

SWISS EPHEMERIS for the year 2019

JANUARY 2019

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Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
T 1	6 41 26	10°15'24	12°11'22	23°17'51	23°11'30	29°15'56	11°17'46	11°13'23	28°13'37	14°11'5	20°13'36	26°15'52	27°13'34	16°18'22	28°11'8
W 2	6 45 22	11°16'34	25°15	25°19	24°29	0°13'36	11°59	11°30	28°13'37	14°6	20°38	26°15'50	27°31	16°28	28°9
T 3	6 49 19	12°17'45	7°15'53	26°48	25°28	1°17	12°11	11°37	28°36	14°7	20°40	26°48	27°28	16°35	28°11
F 4	6 53 15	13°18'55	20°20	28°17	26°28	1°57	12°24	11°44	28°36	14°9	20°42	26°46	27°25	16°42	28°12
S 5	6 57 12	14°20'06	2°13'35	29°46	27°29	2°38	12°36	11°51	28°36	14°10	20°44	26°44	27°21	16°48	28°13
S 6	7 1 8	15°21'17	14°41	1°13'16	28°30	3°18	12°49	11°58	28°36	14°11	20°46	26°43	27°18	16°55	28°15
M 7	7 5 5	16°22'28	26°39	2°47	29°31	3°58	13°1	12°5	28°D36	14°13	20°48	26°D43	27°15	17°2	28°16
T 8	7 9 2	17°23'39	8°11'31	4°18	0°13'33	4°39	13°13	12°12	28°36	14°14	20°50	26°43	27°12	17°8	28°18
W 9	7 12 58	18°24'49	20°19	5°49	1°35	5°19	13°25	12°19	28°36	14°16	20°52	26°44	27°9	17°15	28°20
T 10	7 16 55	19°25'59	2°11'6	7°21	2°37	6°0	13°37	12°26	28°36	14°17	20°54	26°45	27°5	17°22	28°21
F 11	7 20 51	20°27'09	13°55	8°53	3°40	6°41	13°50	12°33	28°36	14°19	20°56	26°45	27°2	17°28	28°23
S 12	7 24 48	21°28'18	25°51	10°26	4°43	7°21	14°2	12°40	28°37	14°20	20°58	26°46	26°59	17°35	28°25
S 13	7 28 44	22°29'26	7°15'56	11°59	5°46	8°2	14°14	12°47	28°37	14°22	21°0	26°46	26°56	17°42	28°27
M14	7 32 41	23°30'34	20°16	13°32	6°50	8°42	14°25	12°55	28°37	14°23	21°2	26°R47	26°53	17°48	28°28
T 15	7 36 37	24°31'42	2°15'55	15°6	7°54	9°23	14°37	13°2	28°38	14°25	21°4	26°47	26°50	17°55	28°30
W16	7 40 34	25°32'48	15°57	16°41	8°58	10°3	14°49	13°9	28°38	14°26	21°6	26°46	26°46	18°2	28°32
T 17	7 44 31	26°33'54	29°26	18°16	10°3	10°44	15°1	13°15	28°39	14°28	21°8	26°D46	26°43	18°8	28°34
F 18	7 48 27	27°34'59	13°11'21	19°51	11°8	11°25	15°12	13°22	28°39	14°30	21°10	26°46	26°40	18°15	28°36
S 19	7 52 24	28°36'04	27°44	21°28	12°13	12°5	15°24	13°29	28°40	14°32	21°12	26°47	26°37	18°22	28°38
S 20	7 56 20	29°37'07	12°11'29	23°4	13°18	12°46	15°35	13°36	28°41	14°33	21°14	26°47	26°34	18°28	28°41
M21	8 0 17	0°13'38'11	27°32	24°41	14°24	13°27	15°47	13°43	28°41	14°35	21°16	26°R47	26°31	18°35	28°43
T 22	8 4 13	1°39'13	12°11'43	26°19	15°29	14°7	15°58	13°50	28°42	14°37	21°18	26°47	26°27	18°42	28°45
W23	8 8 10	2°40'15	27°53	27°57	16°36	14°48	16°9	13°57	28°43	14°39	21°20	26°46	26°24	18°48	28°47
T 24	8 12 6	3°41'16	12°11'52	29°36	17°42	15°29	16°20	14°4	28°44	14°40	21°22	26°46	26°21	18°55	28°49
F 25	8 16 3	4°42'16	27°34	1°15'15	18°48	16°9	16°31	14°11	28°45	14°42	21°24	26°45	26°18	19°1	28°52
S 26	8 20 0	5°43'16	11°11'52	2°55	19°55	16°50	16°42	14°17	28°46	14°44	21°26	26°44	26°15	19°8	28°54
S 27	8 23 56	6°44'15	25°45	4°36	21°2	17°30	16°53	14°24	28°47	14°46	21°28	26°43	26°11	19°15	28°57
M28	8 27 53	7°45'14	9°11'12	6°17	22°9	18°11	17°4	14°31	28°48	14°48	21°30	26°D43	26°8	19°21	28°59
T 29	8 31 49	8°46'13	22°15	7°59	23°17	18°52	17°15	14°38	28°49	14°50	21°32	26°43	26°5	19°28	29°2
W30	8 35 46	9°47'10	4°11'58	9°42	24°24	19°32	17°25	14°44	28°50	14°52	21°34	26°44	26°2	19°35	29°4
T 31	8 39 42	10°48'07	17°11'24	11°11'25	25°11'32	20°11'13	17°11'36	14°11'51	28°11'51	14°11'54	21°11'36	26°11'45	25°11'59	19°11'41	29°11'7

Delta T = 70.00 sec.

