

# SWISS EPHEMERIS for the year 2018

## JANUARY 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
M 1	6 42 23	10°30'29	24°48	17°57	8°31	14°10	16°56	1°23	24°R34	11°54	18°47	15°R21	16°54	5°53	24°39
T 2	6 46 20	11°31'36	10°56	18°56	9°47	14°47	17° 6	1°30	24°Y34	11°56	18°49	15°R17	16°51	6° 0	24°40
W 3	6 50 16	12°32'44	25°21	19°59	11° 2	15°25	17°16	1°37	24°D34	11°57	18°51	15°14	16°47	6° 7	24°42
T 4	6 54 13	13°33'52	10°23	21° 5	12°18	16° 2	17°26	1°44	24°34	11°58	18°53	15°D12	16°44	6°13	24°43
F 5	6 58 9	14°35'00	25° 5	22°13	13°33	16°40	17°36	1°51	24°34	12° 0	18°55	15°13	16°41	6°20	24°45
S 6	7 2 6	15°36'08	9°20	23°23	14°49	17°17	17°46	1°58	24°35	12° 1	18°57	15°14	16°38	6°27	24°46
S 7	7 6 2	16°37'17	23° 8	24°36	16° 4	17°54	17°55	2° 5	24°35	12° 3	18°59	15°15	16°35	6°33	24°48
M 8	7 9 59	17°38'25	6°29	25°50	17°20	18°32	18° 5	2°12	24°35	12° 4	19° 1	15°17	16°32	6°40	24°50
T 9	7 13 56	18°39'34	19°26	27° 6	18°35	19° 9	18°14	2°19	24°35	12° 6	19° 3	15°R17	16°28	6°47	24°52
W10	7 17 52	19°40'42	2°11	28°24	19°51	19°46	18°23	2°26	24°36	12° 7	19° 5	15°17	16°25	6°53	24°54
T11	7 21 49	20°41'51	14°21	29°43	21° 6	20°24	18°32	2°33	24°36	12° 9	19° 7	15°15	16°22	7° 0	24°55
F12	7 25 45	21°43'00	26°28	1°3	22°22	21° 1	18°41	2°40	24°36	12°10	19° 9	15°12	16°19	7° 7	24°57
S13	7 29 42	22°44'08	8°25	2°24	23°37	21°38	18°50	2°47	24°37	12°12	19°11	15° 8	16°16	7°13	24°59
S14	7 33 38	23°45'17	20°18	3°47	24°53	22°15	18°59	2°53	24°38	12°14	19°13	15° 4	16°13	7°20	25° 2
M15	7 37 35	24°46'25	2°3	5°10	26° 8	22°52	19° 8	3° 0	24°38	12°15	19°15	15° 0	16° 9	7°27	25° 4
T16	7 41 31	25°47'33	13°56	6°35	27°24	23°30	19°16	3° 7	24°39	12°17	19°17	14°57	16° 6	7°33	25° 6
W17	7 45 28	26°48'40	25°47	8° 0	28°39	24° 7	19°25	3°14	24°40	12°19	19°19	14°55	16° 3	7°40	25° 8
T18	7 49 25	27°49'47	7°41	9°26	29°55	24°44	19°33	3°20	24°40	12°20	19°21	14°54	16° 0	7°47	25°10
F19	7 53 21	28°50'53	19°41	10°52	1°10	25°21	19°41	3°27	24°41	12°22	19°23	14°D54	15°57	7°53	25°12
S20	7 57 18	29°51'59	1°48	12°20	2°25	25°58	19°49	3°34	24°42	12°24	19°25	14°55	15°53	8° 0	25°15
S21	8 1 14	0°53'04	14° 6	13°48	3°41	26°35	19°57	3°40	24°43	12°26	19°27	14°56	15°50	8° 7	25°17
M22	8 5 11	1°54'08	26°36	15°17	4°56	27°12	20° 5	3°47	24°44	12°27	19°29	14°57	15°47	8°13	25°20
T23	8 9 7	2°55'11	9°Y21	16°46	6°12	27°49	20°13	3°53	24°45	12°29	19°32	14°58	15°44	8°20	25°22
W24	8 13 4	3°56'13	22°25	18°16	7°27	28°26	20°20	4° 0	24°46	12°31	19°33	14°59	15°41	8°27	25°24
T25	8 17 0	4°57'14	5°B49	19°47	8°42	29° 3	20°27	4° 6	24°47	12°33	19°35	14°R59	15°38	8°33	25°27
F26	8 20 57	5°58'14	19°37	21°19	9°58	29°40	20°35	4°12	24°48	12°35	19°37	14°59	15°34	8°40	25°29
S27	8 24 54	6°59'13	3°II47	22°51	11°13	0°A17	20°42	4°19	24°50	12°37	19°39	14°59	15°31	8°47	25°32
S28	8 28 50	8° 0'10	18°19	24°24	12°29	0°54	20°49	4°25	24°51	12°39	19°41	14°58	15°28	8°53	25°35
M29	8 32 47	9° 1'07	3°E 8	25°57	13°44	1°31	20°56	4°31	24°52	12°41	19°43	14°57	15°25	9° 0	25°37
T30	8 36 43	10° 2'02	18° 9	27°31	14°59	2° 8	21° 2	4°38	24°54	12°43	19°45	14°56	15°22	9° 7	25°40
W31	8 40 40	11° 2'57	3°L13	29°E 6	16°14	2°A44	21°11	4°44	24°Y55	12°45	19°E47	14°L56	15°L19	9°E13	25°A43

Delta T = 69.50 sec.

