

SWISS EPHEMERIS for the year 1690
heliocentric

JANUARY 1690 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
S 1	6 44 8	11♁ 8'58	11♁18	16♁46	8♁ 4	8♁23	9♁33	11♁40	25♁35	12♁28	25♁18	2♁17
M 2	6 48 5	12°10'08	12°19	19°38	9°40	8°54	9°38	11°42	25°36	12°28	25°18	2°18
T 3	6 52 1	13°11'18	13°21	22°28	11°16	9°25	9°43	11°44	25°37	12°28	25°18	2°19
W 4	6 55 58	14°12'28	14°21	25°17	12°52	9°56	9°49	11°46	25°37	12°29	25°19	2°20
T 5	6 59 54	15°13'38	15°22	28° 4	14°28	10°27	9°54	11°48	25°38	12°29	25°19	2°21
F 6	7 3 51	16°14'48	16°22	0♁51	16° 4	10°58	10° 0	11°50	25°39	12°29	25°19	2°22
S 7	7 7 48	17°15'57	17°22	3°36	17°40	11°28	10° 5	11°52	25°39	12°30	25°19	2°23
S 8	7 11 44	18°17'07	18°22	6°21	19°15	11°59	10°11	11°53	25°40	12°30	25°20	2°24
M 9	7 15 41	19°18'17	19°21	9° 6	20°51	12°30	10°16	11°55	25°41	12°31	25°20	2°25
T 10	7 19 37	20°19'26	20°21	11°51	22°27	13° 0	10°21	11°57	25°42	12°31	25°20	2°26
W11	7 23 34	21°20'34	21°20	14°36	24° 2	13°31	10°27	11°59	25°42	12°31	25°20	2°27
T 12	7 27 30	22°21'43	22°19	17°21	25°38	14° 1	10°32	12° 1	25°43	12°32	25°20	2°28
F 13	7 31 27	23°22'50	23°19	20° 6	27°14	14°32	10°38	12° 3	25°44	12°32	25°21	2°30
S 14	7 35 23	24°23'57	24°18	22°52	28°49	15° 2	10°43	12° 5	25°44	12°32	25°21	2°31
S 15	7 39 20	25°25'03	25°18	25°39	0♁25	15°32	10°49	12° 7	25°45	12°33	25°21	2°32
M16	7 43 17	26°26'08	26°18	28°27	2° 0	16° 3	10°54	12° 8	25°46	12°33	25°21	2°33
T 17	7 47 13	27°27'12	27°19	1♁16	3°35	16°33	11° 0	12°10	25°46	12°33	25°22	2°34
W18	7 51 10	28°28'14	28°20	4° 7	5°11	17° 3	11° 5	12°12	25°47	12°34	25°22	2°35
T 19	7 55 6	29°29'16	29°21	7° 0	6°46	17°33	11°10	12°14	25°48	12°34	25°22	2°36
F 20	7 59 3	0♁30'17	0♁22	9°54	8°21	18° 3	11°16	12°16	25°48	12°35	25°22	2°37
S 21	8 2 59	1°31'17	1°25	12°51	9°57	18°33	11°21	12°18	25°49	12°35	25°23	2°38
S 22	8 6 56	2°32'16	2°27	15°50	11°32	19° 3	11°27	12°20	25°50	12°35	25°23	2°39
M23	8 10 53	3°33'14	3°30	18°52	13° 7	19°33	11°32	12°21	25°50	12°36	25°23	2°40
T 24	8 14 49	4°34'10	4°32	21°57	14°42	20° 3	11°38	12°23	25°51	12°36	25°23	2°41
W25	8 18 46	5°35'06	5°35	25° 5	16°18	20°33	11°43	12°25	25°52	12°36	25°23	2°42
T 26	8 22 42	6°36'00	6°38	28°16	17°53	21° 3	11°49	12°27	25°53	12°37	25°24	2°43
F 27	8 26 39	7°36'53	7°41	1♁32	19°28	21°33	11°54	12°29	25°53	12°37	25°24	2°44
S 28	8 30 35	8°37'46	8°44	4°51	21° 3	22° 2	11°59	12°31	25°54	12°38	25°24	2°45
S 29	8 34 32	9°38'37	9°46	8°15	22°38	22°32	12° 5	12°33	25°55	12°38	25°24	2°46
M30	8 38 28	10°39'28	10°48	11°44	24°13	23° 2	12°10	12°35	25°55	12°38	25°25	2°47
T 31	8 42 25	11°40'18	11°49	15°18	25°48	23°31	12°16	12°36	25°56	12°39	25°25	2°48

Delta T = 8.72 sec. Greg. Calendar

FEBRUARY 1690 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
W 1	8 46 21	12♁41'06	12♁50	18♁57	27♁23	24♁ 1	12♁21	12♁38	25♁57	12♁39	25♁25	2♁49
T 2	8 50 18	13°41'54	13°51	22°42	28°58	24°30	12°27	12°40	25°57	12°39	25°25	2°50
F 3	8 54 15	14°42'41	14°52	26°33	0♁33	25° 0	12°32	12°42	25°58	12°40	25°25	2°51
S 4	8 58 11	15°43'27	15°52	0♁31	2° 8	25°29	12°38	12°44	25°59	12°40	25°26	2°52
S 5	9 2 8	16°44'12	16°51	4°36	3°43	25°59	12°43	12°46	25°59	12°40	25°26	2°53
M 6	9 6 4	17°44'56	17°51	8°48	5°18	26°28	12°49	12°48	26° 0	12°41	25°26	2°54
T 7	9 10 1	18°45'38	18°50	13° 7	6°52	26°57	12°54	12°49	26° 1	12°41	25°26	2°55
W 8	9 13 57	19°46'19	19°49	17°35	8°27	27°26	12°59	12°51	26° 1	12°42	25°27	2°56
T 9	9 17 54	20°46'59	20°48	22°11	10° 2	27°56	13° 5	12°53	26° 2	12°42	25°27	2°57
F 10	9 21 51	21°47'37	21°46	26°56	11°37	28°25	13°10	12°55	26° 3	12°42	25°27	2°58
S 11	9 25 47	22°48'14	22°45	1°49	13°12	28°54	13°16	12°57	26° 4	12°43	25°27	2°59
S 12	9 29 44	23°48'49	23°44	6°52	14°47	29°23	13°21	12°59	26° 4	12°43	25°27	3° 0
M13	9 33 40	24°49'22	24°43	12° 4	16°22	29°52	13°27	13° 1	26° 5	12°43	25°28	3° 1
T 14	9 37 37	25°49'54	25°43	17°24	17°56	0♁21	13°32	13° 3	26° 6	12°44	25°28	3° 2
W15	9 41 33	26°50'24	26°42	22°54	19°31	0°50	13°38	13° 4	26° 6	12°44	25°28	3° 3
T 16	9 45 30	27°50'52	27°42	28°32	21° 6	1°19	13°43	13° 6	26° 7	12°44	25°28	3° 4
F 17	9 49 26	28°51'18	28°43	4♁19	22°41	1°48	13°48	13° 8	26° 8	12°45	25°29	3° 5
S 18	9 53 23	29°51'42	29°44	10°14	24°16	2°16	13°54	13°10	26° 8	12°45	25°29	3° 6
S 19	9 57 20	0♁52'04	0♁45	16°15	25°50	2°45	13°59	13°12	26° 9	12°46	25°29	3° 7
M20	10 1 16	1°52'24	1°46	22°23	27°25	3°14	14° 5	13°14	26°10	12°46	25°29	3° 8
T 21	10 5 13	2°52'43	2°48	28°35	29° 0	3°43	14°10	13°16	26°10	12°46	25°29	3° 9
W22	10 9 9	3°52'59	3°50	4♁51	0♁35	4°11	14°16	13°17	26°11	12°47	25°30	3°10
T 23	10 13 6	4°53'13	4°53	11° 9	2°10	4°40	14°21	13°19	26°12	12°47	25°30	3°12
F 24	10 17 2	5°53'26	5°55	17°29	3°45	5° 8	14°27	13°21	26°12	12°47	25°30	3°13
S 25	10 20 59	6°53'37	6°57	23°47	5°19	5°37	14°32	13°23	26°13	12°48	25°30	3°14
S 26	10 24 55	7°53'46	7°59	0♁ 3	6°54	6° 6	14°38	13°25	26°14	12°48	25°31	3°15
M27	10 28 52	8°53'53	9° 0	6°16	8°29	6°34	14°43	13°27	26°15	12°48	25°31	3°16
T 28	10 32 48	9♁53'59	10♁ 2	12♁24	10♁ 4	7♁ 2	14♁49	13♁29	26♁15	12♁49	25♁31	3♁17