FEBRUARY 2019

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Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
F 1	8 43 39	11°49'04	29°11'36	13°18	26°17'40	20°15'54	17°17'46	14°13'57	28°15'52	14°11'56	21°13'38	26°15'47	25°15'56	19°11'48	29°11'9
S 2	8 47 35	12°49'59	11°13'38	14°54	27°48	21°34	17°56	15°4	28°54	14°58	21°40	26°48	25°52	19°55	29°12
S 3	8 51 32	13°50'54	23°33	16°39	28°56	22°15	18°7	15°11	28°55	15°0	21°42	26°R49	25°49	20°1	29°15
M 4	8 55 29	14°51'47	5°11'24	18°25	0°13'4	22°56	18°17	15°17	28°57	15°2	21°43	26°48	25°46	20°8	29°17
T 5	8 59 25	15°52'39	17°12	20°12	1°13	23°36	18°27	15°24	28°58	15°4	21°45	26°47	25°43	20°15	29°20
W 6	9 3 22	16°53'31	29°0	21°59	2°21	24°17	18°37	15°30	28°59	15°6	21°47	26°45	25°40	20°21	29°23
T 7	9 7 18	17°54'21	10°11'50	23°46	3°30	24°57	18°47	15°36	29°1	15°8	21°49	26°42	25°37	20°28	29°26
F 8	9 11 15	18°55'09	22°44	25°34	4°39	25°38	18°56	15°43	29°3	15°10	21°51	26°38	25°33	20°35	29°29
S 9	9 15 11	19°55'56	4°11'44	27°22	5°48	26°19	19°6	15°49	29°4	15°12	21°53	26°34	25°30	20°41	29°32
S 10	9 19 8	20°56'42	16°53	29°11	6°57	26°59	19°15	15°55	29°6	15°14	21°55	26°30	25°27	20°48	29°34
M11	9 23 4	21°57'26	29°14	1°11'0	8°7	27°40	19°25	16°1	29°8	15°16	21°56	26°27	25°24	20°55	29°37
T 12	9 27 1	22°58'09	11°11'51	2°48	9°16	28°21	19°34	16°8	29°9	15°18	21°58	26°25	25°21	21°1	29°40
W13	9 30 58	23°58'50	24°46	4°36	10°25	29°1	19°43	16°14	29°11	15°20	22°0	26°D25	25°17	21°8	29°43
T 14	9 34 54	24°59'30	8°11'4	6°24	11°35	29°42	19°52	16°20	29°13	15°23	22°2	26°25	25°14	21°15	29°46
F 15	9 38 51	26°0'07	21°46	8°12	12°45	0°13'22	20°1	16°26	29°15	15°25	22°4	26°27	25°11	21°21	29°49
S 16	9 42 47	27°0'43	5°11'55	9°58	13°55	1°3	20°10	16°32	29°17	15°27	22°5	26°28	25°8	21°28	29°53
S 17	9 46 44	28°1'18	20°29	11°43	15°4	1°43	20°19	16°38	29°19	15°29	22°7	26°R29	25°5	21°35	29°56
M18	9 50 40	29°1'50	5°11'25	13°26	16°14	2°24	20°27	16°44	29°21	15°31	22°9	26°29	25°2	21°41	29°59
T 19	9 54 37	0°11'21	20°36	15°7	17°25	3°4	20°35	16°49	29°23	15°34	22°10	26°27	24°58	21°48	0°11'2
W20	9 58 33	1°2'51	5°11'52	16°45	18°35	3°45	20°44	16°55	29°25	15°36	22°12	26°24	24°55	21°55	0°11'5
T 21	10 2 30	2°3'18	21°4	18°20	19°45	4°25	20°52	17°1	29°27	15°38	22°14	26°19	24°52	22°1	0°11'8
F 22	10 6 27	3°3'44	6°11'1	19°52	20°55	5°6	21°0	17°6	29°30	15°40	22°15	26°14	24°49	22°8	0°11'12
S 23	10 10 23	4°4'09	20°35	21°19	22°6	5°46	21°8	17°12	29°32	15°42	22°17	26°8	24°46	22°15	0°11'15
S 24	10 14 20	5°4'33	4°11'41	22°41	23°16	6°26	21°16	17°18	29°34	15°45	22°19	26°3	24°42	22°21	0°11'18
M25	10 18 16	6°4'55	18°18	23°57	24°27	7°7	21°23	17°23	29°37	15°47	22°20	26°0	24°39	22°28	0°11'21
T 26	10 22 13	7°5'15	1°11'27	25°7	25°38	7°47	21°31	17°29	29°39	15°49	22°22	25°D58	24°36	22°35	0°11'25
W27	10 26 9	8°5'35	14°10	26°10	26°49	8°28	21°38	17°34	29°41	15°51	22°23	25°58	24°33	22°41	0°11'28
T 28	10 30 6	9°11'52	26°11'33	27°11'6	27°11'59	9°11'8	21°11'45	17°11'39	29°11'44	15°11'54	22°11'35	25°11'59	24°11'30	22°11'48	0°11'31

Delta T = 70.13 sec.

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SWISS EPHEMERIS for the year 2019

MARCH 2019

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

Delta T = 70.25 sec.

APRIL 2019

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Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
M 1	12 36 16	10° 58'40"	22° 43'	16° 38'	6° 14'	0° 29'	24° 12'	19° 50'	1° 17'	17° 5'	23° 1'	23° 40'	22° 48'	26° 21'	2° 23'
T 2	12 40 12	11° 57'54"	4° 32'	16° 59'	7° 26'	1° 9'	24° 14'	19° 53'	1° 20'	17° 7'	23° 1'	23° 34'	22° 45'	26° 28'	2° 27'
W 3	12 44 9	12° 57'06"	16° 27'	17° 24'	8° 39'	1° 49'	24° 15'	19° 56'	1° 24'	17° 10'	23° 2'	23° 25'	22° 42'	26° 35'	2° 31'
T 4	12 48 5	13° 56'17"	28° 31'	17° 54'	9° 51'	2° 28'	24° 17'	19° 58'	1° 27'	17° 12'	23° 3'	23° 14'	22° 39'	26° 41'	2° 34'
F 5	12 52 2	14° 55'26"	10° 44'	18° 28'	11° 3'	3° 8'	24° 18'	20° 1'	1° 30'	17° 14'	23° 3'	23° 1'	22° 35'	26° 48'	2° 37'
S 6	12 55 58	15° 54'32"	23° 9'	19° 7'	12° 16'	3° 48'	24° 19'	20° 3'	1° 34'	17° 16'	23° 4'	22° 47'	22° 32'	26° 55'	2° 41'
S 7	12 59 55	16° 53'37"	5° 45'	19° 49'	13° 28'	4° 27'	24° 20'	20° 5'	1° 37'	17° 18'	23° 4'	22° 33'	22° 29'	27° 1'	2° 44'
M 8	13 3 51	17° 52'39"	18° 31'	20° 35'	14° 41'	5° 7'	24° 20'	20° 7'	1° 40'	17° 20'	23° 5'	22° 22'	22° 26'	27° 8'	2° 48'
T 9	13 7 48	18° 51'39"	1° 30'	21° 24'	15° 53'	5° 46'	24° 21'	20° 9'	1° 44'	17° 22'	23° 5'	22° 13'	22° 23'	27° 15'	2° 51'
W 10	13 11 44	19° 50'37"	14° 39'	22° 16'	17° 6'	6° 26'	24° 21'	20° 11'	1° 47'	17° 24'	23° 6'	22° 7'	22° 19'	27° 21'	2° 55'
T 11	13 15 41	20° 49'33"	28° 1'	23° 12'	18° 18'	7° 6'	24° 21'	20° 13'	1° 51'	17° 26'	23° 6'	22° 3'	22° 16'	27° 28'	2° 58'
F 12	13 19 38	21° 48'27"	11° 36'	24° 10'	19° 31'	7° 45'	24° 21'	20° 15'	1° 54'	17° 28'	23° 7'	22° 2'	22° 13'	27° 35'	3° 2'
S 13	13 23 34	22° 47'18"	25° 26'	25° 11'	20° 43'	8° 25'	24° 21'	20° 17'	1° 57'	17° 30'	23° 7'	22° 2'	22° 10'	27° 41'	3° 5'
S 14	13 27 31	23° 46'07"	9° 30'	26° 15'	21° 56'	9° 4'	24° 20'	20° 19'	2° 1'	17° 32'	23° 7'	22° 2'	22° 7'	27° 48'	3° 8'
M 15	13 31 27	24° 44'54"	23° 50'	27° 22'	23° 8'	9° 43'	24° 19'	20° 20'	2° 4'	17° 34'	23° 8'	22° 0'	22° 4'	27° 55'	3° 12'
T 16	13 35 24	25° 43'38"	8° 22'	28° 31'	24° 21'	10° 23'	24° 18'	20° 21'	2° 8'	17° 35'	23° 8'	21° 55'	22° 0'	28° 1'	3° 15'
W 17	13 39 20	26° 42'20"	23° 2'	29° 42'	25° 33'	11° 2'	24° 17'	20° 23'	2° 11'	17° 37'	23° 8'	21° 48'	21° 57'	28° 8'	3° 18'
T 18	13 43 17	27° 41'00"	7° 44'	0° 55'	26° 46'	11° 41'	24° 16'	20° 24'	2° 15'	17° 39'	23° 8'	21° 38'	21° 54'	28° 15'	3° 22'
F 19	13 47 13	28° 39'38"	22° 22'	2° 11'	27° 58'	12° 21'	24° 15'	20° 25'	2° 18'	17° 41'	23° 9'	21° 27'	21° 51'	28° 21'	3° 25'
S 20	13 51 10	29° 38'14"	6° 46'	3° 29'	29° 11'	13° 0'	24° 13'	20° 26'	2° 21'	17° 43'	23° 9'	21° 16'	21° 48'	28° 28'	3° 28'
S 21	13 55 7	0° 36'48"	20° 50'	4° 49'	0° 24'	13° 39'	24° 11'	20° 27'	2° 25'	17° 45'	23° 9'	21° 5'	21° 45'	28° 35'	3° 32'
M 22	13 59 3	1° 35'20"	4° 31'	6° 11'	1° 36'	14° 19'	24° 9'	20° 28'	2° 28'	17° 46'	23° 9'	20° 56'	21° 41'	28° 41'	3° 35'
T 23	14 3 0	2° 33'50"	17° 46'	7° 35'	2° 49'	14° 58'	24° 7'	20° 29'	2° 32'	17° 48'	23° 9'	20° 50'	21° 38'	28° 48'	3° 38'
W 24	14 6 56	3° 32'19"	0° 37'	9° 1'	4° 2'	15° 37'	24° 5'	20° 29'	2° 35'	17° 50'	23° 9'	20° 46'	21° 35'	28° 55'	3° 41'
T 25	14 10 53	4° 30'47"	13° 5'	10° 28'	5° 14'	16° 16'	24° 2'	20° 30'	2° 39'	17° 52'	23° 9'	20° 45'	21° 32'	29° 1'	3° 44'
F 26	14 14 49	5° 29'12"	25° 16'	11° 58'	6° 27'	16° 55'	23° 59'	20° 30'	2° 42'	17° 53'	23° 9'	20° 44'	21° 29'	29° 8'	3° 47'
S 27	14 18 46	6° 27'36"	7° 14'	13° 30'	7° 40'	17° 35'	23° 56'	20° 31'	2° 46'	17° 55'	23° 9'	20° 45'	21° 25'	29° 15'	3° 51'
S 28	14 22 42	7° 25'59"	19° 5'	15° 3'	8° 53'	18° 14'	23° 53'	20° 31'	2° 49'	17° 57'	23° 9'	20° 44'	21° 22'	29° 21'	3° 54'
M 29	14 26 39	8° 24'20"	0° 54'	16° 38'	10° 5'	18° 53'	23° 50'	20° 31'	2° 52'	17° 58'	23° 9'	20° 42'	21° 19'	29° 28'	3° 57'
T 30	14 30 36	9° 22'39"	12° 46'	18° 15'	11° 18'	19° 32'	23° 47'	20° 31'	2° 56'	18° 0'	23° 9'	20° 37'	21° 16'	29° 35'	4° 0'

