 53'	13 ^h 31
M11	11 16 28	20 ^h 50'27"	21 ^h 7'	15 ^h 13'	5 ^h 5'	2 ^h 10'	9 ^h 56'	24 ^h 40'	27 ^h 53'	1 ^h 49'	18 ^h 11'	20 ^h 3'	18 ^h 54'	22 ^h 59'	13 ^h 29
T 12	11 20 24	21 ^h 50'24"	3 ^h ≈31	17 ^h 5'	5 ^h 50'	2 ^h 54'	9 ^h 53'	24 ^h 45'	27 ^h 52'	1 ^h 49'	18 ^h 11'	20 ^h 0'	18 ^h 51'	23 ^h 6'	13 ^h 28
W13	11 24 21	22 ^h 50'20"	16 ^h 11'	18 ^h 57'	6 ^h 34'	3 ^h 39'	9 ^h 50'	24 ^h 50'	27 ^h 52'	1 ^h 50'	18 ^h 11'	19 ^h 58'	18 ^h 47'	23 ^h 13'	13 ^h 26
T 14	11 28 17	23 ^h 50'15"	29 ^h 11'	20 ^h 50'	7 ^h 16'	4 ^h 24'	9 ^h 47'	24 ^h 55'	27 ^h 51'	1 ^h 51'	18 ^h 12'	19 ^h D58	18 ^h 44'	23 ^h 20'	13 ^h 24
F 15	11 32 14	24 ^h 50'08"	12 ^h 34	22 ^h 45'	7 ^h 58'	5 ^h 8'	9 ^h 43'	25 ^h 0'	27 ^h 51'	1 ^h 51'	18 ^h 12'	19 ^h 59'	18 ^h 41'	23 ^h 26'	13 ^h 22
S 16	11 36 10	25 ^h 49'59"	26 ^h 23'	24 ^h 41'	8 ^h 38'	5 ^h 53'	9 ^h 39'	25 ^h 5'	27 ^h 50'	1 ^h 52'	18 ^h 12'	20 ^h 1'	18 ^h 38'	23 ^h 33'	13 ^h 20
S 17	11 40 7	26 ^h 49'48"	10 ^h ≈38	26 ^h 37'	9 ^h 18'	6 ^h 38'	9 ^h 35'	25 ^h 10'	27 ^h 49'	1 ^h 53'	18 ^h 13'	20 ^h 2'	18 ^h 35'	23 ^h 40'	13 ^h 18
M18	11 44 3	27 ^h 49'36"	25 ^h 17'	28 ^h 35'	9 ^h 56'	7 ^h 22'	9 ^h 31'	25 ^h 16'	27 ^h 48'	1 ^h 53'	18 ^h 13'	20 ^h R 2	18 ^h 32'	23 ^h 46'	13 ^h 16
T 19	11 48 0	28 ^h 49'22"	10 ^h κ17	0 ^h Υ33	10 ^h 33'	8 ^h 7'	9 ^h 27'	25 ^h 21'	27 ^h 48'	1 ^h 54'	18 ^h 13'	20 ^h 1'	18 ^h 28'	23 ^h 53'	13 ^h 13
W20	11 51 57	29 ^h 49'06"	25 ^h 30'	2 ^h 32'	11 ^h 8'	8 ^h 52'	9 ^h 23'	25 ^h 27'	27 ^h 47'	1 ^h 54'	18 ^h 14'	19 ^h 57'	18 ^h 25'	24 ^h 0'	13 ^h 11
T 21	11 55 53	0 ^h Υ48'48"	10 ^h Υ46	4 ^h 32'	11 ^h 42'	9 ^h 36'	9 ^h 18'	25 ^h 32'	27 ^h 46'	1 ^h 55'	18 ^h 14'	19 ^h 52'	18 ^h 22'	24 ^h 6'	13 ^h 8
F 22	11 59 50	1 ^h 48'28"	25 ^h 55'	6 ^h 32'	12 ^h 15'	10 ^h 21'	9 ^h 14'	25 ^h 38'	27 ^h 45'	1 ^h 55'	18 ^h 15'	19 ^h 46'	18 ^h 19'	24 ^h 13'	13 ^h 6
S 23	12 3 46	2 ^h 48'06"	10 ^h 846	8 ^h 33'	12 ^h 46'	11 ^h 6'	9 ^h 9'	25 ^h 43'	27 ^h 44'	1 ^h 55'	18 ^h 15'	19 ^h 39'	18 ^h 16'	24 ^h 20'	13 ^h 3
S 24	12 7 43	3 ^h 47'42"	25 ^h 13'	10 ^h 33'	13 ^h 16'	11 ^h 51'	9 ^h 4'	25 ^h 49'	27 ^h 43'	1 ^h 56'	18 ^h 15'	19 ^h 33'	18 ^h 12'	24 ^h 26'	13 ^h 0
M25	12 11 39	4 ^h 47'15"	9 ^h II11	12 ^h 34'	13 ^h 44'	12 ^h 35'	8 ^h 59'	25 ^h 55'	27 ^h 41'	1 ^h 56'	18 ^h 16'	19 ^h 29'	18 ^h 9'	24 ^h 33'	12 ^h 57
T 26	12 15 36	5 ^h 46'46"	22 ^h 40'	14 ^h 34'	14 ^h 11'	13 ^h 20'	8 ^h 54'	26 ^h 1'	27 ^h 40'	1 ^h 56'	18 ^h 16'	19 ^h 26'	18 ^h 6'	24 ^h 40'	12 ^h 54
W27	12 19 32	6 ^h 46'15"	5 ^h Δ1	16 ^h 33'	14 ^h 35'	14 ^h 5'	8 ^h 48'	26 ^h 7'	27 ^h 39'	1 ^h 57'	18 ^h 17'	19 ^h D25	18 ^h 3'	24 ^h 46'	12 ^h 51
T 28	12 23 29	7 ^h 45'42"	18 ^h 19'	18 ^h 32'	14 ^h 58'	14 ^h 50'	8 ^h 43'	26 ^h 13'	27 ^h 38'	1 ^h 57'	18 ^h 17'	19 ^h 25'	18 ^h 0'	24 ^h 53'	12 ^h 48
F 29	12 27 26	8 ^h 45'06"	0 ^h Δ38	20 ^h 29'	15 ^h 19'	15 ^h 35'	8 ^h 37'	26 ^h 19'	27 ^h 36'	1 ^h 57'	18 ^h 18'	19 ^h 27'	17 ^h 57'	25 ^h 0'	12 ^h 45
S 30	12 31 22	9 ^h 44'28"	12 ^h 42'	22 ^h 24'	15 ^h 39'	16 ^h 20'	8 ^h 31'	26 ^h 25'	27 ^h 35'	1 ^h 57'	18 ^h 19'	19 ^h 28'	17 ^h 53'	25 ^h 6'	12 ^h 41
S 31	12 35 19	10 ^h Υ43'48"	24 ^h Ω37	24 ^h Υ17	15 ^h 856	17 ^h ≈ 5	8 ^h M25	26 ^h 831	27 ^h M34	1 ^h 57	18 ^h II19	19 ^h R28	17 ^h Ω50	25 ^h η13	12 ^h M38