## FEBRUARY 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
T 1	8 44 36	12° 3'50	18°L11	0°A41	17°A30	3°A21	21°11	4°E50	24°Y56	12°47	19°E49	14°D56	15°L15	9°E20	25°A46
F 2	8 48 33	13° 4'42	2°17	18°45	3°58	21°21	4°56	24°58	12°49	19°51	14°L56	15°12	9°27	25°48	
S 3	8 52 29	14° 5'34	17°18	3°54	20° 0	4°35	21°27	5° 2	25° 0	12°51	19°53	14°56	15° 9	9°34	25°51
S 4	8 56 26	15° 6'24	1°A16	5°32	21°16	5°11	21°33	5° 8	25° 1	12°53	19°55	14°R56	15° 6	9°40	25°54
M 5	9 0 23	16° 7'13	14°48	7°10	22°31	5°48	21°39	5°14	25° 3	12°55	19°57	14°56	15° 3	9°47	25°57
T 6	9 4 19	17° 8'02	27°53	8°49	23°46	6°24	21°45	5°20	25° 5	12°57	19°59	14°56	14°59	9°54	26° 0
W 7	9 8 16	18° 8'50	10°11	10°29	25° 1	7° 1	21°50	5°26	25° 6	12°59	20° 1	14°56	14°56	10° 0	26° 3
T 8	9 12 12	19° 9'36	22°58	12° 9	26°17	7°38	21°55	5°32	25° 8	13° 1	20° 2	14°D56	14°53	10° 7	26° 6
F 9	9 16 9	20°10'22	5°A 5	13°51	27°32	8°14	22° 1	5°37	25°10	13° 3	20° 4	14°56	14°50	10°14	26° 9
S10	9 20 5	21°11'07	17° 1	15°33	28°47	8°51	22° 6	5°43	25°12	13° 6	20° 6	14°57	14°47	10°20	26°12
S11	9 24 2	22°11'51	28°51	17°16	0°K 2	9°27	22°10	5°49	25°14	13° 8	20° 8	14°57	14°44	10°27	26°15
M12	9 27 58	23°12'33	10°E39	18°59	1°17	10° 3	22°15	5°54	25°16	13°10	20°10	14°58	14°40	10°34	26°18
T13	9 31 55	24°13'15	22°28	20°44	2°32	10°40	22°19	6° 0	25°18	13°12	20°11	14°59	14°37	10°40	26°21
W14	9 35 52	25°13'55	4°A23	22°29	3°48	11°16	22°24	6° 5	25°20	13°14	20°13	15° 0	14°34	10°47	26°24
T15	9 39 48	26°14'34	16°25	24°16	5° 3	11°52	22°28	6°11	25°22	13°16	20°15	15°R 0	14°31	10°54	26°28
F16	9 43 45	27°15'11	28°37	26° 3	6°18	12°29	22°32	6°16	25°24	13°19	20°17	15° 0	14°28	11° 0	26°31
S17	9 47 41	28°15'47	11°K 0	27°51	7°33	13° 5	22°36	6°21	25°26	13°21	20°18	14°58	14°24	11° 7	26°34
S18	9 51 38	29°16'21	23°35	29°40	8°48	13°41	22°39	6°26	25°28	13°23	20°20	14°57	14°21	11°14	26°37
M19	9 55 34	0°K16'54	6°Y23	1°K29	10° 3	14°17	22°43	6°31	25°31	13°25	20°22	14°55	14°18	11°20	26°41
T20	9 59 31	1°17'25	19°25	3°20	11°18	14°53	22°46	6°36	25°33	13°27	20°23	14°52	14°15	11°27	26°44
W21	10 3 27	2°17'54	2°B40	5°11	12°33	15°29	22°49	6°41	25°35	13°30	20°25	14°50	14°12	11°34	26°47
T22	10 7 24	3°18'21	16°11	7° 3	13°48	16° 5	22°52	6°46	25°38	13°32	20°26	14°48	14° 9	11°40	26°51
F23	10 11 21	4°18'47	29°56	8°55	15° 3	16°41	22°55	6°51	25°40	13°34	20°28	14°D48	14° 5	11°47	26°54
S24	10 15 17	5°19'10	13°II55	10°48	16°18	17°17	22°57	6°56	25°42	13°36	20°30	14°48	14° 2	11°54	26°57
S25	10 19 14	6°19'32	28° 9	12°41	17°33	17°52	22°59	7° 1	25°45	13°39	20°31	14°49	13°59	12° 0	27° 1
M26	10 23 10	7°19'52	12°E34	14°35	18°48	18°28	23° 2	7° 5	25°47	13°41	20°33	14°50	13°56	12° 7	27° 4
T27	10 27 7	8°20'10	27° 8	16°28	20° 3	19° 4	23° 4	7°10	25°50	13°43	20°34	14°51	13°53	12°14	27° 8
W28	10 31 3	9°A20'25	11°L47	18°K22	21°K18	19°A40	23°11	7°14	25°Y53	13°K46	20°E36	14°R52	13°L50	12°E20	27°K11

Delta T = 69.54 sec.

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# SWISS EPHEMERIS for the year 2018