Delta T = 70.38 sec.

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SWISS EPHEMERIS for the year 2019

MAY 2019

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
W 1	14 34 32	10°20'56	24°45'	19°54'	12°31'	20°11'	23°R43	20°R31	2°59'	18°1'	23°R 9	20°R30	21°13'	29°41'	4°3'
T 2	14 38 29	11°19'12	6°56'	21°35'	13°44'	20°50'	23°39'	20°31'	3°3'	18°3'	23°8'	20°20'	21°10'	29°48'	4°6'
F 3	14 42 25	12°17'27	19°19'	23°17'	14°56'	21°29'	23°35'	20°31'	3°6'	18°4'	23°8'	20°9'	21°6'	29°55'	4°9'
S 4	14 46 22	13°15'40	1°58'	25°2'	16°9'	22°8'	23°31'	20°30'	3°10'	18°6'	23°8'	19°57'	21°3'	0°1'	4°12'
S 5	14 50 18	14°13'51	14°51'	26°48'	17°22'	22°47'	23°27'	20°30'	3°13'	18°7'	23°8'	19°46'	21°0'	0°8'	4°15'
M 6	14 54 15	15°12'00	27°59'	28°36'	18°35'	23°26'	23°22'	20°29'	3°16'	18°9'	23°7'	19°36'	20°57'	0°15'	4°17'
T 7	14 58 11	16°10'08	11°19'	0°26'	19°48'	24°5'	23°18'	20°29'	3°20'	18°10'	23°7'	19°28'	20°54'	0°21'	4°20'
W 8	15 2 8	17°8'14	24°50'	2°17'	21°0'	24°44'	23°13'	20°28'	3°23'	18°12'	23°7'	19°23'	20°51'	0°28'	4°23'
T 9	15 6 5	18°6'18	8°30'	4°11'	22°13'	25°23'	23°8'	20°27'	3°27'	18°13'	23°6'	19°21'	20°47'	0°35'	4°26'
F 10	15 10 1	19°4'21	22°20'	6°6'	23°26'	26°2'	23°3'	20°26'	3°30'	18°14'	23°6'	19°D20	20°44'	0°41'	4°29'
S 11	15 13 58	20°2'21	6°17'	8°3'	24°39'	26°41'	22°58'	20°25'	3°33'	18°16'	23°5'	19°21'	20°41'	0°48'	4°31'
S 12	15 17 54	21°0'20	20°21'	10°2'	25°52'	27°20'	22°53'	20°24'	3°37'	18°17'	23°5'	19°R21	20°38'	0°55'	4°34'
M13	15 21 51	21°58'16	4°31'	12°3'	27°5'	27°58'	22°47'	20°23'	3°40'	18°18'	23°4'	19°21'	20°35'	1°1'	4°37'
T 14	15 25 47	22°56'11	18°47'	14°5'	28°17'	28°37'	22°41'	20°22'	3°43'	18°20'	23°4'	19°18'	20°31'	1°8'	4°39'
W15	15 29 44	23°54'04	3°4'	16°9'	29°30'	29°16'	22°36'	20°20'	3°46'	18°21'	23°3'	19°13'	20°28'	1°15'	4°42'
T 16	15 33 40	24°51'55	17°20'	18°15'	0°43'	29°55'	22°30'	20°19'	3°50'	18°22'	23°3'	19°7'	20°25'	1°21'	4°44'
F 17	15 37 37	25°49'44	1°31'	20°22'	1°56'	0°34'	22°24'	20°17'	3°53'	18°23'	23°2'	18°58'	20°22'	1°28'	4°47'
S 18	15 41 34	26°47'32	15°30'	22°30'	3°9'	1°12'	22°18'	20°16'	3°56'	18°24'	23°1'	18°50'	20°19'	1°35'	4°49'
S 19	15 45 30	27°45'19	29°14'	24°39'	4°22'	1°51'	22°12'	20°14'	3°59'	18°25'	23°1'	18°42'	20°16'	1°42'	4°52'
M20	15 49 27	28°43'04	12°40'	26°50'	5°35'	2°30'	22°5'	20°12'	4°3'	18°26'	23°0'	18°36'	20°12'	1°48'	4°54'
T 21	15 53 23	29°40'48	25°45'	29°1'	6°48'	3°9'	21°59'	20°10'	4°6'	18°27'	22°59'	18°31'	20°9'	1°55'	4°56'
W22	15 57 20	0°38'30	8°30'	1°12'	8°1'	3°47'	21°52'	20°8'	4°9'	18°28'	22°59'	18°29'	20°6'	2°2'	4°59'
T 23	16 1 16	1°36'12	20°56'	3°24'	9°14'	4°26'	21°46'	20°6'	4°12'	18°29'	22°58'	18°D28	20°3'	2°8'	5°1'
F 24	16 5 13	2°33'52	3°37'	5°35'	10°27'	5°5'	21°39'	20°4'	4°15'	18°30'	22°57'	18°29'	20°0'	2°15'	5°3'
S 25	16 9 9	3°31'32	15°6'	7°46'	11°39'	5°43'	21°32'	20°2'	4°18'	18°31'	22°56'	18°30'	19°57'	2°22'	5°5'
S 26	16 13 6	4°29'10	26°59'	9°57'	12°52'	6°22'	21°25'	19°59'	4°22'	18°32'	22°55'	18°32'	19°53'	2°28'	5°8'
M27	16 17 3	5°26'47	8°49'	12°7'	14°5'	7°0'	21°18'	19°57'	4°25'	18°33'	22°55'	18°R32	19°50'	2°35'	5°10'
T 28	16 20 59	6°24'23	20°43'	14°15'	15°18'	7°39'	21°11'	19°54'	4°28'	18°34'	22°54'	18°31'	19°47'	2°42'	5°12'
W29	16 24 56	7°21'59	2°46'	16°23'	16°31'	8°17'	21°4'	19°52'	4°31'	18°34'	22°53'	18°28'	19°44'	2°48'	5°14'
T 30	16 28 52	8°19'33	15°0'	18°28'	17°44'	8°56'	20°56'	19°49'	4°34'	18°35'	22°52'	18°23'	19°41'	2°55'	5°16'
F 31	16 32 49	9°17'06	27°31'	20°32'	18°57'	9°35'	20°49'	19°34'	4°37'	18°36'	22°51'	18°17'	19°37'	3°1'	5°18'

Delta T = 70.51 sec.