Delta T = 05m13s

APRIL 2148

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Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
M 1	12 39 15	11 ^h Υ43'05"	6 ^h η27	26 ^h Υ 7	16 ^h 811	17 ^h ≈50	8 ^h R19	26 ^h 837	27 ^h R32	1 ^h 57	18 ^h II20	19 ^h R26	17 ^h Ω47	25 ^h η20	12 ^h R34
T 2	12 43 12	12 ^h 42'21"	18 ^h 15'	27 ^h 55'	16 ^h 24'	18 ^h 34'	8 ^h M13	26 ^h 43'	27 ^h M31	1 ^h 57	18 ^h 21'	19 ^h Ω22	17 ^h 44'	25 ^h 26'	12 ^h M31
W 3	12 47 8	13 ^h 41'34"	0 ^h Δ 4	29 ^h 39'	16 ^h 35'	19 ^h 19'	8 ^h 7'	26 ^h 50'	27 ^h 29'	1 ^h R57	18 ^h 21'	19 ^h 16'	17 ^h 41'	25 ^h 33'	12 ^h 27
T 4	12 51 5	14 ^h 40'45"	11 ^h 56'	1 ^h 819	16 ^h 43'	20 ^h 4'	8 ^h 0'	26 ^h 56'	27 ^h 28'	1 ^h 57	18 ^h 22'	19 ^h 7'	17 ^h 38'	25 ^h 40'	12 ^h 24
F 5	12 55 1	15 ^h 39'53"	23 ^h 54'	2 ^h 55'	16 ^h 50'	20 ^h 49'	7 ^h 54'	27 ^h 3'	27 ^h 26'	1 ^h 57	18 ^h 23'	18 ^h 57'	17 ^h 34'	25 ^h 46'	12 ^h 20
S 6	12 58 58	16 ^h 39'00"	5 ^h M58	4 ^h 26'	16 ^h 54'	21 ^h 34'	7 ^h 47'	27 ^h 9'	27 ^h 24'	1 ^h 57	18 ^h 23'	18 ^h 46'	17 ^h 31'	25 ^h 53'	12 ^h 16
S 7	13 2 55	17 ^h 38'05"	18 ^h 10'	5 ^h 53'	16 ^h R56	22 ^h 19'	7 ^h 40'	27 ^h 16'	27 ^h 23'	1 ^h 57	18 ^h 24'	18 ^h 35'	17 ^h 28'	26 ^h 0'	12 ^h 12
M 8	13 6 51	18 ^h 37'09"	0 ^h ≈31	7 ^h 15'	16 ^h 55'	23 ^h 4'	7 ^h 33'	27 ^h 22'	27 ^h 21'	1 ^h 57	18 ^h 25'	18 ^h 25'	17 ^h 25'	26 ^h 6'	12 ^h 8
T 9	13 10 48	19 ^h 36'10"	13 ^h 3'	8 ^h 31'	16 ^h 52'	23 ^h 49'	7 ^h 27'	27 ^h 29'	27 ^h 19'	1 ^h 57	18 ^h 26'	18 ^h 17'	17 ^h 22'	26 ^h 13'	12 ^h 4
W10	13 14 44	20 ^h 35'10"	25 ^h 48'	9 ^h 42'	16 ^h 46'	24 ^h 34'	7 ^h 20'	27 ^h 36'	27 ^h 17'	1 ^h 56	18 ^h 26'	18 ^h 12'	17 ^h 18'	26 ^h 20'	12 ^h 0
T 11	13 18 41	21 ^h 34'07"	8 ^h 348	10 ^h 47'	16 ^h 38'	25 ^h 19'	7 ^h 12'	27 ^h 42'	27 ^h 15'	1 ^h 56	18 ^h 27'	18 ^h 9'	17 ^h 15'	26 ^h 26'	11 ^h 56
F 12	13 22 37	22 ^h 33'04"	22 ^h 6'	11 ^h 46'	16 ^h 28'	26 ^h 4'	7 ^h 5'	27 ^h 49'	27 ^h 13'	1 ^h 56	18 ^h 28'	18 ^h D 8	17 ^h 12'	26 ^h 33'	11 ^h 52
S 13	13 26 34	23 ^h 31'58"	5 ^h ≈45	12 ^h 39'	16 ^h 15'	26 ^h 49'	6 ^h 58'	27 ^h 56'	27 ^h 12'	1 ^h 56	18 ^h 29'	18 ^h 9'	17 ^h 9'	26 ^h 40'	11 ^h 48
S 14	13 30 30	24 ^h 30'51"	19 ^h 46'	13 ^h 26'	15 ^h 59'	27 ^h 34'	6 ^h 51'	28 ^h 3'	27 ^h 10'	1 ^h 55	18 ^h 30'	18 ^h R 9	17 ^h 6'	26 ^h 46'	11 ^h 43
M15	13 34 27	25 ^h 29'42"	4 ^h κ10	14 ^h 6'	15 ^h 42'	28 ^h 20'	6 ^h 43'	28 ^h 10'	27 ^h 8'	1 ^h 55	18 ^h 31'	18 ^h 8'	17 ^h 3'	26 ^h 53'	11 ^h 39
T 16	13 38 24	26 ^h 28'31"	18 ^h 54'	14 ^h 40'	15 ^h 22'	29 ^h 5'	6 ^h 36'	28 ^h 17'	27 ^h 6'	1 ^h 55	18 ^h 32'	18 ^h 5'	16 ^h 59'	27 ^h 0'	11 ^h 35
W															

SWISS EPHEMERIS for the year 2148

MAY 2148

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Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
W 1	14 37 32	11♈ 6'49	8♌42	11♋58	7♋8	10♌20	4♋R42	0♈ 6	26♋R32	1♋R45	18♈47	16♋R43	16♌12	28♎40	10♋R27	
T 2	14 41 28	12° 5'05	20°40	11♋19	6♋31	11° 5	4♌34	0°14	26♌30	1♈44	18°48	16♌32	16° 9	28°47	10♌22	
F 3	14 45 25	13° 3'20	2♌46	10°39	5°55	11°50	4°27	0°21	26°27	1°43	18°49	16°20	16° 5	28°53	10°17	
S 4	14 49 21	14° 1'33	15° 1	10° 1	5°20	12°35	4°19	0°29	26°25	1°42	18°50	16° 6	16° 2	29° 0	10°13	
S 5	14 53 18	14°59'44	27°27	9°23	4°47	13°20	4°12	0°36	26°22	1°41	18°52	15°52	15°59	29° 7	10° 8	
M 6	14 57 15	15°57'54	10♌ 3	8°47	4°15	14° 5	4° 4	0°44	26°20	1°40	18°53	15°40	15°56	29°13	10° 3	
T 7	15 1 11	16°56'02	22°50	8°14	3°45	14°50	3°57	0°52	26°18	1°39	18°54	15°30	15°53	29°20	9°59	
W 8	15 5 8	17°54'09	5♌49	7°44	3°16	15°35	3°50	0°59	26°15	1°38	18°55	15°23	15°49	29°27	9°54	
T 9	15 9 4	18°52'14	18°59	7°17	2°50	16°20	3°42	1° 7	26°13	1°37	18°56	15°19	15°46	29°33	9°50	
F 10	15 13 1	19°50'18	2♌23	6°54	2°26	17° 5	3°35	1°15	26°10	1°36	18°58	15°18	15°43	29°40	9°45	
S 11	15 16 57	20°48'20	16° 2	6°35	2° 3	17°50	3°28	1°22	26° 8	1°35	18°59	15°17	15°40	29°47	9°41	
S 12	15 20 54	21°46'21	29°56	6°20	1°44	18°35	3°21	1°30	26° 5	1°34	19° 0	15°17	15°37	29°53	9°36	
M13	15 24 50	22°44'21	14♌ 7	6°10	1°26	19°20	3°14	1°38	26° 3	1°33	19° 1	15°16	15°34	0♌ 0	9°32	
T 14	15 28 47	23°42'19	28°32	6° 5	1°11	20° 5	3° 7	1°45	26° 0	1°31	19° 3	15°13	15°30	0° 7	9°28	
W15	15 32 44	24°40'16	13♌11	6°D 4	0°58	20°50	3° 1	1°53	25°58	1°30	19° 4	15° 7	15°27	0°13	9°23	
T 16	15 36 40	25°38'12	27°56	6° 7	0°48	21°34	2°54	2° 1	25°55	1°29	19° 5	14°58	15°24	0°20	9°19	
F 17	15 40 37	26°36'06	12♌40	6°15	0°40	22°19	2°48	2° 9	25°52	1°28	19° 6	14°48	15°21	0°27	9°15	
S 18	15 44 33	27°34'00	27°17	6°28	0°35	23° 4	2°41	2°16	25°50	1°26	19° 8	14°37	15°18	0°33	9°10	
S 19	15 48 30	28°31'51	11♈37	6°45	0°32	23°49	2°35	2°24	25°47	1°25	19° 9	14°26	15°15	0°40	9° 6	
M20	15 52 26	29°29'42	25°36	7° 7	0°D31	24°33	2°29	2°32	25°45	1°24	19°10	14°17	15°11	0°47	9° 2	
T 21	15 56 23	0♈27'30	9♌ 9	7°33	0°33	25°18	2°23	2°40	25°42	1°23	19°12	14°10	15° 8	0°54	8°58	
W22	16 0 19	1°25'17	22°17	8° 3	0°37	26° 3	2°17	2°48	25°40	1°21	19°13	14° 6	15° 5	1° 0	8°54	
T 23	16 4 16	2°23'03	5♌ 0	8°37	0°43	26°47	2°11	2°55	25°37	1°20	19°14	14° 4	15° 2	1° 7	8°50	
F 24	16 8 13	3°20'47	17°23	9°15	0°51	27°32	2° 5	3° 3	25°35	1°18	19°16	14°D 4	14°59	1°14	8°46	
S 25	16 12 9	4°18'29	29°30	9°57	1° 2	28°16	1°59	3°11	25°32	1°17	19°17	14°R 4	14°55	1°20	8°42	
S 26	16 16 6	5°16'10	11♎26	10°43	1°15	29° 1	1°54	3°19	25°30	1°16	19°18	14° 4	14°52	1°27	8°38	
M27	16 20 2	6°13'49	23°16	11°32	1°29	29°45	1°49	3°26	25°28	1°14	19°20	14° 3	14°49	1°34	8°35	
T 28	16 23 59	7°11'27	5♌ 6	12°25	1°46	0♌30	1°44	3°34	25°25	1°13	19°21	13°59	14°46	1°40	8°31	
W29	16 27 55	8° 9'03	17° 1	13°21	2° 4	1°14	1°39	3°42	25°23	1°11	19°23	13°53	14°43	1°47	8°27	
T 30	16 31 52	9° 6'38	29° 3	14°21	2°24	1°58	1°34	3°50	25°20	1°10	19°24	13°45	14°40	1°54	8°24	
F 31	16 35 48	10♈ 4'11	11♌17	15♌23	2♌46	2♌43	1♌29	3♈57	25♌18	1♌ 8	19♈25	13♌35	14♌36	2♌ 0	8♌20	