MARCH 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
T 1	10 35 0	10°10'39"	26°02'23"	20°11'15"	22°11'32"	20°11'15"	23°11'07"	7°19'19"	25°11'55"	13°11'48"	20°11'37"	14°11'52"	13°11'46"	12°11'27"	27°11'14"
F 2	10 38 56	11°20'51"	10°10'52"	22°08'08"	23°47'02"	20°51'23"	23°09'07"	7°23'28"	25°58'00"	13°50'20"	20°39'14"	14°02'50"	13°43'13"	12°34'12"	27°18'27"
S 3	10 42 53	12°21'01"	25°07'25"	24°00'24"	25°02'25"	21°26'23"	23°10'07"	7°28'26"	26°00'13"	13°52'20"	20°40'14"	14°47'13"	13°40'12"	12°40'12"	27°21'27"
S 4	10 46 50	13°21'09"	9°12'03"	25°51'26"	26°17'22"	22°02'23"	23°11'07"	7°32'26"	26°03'13"	13°55'20"	20°41'14"	14°43'13"	13°37'12"	12°47'27"	27°25'27"
M 5	10 50 46	14°21'16"	22°37'27"	27°40'27"	27°31'22"	22°37'23"	23°12'07"	7°36'26"	26°06'13"	13°57'20"	20°43'14"	14°38'13"	13°34'12"	12°54'27"	27°28'27"
T 6	10 54 43	15°21'21"	5°11'47"	29°27'28"	28°46'23"	23°12'23"	23°12'07"	7°40'26"	26°09'13"	13°59'20"	20°44'14"	14°33'13"	13°30'13"	13°00'27"	27°32'27"
W 7	10 58 39	16°21'25"	18°34'11"	1°11'00"	0°11'00"	23°47'23"	23°13'07"	7°44'26"	26°11'14"	14°01'20"	20°46'14"	14°29'13"	13°27'13"	13°07'27"	27°35'27"
T 8	11 2 36	17°21'27"	1°11'00"	2°53'11"	1°15'24"	24°23'23"	23°13'07"	7°48'26"	26°14'14"	14°04'20"	20°47'14"	14°26'13"	13°24'13"	13°14'27"	27°39'27"
F 9	11 6 32	18°21'27"	13°10'43"	4°31'23"	2°30'24"	24°58'23"	23°13'07"	7°51'26"	26°17'14"	14°06'20"	20°48'14"	14°D25'	13°21'13"	13°20'27"	27°42'27"
S 10	11 10 29	19°21'26"	25°07'25"	6°05'34"	3°45'25"	25°33'23"	23°13'07"	7°55'26"	26°20'14"	14°08'20"	20°49'14"	14°25'13"	13°18'13"	13°27'27"	27°46'27"
S 11	11 14 25	20°21'23"	6°12'58"	7°35'45"	4°59'26"	26°08'23"	23°13'07"	7°59'26"	26°23'14"	14°11'20"	20°51'14"	14°26'13"	13°15'13"	13°34'27"	27°50'27"
M 12	11 18 22	21°21'18"	18°46'08"	8°59'6"	6°14'26"	26°43'23"	23°13'07"	8°02'26"	26°26'14"	14°13'20"	20°52'14"	14°28'13"	13°11'13"	13°40'27"	27°53'27"
T 13	11 22 19	22°21'12"	0°11'37"	10°18'7"	7°28'27"	27°18'23"	23°12'07"	8°06'26"	26°29'14"	14°15'20"	20°53'14"	14°30'13"	13°08'13"	13°47'27"	27°57'27"
W 14	11 26 15	23°21'04"	12°36'11"	11°31'8"	8°43'27"	27°52'23"	23°11'07"	8°09'26"	26°32'14"	14°17'20"	20°54'14"	14°R30'	13°05'13"	13°54'28"	28°00'27"
T 15	11 30 12	24°20'54"	24°46'12"	12°37'9"	9°57'28"	28°27'23"	23°10'07"	8°13'26"	26°35'14"	14°20'20"	20°55'14"	14°30'13"	13°02'14"	14°00'28"	28°04'27"
F 16	11 34 8	25°20'42"	7°11'09"	13°36'11"	11°12'29"	29°02'23"	23°09'07"	8°16'26"	26°38'14"	14°22'20"	20°56'14"	14°27'12"	12°59'14"	14°07'28"	28°07'27"
S 17	11 38 5	26°20'29"	19°49'14"	14°29'12"	12°26'29"	29°36'23"	23°08'07"	8°19'26"	26°41'14"	14°24'20"	20°57'14"	14°23'12"	12°56'14"	14°13'28"	28°11'27"
S 18	11 42 1	27°20'13"	2°11'45"	15°13'13"	13°41'00"	0°11'23"	23°06'08"	8°22'26"	26°44'14"	14°26'20"	20°58'14"	14°17'12"	12°52'14"	14°20'28"	28°15'27"
M 19	11 45 58	28°19'56"	15°56'15"	15°49'14"	14°55'04"	0°45'23"	23°04'08"	8°25'26"	26°47'14"	14°29'20"	20°59'14"	14°09'12"	12°49'14"	14°27'28"	28°18'27"
T 20	11 49 54	29°19'36"	29°22'16"	16°18'16"	16°09'19"	1°19'23"	23°02'08"	8°28'26"	26°50'14"	14°31'21"	21°00'14"	14°02'12"	12°46'14"	14°33'28"	28°22'27"
W 21	11 53 51	0°11'19"	13°11'13"	16°38'17"	17°24'15"	1°53'23"	23°00'08"	8°30'26"	26°53'14"	14°33'21"	21°01'13"	13°54'12"	12°43'14"	14°40'28"	28°25'27"
T 22	11 57 47	1°18'50"	26°49'16"	16°50'18"	18°38'22"	2°27'22"	22°58'08"	8°33'26"	26°57'14"	14°35'21"	21°02'13"	13°48'12"	12°40'14"	14°47'28"	28°29'27"
F 23	12 1 44	2°18'24"	10°11'45"	16°R54'	19°52'30"	3°01'22"	22°55'08"	8°36'27"	27°00'14"	14°37'21"	21°03'13"	13°44'12"	12°36'14"	14°53'28"	28°32'27"
S 24	12 5 41	3°17'56"	24°47'16"	16°51'21"	21°06'33"	3°35'22"	22°53'08"	8°38'27"	27°03'14"	14°40'21"	21°04'13"	13°42'12"	12°33'15"	15°00'28"	28°36'27"
S 25	12 9 37	4°17'25"	8°12'54"	16°39'22"	22°21'40"	4°09'22"	22°50'08"	8°40'27"	27°06'14"	14°42'21"	21°05'13°D42'	12°30'15°07'	12°30'15°07'	15°07'28°40'	28°40'27"
M 26	12 13 34	5°16'52"	23°03'16"	16°21'23"	23°35'44"	4°43'22"	22°47'08"	8°43'27"	27°09'14"	14°44'21"	21°06'13°42'	12°27'15°13'	12°27'15°13'	15°13'28°43'	28°43'27"
T 27	12 17 30	6°16'16"	7°12'15"	15°55'24"	24°49'50"	5°16'22"	22°44'08"	8°45'27"	27°13'14"	14°46'21"	21°07'13°R43'	12°24'15°20'	12°24'15°20'	15°20'28°47'	28°47'27"
W 28	12 21 27	7°15'39"	21°26'15"	15°24'26"	26°03'50"	5°50'22"	22°40'08"	8°47'27"	27°16'14"	14°48'21"	21°08'13°43'	12°21'15°27'	12°21'15°27'	15°27'28°50'	28°50'27"
T 29	12 25 23	8°14'58"	5°11'35"	14°47'27"	17°06'23"	6°23'22"	22°37'08"	8°49'27"	27°19'14"	14°50'21"	21°08'13°41'	12°17'15°33'	12°17'15°33'	15°33'28°54'	28°54'27"
F 30	12 29 20	9°14'16"	19°39'14"	14°06'28"	31°06'56"	6°56'22"	22°33'08"	8°51'27"	27°23'14"	14°53'21"	21°09'13°37'	12°14'15°40'	12°14'15°40'	15°40'28°57'	28°57'27"
S 31	12 33 16	10°13'32"	3°12'32"	13°11'21"	29°11'45"	7°12'30"	22°11'29"	8°53'27"	27°26'14"	14°55'21"	21°10'13°30'	12°11'15°47'	12°11'15°47'	15°47'29°11'	29°11'27"

Delta T = 69.58 sec.