JUNE 2019

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Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
S 1	16 36 45	10°14'39	10°19'	22°34'	20°10'	10°52'	20°R42	19°R43	4°40'	18°37'	22°R50	18°R11	19°34'	3°1'	5°20'
S 2	16 40 42	11°12'11	23°26'	24°33'	21°24'	10°52'	20°34'	19°34'	4°43'	18°37'	22°49'	18°5'	19°31'	3°15'	5°22'
M 3	16 44 38	12°9'42	6°52'	26°31'	22°37'	11°30'	20°27'	19°38'	4°46'	18°38'	22°48'	18°0'	19°28'	3°22'	5°23'
T 4	16 48 35	13°7'12	20°34'	28°26'	23°50'	12°9'	20°19'	19°34'	4°48'	18°38'	22°47'	17°56'	19°25'	3°28'	5°25'
W 5	16 52 32	14°4'41	4°30'	0°18'	25°3'	12°47'	20°12'	19°31'	4°51'	18°39'	22°46'	17°53'	19°22'	3°35'	5°27'
T 6	16 56 28	15°2'08	18°36'	2°8'	26°16'	13°26'	20°4'	19°28'	4°54'	18°39'	22°45'	17°D53	19°18'	3°42'	5°29'
F 7	17 0 25	15°59'35	2°49'	3°56'	27°29'	14°4'	19°57'	19°25'	4°57'	18°40'	22°44'	17°53'	19°15'	3°48'	5°30'
S 8	17 4 21	16°57'01	17°4'	5°41'	28°42'	14°42'	19°49'	19°22'	5°0'	18°40'	22°43'	17°55'	19°12'	3°55'	5°32'
S 9	17 8 18	17°54'25	1°20'	7°23'	29°55'	15°21'	19°41'	19°18'	5°2'	18°41'	22°42'	17°56'	19°9'	4°2'	5°33'
M10	17 12 14	18°51'48	15°34'	9°3'	1°12'	15°59'	19°34'	19°15'	5°5'	18°41'	22°40'	17°R57	19°6'	4°9'	5°35'
T 11	17 16 11	19°49'10	29°43'	10°40'	2°21'	16°38'	19°26'	19°11'	5°8'	18°42'	22°39'	17°56'	19°3'	4°15'	5°36'
W12	17 20 7	20°46'31	13°46'	12°14'	3°34'	17°16'	19°18'	19°8'	5°10'	18°42'	22°38'	17°55'	18°59'	4°22'	5°38'
T 13	17 24 4	21°43'51	27°40'	13°45'	4°48'	17°54'	19°11'	19°4'	5°13'	18°42'	22°37'	17°52'	18°56'	4°29'	5°39'
F 14	17 28 1	22°41'10	11°25'	15°14'	6°1'	18°33'	19°3'	19°0'	5°16'	18°43'	22°36'	17°49'	18°53'	4°35'	5°40'
S 15	17 31 57	23°38'28	24°57'	16°40'	7°14'	19°11'	18°55'	18°57'	5°18'	18°43'	22°34'	17°45'	18°50'	4°42'	5°41'
S 16	17 35 54	24°35'46	8°16'	18°3'	8°27'	19°49'	18°48'	18°53'	5°21'	18°43'	22°33'	17°42'	18°47'	4°49'	5°43'
M17	17 39 50	25°33'02	21°19'	19°24'	9°40'	20°28'	18°40'	18°49'	5°23'	18°43'	22°32'	17°39'	18°43'	4°55'	5°44'
T 18	17 43 47	26°30'19	4°7'	20°41'	10°53'	21°6'	18°33'	18°45'	5°26'	18°43'	22°31'	17°38'	18°40'	5°2'	5°45'
W19	17 47 43	27°27'34	16°40'	21°56'	12°7'	21°44'	18°25'	18°41'	5°28'	18°43'	22°29'	17°D37	18°37'	5°9'	5°46'
T 20	17 51 40	28°24'49	28°59'	23°7'	13°20'	22°22'	18°18'	18°37'	5°31'	18°43'	22°28'	17°38'	18°34'	5°15'	5°47'
F 21	17 55 37	29°22'04	11°36'	24°16'	14°33'	23°1'	18°10'	18°33'	5°33'	18°43'	22°27'	17°39'	18°31'	5°22'	5°48'
S 22	17 59 33	0°19'19	23°3'	25°21'	15°46'	23°39'	18°3'	18°29'	5°35'	18°R43	22°26'	17°40'	18°28'	5°29'	5°49'
S 23	18 3 30	1°16'33	4°56'	26°24'	17°0'	24°17'	17°56'	18°25'	5°37'	18°43'	22°24'	17°41'	18°24'	5°35'	5°50'
M24	18 7 26	2°13'47	16°47'	27°23'	18°13'	24°55'	17°49'	18°21'	5°40'	18°43'	22°23'	17°43'	18°21'	5°42'	5°51'
T 25	18 11 23	3°11'00	28°41'	28°18'	19°26'	25°34'	17°41'	18°17'	5°42'	18°43'	22°22'	17°R43	18°18'	5°49'	5°51'
W26	18 15 19	4°8'14	10°44'	29°11'	20°39'	26°12'	17°34'	18°13'	5°44'	18°43'	22°20'	17°43'	18°15'	5°56'	5°52'
T 27	18 19 16	5°5'28	22°59'	29°59'	21°53'	26°50'	17°27'	18°8'	5°46'	18°43'	22°19'	17°42'	18°12'	6°2'	5°53'
F 28	18 23 12	6°2'42	5°30'	0°44'	23°6'	27°28'	17°20'	18°4'	5°48'	18°43'	22°17'	17°41'	18°8'	6°9'	5°53'
S 29	18 27 9	6°59'55	18°22'	1°26'	24°20'	28°7'	17°13'	18°0'	5°50'	18°43'	22°16'	17°40'	18°5'	6°16'	5°54'
S 30	18 31 5	7°57'09	1°36'	2°3'	25°33'	28°45'	17°7'	17°56'	5°52'	18°42'	22°15'	17°39'	18°2'	6°22'	5°54'

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SWISS EPHEMERIS for the year 2019