Delta T = 05m14s

JUNE 2148

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Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
S 1	16 39 45	11♈ 1'43	23♌44	16♌29	3♌10	3♌27	1♋R24	4♈ 5	25♋R15	1♋R 7	19♈27	13♋R24	14♌33	2♌ 7	8♋R17	
S 2	16 43 42	11°59'15	6♌25	17°38	3°36	4°11	1♌20	4°13	25♌13	1♌ 5	19°28	13♌13	14°30	2°14	8♌14	
M 3	16 47 38	12°56'45	19°19	18°50	4° 3	4°55	1°16	4°21	25°11	1° 4	19°29	13° 3	14°27	2°20	8°11	
T 4	16 51 35	13°54'14	2♌26	20° 4	4°31	5°40	1°12	4°28	25° 8	1° 2	19°31	12°56	14°24	2°27	8° 7	
W 5	16 55 31	14°51'42	15°46	21°22	5° 1	6°24	1° 8	4°36	25° 6	1° 1	19°32	12°50	14°21	2°34	8° 4	
T 6	16 59 28	15°49'09	29°16	22°42	5°33	7° 8	1° 4	4°44	25° 4	0°59	19°34	12°47	14°17	2°41	8° 1	
F 7	17 3 24	16°46'36	12♌57	24° 6	6° 6	7°52	1° 0	4°51	25° 1	0°58	19°35	12°D46	14°14	2°47	7°59	
S 8	17 7 21	17°44'02	26°46	25°32	6°40	8°36	0°57	4°59	24°59	0°56	19°36	12°47	14°11	2°54	7°56	
S 9	17 11 17	18°41'27	10♌45	27° 1	7°15	9°20	0°54	5° 7	24°57	0°55	19°38	12°48	14° 8	3° 1	7°53	
M10	17 15 14	19°38'52	24°52	28°32	7°52	10° 3	0°51	5°14	24°55	0°53	19°39	12°R48	14° 5	3° 7	7°50	
T 11	17 19 11	20°36'16	9♌ 7	0♈ 7	8°30	10°47	0°48	5°22	24°53	0°52	19°41	12°46	14° 1	3°14	7°48	
W12	17 23 7	21°33'39	23°26	1°44	9° 9	11°31	0°45	5°30	24°50	0°50	19°42	12°43	13°58	3°21	7°45	
T 13	17 27 4	22°31'02	7♌47	3°23	9°49	12°15	0°42	5°37	24°48	0°48	19°43	12°38	13°55	3°27	7°43	
F 14	17 31 0	23°28'25	22° 6	5° 6	10°30	12°58	0°40	5°45	24°46	0°47	19°45	12°31	13°52	3°34	7°41	
S 15	17 34 57	24°25'47	6♈16	6°51	11°12	13°42	0°38	5°52	24°44	0°45	19°46	12°23	13°49	3°41	7°38	
S 16	17 38 53	25°23'08	20°14	8°39	11°55	14°25	0°36	6° 0	24°42	0°44	19°47	12°16	13°46	3°47	7°36	
M17	17 42 50	26°20'29	3♌55	10°29	12°39	15° 9	0°34	6° 7	24°40	0°42	19°49	12° 9	13°42	3°54	7°34	
T 18	17 46 47	27°17'49	17°16	12°22	13°24	15°52	0°32	6°15	24°38	0°40	19°50	12° 5	13°39	4° 1	7°33	
W19	17 50 43	28°15'09	0♌15	14°17	14°10	16°35	0°30	6°22	24°36	0°39	19°52	12° 2	13°36	4° 8	7°31	
T 20	17 54 40	29°12'27	12°55	16°15	14°56	17°19	0°29	6°30	24°34	0°37	19°53	12°D 2	13°33	4°14	7°29	
F 21	17 58 36	0♌ 9'45	25°17	18°14	15°43	18° 2	0°28	6°37	24°32	0°35	19°54	12° 2	13°30	4°21	7°27	
S 22	18 2 33	1° 7'02	7♎24	20°16	16°32	18°45	0°27	6°44	24°30	0°34	19°56	12° 4	13°27	4°28	7°26	
S 23	18 6 29	2° 4'19	19°21	22°20	17°20	19°28	0°26	6°52	24°28	0°32	19°57	12° 5	13°23	4°34	7°25	
M24	18 10 26	3° 1'34	1♌13	24°26	18°10	20°11	0°26	6°59	24°27	0°31	19°58	12°R 6	13°20	4°41	7°23	
T 25	18 14 22	3°58'49	13° 5	26°33	19° 0	20°54	0°25	7° 6	24°25	0°29	20° 0	12° 5	13°17	4°48	7°22	
W26	18 18 19	4°56'04	25° 2	28°42	19°51	21°36	0°25	7°13	24°23	0°27	20° 1	12° 3	13°14	4°54	7°21	
T 27	18 22 15	5°53'17	7♌ 7	0♌52	20°42	22°19	0°D25	7°21	24°22	0°26	20° 3	12° 0	13°11	5° 1	7°20	
F 28	18 26 12	6°50'31	19°26	3° 2	21°34	23° 2	0°25	7°28	24°20	0°24	20° 4	11°55	13° 7	5° 8	7°19	
S 29	18 30 9	7°47'43	2♌ 1	5°13	22°27	23°44	0°25	7°35	24°18	0°23	20° 5	11°50	13° 4	5°14	7°18	
S 30	18 34 5	8♌44'56	14♌53	7♌24	23♌20	24♌26	0♌26	7♈42	24♌17	0♌21	20♈ 7	11♌44	13♌ 1	5♌21	7♌18	

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SWISS EPHEMERIS for the year 2148