APRIL 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
S 1	12 37 13	11°12'45"	17°12'12"	12°R33'	0°11'59"	8°12'03"	22°R25'	8°12'55"	27°11'29"	14°11'57"	21°11'10"	13°R21'	12°11'08"	15°12'53"	29°11'04"
M 2	12 41 10	12°11'56"	0°11'35"	11°11'44"	2°13'21"	8°36'22"	22°R21'	8°56'27"	27°33'14"	14°59'21"	21°11'13°11'	12°05'16°00'	12°05'16°00'	16°00'29°08'	29°08'04"
T 3	12 45 6	13°11'06"	13°39'10"	10°55'32"	3°27'09"	9°08'22"	22°17'08"	8°58'27"	27°36'15"	15°01'21"	21°11'13°00'	12°01'16°07'	12°01'16°07'	16°07'29°11'	29°11'04"
W 4	12 49 3	14°10'14"	26°23'10"	10°05'44"	4°40'09"	9°41'22"	22°12'08"	8°59'27"	27°39'15"	15°03'21"	21°12'12°51'	11°58'16°13'	11°58'16°13'	16°13'29°15'	29°15'04"
T 5	12 52 59	15°09'19"	8°11'49"	9°17'54"	5°54'10"	10°14'22"	22°07'09"	9°00'27"	27°43'15"	15°05'21"	21°13'12°43'	11°55'16°20'	11°55'16°20'	16°20'29°18'	29°18'04"
F 6	12 56 56	16°08'23"	21°00'8"	8°31'7"	8°03'10"	10°46'22"	22°03'09"	9°02'27"	27°46'15"	15°07'21"	21°13'12°38'	11°52'16°27'	11°52'16°27'	16°27'29°22'	29°22'04"
S 7	13 0 52	17°07'26"	2°12'58"	7°48'8"	8°22'11"	11°19'21"	21°58'09"	9°03'27"	27°49'15"	15°09'21"	21°14'12°34'	11°49'16°33'	11°49'16°33'	16°33'29°25'	29°25'04"
S 8	13 4 49	18°06'26"	14°49'7"	7°09'35"	9°35'11"	11°51'21"	21°52'09"	9°04'27"	27°53'15"	15°11'21"	21°14'12°D33'	11°46'16°40'	11°46'16°40'	16°40'29°29'	29°29'04"
M 9	13 8 45	19°05'25"	26°38'6"	6°34'10"	10°49'12"	12°23'21"	21°47'09"	9°05'27"	27°56'15"	15°13'21"	21°14'12°33'	11°42'16°47'	11°42'16°47'	16°47'29°32'	29°32'04"
T 10	13 12 42	20°04'22"	8°11'30"	6°03'12"	12°03'12"	12°55'21"	21°42'09"	9°06'28"	28°00'15"	15°15'21"	21°15'12°R34'	11°39'16°53'	11°39'16°53'	16°53'29°36'	29°36'04"
W 11	13 16 39	21°03'17"	20°31'53"	5°38'13"	13°16'13"	13°27'21"	21°36'09"	9°06'28"	28°03'15"	15°17'21"	21°15'12°34'	11°36'17°00'	11°36'17°00'	17°00'29°39'	29°39'04"
T 12	13 20 35	22°02'10"	2°11'45"	5°17'14"	14°30'13"	13°58'21"	21°31'09"	9°07'28"	28°06'15"	15°19'21"	21°16'12°32'	11°33'17°07'	11°33'17°07'	17°07'29°42'	29°42'04"
F 13	13 24 32	23°01'02"	15°16'50"	5°02'15"	15°43'14"	14°30'21"	21°25'09"	9°08'28"	28°10'15"	15°21'21"	21°16'12°27'	11°30'17°13'	11°30'17°13'	17°13'29°46'	29°46'04"
S 14	13 28 28	23°59'52"	28°08'45"	4°52'16"	16°57'15"	15°01'21"	21°19'09"	9°08'28°13'	15°23'21"	15°23'21"	21°16'12°21'	11°27'17°20'	11°27'17°20'	17°20'29°49'	29°49'04"
S 15	13 32 25	24°58'40"	11°11'21"	4°D47'	18°10'15"	15°32'21"	21°13'09"	9°08'28°17'	15°24'21"	15°24'21"	21°16'12°11'	11°23'17°27'	11°23'17°27'	17°27'29°52'	29°52'04"
M 16	13 36 21	25°57'26"	24°55'44"	4°48'19"	19°24'16"	16°03'21"	21°06'09"	9°09'28"	28°20'15"	15°26'21"	21°17'12°00'	11°20'17°33'	11°20'17°33'	17°33'29°56'	29°56'04"
T 17	13 40 18	26°56'10"	8°11'47"	4°53'20"	20°37'16"	16°34'21"	21°00'09"	9°09'28°24'	15°28'21"	15°28'21"	21°17'11°48'	11°17'17°40'	11°17'17°40'	17°40'29°59'	29°59'04"
W 18	13 44 14	27°54'52"	22°52'50"	5°04'21"	21°50'17"	17°05'20"	20°54'09"	9°R09'	28°27'15"	15°30'21"	21°17'11°37'	11°14'17°47'	11°14'17°47'	17°47'0°11'	0°11'04"
T 19	13 48 11	28°53'32"	7°11'27"	5°20'23"	23°04'17"	17°35'20"	20°47'09"	9°09'28°31'	15°32'21"	15°32'21"	21°17'11°28'	11°11'17°53'	11°11'17°53'	17°53'0°05'	0°05'04"
F 20	13 52 7	29°52'10"	21°24'54"	5°40'24"	24°17'18"	18°06'20"	20°41'09"	9°09'28°34'	15°34'21"	15°34'21"	21°17'11°21'	11°07'18°00'	11°07'18°00'	18°00'0°09'	0°09'04"
S 21	13 56 4	0°11'50"	5°12'41"	6°05'25"	25°30'18"	18°36'20"	20°34'09"	9°09'28°37'	15°35'21"	15°35'21"	21°17'11°16'	11°04'18°07'	11°04'18°07'	18°07'0°12'	0°12'04"
S 22	14 0 1	1°49'19"	19°54'6"	6°34'26"	26°43'19"	19°06'20"	20°27'09"	9°08'28°41'	15°37'21"	15°37'21"	21°17'11°14'	11°01'18°13'	11°01'18°13'	18°13'0°15'	0°15'04"
M 23	14 3 57	2°47'51"	4°12'01"	7°08'27"	27°56'19"	19°36'20"	20°20'09"	9°08'28°44'	15°39'21"	15°39'21"	21°17'11°14'	11°01'18°20'	11°01'18°20'	18°20'0°18'	0°18'04"
T 24	14 7 54	3°46'20"	18°02'7"	7°45'29"	29°09'20"	20°05'20"	20°13'09"	9°07'28°48'	15°40'21"	15°40'21"	21°17'11°14'	11°01'18°27'	11°01'18°27'	18°27'0°21'	0°21'04"
W 25	14 11 50	4°44'47"	1°11'55"	8°26'02"	20°35'20"	20°06'09"	20°06'09"	9°07'28°51'	15°42'21"	15°42'21"	21°17'11°13'	11°01'18°33'	11°01'18°33'	18°33'0°24'	0°24'04"