JULY 2019

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
M 1	18 35 2	8°54'23	15°11'12	2°03'36	26°11'46	29°23'23	17°R 0	17°R51	5°58'54	18°R42	22°R13	17°R38	17°59	6°29	5°55
T 2	18 38 59	9°51'37	29°11	3° 6	28° 0	0°01	16°57'53	17°34'47	5°56	18°42	22°12	17°37	17°56	6°36	5°55
W 3	18 42 55	10°48'50	13°28'28	3°31	29°13	0°39	16°47	17°43	5°58	18°41	22°10	17°D37	17°53	6°42	5°55
T 4	18 46 52	11°46'04	27°59	3°51	0°27	1°17	16°41	17°38	6° 0	18°41	22° 9	17°37	17°49	6°49	5°56
F 5	18 50 48	12°43'18	12°03'38	4° 7	1°40	1°56	16°34	17°34	6° 2	18°41	22° 8	17°37	17°46	6°56	5°56
S 6	18 54 45	13°40'31	27°18	4°19	2°54	2°34	16°28	17°29	6° 4	18°40	22° 6	17°37	17°43	7° 2	5°56
S 7	18 58 41	14°37'44	11°18'54	4°26	4° 7	3°12	16°22	17°25	6° 5	18°40	22° 5	17°38	17°40	7° 9	5°56
M 8	19 2 38	15°34'57	26°21	4°R28	5°21	3°50	16°16	17°21	6° 7	18°39	22° 3	17°38	17°37	7°16	5°56
T 9	19 6 35	16°32'09	10°13'35	4°25	6°34	4°28	16°11	17°16	6° 9	18°39	22° 2	17°38	17°34	7°22	5°R56
W10	19 10 31	17°29'21	24°33	4°18	7°48	5° 6	16° 5	17°12	6°10	18°38	22° 0	17°38	17°30	7°29	5°56
T 11	19 14 28	18°26'33	8°16'16	4° 6	9° 1	5°44	16° 0	17° 7	6°12	18°37	21°59	17°38	17°27	7°36	5°56
F 12	19 18 24	19°23'45	21°42	3°50	10°15	6°23	15°54	17° 3	6°13	18°37	21°57	17°38	17°24	7°43	5°56
S 13	19 22 21	20°20'58	4°17'52	3°29	11°28	7° 1	15°49	16°58	6°15	18°36	21°56	17°38	17°21	7°49	5°56
S 14	19 26 17	21°18'10	17°47	3° 4	12°42	7°39	15°44	16°54	6°16	18°35	21°54	17°39	17°18	7°56	5°56
M15	19 30 14	22°15'22	0°32'29	2°36	13°56	8°17	15°39	16°50	6°18	18°35	21°53	17°39	17°14	8° 3	5°55
T 16	19 34 10	23°12'34	12°58	2° 4	15° 9	8°55	15°34	16°45	6°19	18°34	21°52	17°R39	17°11	8° 9	5°55
W17	19 38 7	24° 9'47	25°16	1°29	16°23	9°33	15°30	16°41	6°20	18°33	21°50	17°39	17° 8	8°16	5°55
T 18	19 42 4	25° 7'00	7°22'25	0°51	17°36	10°11	15°25	16°37	6°21	18°32	21°49	17°39	17° 5	8°23	5°54
F 19	19 46 0	26° 4'14	19°25	0°12	18°50	10°49	15°21	16°32	6°23	18°32	21°47	17°38	17° 2	8°29	5°54
S 20	19 49 57	27° 1'28	1°18'20	29°31	20° 4	11°27	15°17	16°28	6°24	18°31	21°46	17°37	16°59	8°36	5°53
S 21	19 53 53	27°58'42	13°11	28°50	21°18	12° 5	15°13	16°24	6°25	18°30	21°44	17°35	16°55	8°43	5°53
M22	19 57 50	28°55'58	25° 2	28° 9	22°31	12°43	15° 9	16°19	6°26	18°29	21°43	17°34	16°52	8°49	5°52
T 23	20 1 46	29°53'13	6°15'56	27°29	23°45	13°21	15° 6	16°15	6°27	18°28	21°41	17°33	16°49	8°56	5°51
W24	20 5 43	0°05'03	18°50'30	26°51	24°59	13°59	15° 2	16°11	6°28	18°27	21°40	17°32	16°46	9° 3	5°51
T 25	20 9 39	1°47'48	1°18'11	26°15	26°13	14°38	14°59	16° 7	6°29	18°26	21°39	17°D31	16°43	9°10	5°50
F 26	20 13 36	2°45'06	13°40	25°41	27°26	15°16	14°56	16° 3	6°30	18°25	21°37	17°32	16°40	9°16	5°49
S 27	20 17 33	3°42'26	26°28	25°12	28°40	15°54	14°53	15°58	6°31	18°24	21°36	17°33	16°36	9°23	5°48
S 28	20 21 29	4°39'46	9°11'41	24°47	29°54	16°32	14°50	15°54	6°31	18°23	21°34	17°34	16°33	9°30	5°47
M29	20 25 26	5°37'08	23°18	24°26	1°08	17°10	14°47	15°50	6°32	18°22	21°33	17°35	16°30	9°36	5°46
T 30	20 29 22	6°34'30	7°22'22	24°11	2°22	17°48	14°45	15°46	6°33	18°21	21°31	17°36	16°27	9°43	5°45
W31	20 33 19	7°03'15	21°50'50	24° 1	3°03	18°02	14°43	15°42	6°33	18°20	21°30	17°R36	16°24	9°50	5°44

Delta T = 70.77 sec.

AUGUST 2019

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
T 1	20 37 15	8♂29°18	6♂38	23°D57	4♂50	19♂ 4	14°R41	15°R38	6♂34	18°R19	21°R29	17°R35	16♂20	9♂56	5°R43	
F 2	20 41 12	9°26'43	21°38	23♂59	6° 4	19°42	14♂39	15♂35	6°34	18♂17	21♂27	17♂34	16°17	10° 3	5°Y42	
S 3	20 45 8	10°24'08	6♂41	24° 7	7°18	20°20	14°37	15°31	6°35	18°16	21°26	17°31	16°14	10°10	5°41	
S 4	20 49 5	11°21'35	21°40	24°22	8°32	20°58	14°36	15°27	6°35	18°15	21°25	17°28	16°11	10°17	5°39	
M 5	20 53 2	12°19'02	6♂26	24°43	9°46	21°36	14°34	15°23	6°36	18°14	21°23	17°25	16° 8	10°23	5°38	
T 6	20 56 58	13°16'30	20°52	25°11	11° 0	22°14	14°33	15°20	6°36	18°12	21°22	17°22	16° 5	10°30	5°37	
W 7	21 0 55	14°13'58	4♂55	25°45	12°14	22°53	14°32	15°16	6°36	18°11	21°21	17°21	16° 1	10°37	5°35	
T 8	21 4 51	15°11'27	18°35	26°26	13°28	23°31	14°31	15°12	6°36	18°10	21°19	17°D21	15°58	10°43	5°34	
F 9	21 8 48	16° 8'57	1♂52	27°13	14°42	24° 9	14°31	15° 9	6°37	18° 9	21°18	17°21	15°55	10°50	5°32	
S 10	21 12 44	17° 6'28	14°49	28° 7	15°56	24°47	14°31	15° 6	6°37	18° 7	21°17	17°23	15°52	10°57	5°31	
S 11	21 16 41	18° 4'00	27°29	29° 6	17°10	25°25	14°30	15° 2	6°37	18° 6	21°15	17°25	15°49	11° 3	5°29	
M12	21 20 37	19° 1'33	9♂54	0♂12	18°24	26° 3	14°D30	14°59	6°R37	18° 4	21°14	17°26	15°46	11°10	5°27	
T 13	21 24 34	19°59'06	22° 8	1°24	19°38	26°41	14°30	14°56	6°37	18° 3	21°13	17°R26	15°42	11°17	5°26	
W14	21 28 31	20°56'41	4♂13	2°41	20°52	27°19	14°31	14°53	6°37	18° 2	21°12	17°25	15°39	11°23	5°24	
T 15	21 32 27	21°54'16	16°12	4° 3	22° 7	27°57	14°31	14°50	6°37	18° 0	21°10	17°22	15°36	11°30	5°22	
F 16	21 36 24	22°51'53	28° 7	5°31	23°21	28°35	14°32	14°47	6°37	17°59	21° 9	17°17	15°33	11°37	5°20	
S 17	21 40 20	23°49'31	9♂58	7° 3	24°35	29°13	14°33	14°44	6°36	17°57	21° 8	17°11	15°30	11°44	5°19	
S 18	21 44 17	24°47'11	21°49	8°40	25°49	29°52	14°34	14°41	6°36	17°56	21° 7	17° 4	15°26	11°50	5°17	
M19	21 48 13	25°44'51	3°Y42	10°21	27° 3	0♂30	14°35	14°38	6°36	17°54	21° 6	16°57	15°23	11°57	5°15	
T 20	21 52 10	26°42'34	15°37	12° 5	28°18	1° 8	14°37	14°35	6°35	17°53	21° 5	16°51	15°20	12° 4	5°13	
W21	21 56 6	27°40'17	27°40	13°53	29°32	1°46	14°38	14°33	6°35	17°51	21° 4	16°46	15°17	12°10	5°11	
T 22	22 0 3	28°38'03	9♂52	15°44	0♂46	2°24	14°40	14°30	6°34	17°50	21° 2	16°42	15°14	12°17	5° 9	
F 23	22 4 0	29°35'50	22°19	17°37	2° 0	3° 2	14°42	14°28	6°34	17°48	21° 1	16°40	15°11	12°24	5° 7	
S 24	22 7 56	0♂33'39	5♂13	19°31	3°15	3°40	14°45	14°25	6°33	17°47	21° 0	16°D40	15° 7	12°30	5° 5	
S 25	22 11 53	1°31'30	18° 9	21°28	4°29	4°19	14°47	14°23	6°33	17°45	20°59	16°41	15° 4	12°37	5° 3	
M26	22 15 49	2°29'22	1♂40	23°25	5°43	4°57	14°49	14°21	6°32	17°44	20°58	16°42	15° 1	12°44	5° 0	
T 27	22 19 46	3°27'16	15°38	25°24	6°58	5°35	14°52	14°19	6°31	17°42	20°57	16°R43	14°58	12°51	4°58	
W28	22 23 42	4°25'12	0♂ 4	27°22	8°12	6°13	14°55	14°16	6°31	17°40	20°56	16°42	14°55	12°57	4°56	
T 29	22 27 39	5°23'10	14°54	29°21	9°26	6°51	14°58	14°14	6°30	17°39	20°55	16°39	14°52	13° 4	4°54	
F 30	22 31 35	6°21'09	0♂ 2	1♂20	10°41	7°29	15° 1	14°13	6°29	17°37	20°54	16°35	14°48	13°11	4°51	
S 31	22 35 32	7♂19'10	15♂18	3♂19	11♂55	8♂ 8	15♂ 5	14♂11	6♂28	17♂36	20♂54	16♂28	14♂45	13♂17	4°Y49	