JULY 2148

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Day	Sid.t	☉	☽	♀	♁	♂	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
M 1	18 38 2	9 ⁵ 42'08	28 ⁷ 3	9 ⁵ 35	24 ⁸ 14	25 ⁹ 9	0 ⁰ 26	7 ¹¹ 49	24 ⁰ R15	0 ⁰ R19	20 ¹¹ 8	11 ⁰ R39	12 ⁰ Ω58	5 ⁰ Ω28	7 ⁰ R17								
T 2	18 41 58	10 ⁰ 39'20	11 ³ 31	11 ⁴ 46	25 ⁸ 8	25 ⁵ 1	0 ⁰ 27	7 ⁵ 56	24 ⁰ M14	0 ⁰ 18	20 ⁹ 9	11 ⁰ Ω36	12 ⁰ 55	5 ⁰ 35	7 ⁰ M17								
W 3	18 45 55	11 ⁰ 36'32	25 ⁰ 14	13 ⁰ 56	26 ⁰ 3	26 ⁰ 33	0 ⁰ 28	8 ⁰ 3	24 ⁰ 12	0 ⁰ 16	20 ¹¹ 11	11 ⁰ 33	12 ⁰ 52	5 ⁰ 41	7 ⁰ 17								
T 4	18 49 51	12 ⁰ 33'43	9 ⁰ 9	16 ⁰ 6	26 ⁰ 58	27 ⁰ 15	0 ⁰ 29	8 ⁰ 10	24 ⁰ 11	0 ⁰ 15	20 ¹² 11	11 ⁰ D32	12 ⁰ 48	5 ⁰ 48	7 ⁰ 16								
F 5	18 53 48	13 ⁰ 30'55	23 ⁰ 14	18 ⁰ 14	27 ⁰ 54	27 ⁰ 57	0 ⁰ 31	8 ⁰ 17	24 ⁰ 10	0 ⁰ 13	20 ¹³ 11	11 ⁰ 33	12 ⁰ 45	5 ⁰ 55	7 ⁰ 16								
S 6	18 57 45	14 ⁰ 28'06	7 ⁰ 25	20 ⁰ 21	28 ⁰ 51	28 ⁰ 39	0 ⁰ 32	8 ⁰ 23	24 ⁰ 8	0 ⁰ 11	20 ¹⁴ 11	11 ⁰ 34	12 ⁰ 42	6 ⁰ 1	7 ⁰ D16								
S 7	19 1 141	15 ⁰ 25'18	21 ⁰ 40	22 ⁰ 27	29 ⁰ 47	29 ⁰ 21	0 ⁰ 34	8 ⁰ 30	24 ⁰ 7	0 ⁰ 10	20 ¹⁶ 11	11 ⁰ 35	12 ⁰ 39	6 ⁰ 8	7 ⁰ 16								
M 8	19 5 38	16 ⁰ 22'31	5 ⁰ Y55	24 ⁰ 31	0 ⁰ II44	0 ⁰ 3	0 ⁰ 36	8 ⁰ 37	24 ⁰ 6	0 ⁰ 8	20 ¹⁷ 11	11 ⁰ 36	12 ⁰ 36	6 ⁰ 15	7 ⁰ 16								
T 9	19 9 34	17 ⁰ 19'43	20 ⁰ 8	26 ⁰ 34	1 ⁰ 42	0 ⁰ 44	0 ⁰ 38	8 ⁰ 44	24 ⁰ 5	0 ⁰ 7	20 ¹⁸ 11	11 ⁰ R37	12 ⁰ 33	6 ⁰ 21	7 ⁰ 17								
W10	19 13 31	18 ⁰ 16'56	4 ⁰ 17	28 ⁰ 35	2 ⁰ 40	1 ⁰ 26	0 ⁰ 40	8 ⁰ 50	24 ⁰ 3	0 ⁰ 5	20 ¹⁹ 11	11 ⁰ 36	12 ⁰ 29	6 ⁰ 28	7 ⁰ 17								
T 11	19 17 27	19 ⁰ 14'09	18 ⁰ 20	0 ⁰ Ω34	3 ⁰ 38	2 ⁰ 7	0 ⁰ 42	8 ⁰ 57	24 ⁰ 2	0 ⁰ 4	20 ²¹ 11	11 ⁰ 34	12 ⁰ 26	6 ⁰ 35	7 ⁰ 18								
F 12	19 21 24	20 ⁰ 11'23	2 ⁰ II14	2 ⁰ 32	4 ⁰ 37	2 ⁰ 48	0 ⁰ 45	9 ⁰ 3	24 ⁰ 1	0 ⁰ 2	20 ²² 11	11 ⁰ 32	12 ⁰ 23	6 ⁰ 42	7 ⁰ 18								
S 13	19 25 20	21 ⁰ 8'37	15 ⁰ 58	4 ⁰ 28	5 ⁰ 36	3 ⁰ 29	0 ⁰ 48	9 ⁰ 10	24 ⁰ 0	0 ⁰ 1	20 ²³ 11	11 ⁰ 29	12 ⁰ 20	6 ⁰ 48	7 ⁰ 19								
S 14	19 29 17	22 ⁰ 5'52	29 ⁰ 29	6 ⁰ 21	6 ⁰ 36	4 ⁰ 10	0 ⁰ 51	9 ⁰ 16	23 ⁰ 59	29 ⁰ 59	20 ²⁴ 11	11 ⁰ 26	12 ⁰ 17	6 ⁰ 55	7 ⁰ 20								
M15	19 33 14	23 ⁰ 3'07	12 ⁰ Ω46	8 ⁰ 13	7 ⁰ 36	4 ⁰ 51	0 ⁰ 54	9 ⁰ 23	23 ⁰ 58	29 ⁰ 58	20 ²⁶ 11	11 ⁰ 24	12 ⁰ 13	7 ⁰ 2	7 ⁰ 21								
T 16	19 37 10	24 ⁰ 0'22	25 ⁰ 46	10 ⁰ 3	8 ⁰ 36	5 ⁰ 32	0 ⁰ 57	9 ⁰ 29	23 ⁰ 58	29 ⁰ 56	20 ²⁷ 11	11 ⁰ 22	12 ⁰ 10	7 ⁰ 8	7 ⁰ 22								
W17	19 41 7	24 ⁰ 57'37	8 ⁰ Ω32	11 ⁰ 51	9 ⁰ 36	6 ⁰ 13	1 ⁰ 0	9 ⁰ 35	23 ⁰ 57	29 ⁰ 55	20 ²⁸ 11	11 ⁰ D22	12 ⁰ 7	7 ⁰ 15	7 ⁰ 23								
T 18	19 45 3	25 ⁰ 54'53	21 ⁰ 1	13 ⁰ 38	10 ⁰ 37	6 ⁰ 53	1 ⁰ 4	9 ⁰ 42	23 ⁰ 56	29 ⁰ 54	20 ²⁹ 11	11 ⁰ 22	12 ⁰ 4	7 ⁰ 22	7 ⁰ 24								
F 19	19 49 0	26 ⁰ 52'09	3 ⁰ η17	15 ⁰ 22	11 ⁰ 38	7 ⁰ 34	1 ⁰ 8	9 ⁰ 48	23 ⁰ 55	29 ⁰ 52	20 ³⁰ 11	11 ⁰ 23	12 ⁰ 1	7 ⁰ 28	7 ⁰ 26								
S 20	19 52 56	27 ⁰ 49'25	15 ⁰ 22	17 ⁰ 4	12 ⁰ 40	8 ⁰ 14	1 ⁰ 12	9 ⁰ 54	23 ⁰ 55	29 ⁰ 51	20 ³¹ 11	11 ⁰ 24	11 ⁰ 58	7 ⁰ 35	7 ⁰ 27								
S 21	19 56 53	28 ⁰ 46'41	27 ⁰ 18	18 ⁰ 45	13 ⁰ 41	8 ⁰ 54	1 ⁰ 16	10 ⁰ 0	23 ⁰ 54	29 ⁰ 49	20 ³³ 11	11 ⁰ 25	11 ⁰ 54	7 ⁰ 42	7 ⁰ 29								
M22	20 0 49	29 ⁰ 43'58	9 ⁰ Ω10	20 ⁰ 23	14 ⁰ 43	9 ⁰ 34	1 ⁰ 20	10 ⁰ 6	23 ⁰ 54	29 ⁰ 48	20 ³⁴ 11	11 ⁰ 26	11 ⁰ 51	7 ⁰ 48	7 ⁰ 31								
T 23	20 4 46	0 ⁰ Ω41'14	21 ⁰ 2	22 ⁰ 0	15 ⁰ 45	10 ⁰ 14	1 ⁰ 24	10 ⁰ 12	23 ⁰ 53	29 ⁰ 47	20 ³⁵ 11	11 ⁰ 27	11 ⁰ 48	7 ⁰ 55	7 ⁰ 33								
W24	20 8 43	1 ⁰ 38'31	2 ⁰ II59	23 ⁰ 35	16 ⁰ 48	10 ⁰ 54	1 ⁰ 29	10 ⁰ 18	23 ⁰ 53	29 ⁰ 45	20 ³⁶ 11	11 ⁰ R27	11 ⁰ 45	8 ⁰ 2	7 ⁰ 34								
T 25	20 12 39	2 ⁰ 35'49	15 ⁰ 4	25 ⁰ 8	17 ⁰ 51	11 ⁰ 33	1 ⁰ 34	10 ⁰ 23	23 ⁰ 52	29 ⁰ 44	20 ³⁷ 11	11 ⁰ 27	11 ⁰ 42	8 ⁰ 9	7 ⁰ 36								
F 26	20 16 36	3 ⁰ 33'06	27 ⁰ 23	26 ⁰ 39	18 ⁰ 54	12 ⁰ 13	1 ⁰ 39	10 ⁰ 29	23 ⁰ 52	29 ⁰ 43	20 ³⁸ 11	11 ⁰ 26	11 ⁰ 39	8 ⁰ 15	7 ⁰ 39								
S 27	20 20 32	4 ⁰ 30'24	10 ⁰ 0	28 ⁰ 8	19 ⁰ 57	12 ⁰ 52	1 ⁰ 44	10 ⁰ 35	23 ⁰ 51	29 ⁰ 42	20 ³⁹ 11	11 ⁰ 25	11 ⁰ 35	8 ⁰ 22	7 ⁰ 41								
S 28	20 24 29	5 ⁰ 27'43	22 ⁰ 57	29 ⁰ 35	21 ⁰ 0	13 ⁰ 31	1 ⁰ 49	10 ⁰ 40	23 ⁰ 51	29 ⁰ 40	20 ⁴⁰ 11	11 ⁰ 25	11 ⁰ 32	8 ⁰ 29	7 ⁰ 43								
M29	20 28 25	6 ⁰ 25'02	6 ⁰ Ξ16	1 ⁰ η 0	22 ⁰ 4	14 ⁰ 10	1 ⁰ 54	10 ⁰ 46	23 ⁰ 51	29 ⁰ 39	20 ⁴¹ 11	11 ⁰ 24	11 ⁰ 29	8 ⁰ 35	7 ⁰ 46								
T 30	20 32 22	7 ⁰ 22'21	19 ⁰ 58	2 ⁰ 24	23 ⁰ 8	14 ⁰ 49	2 ⁰ 0	10 ⁰ 51	23 ⁰ 51	29 ⁰ 38	20 ⁴² 11	11 ⁰ 24	11 ⁰ 26	8 ⁰ 42	7 ⁰ 48								
W31	20 36 18	8 ⁰ Ω19'41	4 ⁰ Ξ 0	3 ⁰ η45	24 ⁰ II12	15 ⁰ Ξ27	2 ⁰ II 5	10 ⁰ II57	23 ⁰ II51	29 ⁰ Ξ37	20 ^{II} 43	11 ⁰ Ω23	11 ⁰ Ω23	8 ⁰ Ω49	7 ⁰ II51								