Delta T = 8.75 sec. Greg. Calendar created from Swiss Ephemeris, Copyright Astrodienst AG [13.11.2015]

SWISS EPHEMERIS for the year 1690
heliocentric

MARCH 1690 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♁
W 1	10 36 45	10 ^h 54'03	11 ^m 3	18 [°] 25	11 ^h 39	7 ^h 31	14 ^h 54	13 ^m 30	26 ^h 16	12 ^h 49	25 ^h 31	3 ^h 18
T 2	10 40 42	11 ^h 54'05	12 [°] 3	24 [°] 19	13 [°] 14	7 [°] 59	14 [°] 59	13 [°] 32	26 [°] 17	12 [°] 50	25 [°] 31	3 [°] 19
F 3	10 44 38	12 ^h 54'06	13 [°] 3	0 ^h Ω 6	14 [°] 49	8 [°] 28	15 [°] 5	13 [°] 34	26 [°] 17	12 [°] 50	25 [°] 32	3 [°] 20
S 4	10 48 35	13 ^h 54'05	14 [°] 3	5 [°] 43	16 [°] 24	8 [°] 56	15 [°] 10	13 [°] 36	26 [°] 18	12 [°] 50	25 [°] 32	3 [°] 21
S 5	10 52 31	14 ^h 54'03	15 [°] 3	11 [°] 11	17 [°] 59	9 [°] 24	15 [°] 16	13 [°] 38	26 [°] 19	12 [°] 51	25 [°] 32	3 [°] 22
M 6	10 56 28	15 ^h 53'59	16 [°] 2	16 [°] 30	19 [°] 33	9 [°] 52	15 [°] 21	13 [°] 40	26 [°] 19	12 [°] 51	25 [°] 32	3 [°] 23
T 7	11 0 24	16 ^h 53'53	17 [°] 1	21 [°] 39	21 [°] 8	10 [°] 20	15 [°] 27	13 [°] 42	26 [°] 20	12 [°] 51	25 [°] 33	3 [°] 24
W 8	11 4 21	17 ^h 53'46	17 [°] 59	26 [°] 39	22 [°] 43	10 [°] 49	15 [°] 32	13 [°] 44	26 [°] 21	12 [°] 52	25 [°] 33	3 [°] 25
T 9	11 8 17	18 ^h 53'36	18 [°] 57	1 ^h 29	24 [°] 18	11 [°] 17	15 [°] 38	13 [°] 45	26 [°] 21	12 [°] 52	25 [°] 33	3 [°] 26
F 10	11 12 14	19 ^h 53'25	19 [°] 55	6 [°] 9	25 [°] 53	11 [°] 45	15 [°] 43	13 [°] 47	26 [°] 22	12 [°] 52	25 [°] 33	3 [°] 27
S 11	11 16 11	20 ^h 53'12	20 [°] 53	10 [°] 41	27 [°] 28	12 [°] 13	15 [°] 49	13 [°] 49	26 [°] 23	12 [°] 53	25 [°] 34	3 [°] 28
S 12	11 20 7	21 ^h 52'56	21 [°] 51	15 [°] 4	29 [°] 3	12 [°] 41	15 [°] 54	13 [°] 51	26 [°] 23	12 [°] 53	25 [°] 34	3 [°] 29
M13	11 24 4	22 ^h 52'39	22 [°] 49	19 [°] 18	0 ^h 38	13 [°] 9	15 [°] 59	13 [°] 53	26 [°] 24	12 [°] 54	25 [°] 34	3 [°] 30
T 14	11 28 0	23 ^h 52'20	23 [°] 47	23 [°] 25	2 [°] 14	13 [°] 37	16 [°] 5	13 [°] 55	26 [°] 25	12 [°] 54	25 [°] 34	3 [°] 31
W15	11 31 57	24 ^h 51'58	24 [°] 45	27 [°] 24	3 [°] 49	14 [°] 5	16 [°] 10	13 [°] 57	26 [°] 26	12 [°] 54	25 [°] 34	3 [°] 32
T 16	11 35 53	25 ^h 51'34	25 [°] 44	1 ^h 17	5 [°] 24	14 [°] 33	16 [°] 16	13 [°] 58	26 [°] 26	12 [°] 55	25 [°] 35	3 [°] 33
F 17	11 39 50	26 ^h 51'08	26 [°] 43	5 [°] 2	6 [°] 59	15 [°] 0	16 [°] 21	14 [°] 0	26 [°] 27	12 [°] 55	25 [°] 35	3 [°] 34
S 18	11 43 46	27 ^h 50'39	27 [°] 42	8 [°] 42	8 [°] 34	15 [°] 28	16 [°] 27	14 [°] 2	26 [°] 28	12 [°] 55	25 [°] 35	3 [°] 35
S 19	11 47 43	28 ^h 50'09	28 [°] 42	12 [°] 16	10 [°] 9	15 [°] 56	16 [°] 32	14 [°] 4	26 [°] 28	12 [°] 56	25 [°] 35	3 [°] 36
M20	11 51 40	29 ^h 49'35	29 [°] 42	15 [°] 44	11 [°] 44	16 [°] 24	16 [°] 38	14 [°] 6	26 [°] 29	12 [°] 56	25 [°] 36	3 [°] 37
T 21	11 55 36	0 ^h 49'00	0 ^h 43	19 [°] 8	13 [°] 20	16 [°] 51	16 [°] 43	14 [°] 8	26 [°] 30	12 [°] 56	25 [°] 36	3 [°] 38
W22	11 59 33	1 ^h 48'22	1 ^h 43	22 [°] 27	14 [°] 55	17 [°] 19	16 [°] 49	14 [°] 10	26 [°] 30	12 [°] 57	25 [°] 36	3 [°] 39
T 23	12 3 29	2 ^h 47'41	2 ^h 44	25 [°] 41	16 [°] 30	17 [°] 47	16 [°] 54	14 [°] 11	26 [°] 31	12 [°] 57	25 [°] 36	3 [°] 40
F 24	12 7 26	3 ^h 46'59	3 ^h 45	28 [°] 52	18 [°] 5	18 [°] 14	17 [°] 0	14 [°] 13	26 [°] 32	12 [°] 58	25 [°] 36	3 [°] 41
S 25	12 11 22	4 ^h 46'14	4 ^h 46	1 ^h 59	19 [°] 41	18 [°] 42	17 [°] 5	14 [°] 15	26 [°] 32	12 [°] 58	25 [°] 37	3 [°] 42
S 26	12 15 19	5 ^h 45'28	5 ^h 47	5 [°] 3	21 [°] 16	19 [°] 10	17 [°] 11	14 [°] 17	26 [°] 33	12 [°] 58	25 [°] 37	3 [°] 44
M27	12 19 15	6 ^h 44'39	6 ^h 48	8 [°] 4	22 [°] 51	19 [°] 37	17 [°] 16	14 [°] 19	26 [°] 34	12 [°] 59	25 [°] 37	3 [°] 45
T 28	12 23 12	7 ^h 43'49	7 ^h 49	11 [°] 2	24 [°] 27	20 [°] 5	17 [°] 21	14 [°] 21	26 [°] 34	12 [°] 59	25 [°] 37	3 [°] 46
W29	12 27 9	8 ^h 42'56	8 ^h 50	13 [°] 58	26 [°] 2	20 [°] 32	17 [°] 27	14 [°] 23	26 [°] 35	12 [°] 59	25 [°] 38	3 [°] 47
T 30	12 31 5	9 ^h 42'02	9 ^h 50	16 [°] 52	27 [°] 38	21 [°] 0	17 [°] 32	14 [°] 24	26 [°] 36	13 [°] 0	25 [°] 38	3 [°] 48
F 31	12 35 2	10 ^h 41'06	10 ^h 50	19 ^h 43	29 ^h 13	21 ^h 27	17 ^h 38	14 ^m 26	26 ^h 37	13 ^h 0	25 ^h 38	3 ^h 49