Delta T = 70.91 sec.

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SWISS EPHEMERIS for the year 2019

SEPTEMBER 2019

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
S 1	22 39 29	8 ^h 17'13"	0 ^h 53'	5 ^h 17'	13 ^h 10'	8 ^h 46'	15 ^h 8'	14 ^h 9'	6 ^h 27'	17 ^h 34'	20 ^h 53'	16 ^h 20'	14 ^h 42'	13 ^h 24'	4 ^h 47'
M 2	22 43 25	9 ^h 15'16"	15 ^h 35'	7 ^h 15'	14 ^h 24'	9 ^h 24'	15 ^h 12'	14 ^h 8'	6 ^h 26'	17 ^h 32'	20 ^h 52'	16 ^h 13'	14 ^h 39'	13 ^h 31'	4 ^h 44'
T 3	22 47 22	10 ^h 13'22"	0 ^h 15'	9 ^h 12'	15 ^h 38'	10 ^h 2'	15 ^h 16'	14 ^h 6'	6 ^h 25'	17 ^h 31'	20 ^h 51'	16 ^h 6'	14 ^h 36'	13 ^h 38'	4 ^h 42'
W 4	22 51 18	11 ^h 11'29"	14 ^h 29'	11 ^h 7'	16 ^h 53'	10 ^h 41'	15 ^h 20'	14 ^h 5'	6 ^h 24'	17 ^h 29'	20 ^h 50'	16 ^h 1'	14 ^h 32'	13 ^h 44'	4 ^h 40'
T 5	22 55 15	12 ^h 9'37"	28 ^h 14'	13 ^h 2'	18 ^h 7'	11 ^h 19'	15 ^h 25'	14 ^h 3'	6 ^h 23'	17 ^h 27'	20 ^h 49'	15 ^h 58'	14 ^h 29'	13 ^h 51'	4 ^h 37'
F 6	22 59 11	13 ^h 7'46"	11 ^h 32'	14 ^h 56'	19 ^h 22'	11 ^h 57'	15 ^h 29'	14 ^h 2'	6 ^h 22'	17 ^h 26'	20 ^h 49'	15 ^h 57'	14 ^h 26'	13 ^h 58'	4 ^h 35'
S 7	23 3 8	14 ^h 5'58"	24 ^h 25'	16 ^h 49'	20 ^h 36'	12 ^h 35'	15 ^h 34'	14 ^h 1'	6 ^h 21'	17 ^h 24'	20 ^h 48'	15 ^h 57'	14 ^h 23'	14 ^h 4'	4 ^h 32'
S 8	23 7 4	15 ^h 4'10"	6 ^h 57'	18 ^h 41'	21 ^h 51'	13 ^h 14'	15 ^h 38'	14 ^h 0'	6 ^h 19'	17 ^h 22'	20 ^h 47'	15 ^h 58'	14 ^h 20'	14 ^h 11'	4 ^h 30'
M 9	23 11 1	16 ^h 2'24"	19 ^h 14'	20 ^h 32'	23 ^h 5'	13 ^h 52'	15 ^h 43'	13 ^h 59'	6 ^h 18'	17 ^h 21'	20 ^h 46'	15 ^h 58'	14 ^h 17'	14 ^h 18'	4 ^h 27'
T 10	23 14 57	17 ^h 0'40"	1 ^h 18'	22 ^h 22'	24 ^h 19'	14 ^h 30'	15 ^h 49'	13 ^h 58'	6 ^h 17'	17 ^h 19'	20 ^h 46'	15 ^h 57'	14 ^h 13'	14 ^h 24'	4 ^h 25'
W 11	23 18 54	17 ^h 58'57"	13 ^h 15'	24 ^h 10'	25 ^h 34'	15 ^h 9'	15 ^h 54'	13 ^h 57'	6 ^h 16'	17 ^h 17'	20 ^h 45'	15 ^h 54'	14 ^h 10'	14 ^h 31'	4 ^h 22'
T 12	23 22 51	18 ^h 57'16"	25 ^h 8'	25 ^h 57'	26 ^h 48'	15 ^h 47'	15 ^h 59'	13 ^h 57'	6 ^h 14'	17 ^h 16'	20 ^h 45'	15 ^h 47'	14 ^h 7'	14 ^h 38'	4 ^h 20'
F 13	23 26 47	19 ^h 55'37"	6 ^h 59'	27 ^h 43'	28 ^h 3'	16 ^h 25'	16 ^h 5'	13 ^h 56'	6 ^h 13'	17 ^h 14'	20 ^h 44'	15 ^h 39'	14 ^h 4'	14 ^h 45'	4 ^h 17'
S 14	23 30 44	20 ^h 53'59"	18 ^h 50'	29 ^h 29'	29 ^h 17'	17 ^h 3'	16 ^h 11'	13 ^h 56'	6 ^h 11'	17 ^h 13'	20 ^h 43'	15 ^h 28'	14 ^h 1'	14 ^h 51'	4 ^h 14'
S 15	23 34 40	21 ^h 52'23"	0 ^h 43'	1 ^h 12'	0 ^h 32'	17 ^h 42'	16 ^h 17'	13 ^h 55'	6 ^h 10'	17 ^h 11'	20 ^h 43'	15 ^h 16'	13 ^h 57'	14 ^h 58'	4 ^h 12'
M 16	23 38 37	22 ^h 50'49"	12 ^h 40'	2 ^h 55'	1 ^h 46'	18 ^h 20'	16 ^h 23'	13 ^h 55'	6 ^h 8'	17 ^h 9'	20 ^h 42'	15 ^h 3'	13 ^h 54'	15 ^h 5'	4 ^h 9'
T 17	23 42 33	23 ^h 49'17"	24 ^h 42'	4 ^h 37'	3 ^h 1'	18 ^h 59'	16 ^h 29'	13 ^h 55'	6 ^h 6'	17 ^h 8'	20 ^h 42'	14 ^h 51'	13 ^h 51'	15 ^h 11'	4 ^h 6'
W 18	23 46 30	24 ^h 47'47"	6 ^h 50'	6 ^h 18'	4 ^h 15'	19 ^h 37'	16 ^h 35'	13 ^h 55'	6 ^h 5'	17 ^h 6'	20 ^h 41'	14 ^h 41'	13 ^h 48'	15 ^h 18'	4 ^h 4'
T 19	23 50 26	25 ^h 46'19"	19 ^h 7'	7 ^h 57'	5 ^h 30'	20 ^h 15'	16 ^h 42'	13 ^h 55'	6 ^h 3'	17 ^h 4'	20 ^h 41'	14 ^h 33'	13 ^h 45'	15 ^h 25'	4 ^h 1'
F 20	23 54 23	26 ^h 44'53"	1 ^h 36'	9 ^h 36'	6 ^h 44'	20 ^h 54'	16 ^h 48'	13 ^h 55'	6 ^h 1'	17 ^h 3'	20 ^h 41'	14 ^h 28'	13 ^h 42'	15 ^h 31'	3 ^h 58'
S 21	23 58 20	27 ^h 43'30"	14 ^h 19'	11 ^h 14'	7 ^h 59'	21 ^h 32'	16 ^h 55'	13 ^h 55'	6 ^h 0'	17 ^h 1'	20 ^h 40'	14 ^h 25'	13 ^h 38'	15 ^h 38'	3 ^h 56'
S 22	0 2 16	28 ^h 42'09"	27 ^h 20'	12 ^h 50'	9 ^h 14'	22 ^h 11'	17 ^h 2'	13 ^h 55'	5 ^h 58'	16 ^h 59'	20 ^h 40'	14 ^h 25'	13 ^h 35'	15 ^h 45'	3 ^h 53'
M 23	0 6 13	29 ^h 40'50"	10 ^h 43'	14 ^h 26'	10 ^h 28'	22 ^h 49'	17 ^h 9'	13 ^h 56'	5 ^h 56'	16 ^h 58'	20 ^h 40'	14 ^h 25'	13 ^h 32'	15 ^h 52'	3 ^h 50'
T 24	0 10 9	0 ^h 39'33"	24 ^h 31'	16 ^h 1'	11 ^h 43'	23 ^h 28'	17 ^h 16'	13 ^h 56'	5 ^h 54'	16 ^h 56'	20 ^h 39'	14 ^h 25'	13 ^h 29'	15 ^h 58'	3 ^h 48'
W 25	0 14 6	1 ^h 38'19"	8 ^h 45'	17 ^h 34'	12 ^h 57'	24 ^h 6'	17 ^h 24'	13 ^h 57'	5 ^h 52'	16 ^h 55'	20 ^h 39'	14 ^h 23'	13 ^h 26'	16 ^h 5'	3 ^h 45'
T 26	0 18 2	2 ^h 37'07"	23 ^h 24'	19 ^h 7'	14 ^h 12'	24 ^h 44'	17 ^h 31'	13 ^h 57'	5 ^h 50'	16 ^h 53'	20 ^h 39'	14 ^h 19'	13 ^h 23'	16 ^h 12'	3 ^h 42'
F 27	0 21 59	3 ^h 35'57"	8 ^h 24'	20 ^h 39'	15 ^h 26'	25 ^h 23'	17 ^h 39'	13 ^h 58'	5 ^h 48'	16 ^h 52'	20 ^h 39'	14 ^h 12'	13 ^h 19'	16 ^h 18'	3 ^h 39'
S 28	0 25 55	4 ^h 34'49"	23 ^h 37'	22 ^h 10'	16 ^h 41'	26 ^h 2'	17 ^h 47'	13 ^h 59'	5 ^h 46'	16 ^h 50'	20 ^h 38'	14 ^h 2'	13 ^h 16'	16 ^h 25'	3 ^h 37'
S 29	0 29 52	5 ^h 33'43"	8 ^h 52'	23 ^h 40'	17 ^h 56'	26 ^h 40'	17 ^h 55'	14 ^h 0'	5 ^h 44'	16 ^h 48'	20 ^h 38'	13 ^h 51'	13 ^h 13'	16 ^h 32'	3 ^h 34'
M 30	0 33 49	6 ^h 32'39"	23 ^h 59'	25 ^h 9'	19 ^h 10'	27 ^h 19'	18 ^h 3'	14 ^h 1'	5 ^h 42'	16 ^h 47'	20 ^h 38'	13 ^h 40'	13 ^h 10'	16 ^h 39'	3 ^h 31'