Delta T = 05m14s

AUGUST 2148

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♄	♅	♆	♇	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
T 1	20 40 15	9 ⁰ Ω17'02	18 ⁰ Ξ20	5 ⁰ η 4	25 ⁰ II17	16 ⁰ Ξ 6	2 ⁰ II11	11 ⁰ II 2	23 ⁰ R51	29 ⁰ R36	20 ^{II} 44	11 ⁰ D23	11 ⁰ Ω19	8 ⁰ Ω55	7 ⁰ M54								
F 2	20 44 12	10 ⁰ 14'24	2 ⁰ Ξ51	6 ⁰ 21	26 ⁰ 21	16 ⁰ 44	2 ⁰ 17	11 ⁰ 7	23 ⁰ D51	29 ⁰ Ξ34	20 ⁴⁵ 11	11 ⁰ Ω23	11 ⁰ 16	9 ⁰ 2	7 ⁰ 56								
S 3	20 48 8	11 ⁰ 11'46	17 ⁰ 29	7 ⁰ 36	27 ⁰ 26	17 ⁰ 23	2 ⁰ 23	11 ⁰ 12	23 ⁰ II51	29 ⁰ 33	20 ⁴⁶ 11	11 ⁰ R24	11 ⁰ 13	9 ⁰ 9	7 ⁰ 59								
S 4	20 52 5	12 ⁰ 9'10	2 ⁰ Y 7	8 ⁰ 49	28 ⁰ 31	18 ⁰ 1	2 ⁰ 29	11 ⁰ 17	23 ⁰ 51	29 ⁰ 32	20 ⁴⁷ 11	11 ⁰ 24	11 ⁰ 10	9 ⁰ 16	8 ⁰ 2								
M 5	20 56 1	13 ⁰ 6'34	16 ⁰ 40	9 ⁰ 59	29 ⁰ 36	18 ⁰ 38	2 ⁰ 36	11 ⁰ 22	23 ⁰ 51	29 ⁰ 31	20 ⁴⁸ 11	11 ⁰ 23	11 ⁰ 7	9 ⁰ 22	8 ⁰ 6								
T 6	20 59 58	14 ⁰ 4'00	1 ⁰ Ξ 2	11 ⁰ 7	0 ⁰ Ω42	19 ⁰ 16	2 ⁰ 42	11 ⁰ 27	23 ⁰ 51	29 ⁰ 30	20 ⁴⁹ 11	11 ⁰ 23	11 ⁰ 4	9 ⁰ 29	8 ⁰ 9								
W 7	21 3 54	15 ⁰ 1'27	15 ⁰ 11	12 ⁰ 13	1 ⁰ 47	19 ⁰ 54	2 ⁰ 49	11 ⁰ 32	23 ⁰ 51	29 ⁰ 29	20 ⁵⁰ 11	11 ⁰ D23	11 ⁰ 0	9 ⁰ 36	8 ⁰ 12								
T 8	21 7 51	15 ⁰ 58'56	29 ⁰ 6	13 ⁰ 16	2 ⁰ 53	20 ⁰ 31	2 ⁰ 55	11 ⁰ 37	23 ⁰ 52	29 ⁰ 28	20 ⁵¹ 11	11 ⁰ 23	10 ⁰ 57	9 ⁰ 42	8 ⁰ 16								
F 9	21 11 47	16 ⁰ 56'25	12 ⁰ II44	14 ⁰ 16	3 ⁰ 59	21 ⁰ 8	3 ⁰ 2	11 ⁰ 42	23 ⁰ 52	29 ⁰ 27	20 ⁵² 11	11 ⁰ 24	10 ⁰ 54	9 ⁰ 49	8 ⁰ 19								
S 10	21 15 44	17 ⁰ 53'56	26 ⁰ 6	15 ⁰ 14	5 ⁰ 6	21 ⁰ 45	3 ⁰ 9	11 ⁰ 46	23 ⁰ 53	29 ⁰ 26	20 ⁵² 11	11 ⁰ 24	10 ⁰ 51	9 ⁰ 56	8 ⁰ 23								
S 11	21 19 41	18 ⁰ 51'29	9 ⁰ Ω14	16 ⁰ 9	6 ⁰ 12	22 ⁰ 22	3 ⁰ 16	11 ⁰ 51	23 ⁰ 53	29 ⁰ 25	20 ⁵³ 11	11 ⁰ 25	10 ⁰ 48	10 ⁰ 3	8 ⁰ 27								
M12	21 23 37	19 ⁰ 49'02	22 ⁰ 7	17 ⁰ 1	7 ⁰ 18	22 ⁰ 58	3 ⁰ 24	11 ⁰ 55	23 ⁰ 54	29 ⁰ 24	20 ⁵⁴ 11	11 ⁰ 26	10 ⁰ 45	10 ⁰ 9	8 ⁰ 30								
T 13	21 27 34	20 ⁰ 46'37	4 ⁰ Ω47	17 ⁰ 49	8 ⁰ 25	23 ⁰ 35	3 ⁰ 31	12 ⁰ 0	23 ⁰ 54	29 ⁰ 23	20 ⁵⁵ 11	11 ⁰ 26	10 ⁰ 41	10 ⁰ 16	8 ⁰ 34								
W14	21 31 30	21 ⁰ 44'13	17 ⁰ 14	18 ⁰ 34	9 ⁰ 32	24 ⁰ 11	3 ⁰ 39	12 ⁰ 4	23 ⁰ 55	29 ⁰ 23	20 ⁵⁶ 11	11 ⁰ R26	10 ⁰ 38	10 ⁰ 23	8 ⁰ 38								
T 15	21 35 27	22 ⁰ 41'50	29 ⁰ 31	19 ⁰ 16	10 ⁰ 39	24 ⁰ 47	3 ⁰ 46	12 ⁰ 8	23 ⁰ 55	29 ⁰ 22	20 ⁵⁶ 11	11 ⁰ 25	10 ⁰ 35	10 ⁰ 29	8 ⁰ 42								
F 16	21 39 23	23 ⁰ 39'28	11 ⁰ η38	19 ⁰ 54	11 ⁰ 46	25 ⁰ 22	3 ⁰ 54	12 ⁰															