Delta T = 8.77 sec.

Greg. Calendar

APRIL 1690 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♁
S 1	12 38 58	11 ^h 40'08	11 ^h 49	22 ^m 33	0 ^h 48	21 ^h 54	17 ^h 43	14 ^m 28	26 ^h 37	13 ^h 0	25 ^h 38	3 ^h 50
S 2	12 42 55	12 ^h 39'09	12 [°] 48	25 [°] 22	2 [°] 24	22 [°] 22	17 [°] 49	14 [°] 30	26 [°] 38	13 [°] 1	25 [°] 38	3 [°] 51
M 3	12 46 51	13 ^h 38'07	13 [°] 47	28 [°] 9	4 [°] 0	22 [°] 49	17 [°] 54	14 [°] 32	26 [°] 39	13 [°] 1	25 [°] 39	3 [°] 52
T 4	12 50 48	14 ^h 37'04	14 [°] 45	0 ^h 56	5 [°] 35	23 [°] 17	18 [°] 0	14 [°] 34	26 [°] 39	13 [°] 2	25 [°] 39	3 [°] 53
W 5	12 54 44	15 ^h 35'59	15 [°] 43	3 [°] 42	7 [°] 11	23 [°] 44	18 [°] 5	14 [°] 36	26 [°] 40	13 [°] 2	25 [°] 39	3 [°] 54
T 6	12 58 41	16 ^h 34'52	16 [°] 41	6 [°] 27	8 [°] 46	24 [°] 11	18 [°] 11	14 [°] 37	26 [°] 41	13 [°] 2	25 [°] 39	3 [°] 55
F 7	13 2 38	17 ^h 33'44	17 [°] 38	9 [°] 12	10 [°] 22	24 [°] 38	18 [°] 16	14 [°] 39	26 [°] 41	13 [°] 3	25 [°] 40	3 [°] 56
S 8	13 6 34	18 ^h 32'33	18 [°] 35	11 [°] 56	11 [°] 57	25 [°] 6	18 [°] 22	14 [°] 41	26 [°] 42	13 [°] 3	25 [°] 40	3 [°] 57
S 9	13 10 31	19 ^h 31'21	19 [°] 32	14 [°] 41	13 [°] 33	25 [°] 33	18 [°] 27	14 [°] 43	26 [°] 43	13 [°] 3	25 [°] 40	3 [°] 58
M10	13 14 27	20 ^h 30'06	20 [°] 29	17 [°] 26	15 [°] 9	26 [°] 0	18 [°] 33	14 [°] 45	26 [°] 43	13 [°] 4	25 [°] 40	3 [°] 59
T 11	13 18 24	21 ^h 28'50	21 [°] 26	20 [°] 11	16 [°] 45	26 [°] 27	18 [°] 38	14 [°] 47	26 [°] 44	13 [°] 4	25 [°] 40	4 [°] 0
W12	13 22 20	22 ^h 27'31	22 [°] 23	22 [°] 57	18 [°] 20	26 [°] 54	18 [°] 44	14 [°] 49	26 [°] 45	13 [°] 4	25 [°] 41	4 [°] 1
T 13	13 26 17	23 ^h 26'11	23 [°] 20	25 [°] 44	19 [°] 56	27 [°] 21	18 [°] 49	14 [°] 50	26 [°] 45	13 [°] 5	25 [°] 41	4 [°] 2
F 14	13 30 13	24 ^h 24'48	24 [°] 17	28 [°] 32	21 [°] 32	27 [°] 48	18 [°] 54	14 [°] 52	26 [°] 46	13 [°] 5	25 [°] 41	4 [°] 3
S 15	13 34 10	25 ^h 23'23	25 [°] 15	1 ^h 22	23 [°] 8	28 [°] 15	19 [°] 0	14 [°] 54	26 [°] 47	13 [°] 6	25 [°] 41	4 [°] 4
S 16	13 38 7	26 ^h 21'56	26 [°] 13	4 [°] 13	24 [°] 44	28 [°] 42	19 [°] 5	14 [°] 56	26 [°] 48	13 [°] 6	25 [°] 42	4 [°] 5
M17	13 42 3	27 ^h 20'27	27 [°] 12	7 [°] 5	26 [°] 19	29 [°] 9	19 [°] 11	14 [°] 58	26 [°] 48	13 [°] 6	25 [°] 42	4 [°] 6
T 18	13 46 0	28 ^h 18'55	28 [°] 11	10 [°] 0	27 [°] 55	29 [°] 36	19 [°] 16	15 [°] 0	26 [°] 49	13 [°] 7	25 [°] 42	4 [°] 7
W19	13 49 56	29 ^h 17'21	29 [°] 10	12 [°] 57	29 [°] 31	0 ^h Ω 3	19 [°] 22	15 [°] 2	26 [°] 50	13 [°] 7	25 [°] 42	4 [°] 8
T 20	13 53 53	0 ^h 15'45	0 ^h 10	15 [°] 56	1 ^h 7	0 ^h 30	19 [°] 27	15 [°] 3	26 [°] 50	13 [°] 7	25 [°] 42	4 [°] 10
F 21	13 57 49	1 ^h 14'07	1 ^h 10	18 [°] 58	2 [°] 43	0 ^h 57	19 [°] 33	15 [°] 5	26 [°] 51	13 [°] 8	25 [°] 43	4 [°] 11
S 22	14 1 46	2 ^h 12'27	2 ^h 10	22 [°] 3	4 [°] 19	1 [°] 24	19 [°] 38	15 [°] 7	26 [°] 52	13 [°] 8	25 [°] 43	4 [°] 12
S 23	14 5 42	3 ^h 10'45	3 ^h 10	25 [°] 11	5 [°] 55	1 [°] 51	19 [°] 44	15 [°] 9	26 [°] 52	13 [°] 9	25 [°] 43	4 [°] 13
M24	14 9 39	4 ^h 9'01	4 ^h 10	28 [°] 23	7 [°] 31	2 [°] 18	19 [°] 49	15 [°] 11	26 [°] 53	13 [°] 9	25 [°] 43	4 [°] 14
T 25	14 13 36	5 ^h 7'15	5 ^h 10	1 ^h 38	9 [°] 7	2 [°] 45	19 [°] 55	15 [°] 13	26 [°] 54	13 [°] 9	25 [°] 44	4 [°] 15
W26	14 17 32	6 ^h 5'28	6 ^h 10	4 [°] 58	10 [°] 44	3 [°] 12	20 [°] 0	15 [°] 15	26 [°] 54	13 [°] 10	25 [°] 44	4 [°] 16
T 27	14 21 29	7 ^h 3'39	7 ^h 9	8 [°] 22	12 [°] 20	3 [°] 38	20 [°] 6	15 [°] 16	26 [°] 55	13 [°] 10	25 [°] 44	4 [°] 17
F 28	14 25 25	8 ^h 1'49	8 ^h 9									