# SWISS EPHEMERIS for the year 2018

MAY 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
T 1	14 35 30	10♈34'45	21♎57	13♏44	7♏39	23♏26	19♏R22	9♏R 1	29♏12	15♏51	21♏R16	10♏R18	10♏R32	19♏313	0♏Y42
W 2	14 39 26	11°32'59	4♏31	14°48	8°52	23°54	19♏15	9♏R 0	29°15	15°53	21♏16	10♏R 6	10°29	19°20	0°45
T 3	14 43 23	12°31'10	16°50	15°54	10° 5	24°22	19° 7	8°58	29°18	15°54	21°16	9°55	10°26	19°26	0°48
F 4	14 47 19	13°29'21	28°57	17° 3	11°17	24°49	19° 0	8°57	29°22	15°56	21°15	9°47	10°23	19°33	0°51
S 5	14 51 16	14°27'29	10♈53	18°15	12°30	25°16	18°52	8°55	29°25	15°57	21°15	9°42	10°20	19°40	0°54
S 6	14 55 12	15°25'37	22°43	19°29	13°42	25°43	18°45	8°53	29°28	15°59	21°15	9°40	10°17	19°46	0°56
M 7	14 59 9	16°23'43	4♏31	20°45	14°55	26°10	18°37	8°52	29°32	16° 0	21°14	9°39	10°13	19°53	0°59
T 8	15 3 5	17°21'47	16°23	22° 4	16° 7	26°36	18°29	8°50	29°35	16° 1	21°14	9°39	10°10	20° 0	1° 2
W 9	15 7 2	18°19'50	28°24	23°25	17°20	27° 2	18°22	8°48	29°38	16° 3	21°13	9°38	10° 7	20° 6	1° 5
T 10	15 10 59	19°17'51	10♏39	24°48	18°32	27°28	18°14	8°46	29°42	16° 4	21°13	9°37	10° 4	20°13	1° 7
F 11	15 14 55	20°15'52	23°13	26°14	19°44	27°53	18° 6	8°44	29°45	16° 5	21°12	9°33	10° 1	20°20	1°10
S 12	15 18 52	21°13'50	6♏10	27°42	20°56	28°18	17°59	8°42	29°48	16° 6	21°12	9°27	9°58	20°26	1°12
S 13	15 22 48	22°11'48	19°33	29°12	22° 9	28°43	17°51	8°39	29°52	16° 7	21°11	9°18	9°54	20°33	1°15
M14	15 26 45	23° 9'44	3♏20	0♏44	23°21	29° 7	17°43	8°37	29°55	16° 9	21°11	9° 8	9°51	20°40	1°17
T 15	15 30 41	24° 7'39	17°31	2°18	24°33	29°31	17°36	8°35	29°58	16°10	21°10	8°57	9°48	20°46	1°20
W16	15 34 38	25° 5'32	1♏59	3°54	25°45	29°55	17°28	8°32	0♏ 1	16°11	21° 9	8°46	9°45	20°53	1°22
T 17	15 38 34	26° 3'24	16°39	5°33	26°57	0♏19	17°21	8°29	0° 4	16°12	21° 9	8°37	9°42	21° 0	1°25
F 18	15 42 31	27° 1'15	1♏21	7°13	28° 9	0°42	17°13	8°27	0° 8	16°13	21° 8	8°30	9°38	21° 6	1°27
S 19	15 46 28	27°59'04	16° 0	8°56	29°21	1° 4	17° 6	8°24	0°11	16°14	21° 7	8°26	9°35	21°13	1°29
S 20	15 50 24	28°56'51	0♏30	10°41	0♏32	1°27	16°58	8°21	0°14	16°15	21° 7	8°24	9°32	21°20	1°31
M21	15 54 21	29°54'36	14°46	12°27	1°44	1°48	16°51	8°18	0°17	16°16	21° 6	8°D24	9°29	21°26	1°34
T 22	15 58 17	0♏52'20	28°49	14°16	2°56	2°10	16°44	8°15	0°20	16°17	21° 5	8°R24	9°26	21°33	1°36
W23	16 2 14	1°50'02	12♏36	16° 7	4° 7	2°31	16°37	8°12	0°23	16°18	21° 4	8°24	9°23	21°39	1°38
T 24	16 6 10	2°47'42	26°10	18° 0	5°19	2°52	16°30	8° 9	0°26	16°19	21° 3	8°22	9°19	21°46	1°40
F 25	16 10 7	3°45'21	9♏30	19°56	6°30	3°12	16°23	8° 6	0°29	16°19	21° 3	8°17	9°16	21°53	1°42
S 26	16 14 3	4°42'59	22°37	21°53	7°42	3°32	16°16	8° 3	0°32	16°20	21° 2	8°10	9°13	21°59	1°44
S 27	16 18 0	5°40'35	5♏33	23°52	8°53	3°51	16° 9	7°59	0°35	16°21	21° 1	8° 1	9°10	22° 6	1°46
M28	16 21 57	6°38'09	18°16	25°53	10° 5	4°10	16° 2	7°56	0°38	16°22	21° 0	7°50	9° 7	22°13	1°48
T 29	16 25 53	7°35'43	0♏47	27°56	11°16	4°29	15°55	7°53	0°41	16°22	20°59	7°39	9° 4	22°19	1°50
W30	16 29 50	8°33'15	13° 7	0♏ 1	12°27	4°47	15°49	7°49	0°44	16°23	20°58	7°29	9° 0	22°26	1°52
T 31	16 33 46	9♏30'47	25♏16	2♏ 7	13♏38	5♏ 5	15♏42	7♏45	0♏47	16♏24	20♏57	7♏21	8♏57	22♏33	1♏Y54

Delta T = 69.66 sec.