SWISS EPHEMERIS for the year 2148

SEPTEMBER 2148

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♄	♁	♁	♁	♁	♁
S 1	22 42 28	9 ^h 4'16	11 ^h 44'	18°R52	0 ^h 1'	4 ^h 20'	6 ^h 15'	13 ^h 6'	24 ^h 15'	29°R12	21 ^h 6'	11°R10	9 ^h 41'	12 ^h 23'	10 ^h 5'
M 2	22 46 25	10° 2'16	26°39	18 ^h 3	1°10	4°51	6°24	13° 8	24°16	29 ^h 12	21° 7	11 ^h 6	9°38	12°30	10°11
T 3	22 50 21	11° 0'18	11 ^h 18'	17°10	2°20	5°22	6°34	13°11	24°18	29°12	21° 7	11° 3	9°35	12°37	10°17
W 4	22 54 18	11°58'21	25°37	16°14	3°30	5°53	6°44	13°13	24°20	29°12	21° 7	11° 0	9°31	12°43	10°22
T 5	22 58 14	12°56'27	9 ^h 32'	15°17	4°40	6°23	6°54	13°15	24°21	29°11	21° 8	10°D59	9°28	12°50	10°28
F 6	23 2 11	13°54'34	23° 5	14°19	5°50	6°53	7° 4	13°17	24°23	29°11	21° 8	10°59	9°25	12°57	10°34
S 7	23 6 7	14°52'44	6 ^h 16'	13°22	7° 0	7°23	7°14	13°20	24°25	29°11	21° 8	11° 1	9°22	13° 4	10°40
S 8	23 10 4	15°50'55	19° 7	12°27	8°10	7°52	7°25	13°21	24°27	29°11	21° 9	11° 2	9°19	13°10	10°46
M 9	23 14 1	16°49'09	1 ^h 43'	11°35	9°20	8°21	7°35	13°23	24°29	29°11	21° 9	11° 4	9°16	13°17	10°52
T 10	23 17 57	17°47'24	14° 6	10°48	10°31	8°50	7°45	13°25	24°31	29°D11	21° 9	11°R 4	9°12	13°24	10°58
W11	23 21 54	18°45'41	26°19	10° 6	11°41	9°18	7°56	13°27	24°33	29°11	21° 9	11° 3	9° 9	13°30	11° 5
T 12	23 25 50	19°44'00	8 ^h 23'	9°31	12°52	9°46	8° 6	13°28	24°35	29°11	21°10	11° 0	9° 6	13°37	11°11
F 13	23 29 47	20°42'21	20°22	9° 4	14° 3	10°14	8°17	13°29	24°37	29°11	21°10	10°55	9° 3	13°44	11°17
S 14	23 33 43	21°40'44	2 ^h 16'	8°45	15°14	10°41	8°28	13°31	24°39	29°11	21°10	10°48	9° 0	13°51	11°24
S 15	23 37 40	22°39'08	14° 8	8°35	16°25	11° 7	8°39	13°32	24°41	29°11	21°10	10°40	8°56	13°57	11°30
M16	23 41 36	23°37'34	25°58	8°D33	17°36	11°34	8°50	13°33	24°43	29°12	21°10	10°32	8°53	14° 4	11°37
T 17	23 45 33	24°36'02	7 ^h 50'	8°41	18°47	12° 0	9° 1	13°34	24°45	29°12	21°10	10°24	8°50	14°11	11°43
W18	23 49 30	25°34'32	19°46	8°59	19°58	12°25	9°12	13°35	24°48	29°12	21°10	10°18	8°47	14°17	11°50
T 19	23 53 26	26°33'03	1 ^h 49'	9°26	21°10	12°50	9°23	13°35	24°50	29°12	21°10	10°13	8°44	14°24	11°57
F 20	23 57 23	27°31'36	14° 3	10° 1	22°21	13°15	9°34	13°36	24°52	29°13	21°10	10°10	8°41	14°31	12° 4
S 21	0 1 19	28°30'11	26°32	10°46	23°32	13°39	9°45	13°37	24°55	29°13	21°10	10°D 9	8°37	14°37	12°11
S 22	0 5 16	29°28'48	9 ^h 32'	11°38	24°44	14° 2	9°57	13°37	24°57	29°13	21°10	10° 9	8°34	14°44	12°17
M23	0 9 12	30°27'26	12°33	12°38	25°56	14°26	10° 8	13°37	25° 0	29°14	21°10	10°10	8°31	14°51	12°24
T 24	0 13 9	1°26'05	6 ^h 12'	13°46	27° 8	14°48	10°20	13°37	25° 2	29°14	21°10	10°R11	8°28	14°58	12°31
W25	0 17 5	2°24'47	20°19	14°59	28°20	15°10	10°31	13°R38	25° 5	29°15	21°10	10°11	8°25	15° 4	12°39
T 26	0 21 2	3°23'30	4 ^h 54'	16°19	29°31	15°32	10°43	13°38	25° 8	29°15	21°10	10° 8	8°21	15°11	12°46
F 27	0 24 59	4°22'14	19°52	17°43	0 ^h 44'	15°53	10°55	13°37	25°10	29°16	21°10	10° 4	8°18	15°18	12°53
S 28	0 28 55	5°21'01	5 ^h 6'	19°12	1°56	16°14	11° 6	13°37	25°13	29°16	21°10	9°57	8°15	15°24	13° 0
S 29	0 32 52	6°19'50	20°25	20°45	3° 8	16°34	11°18	13°37	25°16	29°17	21°10	9°49	8°12	15°31	13° 7
M30	0 36 48	7°18'40	5 ^h 38'	22 ^h 21'	4 ^h 20'	16 ^h 54'	11 ^h 30'	13 ^h 36'	25 ^h 18'	29 ^h 18'	21 ^h 9'	9 ^h 40'	8 ^h 9'	15 ^h 38'	13 ^h 15'