SWISS EPHEMERIS for the year 1690
heliocentric

MAY 1690 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
M 1	14 37 15	10♈56°09	11♈ 5	22♈49	18♈45	5♈25	20♈28	15♈24	26♈58	13♈11	25♈45	4♈21
T 2	14 41 11	11°54'12	12° 3	26°41	20°21	5°52	20°33	15°26	26°59	13°12	25°45	4°22
W 3	14 45 8	12°52'15	13° 1	0♈39	21°57	6°19	20°38	15°28	26°59	13°12	25°45	4°23
T 4	14 49 5	13°50'15	13°58	4°44	23°34	6°45	20°44	15°29	27° 0	13°13	25°46	4°24
F 5	14 53 1	14°48'15	14°55	8°56	25°10	7°12	20°49	15°31	27° 1	13°13	25°46	4°25
S 6	14 56 58	15°46'13	15°51	13°16	26°46	7°39	20°55	15°33	27° 1	13°13	25°46	4°26
S 7	15 0 54	16°44'10	16°48	17°44	28°23	8° 5	21° 0	15°35	27° 2	13°14	25°46	4°27
M 8	15 4 51	17°42'05	17°44	22°20	29°59	8°32	21° 6	15°37	27° 3	13°14	25°47	4°28
T 9	15 8 47	18°39'59	18°40	27° 5	1♈36	8°59	21°11	15°39	27° 3	13°14	25°47	4°29
W10	15 12 44	19°37'51	19°36	1°♀59	3°12	9°25	21°17	15°41	27° 4	13°15	25°47	4°30
T 11	15 16 40	20°35'42	20°32	7° 2	4°49	9°52	21°22	15°42	27° 5	13°15	25°47	4°31
F 12	15 20 37	21°33'32	21°28	12°14	6°26	10°18	21°28	15°44	27° 5	13°15	25°47	4°33
S 13	15 24 34	22°31'19	22°24	17°35	8° 2	10°45	21°33	15°46	27° 6	13°16	25°48	4°34
S 14	15 28 30	23°29'05	23°21	23° 5	9°39	11°11	21°39	15°48	27° 7	13°16	25°48	4°35
M15	15 32 27	24°26'50	24°18	28°43	11°16	11°38	21°44	15°50	27° 7	13°17	25°48	4°36
T 16	15 36 23	25°24'32	25°16	4♈30	12°52	12° 4	21°50	15°52	27° 8	13°17	25°48	4°37
W17	15 40 20	26°22'13	26°14	10°25	14°29	12°31	21°55	15°54	27° 9	13°17	25°49	4°38
T 18	15 44 16	27°19'52	27°12	16°27	16° 6	12°57	22° 1	15°55	27°10	13°18	25°49	4°39
F 19	15 48 13	28°17'30	28°11	22°34	17°43	13°24	22° 6	15°57	27°10	13°18	25°49	4°40
S 20	15 52 9	29°15'06	29°10	28°47	19°20	13°50	22°12	15°59	27°11	13°18	25°49	4°41
S 21	15 56 6	0♈12°41	0♈ 9	5♈ 3	20°56	14°17	22°17	16° 1	27°12	13°19	25°49	4°42
M22	16 0 3	1°10'15	1° 8	11°21	22°33	14°43	22°23	16° 3	27°12	13°19	25°50	4°43
T 23	16 3 59	2° 7'47	2° 8	17°41	24°10	15°10	22°28	16° 5	27°13	13°19	25°50	4°44
W24	16 7 56	3° 5'18	3° 7	23°59	25°47	15°36	22°34	16° 7	27°14	13°20	25°50	4°45
T 25	16 11 52	4° 2'49	4° 6	0♈15	27°24	16° 2	22°39	16° 8	27°14	13°20	25°50	4°46
F 26	16 15 49	5° 0'18	5° 5	6°28	29° 1	16°29	22°45	16°10	27°15	13°21	25°51	4°47
S 27	16 19 45	5°57'46	6° 4	12°35	0♈38	16°55	22°50	16°12	27°16	13°21	25°51	4°48
S 28	16 23 42	6°55'14	7° 3	18°37	2°15	17°21	22°56	16°14	27°16	13°21	25°51	4°49
M29	16 27 38	7°52'40	8° 1	24°31	3°52	17°48	23° 1	16°16	27°17	13°22	25°51	4°50
T 30	16 31 35	8°50'06	8°59	0♈17	5°30	18°14	23° 7	16°18	27°18	13°22	25°51	4°51
W31	16 35 32	9♈47'31	9♈56	5♈54	7♈ 7	18♈40	23♈12	16♈20	27♈18	13♈22	25♈52	4♈52

Delta T = 8.80 sec.