Delta T = 71.04 sec.

OCTOBER 2019

00:00 UT

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

SWISS EPHEMERIS for the year 2019

NOVEMBER 2019

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
F 1	2 39 58	8♈15'46	28♈33	27°R38	28♈57	18♈1	23♈21	15♈26	4°R28	16°R 7	20♈50	10°R19	11♈28	20♈13	2°R12
S 2	2 43 55	9°15'48	11♈33	27♈31	0♈11	18°40	23°33	15°30	4♈25	16°R 6	20°51	10°D18	11°25	20°20	2°V10
S 3	2 47 51	10°15'51	24°10	27°14	1°26	19°19	23°44	15°34	4°23	16° 6	20°52	10♈19	11°22	20°27	2° 8
M 4	2 51 48	11°15'56	6♈27	26°49	2°40	19°58	23°56	15°38	4°20	16° 5	20°53	10°R19	11°19	20°33	2° 6
T 5	2 55 44	12°16'03	18°31	26°13	3°55	20°37	24° 8	15°43	4°18	16° 4	20°54	10°19	11°15	20°40	2° 4
W 6	2 59 41	13°16'11	0♈26	25°28	5° 9	21°16	24°20	15°47	4°15	16° 3	20°55	10°18	11°12	20°47	2° 2
T 7	3 3 38	14°16'21	12°17	24°34	6°24	21°56	24°32	15°52	4°13	16° 3	20°56	10°13	11° 9	20°54	2° 1
F 8	3 7 34	15°16'32	24° 8	23°31	7°38	22°35	24°44	15°56	4°10	16° 2	20°57	10° 7	11° 6	21° 0	1°59
S 9	3 11 31	16°16'45	6°V 5	22°21	8°53	23°14	24°56	16° 1	4° 8	16° 1	20°58	9°59	11° 3	21° 7	1°57
S 10	3 15 27	17°17'00	18° 8	21° 6	10° 7	23°53	25° 8	16° 5	4° 6	16° 1	20°59	9°49	11° 0	21°14	1°55
M11	3 19 24	18°17'16	0♈22	19°47	11°22	24°32	25°20	16°10	4° 3	16° 0	21° 0	9°39	10°56	21°20	1°54
T 12	3 23 20	19°17'34	12°46	18°27	12°36	25°12	25°32	16°15	4° 1	16° 0	21° 1	9°29	10°53	21°27	1°52
W13	3 27 17	20°17'53	25°21	17° 9	13°51	25°51	25°45	16°20	3°59	15°59	21° 2	9°21	10°50	21°34	1°50
T 14	3 31 13	21°18'14	8♈18	15°54	15° 5	26°30	25°57	16°25	3°56	15°59	21° 3	9°15	10°47	21°41	1°49
F 15	3 35 10	22°18'38	21° 7	14°47	16°20	27°10	26°10	16°30	3°54	15°58	21° 5	9°11	10°44	21°47	1°47
S 16	3 39 7	23°19'02	4♈16	13°47	17°34	27°49	26°22	16°35	3°52	15°58	21° 6	9°D 9	10°40	21°54	1°46
S 17	3 43 3	24°19'29	17°37	12°58	18°49	28°29	26°35	16°40	3°49	15°57	21° 7	9° 9	10°37	22° 1	1°45
M18	3 47 0	25°19'58	1♈10	12°20	20° 3	29° 8	26°47	16°45	3°47	15°57	21° 8	9°10	10°34	22° 7	1°43
T 19	3 50 56	26°20'28	14°55	11°54	21°18	29°47	27° 0	16°51	3°45	15°57	21°10	9°12	10°31	22°14	1°42
W20	3 54 53	27°21'00	28°53	11°39	22°32	0♈27	27°13	16°56	3°43	15°57	21°11	9°R12	10°28	22°21	1°41
T 21	3 58 49	28°21'34	13♈3	11°D35	23°46	1° 6	27°26	17° 2	3°41	15°56	21°12	9°11	10°25	22°28	1°39
F 22	4 2 46	29°22'10	27°24	11°43	25° 1	1°46	27°39	17° 7	3°38	15°56	21°14	9° 8	10°21	22°34	1°38
S 23	4 6 42	0♈22'47	11♈52	12° 1	26°15	2°25	27°51	17°13	3°36	15°56	21°15	9° 4	10°18	22°41	1°37
S 24	4 10 39	1°23'26	26°24	12°28	27°30	3° 5	28° 4	17°18	3°34	15°56	21°17	8°58	10°15	22°48	1°36
M25	4 14 36	2°24'07	10♈52	13° 3	28°44	3°44	28°17	17°24	3°32	15°56	21°18	8°52	10°12	22°54	1°35
T 26	4 18 32	3°24'49	25°10	13°46	29°59	4°24	28°30	17°30	3°30	15°56	21°19	8°47	10° 9	23° 1	1°34
W27	4 22 29	4°25'33	9♈14	14°36	1♈13	5° 4	28°44	17°35	3°28	15°56	21°21	8°42	10° 6	23° 8	1°33
T 28	4 26 25	5°26'18	22°58	15°31	2°27	5°43	28°57	17°41	3°26	15°D56	21°22	8°39	10° 2	23°15	1°32
F 29	4 30 22	6°27'05	6♈20	16°32	3°42	6°23	29°10	17°47	3°24	15°56	21°24	8°D38	9°59	23°21	1°32
S 30	4 34 18	7♈27'52	19♈20	17♈37	4♈56	7♈13	29♈23	17♈53	3♈22	15♈56	21♈25	8♈39	9♈56	23♈28	1♈31