Delta T = 05m14s

OCTOBER 2148

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♄	♁	♁	♁	♁	♁
T 1	0 40 45	8 ^h 17'33	20 ^h 35'	24 ^h 0	5 ^h 33'	17 ^h 13'	11 ^h 42'	13°R36	25 ^h 21'	29 ^h 18'	21°R 9	9°R32	8 ^h 6	15 ^h 45'	13 ^h 22'
W 2	0 44 41	9°16'29	5 ^h 8'	25°41	6°45	17°32	11°54	13 ^h 35'	25°24	29°19	21 ^h 9	9 ^h 26	8° 2	15°51	13°29
T 3	0 48 38	10°15'26	19°13	27°24	7°58	17°49	12° 6	13°34	25°27	29°20	21° 9	9°22	7°59	15°58	13°37
F 4	0 52 34	11°14'26	2 ^h 49'	29° 9	9°10	18° 7	12°18	13°33	25°30	29°20	21° 8	9°20	7°56	16° 5	13°44
S 5	0 56 31	12°13'28	15°59	0 ^h 54'	10°23	18°24	12°30	13°32	25°33	29°21	21° 8	9°D19	7°53	16°11	13°52
S 6	1 0 27	13°12'33	28°45	2°40	11°36	18°40	12°43	13°31	25°36	29°22	21° 8	9°20	7°50	16°18	13°59
M 7	1 4 24	14°11'39	11 ^h 12'	4°27	12°49	18°55	12°55	13°30	25°39	29°23	21° 7	9°R20	7°47	16°25	14° 7
T 8	1 8 21	15°10'48	23°25	6°14	14° 2	19°10	13° 7	13°29	25°42	29°24	21° 7	9°19	7°43	16°32	14°15
W 9	1 12 17	16°10'00	5 ^h 28'	8° 0	15°15	19°24	13°20	13°27	25°45	29°25	21° 7	9°16	7°40	16°38	14°22
T 10	1 16 14	17° 9'13	17°24	9°47	16°28	19°38	13°32	13°26	25°48	29°26	21° 6	9°10	7°37	16°45	14°30
F 11	1 20 10	18° 8'28	29°17	11°34	17°41	19°50	13°44	13°24	25°51	29°27	21° 6	9° 1	7°34	16°52	14°38
S 12	1 24 7	19° 7'46	11 ^h 8'	13°20	18°54	20° 2	13°57	13°22	25°54	29°28	21° 5	8°50	7°31	16°58	14°45
S 13	1 28 3	20° 7'06	22°59	15° 6	20° 7	20°14	14°10	13°20	25°57	29°29	21° 5	8°37	7°27	17° 5	14°53
M14	1 32 0	21° 6'28	4 ^h 53'	16°51	21°21	20°24	14°22	13°18	26° 1	29°30	21° 4	8°23	7°24	17°12	15° 1
T 15	1 35 56	22° 5'51	16°49	18°36	22°34	20°34	14°35	13°16	26° 4	29°31	21° 4	8°10	7°21	17°19	15° 9
W16	1 39 53	23° 5'17	28°49	20°20	23°48	20°43	14°47	13°14	26° 7	29°32	21° 3	7°58	7°18	17°25	15°17
T 17	1 43 50	24° 4'45	10 ^h 57'	22° 3	25° 1	20°52	15° 0	13°12	26°10	29°33	21° 3	7°49	7°15	17°32	15°25
F 18	1 47 46	25° 4'14	23°13	23°46	26°15	20°59	15°13	13° 9	26°14	29°34	21° 2	7°42	7°12	17°39	15°33
S 19	1 51 43	26° 3'45	5 ^h 42'	25°29	27°28	21° 6	15°26	13° 7	26°17	29°36	21° 2	7°38	7° 8	17°45	15°41
S 20	1 55 39	27° 3'18	18°28	27°10	28°42	21°12	15°38	13° 4	26°20	29°37	21° 1	7°37	7° 5	17°52	15°49
M21	1 59 36	28° 2'53	1 ^h 33'	28°51	29°56	21°17	15°51	13° 2	26°24	29°38	21° 0	7°36	7° 2	17°59	15°57
T 22	2 3 32	29° 2'30	15° 2	0 ^h 32'	1 ^h 10'	21°22	16° 4	12°59	26°27	29°39	21° 0	7°36	6°59	18° 6	16° 5
W23	2 7 29	0 ^h 2'08	28°58	2°11	2°23	21°25	16°17	12°56	26°30	29°41	20°59	7°35	6°56	18°12	16°13
T 24	2 11 25	1° 1'48	13 ^h 21'	3°50	3°37	21°28	16°30	12°53	26°34	29°42	20°58	7°32	6°53	18°19	16°21
F 25	2 15 22	2° 1'29	28° 9	5°29	4°51	21°30	16°43	12°50	26°37	29°43	20°58	7°26	6°49	18°26	16°29
S 26	2 19 19	3° 1'12	13 ^h 17'	7° 7	6° 5	21°31	16°56	12°47	26°41	29°45	20°57	7°17	6°46	18°32	16°37
S 27	2 23 15	4° 0'57	28°35	8°44	7°19	21°R31	17° 9	12°44	26°44	29°46	20°56	7° 6	6°43	18°39	16°45
M28	2 27 12	5° 0'45	13 ^h 52'	10°21	8°33	21°30	17°22	12°41	26°48	29°48	20°56	6°55	6°40	18°46	16°54
T 29	2 31 8	6° 0'34	28°57	11°57	9°48	21°29	17°35	12°37	26°51	29°49	20°55	6°44	6°37	18°53	17° 2
W30	2 35 5	7° 0'25	13 ^h 40'	13°33	11° 2	21°27	17°48	12°34	26°55	29°51	20°54	6°35	6°33	18°59	17°10
T 31	2 39 1	8 ^h 0'18	27 ^h 55'	15 ^h 8'	12 ^h 16'	21 ^h 23'	18 ^h 1'	12 ^h 30'	26 ^h 58'	29 ^h 52'	20 ^h 53'	6 ^h 28'	6 ^h 30'	19 ^h 6'	17 ^h 18'

Delta T = 05m15s

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SWISS EPHEMERIS for the year 2148

NOVEMBER 2148

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♄	♁	♁	♁	♁	♁
F 1	2 42 58	9♍ 0'14	11♌40	16♍43	13♌30	21°R19	18♍14	12°R27	27♍ 2	29♌54	20°R52	6°R24	6♌27	19♌13	17♍26
S 2	2 46 54	10° 0'12	24°55	18°17	14°45	21♁14	18°27	12♁23	27° 6	29°56	20♁52	6♌23	6°24	19°19	17°35
S 3	2 50 51	11° 0'12	7♌44	19°51	15°59	21° 8	18°41	12°19	27° 9	29°57	20°51	6°23	6°21	19°26	17°43
M 4	2 54 48	12° 0'14	20°12	21°24	17°14	21° 1	18°54	12°15	27°13	29°59	20°50	6°22	6°18	19°33	17°51
T 5	2 58 44	13° 0'18	2♎23	22°57	18°28	20°53	19° 7	12°11	27°17	0♃ 0	20°49	6°21	6°14	19°40	17°59
W 6	3 2 41	14° 0'24	14°22	24°30	19°43	20°45	19°20	12° 7	27°20	0° 2	20°48	6°18	6°11	19°46	18° 8
T 7	3 6 37	15° 0'32	26°15	26° 2	20°57	20°35	19°33	12° 3	27°24	0° 4	20°47	6°12	6° 8	19°53	18°16
F 8	3 10 34	16° 0'42	8♌ 5	27°33	22°12	20°25	19°47	11°59	27°27	0° 6	20°46	6° 3	6° 5	20° 0	18°24
S 9	3 14 30	17° 0'54	19°56	29° 5	23°26	20°13	20° 0	11°55	27°31	0° 7	20°45	5°51	6° 2	20° 6	18°32
S 10	3 18 27	18° 1'09	1♍50	0♃35	24°41	20° 1	20°13	11°51	27°35	0° 9	20°44	5°38	5°58	20°13	18°41
M 11	3 22 23	19° 1'24	13°48	2° 6	25°56	19°48	20°26	11°46	27°39	0°11	20°44	5°23	5°55	20°20	18°49
T 12	3 26 20	20° 1'42	25°52	3°36	27°10	19°34	20°39	11°42	27°42	0°13	20°43	5° 9	5°52	20°27	18°57
W 13	3 30 17	21° 2'02	8♌ 3	5° 6	28°25	19°20	20°53	11°38	27°46	0°15	20°42	4°57	5°49	20°33	19° 5
T 14	3 34 13	22° 2'23	20°21	6°35	29°40	19° 4	21° 6	11°33	27°50	0°16	20°41	4°47	5°46	20°40	19°14
F 15	3 38 10	23° 2'46	2♃48	8° 4	0♍55	18°48	21°19	11°29	27°53	0°18	20°40	4°40	5°43	20°47	19°22
S 16	3 42 6	24° 3'10	15°27	9°33	2°10	18°31	21°32	11°24	27°57	0°20	20°39	4°35	5°39	20°53	19°30
S 17	3 46 3	25° 3'35	28°17	11° 0	3°24	18°14	21°46	11°20	28° 1	0°22	20°38	4°34	5°36	21° 0	19°38
M 18	3 49 59	26° 4'02	11♌24	12°28	4°39	17°56	21°59	11°15	28° 5	0°24	20°37	4°D34	5°33	21° 7	19°47
T 19	3 53 56	27° 4'30	24°49	13°55	5°54	17°37	22°12	11°10	28° 8	0°26	20°35	4°R34	5°30	21°14	19°55
W 20	3 57 52	28° 5'00	8♌35	15°21	7° 9	17°18	22°25	11° 5	28°12	0°28	20°34	4°34	5°27	21°20	20° 3
T 21	4 1 49	29° 5'30	22°43	16°47	8°24	16°58	22°39	11° 1	28°16	0°30	20°33	4°31	5°24	21°27	20°11
F 22	4 5 46	0♃ 6'02	7♍13	18°12	9°39	16°37	22°52	10°56	28°19	0°32	20°32	4°27	5°20	21°34	20°19
S 23	4 9 42	1° 6'35	22° 1	19°36	10°54	16°16	23° 5	10°51	28°23	0°34	20°31	4°20	5°17	21°41	20°28
S 24	4 13 39	2° 7'10	7♃ 0	21° 0	12° 9	15°55	23°18	10°46	28°27	0°36	20°30	4°11	5°14	21°47	20°36
M 25	4 17 35	3° 7'45	22° 2	22°22	13°24	15°33	23°31	10°41	28°31	0°38	20°29	4° 1	5°11	21°54	20°44
T 26	4 21 32	4° 8'22	6♁57	23°43	14°39	15°12	23°44	10°37	28°34	0°40	20°28	3°51	5° 8	22° 1	20°52
W 27	4 25 28	5° 9'01	21°37	25° 4	15°54	14°49	23°58	10°32	28°38	0°42	20°27	3°44	5° 4	22° 7	21° 0
T 28	4 29 25	6° 9'41	5♌53	26°22	17°10	14°27	24°11	10°27	28°42	0°44	20°26	3°38	5° 1	22°14	21° 8
F 29	4 33 21	7°10'23	19°42	19°39	18°25	14° 4	24°24	10°22	28°45	0°47	20°25	3°35	4°58	22°21	21°16
S 30	4 37 18	8♌11'06	3♌ 3	28♌54	19♍40	13♁41	24♍37	10♁17	28♍49	0♃49	20♁23	3°D34	4♌55	22♌28	21♍24