Greg. Calendar

JUNE 1690 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
T 1	16 39 28	10♈44'56	10♈54	11♈22	8♈44	19♈ 7	23♈17	16♈21	27♈19	13♈23	25♈52	4♈54
F 2	16 43 25	11°42'11	11°50	16°40	10°21	19°33	23°23	16°23	27°20	13°23	25°52	4°55
S 3	16 47 21	12°39'43	12°47	21°49	11°58	19°59	23°28	16°25	27°21	13°23	25°52	4°56
S 4	16 51 18	13°37'05	13°43	26°48	13°36	20°26	23°34	16°27	27°21	13°24	25°53	4°57
M 5	16 55 14	14°34'28	14°39	1♈38	15°13	20°52	23°39	16°29	27°22	13°24	25°53	4°58
T 6	16 59 11	15°31'49	15°34	6°18	16°50	21°18	23°45	16°31	27°23	13°25	25°53	4°59
W 7	17 3 7	16°29'10	16°29	10°49	18°28	21°45	23°50	16°33	27°23	13°25	25°53	5° 0
T 8	17 7 4	17°26'31	17°25	15°12	20° 5	22°11	23°56	16°34	27°24	13°25	25°54	5° 1
F 9	17 11 1	18°23'50	18°20	19°26	21°42	22°37	24° 1	16°36	27°25	13°26	25°54	5° 2
S 10	17 14 57	19°21'09	19°16	23°33	23°20	23° 3	24° 7	16°38	27°25	13°26	25°54	5° 3
S 11	17 18 54	20°18'27	20°12	27°32	24°57	23°30	24°12	16°40	27°26	13°26	25°54	5° 4
M12	17 22 50	21°15'44	21° 8	1♈24	26°35	23°56	24°18	16°42	27°27	13°27	25°54	5° 5
T 13	17 26 47	22°13'00	22° 5	5°10	28°12	24°22	24°23	16°44	27°27	13°27	25°55	5° 6
W14	17 30 43	23°10'15	23° 2	8°49	29°49	24°48	24°29	16°46	27°28	13°28	25°55	5° 7
T 15	17 34 40	24° 7'30	23°59	12°23	1♈27	25°15	24°34	16°47	27°29	13°28	25°55	5° 8
F 16	17 38 37	25° 4'44	24°57	15°51	3° 4	25°41	24°40	16°49	27°30	13°28	25°55	5° 9
S 17	17 42 33	26° 1'57	25°55	19°14	4°42	26° 7	24°45	16°51	27°30	13°29	25°56	5°10
S 18	17 46 30	26°59'30	26°53	22°33	6°19	26°33	24°51	16°53	27°31	13°29	25°56	5°12
M19	17 50 26	27°56'21	27°52	25°47	7°57	27° 0	24°56	16°55	27°32	13°29	25°56	5°13
T 20	17 54 23	28°53'33	28°51	28°58	9°34	27°26	25° 2	16°57	27°32	13°30	25°56	5°14
W21	17 58 19	29°50'44	29°49	2♈ 5	11°12	27°52	25° 7	16°59	27°33	13°30	25°56	5°15
T 22	18 2 16	0♈47'55	0♈48	5° 9	12°50	28°18	25°13	17° 0	27°34	13°30	25°57	5°16
F 23	18 6 12	1°45'06	1°47	8°10	14°27	28°44	25°18	17° 2	27°34	13°31	25°57	5°17
S 24	18 10 9	2°42'17	2°46	11° 8	16° 5	29°11	25°24	17° 4	27°35	13°31	25°57	5°18
S 25	18 14 6	3°39'27	3°45	14° 4	17°42	29°37	25°29	17° 6	27°36	13°32	25°57	5°19
M26	18 18 2	4°36'38	4°43	16°57	19°20	0♈ 3	25°35	17° 8	27°36	13°32	25°58	5°20
T 27	18 21 59	5°33'48	5°41	19°49	20°57	0°29	25°40	17°10	27°37	13°32	25°58	5°21
W28	18 25 55	6°30'59	6°39	22°39	22°35	0°56	25°46	17°12	27°38	13°33	25°58	5°22
T 29	18 29 52	7°28'10	7°37	25°27	24°12	1°22	25°51	17°13	27°38	13°33	25°58	5°23
F 30	18 33 48	8♈25'21	8♈34	28♈15	25♈50	1♈48	25♈57	17♈15	27♈39	13♈33	25♈58	5♈24

Delta T = 8.82 sec.

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SWISS EPHEMERIS for the year 1690
heliocentric

JULY 1690 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
S 1	18 37 45	9♁22'32	9♁31	1♂ 1	27♂28	2♁14	26♁ 2	17♁17	27♁40	13♁34	25♁59	5♁25
S 2	18 41 41	10°19'44	10°27	3°47	29° 5	2°40	26° 8	17°19	27°41	13°34	25°59	5°26
M 3	18 45 38	11°16'56	11°23	6°32	0♁43	3° 7	26°13	17°21	27°41	13°34	25°59	5°27
T 4	18 49 35	12°14'09	12°19	9°17	2°20	3°33	26°19	17°23	27°42	13°35	25°59	5°28
W 5	18 53 31	13°11'22	13°14	12° 2	3°58	3°59	26°24	17°25	27°43	13°35	26° 0	5°30
T 6	18 57 28	14° 8'36	14° 9	14°46	5°35	4°25	26°30	17°26	27°43	13°36	26° 0	5°31
F 7	19 1 24	15° 5'49	15° 5	17°31	7°13	4°52	26°35	17°28	27°44	13°36	26° 0	5°32
S 8	19 5 21	16° 3'03	16° 0	20°17	8°50	5°18	26°41	17°30	27°45	13°36	26° 0	5°33
S 9	19 9 17	17° 0'17	16°55	23° 3	10°27	5°44	26°46	17°32	27°45	13°37	26° 1	5°34
M10	19 13 14	17°57'31	17°51	25°50	12° 5	6°10	26°52	17°34	27°46	13°37	26° 1	5°35
T 11	19 17 10	18°54'45	18°47	28°38	13°42	6°37	26°57	17°36	27°47	13°37	26° 1	5°36
W12	19 21 7	19°51'59	19°44	1♁27	15°20	7° 3	27° 3	17°38	27°47	13°38	26° 1	5°37
T 13	19 25 4	20°49'14	20°40	4°18	16°57	7°29	27° 8	17°39	27°48	13°38	26° 1	5°38
F 14	19 29 0	21°46'28	21°38	7°11	18°34	7°55	27°14	17°41	27°49	13°39	26° 2	5°39
S 15	19 32 57	22°43'43	22°35	10° 6	20°12	8°22	27°19	17°43	27°50	13°39	26° 2	5°40
S 16	19 36 53	23°40'58	23°33	13° 2	21°49	8°48	27°25	17°45	27°50	13°39	26° 2	5°41
M17	19 40 50	24°38'13	24°31	16° 2	23°26	9°14	27°30	17°47	27°51	13°40	26° 2	5°42
T 18	19 44 46	25°35'29	25°30	19° 4	25° 3	9°40	27°36	17°49	27°52	13°40	26° 3	5°43
W19	19 48 43	26°32'46	26°29	22° 9	26°41	10° 7	27°41	17°50	27°52	13°40	26° 3	5°44
T 20	19 52 40	27°30'02	27°28	25°17	28°18	10°33	27°47	17°52	27°53	13°41	26° 3	5°46
F 21	19 56 36	28°27'20	28°27	28°29	29°55	10°59	27°52	17°54	27°54	13°41	26° 3	5°47
S 22	20 0 33	29°24'38	29°26	1♁45	1♁32	11°26	27°58	17°56	27°54	13°41	26° 3	5°48
S 23	20 4 29	0♁21'57	0♁25	5° 4	3° 9	11°52	28° 3	17°58	27°55	13°42	26° 4	5°49
M24	20 8 26	1°19'16	1°24	8°28	4°46	12°18	28° 9	18° 0	27°56	13°42	26° 4	5°50
T 25	20 12 22	2°16'37	2°22	11°57	6°23	12°45	28°14	18° 2	27°56	13°43	26° 4	5°51
W26	20 16 19	3°13'58	3°21	15°32	8° 0	13°11	28°20	18° 3	27°57	13°43	26° 4	5°52
T 27	20 20 15	4°11'20	4°19	19°11	9°37	13°37	28°25	18° 5	27°58	13°43	26° 5	5°53
F 28	20 24 12	5° 8'44	5°17	22°57	11°14	14° 4	28°31	18° 7	27°58	13°44	26° 5	5°54
S 29	20 28 8	6° 6'09	6°15	26°48	12°50	14°30	28°36	18° 9	27°59	13°44	26° 5	5°55
S 30	20 32 5	7° 3'35	7°12	0♁46	14°27	14°56	28°42	18°11	28° 0	13°44	26° 5	5°56
MB1	20 36 2	8♁ 1'03	8♁ 9	4♁52	16♁ 4	15♁23	28♁47	18♁13	28♁ 1	13♁45	26♁ 6	5♁57