JUNE 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
F 1	16 37 43	10♏28'17	7♏16	4♏15	14♏49	5♏22	15♏R36	7°R42	0♏49	16♏24	20°R56	7°R14	8♏54	22♏39	1♏Y55
S 2	16 41 39	11°25'46	19° 8	6°24	16° 0	5°38	15♏29	7°38	0°52	16°25	20°55	7♏10	8°51	22°46	1°57
S 3	16 45 36	12°23'15	0♏56	8°34	17°11	5°54	15°23	7°34	0°55	16°25	20°54	7° 8	8°48	22°53	1°59
M 4	16 49 32	13°20'42	12°43	10°46	18°22	6°10	15°17	7°31	0°58	16°26	20°53	7°D 8	8°44	22°59	2° 0
T 5	16 53 29	14°18'09	24°35	12°57	19°33	6°25	15°11	7°27	1° 1	16°26	20°52	7° 9	8°41	23° 6	2° 2
W 6	16 57 26	15°15'35	6♏35	15° 9	20°43	6°39	15° 6	7°23	1° 3	16°27	20°50	7°10	8°38	23°13	2° 3
T 7	17 1 22	16°13'01	18°49	17°21	21°54	6°53	15° 0	7°19	1° 6	16°27	20°49	7°R11	8°35	23°19	2° 5
F 8	17 5 19	17°10'26	1♏22	19°33	23° 4	7° 6	14°54	7°15	1° 9	16°28	20°48	7°10	8°32	23°26	2° 6
S 9	17 9 15	18° 7'50	14°18	21°45	24°15	7°19	14°49	7°11	1°11	16°28	20°47	7° 7	8°29	23°33	2° 8
S 10	17 13 12	19° 5'13	27°41	23°56	25°25	7°31	14°44	7° 7	1°14	16°28	20°46	7° 2	8°25	23°39	2° 9
M11	17 17 8	20° 2'37	11♏32	26° 5	26°36	7°43	14°38	7° 3	1°16	16°28	20°45	6°56	8°22	23°46	2°10
T 12	17 21 5	20°59'59	25°50	28°14	27°46	7°53	14°33	6°59	1°19	16°29	20°43	6°49	8°19	23°52	2°11
W13	17 25 1	21°57'21	10♏30	0♏21	28°56	8° 3	14°29	6°55	1°21	16°29	20°42	6°42	8°16	23°59	2°13
T 14	17 28 58	22°54'43	25°25	2°27	0♏ 6	8°13	14°24	6°50	1°24	16°29	20°41	6°36	8°13	24° 6	2°14
F 15	17 32 55	23°52'04	10♏27	4°31	1°16	8°22	14°19	6°46	1°26	16°29	20°40	6°32	8°10	24°12	2°15
S 16	17 36 51	24°49'24	25°26	6°33	2°26	8°30	14°15	6°42	1°28	16°29	20°38	6°30	8° 6	24°19	2°16
S 17	17 40 48	25°46'43	10♏16	8°33	3°36	8°37	14°11	6°38	1°31	16°29	20°37	6°D29	8° 3	24°26	2°17
M18	17 44 44	26°44'01	24°49	10°30	4°46	8°44	14° 7	6°33	1°33	16°30	20°36	6°30	8° 0	24°32	2°18
T 19	17 48 41	27°41'19	9♏ 3	12°26	5°55	8°50	14° 3	6°29	1°35	16°R30	20°35	6°31	7°57	24°39	2°18
W20	17 52 37	28°38'35	22°55	14°20	7° 5	8°56	13°59	6°25	1°38	16°30	20°33	6°R32	7°54	24°46	2°19
T 21	17 56 34	29°35'51	6♏27	16°11	8°14	9° 0	13°55	6°20	1°40	16°29	20°32	6°32	7°50	24°52	2°20
F 22	18 0 30	0♏33'06	19°39	18° 0	9°24	9° 4	13°52	6°16	1°42	16°29	20°31	6°31	7°47	24°59	2°21
S 23	18 4 27	1°30'21	2♏35	19°47	10°33	9° 8	13°49	6°11	1°44	16°29	20°29	6°28	7°44	25° 6	2°21
S 24	18 8 24	2°27'34	15°15	21°32	11°42	9°10	13°46	6° 7	1°46	16°29	20°28	6°23	7°41	25°12	2°22
M25	18 12 20	3°24'48	27°42	23°14	12°51	9°12	13°43	6° 3	1°48	16°29	20°26	6°18	7°38	25°19	2°23
T 26	18 16 17	4°22'01	9♏58	24°54	14° 0	9°13	13°40	5°58	1°50	16°29	20°25	6°12	7°35	25°26	2°23
W27	18 20 13	5°19'13	22° 4	26°32	15° 9	9°R13	13°38	5°54	1°52	16°29	20°24	6° 7	7°31	25°32	2°24
T 28	18 24 10	6°16'25	4♏ 3	28° 7	16°18	9°13	13°35	5°49	1°54	16°28	20°22	6° 3	7°28	25°39	2°24
F 29	18 28 6	7°13'37	15°55	29°40	17°26	9°11	13°33	5°45	1°56	16°28	20°21	6° 0	7°25	25°46	2°24
S 30	18 32 3	8♏10'49	27♏44	1♏11	18♏35	9♏ 9	13♏31	5♏41	1♏58	16♏28	20♏19	5♏58	7♏22	25♏52	2♏Y25

Delta T = 69.71 sec.

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# SWISS EPHEMERIS for the year 2018