Delta T = 05m15s

DECEMBER 2148

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♄	♁	♁	♁	♁	♁
S 1	4 41 15	9♌11'50	15♌58	0♃ 7	20♍55	13°R19	24♍50	10°R12	28♍53	0♃51	20°R22	3♌34	4♌52	22♌34	21♍32
M 2	4 45 11	10°12'36	28°31	1°18	22°10	12♁56	25° 3	10♁ 7	28°57	0°53	20♁21	3°35	4°49	22°41	21°40
T 3	4 49 8	11°13'23	10♎45	2°25	23°25	12°33	25°16	10° 2	29° 0	0°55	20°20	3°R36	4°45	22°48	21°48
W 4	4 53 4	12°14'12	22°46	3°30	24°41	12°10	25°29	9°57	29° 4	0°57	20°19	3°35	4°42	22°54	21°56
T 5	4 57 1	13°15'02	4♌40	4°30	25°56	11°47	25°42	9°52	29° 7	0°59	20°18	3°33	4°39	23° 1	22° 4
F 6	5 0 57	14°15'54	16°31	5°27	27°11	11°25	25°55	9°47	29°11	1° 2	20°17	3°28	4°36	23° 8	22°12
S 7	5 4 54	15°16'47	28°23	6°18	28°26	11° 2	26° 8	9°42	29°15	1° 4	20°15	3°21	4°33	23°15	22°20
S 8	5 8 50	16°17'41	10♍19	7° 4	29°42	10°40	26°21	9°38	29°18	1° 6	20°14	3°12	4°30	23°21	22°27
M 9	5 12 47	17°18'37	22°23	7°44	0♃57	10°19	26°34	9°33	29°22	1° 8	20°13	3° 3	4°26	23°28	22°35
T 10	5 16 44	18°19'33	4♌36	8°17	2°12	9°57	26°46	9°28	29°26	1°10	20°12	2°54	4°23	23°35	22°43
W 11	5 20 40	19°20'31	17° 0	8°42	3°28	9°36	26°59	9°23	29°29	1°13	20°11	2°46	4°20	23°42	22°51
T 12	5 24 37	20°21'30	29°35	8°58	4°43	9°16	27°12	9°18	29°33	1°15	20°10	2°40	4°17	23°48	22°58
F 13	5 28 33	21°22'29	12♃20	9°R 4	5°58	8°56	27°25	9°13	29°36	1°17	20° 8	2°36	4°14	23°55	23° 6
S 14	5 32 30	22°23'29	25°17	9° 0	7°14	8°36	27°37	9° 9	29°40	1°19	20° 7	2°34	4°10	24° 2	23°14
S 15	5 36 26	23°24'30	8♌26	8°45	8°29	8°17	27°50	9° 4	29°43	1°22	20° 6	2°D34	4° 7	24° 8	23°21
M 16	5 40 23	24°25'32	21°46	8°18	9°44	7°59	28° 2	8°59	29°47	1°24	20° 5	2°35	4° 4	24°15	23°29
T 17	5 44 19	25°26'34	5♌20	7°40	11° 0	7°41	28°15	8°55	29°50	1°26	20° 4	2°36	4° 1	24°22	23°36
W 18	5 48 16	26°27'36	19° 7	6°51	12°15	7°24	28°27	8°50	29°54	1°28	20° 3	2°37	3°58	24°29	23°43
T 19	5 52 13	27°28'39	3♍ 8	5°51	13°31	7° 8	28°40	8°45	29°57	1°31	20° 2	2°R38	3°55	24°35	23°51
F 20	5 56 9	28°29'42	17°22	4°42	14°46	6°52	28°52	8°41	0♃ 0	1°33	20° 0	2°36	3°51	24°42	23°58
S 21	6 0 6	29°30'45	1♃47	3°27	16° 1	6°38	29° 5	8°37	0° 4	1°35	19°59	2°33	3°48	24°49	24° 5
S 22	6 4 2	0♃31'49	16°20	2° 6	17°17	6°24	29°17	8°32	0° 7	1°37	19°58	2°29	3°45	24°55	24°13
M 23	6 7 59	1°32'53	0♁54	0°43	18°32	6°10	29°29	8°28	0°11	1°40	19°57	2°24	3°42	25° 2	24°20
T 24	6 11 55	2°33'57	15°23	29♌21	19°48	5°58	29°41	8°24	0°14	1°42	19°56	2°19	3°39	25° 9	24°27
W 25	6 15 52	3°35'02	29°42	28° 2	21° 3	5°46	29°53	8°19	0°17	1°44	19°55	2°16	3°36	25°16	24°34
T 26	6 19 48	4°36'07	13♌44	26°49	22°18	5°35	0♃ 6	8°15	0°20	1°47	19°54	2°13	3°32	25°22	24°41
F 27	6 23 45	5°37'13	27°26	25°44	23°34	5°25	0°18	8°11	0°24	1°49	19°52	2°D12	3°29	25°29	24°48
S 28	6 27 42	6°38'19	10♌45	24°49	24°49	5°16	0°30	8° 7	0°27	1°51	19°51	2°12	3°26	25°36	24°55
S 29	6 31 38	7°39'26	23°42	24° 3	26° 5	5° 7	0°41	8° 3	0°30	1°53	19°50	2°13	3°23	25°43	25° 2
M 30	6 35 35	8°40'33	6♎18	23°28	27°20	4°59	0°53	7°59	0°33	1°56	19°49	2°15	3°20	25°49	25° 8
T 31	6 39 31	9♃41'40	18♎37	23♌ 4	28♌35	4♁52	1♌ 5	7♁55	0♃36	1♃58	19♁48	2♌16	3♌16	25♌56	25♍15

Delta T = 05m15s

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