Delta T = 8.82 sec.

Greg. Calendar

AUGUST 1690 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
T 1	20 39 58	8♁58'31	9♁ 5	9♁ 4	17♁41	15♁49	28♁53	18♁15	28♁ 1	13♁45	26♁ 6	5♁58
W 2	20 43 55	9°56'02	10° 1	13°24	19°17	16°16	28°58	18°16	28° 2	13°45	26° 6	5°59
T 3	20 47 51	10°53'33	10°57	17°52	20°54	16°42	29° 4	18°18	28° 3	13°46	26° 6	6° 1
F 4	20 51 48	11°51'06	11°52	22°29	22°30	17° 8	29° 9	18°20	28° 3	13°46	26° 6	6° 2
S 5	20 55 44	12°48'39	12°48	27°14	24° 7	17°35	29°15	18°22	28° 4	13°47	26° 7	6° 3
S 6	20 59 41	13°46'14	13°44	2♁ 8	25°43	18° 1	29°20	18°24	28° 5	13°47	26° 7	6° 4
M 7	21 3 38	14°43'50	14°39	7°11	27°20	18°28	29°26	18°26	28° 5	13°47	26° 7	6° 5
T 8	21 7 34	15°41'27	15°35	12°24	28°56	18°54	29°31	18°27	28° 6	13°48	26° 7	6° 6
W 9	21 11 31	16°39'04	16°32	17°45	0♁32	19°21	29°37	18°29	28° 7	13°48	26° 8	6° 7
T 10	21 15 27	17°36'43	17°29	23°15	2° 9	19°47	29°42	18°31	28° 7	13°48	26° 8	6° 8
F 11	21 19 24	18°34'23	18°26	28°54	3°45	20°14	29°48	18°33	28° 8	13°49	26° 8	6° 9
S 12	21 23 20	19°32'04	19°23	4♁42	5°21	20°40	29°53	18°35	28° 9	13°49	26° 8	6°10
S 13	21 27 17	20°29'46	20°21	10°36	6°57	21° 7	29°59	18°37	28°10	13°49	26° 8	6°11
M14	21 31 13	21°27'29	21°19	16°38	8°33	21°34	0♁ 4	18°39	28°10	13°50	26° 9	6°12
T 15	21 35 10	22°25'13	22°18	22°46	10° 9	22° 0	0°10	18°40	28°11	13°50	26° 9	6°13
W16	21 39 7	23°22'59	23°17	28°59	11°45	22°27	0°15	18°42	28°12	13°51	26° 9	6°14
T 17	21 43 3	24°20'45	24°16	5♁15	13°21	22°53	0°21	18°44	28°12	13°51	26° 9	6°16
F 18	21 47 0	25°18'33	25°15	11°33	14°57	23°20	0°26	18°46	28°13	13°51	26°10	6°17
S 19	21 50 56	26°16'23	26°15	17°53	16°33	23°47	0°32	18°48	28°14	13°52	26°10	6°18
S 20	21 54 53	27°14'13	27°14	24°11	18° 9	24°13	0°37	18°50	28°14	13°52	26°10	6°19
M21	21 58 49	28°12'06	28°14	0♁27	19°45	24°40	0°43	18°52	28°15	13°52	26°10	6°20
T 22	22 2 46	29° 9'59	29°13	6°40	21°20	25° 7	0°48	18°53	28°16	13°53	26°10	6°21
W23	22 6 42	0♁ 7'55	0♁13	12°47	22°56	25°33	0°54	18°55	28°16	13°53	26°11	6°22
T 24	22 10 39	1° 5'52	1°12	18°48	24°32	26° 0	0°59	18°57	28°17	13°53	26°11	6°23
F 25	22 14 35	2° 3'51	2°11	24°42	26° 7	26°27	1° 5	18°59	28°18	13°54	26°11	6°24
S 26	22 18 32	3° 1'52	3°10	0♁27	27°43	26°54	1°10	19° 1	28°18	13°54	26°11	6°25
S 27	22 22 29	3°59'55	4° 8	6° 4	29°18	27°20	1°16	19° 3	28°19	13°55	26°12	6°26
M28	22 26 25	4°58'00	5° 6	11°32	0♁54	27°47	1°21	19° 4	28°20	13°55	26°12	6°27
T 29	22 30 22	5°56'07	6° 4	16°50	2°29	28°14	1°27	19° 6	28°21	13°55	26°12	6°28
W30	22 34 18	6°54'16	7° 1	21°59	4° 5	28°41	1°32	19° 8	28°21	13°56	26°12	6°30
T 31	22 38 15	7♁52'27	7♁58	26♁57	5♁40	29♁ 8	1♁38	19♁10	28♁22	13♁56	26♁13	6♁31

Delta T = 8.83 sec.

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SWISS EPHEMERIS for the year 1690
heliocentric

SEPTEMBER 1690 GC

00:00 UT

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

Delta T = 8.82 sec.