JULY 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
S 1	18 36 0	9°58'00	9°31'	2°03'39	19°04'43	9°R 7	13°R29	5°R36	18°59	16°R27	20°R18	5°D58	7°01'19	25°35'59	2°Y25
M 2	18 39 56	10° 5'12	21°20	4° 5	20°51	9° 3	13°M28	5°32	2° 1	16°R27	20°R17	5°05'59	7°16	26° 5	2°25
T 3	18 43 53	11° 2'23	3°H13	5°28	22° 0	8°59	13°26	5°27	2° 3	16°26	20°15	6° 0	7°12	26°12	2°25
W 4	18 47 49	11°59'35	15°15	6°49	23° 8	8°54	13°25	5°23	2° 5	16°26	20°14	6° 2	7° 9	26°19	2°25
T 5	18 51 46	12°56'47	27°30	8° 7	24°15	8°48	13°24	5°19	2° 6	16°25	20°12	6° 3	7° 6	26°25	2°R25
F 6	18 55 42	13°53'59	10°Y 2	9°23	25°23	8°42	13°23	5°14	2° 8	16°25	20°11	6°R 4	7° 3	26°32	2°25
S 7	18 59 39	14°51'11	22°56	10°37	26°31	8°35	13°22	5°10	2° 9	16°24	20° 9	6° 4	7° 0	26°39	2°25
S 8	19 3 35	15°48'24	6°B14	11°47	27°38	8°27	13°21	5° 6	2°11	16°24	20° 8	6° 3	6°56	26°45	2°25
M 9	19 7 32	16°45'37	20° 0	12°55	28°46	8°18	13°21	5° 1	2°12	16°23	20° 6	6° 1	6°53	26°52	2°25
T 10	19 11 29	17°42'51	4°II12	14° 1	29°53	8° 9	13°21	4°57	2°14	16°23	20° 5	5°59	6°50	26°59	2°25
W 11	19 15 25	18°40'05	18°50	15° 3	1°M 0	7°59	13°D21	4°53	2°15	16°22	20° 3	5°57	6°47	27° 5	2°24
T 12	19 19 22	19°37'19	3°E47	16° 2	2° 7	7°48	13°21	4°49	2°16	16°21	20° 2	5°55	6°44	27°12	2°24
F 13	19 23 18	20°34'34	18°55	16°58	3°14	7°37	13°21	4°44	2°18	16°20	20° 0	5°54	6°41	27°19	2°24
S 14	19 27 15	21°31'49	4°0 6	17°51	4°20	7°25	13°22	4°40	2°19	16°20	19°59	5°D53	6°37	27°25	2°23
S 15	19 31 11	22°29'04	19°10	18°41	5°27	7°12	13°22	4°36	2°20	16°19	19°58	5°53	6°34	27°32	2°23
M 16	19 35 8	23°26'19	3°M58	19°27	6°33	7° 0	13°23	4°32	2°21	16°18	19°56	5°54	6°31	27°39	2°22
T 17	19 39 4	24°23'34	18°26	20°10	7°39	6°46	13°24	4°28	2°22	16°17	19°55	5°55	6°28	27°45	2°22
W 18	19 43 1	25°20'49	2°E29	20°49	8°45	6°32	13°25	4°24	2°23	16°16	19°53	5°56	6°25	27°52	2°21
T 19	19 46 58	26°18'05	16° 7	21°24	9°51	6°18	13°27	4°20	2°24	16°16	19°52	5°56	6°22	27°58	2°20
F 20	19 50 54	27°15'20	29°20	21°55	10°57	6° 3	13°28	4°16	2°25	16°15	19°50	5°R57	6°18	28° 5	2°20
S 21	19 54 51	28°12'36	12°M12	22°22	12° 2	5°48	13°30	4°12	2°26	16°14	19°49	5°56	6°15	28°12	2°19
S 22	19 58 47	29° 9'52	2°A45	22°44	13° 8	5°33	13°32	4° 9	2°27	16°13	19°47	5°56	6°12	28°18	2°18
M 23	20 2 44	0°0 7'09	7°A 2	23° 2	14°13	5°17	13°34	4° 5	2°28	16°12	19°46	5°55	6° 9	28°25	2°17
T 24	20 6 40	1° 4'26	19° 8	23°15	15°18	5° 1	13°37	4° 1	2°28	16°11	19°44	5°54	6° 6	28°32	2°16
W 25	20 10 37	2° 1'43	1°B 5	23°24	16°22	4°45	13°39	3°58	2°29	16°10	19°43	5°54	6° 2	28°38	2°15
T 26	20 14 33	2°59'00	12°57	23°R27	17°27	4°29	13°42	3°54	2°30	16° 9	19°42	5°53	5°59	28°45	2°14
F 27	20 18 30	3°56'19	24°45	23°26	18°31	4°12	13°45	3°50	2°30	16° 7	19°40	5°53	5°56	28°52	2°13
S 28	20 22 27	4°53'38	6°A33	23°19	19°35	3°56	13°47	3°47	2°31	16° 6	19°39	5°D53	5°53	28°58	2°12
S 29	20 26 23	5°50'57	18°22	23° 8	20°39	3°40	13°51	3°44	2°31	16° 5	19°37	5°R53	5°50	29° 5	2°11
M 30	20 30 20	6°48'18	0°H16	22°51	21°42	3°23	13°54	3°40	2°32	16° 4	19°36	5°53	5°47	29°12	2°10
T 31	20 34 16	7°04'53'39	12°H16	22°03'30	22°M46	3° 7	13°M57	3°37	2°32	16° 3	19°35	5°05'53	5°04'43	29°35'18	2°Y 8

Delta T = 69.75 sec.

AUGUST 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
W 1	20 38 13	8°04'30'1	24°H25	22°R 3	23°M49	2°R51	14°M 1	3°R34	2°B33	16°R 2	19°R33	5°R53	5°04'40	29°35'25	2°R 7
T 2	20 42 9	9°40'24	6°Y46	21°03'32	24°51	2°R35	14° 5	3°B31	2°33	16°H 0	19°B32	5°05'52	5°37	29°32	2°Y 6
F 3	20 46 6	10°37'48	19°22	20°58	25°54	2°19	14° 9	3°27	2°33	15°59	19°31	5°52	5°34	29°38	2° 4
S 4	20 50 2	11°35'14	2°B15	20°19	26°56	2° 3	14°13	3°24	2°33	15°58	19°29	5°52	5°31	29°45	2° 3
S 5	20 53 59	12°32'40	15°30	19°37	27°58	1°48	14°17	3°22	2°33	15°57	19°28	5°D52	5°28	29°51	2° 1
M 6	20 57 56	13°30'08	29° 7	18°53	29° 0	1°33	14°22	3°19	2°34	15°55	19°27	5°52	5°24	29°58	2° 0
T 7	21 1 52	14°27'38	13°II 9	18° 7	0°E 1	1°18	14°26	3°16	2°34	15°54	19°25	5°52	5°21	0°A 5	1°58
W 8	21 5 49	15°25'08	27°33	17°19	1° 3	1° 4	14°31	3°13	2°R34	15°53	19°24	5°53	5°18	0°11	1°56
T 9	21 9 45	16°22'40	12°E18	16°32	2° 3	0°51	14°36	3°11	2°34	15°51	19°23	5°54	5°15	0°18	1°55
F 10	21 13 42	17°20'13	27°18	15°45	3° 4	0°37	14°41	3° 8	2°34	15°50	19°21	5°54	5°12	0°25	1°53
S 11	21 17 38	18°17'48	12°02'25	15° 0	4° 4	0°25	14°47	3° 6	2°33	15°48	19°20	5°R55	5° 8	0°31	1°51
S 12	21 21 35	19°15'23	27°31	14°17	5° 4	0°13	14°52	3° 3	2°33	15°47	19°19	5°54	5° 5	0°38	1°49
M 13	21 25 31	20°13'00	12°M25	13°38	6° 4	0° 1	14°57	3° 1	2°33	15°46	19°18	5°53	5° 2	0°45	1°48
T 14	21 29 28	21°10'37	27° 2	13° 3	7° 3	29°B50	15° 3	2°59	2°33	15°44	19°17	5°51	4°59	0°51	1°46
W 15	21 33 25	22° 8'16	11°A15	12°32	8° 2	29°40	15° 9	2°57	2°32	15°43	19°15	5°49	4°56	0°58	1°44
T 16	21 37 21	23° 5'55	25° 1	12° 7	9° 0	29°31	15°15	2°54	2°32	15°41	19°14	5°47	4°53	1° 5	1°42
F 17	21 41 18	24° 3'36	8°M19	11°49	9°58	29°22	15°21	2°53	2°32	15°40	19°13	5°46	4°49	1°11	1°40
S 18	21 45 14	25° 1'17	21°13	11°37	10°56	29°14	15°28	2°51	2°31	15°38	19°12	5°D45	4°46	1°18	1°38
S 19	21 49 11	25°59'00	3°A45	11°D32	11°53	29° 6	15°34	2°49	2°30	15°37	19°11	5°45	4°43	1°24	1°36
M 20	21 53 7	26°56'43	15°59	11°34	12°50	29° 0	15°41	2°47	2°30	15°35	19°10	5°46	4°40	1°31	1°34
T 21	21 57 4	27°54'28	28° 1	11°44	13°46	28°54	15°47	2°46	2°29	15°33	19° 9	5°47	4°37	1°38	1°32
W 22	22 1 0	28°52'14	9°B53	12° 2	14°42	28°49	15°54	2°44	2°29	15°32	19° 8	5°49	4°33	1°44	1°29
T 23	22 4 57	29°50'01	21°41	12°27	15°37	28°45	16° 1	2°43	2°28	15°30	19° 7	5°50	4°30	1°51	1°27
F 24	22 8 54	0°M47'50	3°A29	13° 0	16°32	28°42	16° 8	2°41	2°27	15°29	19° 6	5°R51	4°27	1°58	1°25
S 25	22 12 50	1°45'40	15°19	13°40	17°26	28°39	16°16	2°40	2°26	15°27	19° 5	5°51	4°24	2° 4	1°23
S 26	22 16 47	2°43'31	27°14	14°28	18°20	28°38	16°23	2°39	2°25	15°26	19° 4	5°49	4°21	2°11	1°20
M 27	22 20 43	3°41'23	9°H17	15°23	19°13	28°37	16°30	2°38	2°25	15°24	19° 3	5°46	4°18	2°18	1°18
T 28	22 24 40	4°39'17	21°28	16°25	20° 6	28°D37	16°38	2°37	2°24	15°22	19° 2	5°42	4°14	2°24	1°16
W 29	22 28 36	5°37'13	3°Y50	17°33	20°58	28°37	16°46	2°36	2°23	15°21	19° 1	5°37	4°11	2°31	1°13
T 30	22 32 33	6°35'10	16°24	18°48	21°49	28°39	16°54	2°35	2°22	15°19	19° 0	5°32	4° 8	2°38	1°11
F 31	22 36 29	7°M33'10	29°Y11	20°0 8	22°A40	28°B41	17°M 2	2°35	2°21	15°18	18°B59	5°02'27	4°0 5	2°A44	1°Y 9