Delta T = 71.30 sec.

DECEMBER 2019

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
S 1	4 38 15	8♈28'41	1♈58	18♈46	6♈10	7♈42	29♈36	17♈59	3°R20	15♈56	21♈27	8♈40	9♈53	23♈35	1°R30
M 2	4 42 11	9°29'30	14°19	19°58	7°25	8°22	29°50	18° 5	3♈18	15°56	21°29	8°42	9°50	23°41	1°V29
T 3	4 46 8	10°30'21	26°25	21°13	8°39	9° 2	0♈3	18°11	3°17	15°56	21°30	8°44	9°46	23°48	1°29
W 4	4 50 5	11°31'12	8♈22	22°31	9°53	9°42	0°17	18°17	3°15	15°56	21°32	8°R45	9°43	23°55	1°28
T 5	4 54 1	12°32'04	20°14	23°51	11° 8	10°21	0°30	18°23	3°13	15°57	21°33	8°44	9°40	24° 2	1°28
F 6	4 57 58	13°32'57	2°V 7	25°12	12°22	11° 1	0°43	18°30	3°11	15°57	21°35	8°43	9°37	24° 8	1°27
S 7	5 1 54	14°33'51	14° 4	26°35	13°36	11°41	0°57	18°36	3°10	15°57	21°37	8°40	9°34	24°15	1°27
S 8	5 5 51	15°34'45	26°11	28° 0	14°50	12°21	1°10	18°42	3° 8	15°57	21°39	8°37	9°31	24°22	1°27
M 9	5 9 47	16°35'40	8♈30	29°25	16° 5	13° 1	1°24	18°49	3° 6	15°58	21°40	8°33	9°27	24°28	1°27
T 10	5 13 44	17°36'37	21° 4	0♈52	17°19	13°40	1°38	18°55	3° 5	15°58	21°42	8°30	9°24	24°35	1°26
W11	5 17 40	18°37'34	3♈53	2°19	18°33	14°20	1°51	19° 1	3° 3	15°59	21°44	8°26	9°21	24°42	1°26
T 12	5 21 37	19°38'31	16°59	3°47	19°47	15° 0	2° 5	19° 8	3° 2	15°59	21°45	8°24	9°18	24°49	1°26
F 13	5 25 34	20°39'30	0♈21	5°16	21° 1	15°40	2°18	19°14	3° 0	16° 0	21°47	8°23	9°15	24°55	1°D26
S 14	5 29 30	21°40'30	13°56	6°45	22°15	16°20	2°32	19°21	2°59	16° 0	21°49	8°D23	9°12	25° 2	1°26
S 15	5 33 27	22°41'30	27°43	8°14	23°29	17° 0	2°46	19°27	2°58	16° 1	21°51	8°24	9° 8	25° 9	1°26
M16	5 37 23	23°42'32	11♈40	9°44	24°43	17°40	2°59	19°34	2°56	16° 1	21°53	8°25	9° 5	25°16	1°26
T 17	5 41 20	24°43'34	25°44	11°15	25°57	18°20	3°13	19°41	2°55	16° 2	21°54	8°26	9° 2	25°22	1°26
W18	5 45 16	25°44'37	9♈52	12°46	27°11	19° 0	3°27	19°47	2°54	16° 3	21°56	8°27	8°59	25°29	1°27
T 19	5 49 13	26°45'42	24° 3	14°17	28°25	19°40	3°41	19°54	2°53	16° 4	21°58	8°R28	8°56	25°36	1°27
F 20	5 53 10	27°46'47	8♈14	15°48	29°39	20°20	3°54	20° 1	2°51	16° 4	22° 0	8°27	8°52	25°42	1°27
S 21	5 57 6	28°47'53	22°23	17°20	0♈53	21° 0	4° 8	20° 8	2°50	16° 5	22° 2	8°27	8°49	25°49	1°28
S 22	6 1 3	29°48'59	6♈28	18°51	2° 7	21°41	4°22	20°14	2°49	16° 6	22° 4	8°26	8°46	25°56	1°28
M23	6 4 59	0♈50'07	20°27	20°23	3°21	22°21	4°36	20°21	2°48	16° 7	22° 6	8°25	8°43	26° 3	1°29
T 24	6 8 56	1°51'15	4♈15	21°56	4°35	23° 1	4°50	20°28	2°47	16° 8	22° 8	8°24	8°40	26° 9	1°29
W25	6 12 52	2°52'24	17°52	23°28	5°49	23°41	5° 3	20°35	2°47	16° 9	22° 9	8°23	8°37	26°16	1°30
T 26	6 16 49	3°53'34	1♈14	25° 1	7° 3	24°21	5°17	20°42	2°46	16° 9	22°11	8°23	8°33	26°23	1°31
F 27	6 20 45	4°54'44	14°21	26°34	8°16	25° 2	5°31	20°49	2°45	16°10	22°13	8°D23	8°30	26°29	1°31
S 28	6 24 42	5°55'54	27°11	28° 7	9°30	25°42	5°45	20°56	2°44	16°11	22°15	8°23	8°27	26°36	1°32
S 29	6 28 39	6°57'04	9♈45	29°41	10°44	26°22	5°59	21° 3	2°43	16°13	22°17	8°23	8°24	26°43	1°33
M30	6 32 35	7°58'14	22° 4	1♈15	11°57	27° 2	6°13	21°10	2°43	16°14	22°19	8°R23	8°21	26°50	1°34
T 31	6 36 32	8♈59'24	4♈10	2♈49	13♈11	27♈43	6♈26	21♈17	2♈42	16♈15	22♈21	8♈23	8♈18	26♈56	1♈35

Delta T = 71.43 sec.

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