Greg. Calendar

OCTOBER 1690 GC

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♃
S 1	0 40 28	8♁11'12	8♁14	12♁ 7	24♁45	13♁12	4♁28	20♁ 7	28♁43	14♁ 7	26♁20	7♁ 4
M 2	0 44 25	9°10'25	9°11	14°52	26°19	13°40	4°34	20° 9	28°44	14° 8	26°20	7° 5
T 3	0 48 21	10° 9'41	10° 9	17°36	27°54	14° 7	4°39	20°11	28°45	14° 8	26°20	7° 6
W 4	0 52 18	11° 8'58	11° 6	20°22	29°29	14°35	4°45	20°13	28°45	14° 8	26°20	7° 7
T 5	0 56 14	12° 8'18	12° 4	23° 8	1♁ 4	15° 3	4°50	20°15	28°46	14° 9	26°20	7° 8
F 6	1 0 11	13° 7'39	13° 2	25°55	2°39	15°31	4°56	20°16	28°47	14° 9	26°21	7°10
S 7	1 4 7	14° 7'02	14° 0	28°43	4°14	15°59	5° 1	20°18	28°47	14°10	26°21	7°11
S 8	1 8 4	15° 6'28	14°58	1♁33	5°48	16°26	5° 7	20°20	28°48	14°10	26°21	7°12
M 9	1 12 0	16° 5'55	15°57	4°24	7°23	16°54	5°12	20°22	28°49	14°10	26°21	7°13
T 10	1 15 57	17° 5'24	16°56	7°16	8°58	17°22	5°18	20°24	28°50	14°11	26°22	7°14
W 11	1 19 54	18° 4'54	17°56	10°11	10°33	17°50	5°23	20°26	28°50	14°11	26°22	7°15
T 12	1 23 50	19° 4'26	18°56	13° 8	12° 8	18°18	5°29	20°28	28°51	14°11	26°22	7°16
F 13	1 27 47	20° 4'01	19°56	16° 8	13°43	18°46	5°34	20°29	28°52	14°12	26°22	7°17
S 14	1 31 43	21° 3'36	20°57	19°10	15°18	19°14	5°40	20°31	28°52	14°12	26°22	7°18
S 15	1 35 40	22° 3'14	21°58	22°15	16°53	19°42	5°45	20°33	28°53	14°12	26°23	7°19
M 16	1 39 36	23° 2'53	22°59	25°23	18°28	20°10	5°51	20°35	28°54	14°13	26°23	7°20
T 17	1 43 33	24° 2'35	24° 0	28°35	20° 2	20°39	5°56	20°37	28°54	14°13	26°23	7°22
W 18	1 47 29	25° 2'18	25° 2	1♁51	21°37	21° 7	6° 2	20°39	28°55	14°14	26°23	7°23
T 19	1 51 26	26° 2'03	26° 4	5°11	23°12	21°35	6° 7	20°40	28°56	14°14	26°24	7°24
F 20	1 55 23	27° 1'51	27° 5	8°35	24°47	22° 3	6°13	20°42	28°56	14°14	26°24	7°25
S 21	1 59 19	28° 1'40	28° 7	12° 4	26°22	22°32	6°18	20°44	28°57	14°15	26°24	7°26
S 22	2 3 16	29° 1'32	29° 8	15°39	27°57	23° 0	6°24	20°46	28°58	14°15	26°24	7°27
M 23	2 7 12	0♁ 1'26	0♁ 9	19°18	29°32	23°28	6°29	20°48	28°58	14°15	26°24	7°28
T 24	2 11 9	1° 1'22	1°10	23° 4	1♁ 8	23°57	6°35	20°50	28°59	14°16	26°25	7°29
W 25	2 15 5	2° 1'20	2°10	26°56	2°43	24°25	6°40	20°51	29° 0	14°16	26°25	7°30
T 26	2 19 2	3° 1'21	3°10	0♁54	4°18	24°54	6°46	20°53	29° 1	14°16	26°25	7°31
F 27	2 22 58	4° 1'24	4° 9	5° 0	5°53	25°22	6°51	20°55	29° 1	14°17	26°25	7°32
S 28	2 26 55	5° 1'28	5° 8	9°12	7°28	25°51	6°57	20°57	29° 2	14°17	26°26	7°34
S 29	2 30 52	6° 1'35	6° 7	13°33	9° 3	26°19	7° 2	20°59	29° 3	14°18	26°26	7°35
M 30	2 34 48	7° 1'44	7° 6	18° 1	10°38	26°48	7° 8	21° 1	29° 3	14°18	26°26	7°36
T 31	2 38 45	8♁ 1'55	8♁ 4	22♁38	12♁14	27♁16	7♁13	21♁ 3	29♁ 4	14♁18	26♁26	7♁37

Delta T = 8.81 sec.

Greg. Calendar

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SWISS EPHEMERIS for the year 1690
heliocentric

NOVEMBER 1690 GC

00:00 UT

Day	Sid.t	Terra	☾	♊	♋	♌	♍	♎	♏	♐	♑	♒
W 1	2 42 41	9♄ 2'08	9♄ 2	27♄23	13♄49	27♄45	7♄19	21♄ 4	29♄ 5	14♄19	26♄27	7♄38
T 2	2 46 38	10° 2'22	10° 1	2♄18	15°24	28°14	7°24	21° 6	29° 5	14°19	26°27	7°39
F 3	2 50 34	11° 2'39	10°59	7°21	16°59	28°43	7°30	21° 8	29° 6	14°19	26°27	7°40
S 4	2 54 31	12° 2'57	11°58	12°34	18°35	29°12	7°35	21°10	29° 7	14°20	26°27	7°41
S 5	2 58 27	13° 3'17	12°57	17°55	20°10	29°40	7°41	21°12	29° 7	14°20	26°27	7°42
M 6	3 2 24	14° 3'38	13°56	23°26	21°45	0♄ 9	7°46	21°14	29° 8	14°20	26°28	7°43
T 7	3 6 21	15° 4'01	14°55	29° 5	23°21	0°38	7°52	21°15	29° 9	14°21	26°28	7°45
W 8	3 10 17	16° 4'25	15°55	4♄53	24°56	1° 7	7°57	21°17	29°10	14°21	26°28	7°46
T 9	3 14 14	17° 4'50	16°56	10°48	26°31	1°36	8° 3	21°19	29°10	14°22	26°28	7°47
F 10	3 18 10	18° 5'17	17°56	16°50	28° 7	2° 5	8° 8	21°21	29°11	14°22	26°29	7°48
S 11	3 22 7	19° 5'45	18°57	22°58	29°42	2°35	8°14	21°23	29°12	14°22	26°29	7°49
S 12	3 26 3	20° 6'15	19°59	29°11	1♄18	3° 4	8°19	21°25	29°12	14°23	26°29	7°50
M13	3 30 0	21° 6'46	21° 0	5♄27	2°53	3°33	8°25	21°26	29°13	14°23	26°29	7°51
T 14	3 33 56	22° 7'18	22° 2	11°45	4°29	4° 2	8°30	21°28	29°14	14°23	26°29	7°52
W15	3 37 53	23° 7'51	23° 5	18° 5	6° 4	4°31	8°36	21°30	29°14	14°24	26°30	7°53
T 16	3 41 50	24° 8'26	24° 7	24°23	7°40	5° 1	8°41	21°32	29°15	14°24	26°30	7°54
F 17	3 45 46	25° 9'02	25°10	0♄39	9°16	5°30	8°47	21°34	29°16	14°25	26°30	7°56
S 18	3 49 43	26° 9'40	26°12	6°51	10°51	6° 0	8°52	21°36	29°16	14°25	26°30	7°57
S 19	3 53 39	27°10'20	27°15	12°58	12°27	6°29	8°58	21°38	29°17	14°25	26°31	7°58
M20	3 57 36	28°11'01	28°17	18°59	14° 2	6°59	9° 3	21°39	29°18	14°26	26°31	7°59
T 21	4 1 32	29°11'43	29°19	24°53	15°38	7°28	9° 9	21°41	29°19	14°26	26°31	8° 0
W22	4 5 29	0♄12'28	0♄21	0♄38	17°14	7°58	9°14	21°43	29°19	14°26	26°31	8° 1
T 23	4 9 25	1°13'13	1°22	6°15	18°50	8°27	9°20	21°45	29°20	14°27	26°32	8° 2
F 24	4 13 22	2°14'00	2°23	11°42	20°25	8°57	9°25	21°47	29°21	14°27	26°32	8° 3
S 25	4 17 19	3°14'49	3°23	17° 0	22° 1	9°27	9°31	21°49	29°21	14°27	26°32	8° 4
S 26	4 21 15	4°15'39	4°23	22° 8	23°37	9°57	9°37	21°50	29°22	14°28	26°32	8° 5
M27	4 25 12	5°16'31	5°23	27° 7	25°13	10°26	9°42	21°52	29°23	14°28	26°32	8° 7
T 28	4 29 8	6°17'24	6°22	1♄56	26°49	10°56	9°48	21°54	29°23	14°29	26°33	8° 8
W29	4 33 5	7°18'18	7°22	6°35	28°25	11°26	9°53	21°56	29°24	14°29	26°33	8° 9
T 30	4 37 1	8♄19'14	8♄21	11♄ 6	0♄ 1	11♄56	9♄59	21♄58	29♄25	14♄29	26♄33	8♄10

Delta T = 8.79 sec.

Greg. Calendar

DECEMBER 1690 GC

00:00 UT

Day	Sid.t	Terra	☾	♊	♋	♌	♍	♎	♏	♐	♑	♒
F 1	4 40 58	9♄20'10	9♄20	15♄28	1♄37	12♄26	10♄ 4	22♄ 0	29♄25	14♄30	26♄33	8♄11
S 2	4 44 54	10°21'08	10°19	19°42	3°13	12°56	10°10	22° 1	29°26	14°30	26°34	8°12
S 3	4 48 51	11°22'07	11°18	23°48	4°49	13°26	10°15	22° 3	29°27	14°30	26°34	8°13
M 4	4 52 48	12°23'06	12°18	27°47	6°25	13°56	10°21	22° 5	29°28	14°31	26°34	8°14
T 5	4 56 44	13°24'06	13°17	1♄39	8° 1	14°27	10°26	22° 7	29°28	14°31	26°34	8°15
W 6	5 0 41	14°25'07	14°17	5°24	9°37	14°57	10°32	22° 9	29°29	14°31	26°34	8°17
T 7	5 4 37	15°26'09	15°17	9° 3	11°13	15°27	10°37	22°11	29°30	14°32	26°35	8°18
F 8	5 8 34	16°27'11	16°18	12°36	12°49	15°58	10°43	22°13	29°30	14°32	26°35	8°19
S 9	5 12 30	17°28'13	17°19	16° 4	14°25	16°28	10°48	22°14	29°31	14°33	26°35	8°20
S 10	5 16 27	18°29'16	18°20	19°27	16° 2	16°58	10°54	22°16	29°32	14°33	26°35	8°21
M11	5 20 23	19°30'19	19°22	22°45	17°38	17°29	10°59	22°18	29°32	14°33	26°36	8°22
T 12	5 24 20	20°31'23	20°24	26° 0	19°14	18° 0	11° 5	22°20	29°33	14°34	26°36	8°23
W13	5 28 17	21°32'27	21°27	29°10	20°51	18°30	11°10	22°22	29°34	14°34	26°36	8°24
T 14	5 32 13	22°33'32	22°29	2♄17	22°27	19° 1	11°16	22°24	29°34	14°34	26°36	8°25
F 15	5 36 10	23°34'37	23°32	5°20	24° 3	19°32	11°21	22°25	29°35	14°35	26°37	8°26
S 16	5 40 6	24°35'42	24°36	8°21	25°40	20° 2	11°27	22°27	29°36	14°35	26°37	8°28
S 17	5 44 3	25°36'48	25°39	11°19	27°16	20°33	11°32	22°29	29°37	14°35	26°37	8°29
M18	5 47 59	26°37'55	26°42	14°15	28°53	21° 4	11°38	22°31	29°37	14°36	26°37	8°30
T 19	5 51 56	27°39'02	27°45	17° 8	0♄29	21°35	11°43	22°33	29°38	14°36	26°37	8°31
W20	5 55 53	28°40'10	28°47	20° 0	2° 6	22° 6	11°49	22°35	29°39	14°37	26°38	8°32
T 21	5 59 49	29°41'18	29°49	22°50	3°42	22°37	11°54	22°36	29°39	14°37	26°38	8°33
F 22	6 3 46	0♄42'26	0♄51	25°38	5°19	23° 8	12° 0	22°38	29°40	14°37	26°38	8°34
S 23	6 7 42	1°43'36	1°53	28°26	6°55	23°39	12° 5	22°40	29°41	14°38	26°38	8°35
S 24	6 11 39	2°44'45	2°53	1♄12	8°32	24°10	12°11	22°42	29°41	14°38	26°39	8°36
M25	6 15 35	3°45'56	3°54	3°58	10° 9	24°41	12°16	22°44	29°42	14°38	26°39	8°38
T 26	6 19 32	4°47'06	4°54	6°43	11°45	25°13	12°22	22°46	29°43	14°39	26°39	8°39
W27	6 23 28	5°48'17	5°54	9°27	13°22	25°44	12°27	22°48	29°43	14°39	26°39	8°40
T 28	6 27 25	6°49'29	6°54	12°12	14°59	26°15	12°33	22°49	29°44	14°40	26°40	8°41
F 29	6 31 22	7°50'40	7°54	14°57	16°36	26°47	12°38	22°51	29°45	14°40	26°40	8°42
S 30	6 35 18	8°51'52	8°53	17°42	18°13	27°18	12°44	22°53	29°46	14°40	26°40	8°43
S 31	6 39 15	9♄53'03	9♄52	20♄27	19♄49	27♄50	12♄49	22♄55	29♄46	14♄41	26♄40	8♄44

Delta T = 8.77 sec.

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