Delta T = 69.79 sec.

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# SWISS EPHEMERIS for the year 2018

## SEPTEMBER 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
S 1	22 40 26	8 <sup>h</sup> 31'11"	12 <sup>h</sup> 13'	21 <sup>h</sup> 34'	23 <sup>h</sup> 30'	28 <sup>h</sup> 44'	17 <sup>h</sup> 10'	2 <sup>h</sup> 34'	2 <sup>h</sup> 19'	15 <sup>h</sup> 16'	18 <sup>h</sup> 58'	5 <sup>h</sup> 24'	4 <sup>h</sup> 2	2 <sup>h</sup> 51'	1 <sup>h</sup> 6'
S 2	22 44 22	9 <sup>h</sup> 29'14"	25 <sup>h</sup> 30'	23 <sup>h</sup> 5'	24 <sup>h</sup> 19'	28 <sup>h</sup> 48'	17 <sup>h</sup> 18'	2 <sup>h</sup> 34'	2 <sup>h</sup> 18'	15 <sup>h</sup> 14'	18 <sup>h</sup> 57'	5 <sup>h</sup> 21'	3 <sup>h</sup> 59'	2 <sup>h</sup> 57'	1 <sup>h</sup> 4'
M 3	22 48 19	10 <sup>h</sup> 27'18"	9 <sup>h</sup> 11'	24 <sup>h</sup> 41'	25 <sup>h</sup> 8'	28 <sup>h</sup> 53'	17 <sup>h</sup> 27'	2 <sup>h</sup> 33'	2 <sup>h</sup> 17'	15 <sup>h</sup> 13'	18 <sup>h</sup> 57'	5 <sup>h</sup> 20'	3 <sup>h</sup> 55'	3 <sup>h</sup> 4'	1 <sup>h</sup> 1'
T 4	22 52 16	11 <sup>h</sup> 25'25"	22 <sup>h</sup> 55'	26 <sup>h</sup> 20'	25 <sup>h</sup> 56'	28 <sup>h</sup> 59'	17 <sup>h</sup> 35'	2 <sup>h</sup> 33'	2 <sup>h</sup> 16'	15 <sup>h</sup> 11'	18 <sup>h</sup> 56'	5 <sup>h</sup> 21'	3 <sup>h</sup> 52'	3 <sup>h</sup> 11'	0 <sup>h</sup> 59'
W 5	22 56 12	12 <sup>h</sup> 23'34"	7 <sup>h</sup> 55'	28 <sup>h</sup> 3'	26 <sup>h</sup> 43'	29 <sup>h</sup> 5'	17 <sup>h</sup> 44'	2 <sup>h</sup> 33'	2 <sup>h</sup> 14'	15 <sup>h</sup> 9'	18 <sup>h</sup> 55'	5 <sup>h</sup> 22'	3 <sup>h</sup> 49'	3 <sup>h</sup> 17'	0 <sup>h</sup> 56'
T 6	23 0 9	13 <sup>h</sup> 21'45"	21 <sup>h</sup> 31'	29 <sup>h</sup> 48'	27 <sup>h</sup> 29'	29 <sup>h</sup> 12'	17 <sup>h</sup> 53'	2 <sup>h</sup> 33'	2 <sup>h</sup> 13'	15 <sup>h</sup> 8'	18 <sup>h</sup> 54'	5 <sup>h</sup> 23'	3 <sup>h</sup> 46'	3 <sup>h</sup> 24'	0 <sup>h</sup> 54'
F 7	23 4 5	14 <sup>h</sup> 19'58"	6 <sup>h</sup> 12'	1 <sup>h</sup> 36'	28 <sup>h</sup> 15'	29 <sup>h</sup> 20'	18 <sup>h</sup> 1'	2 <sup>h</sup> 33'	2 <sup>h</sup> 12'	15 <sup>h</sup> 6'	18 <sup>h</sup> 54'	5 <sup>h</sup> 24'	3 <sup>h</sup> 43'	3 <sup>h</sup> 31'	0 <sup>h</sup> 51'
S 8	23 8 2	15 <sup>h</sup> 18'13"	21 <sup>h</sup> 1'	3 <sup>h</sup> 26'	28 <sup>h</sup> 59'	29 <sup>h</sup> 29'	18 <sup>h</sup> 10'	2 <sup>h</sup> 33'	2 <sup>h</sup> 10'	15 <sup>h</sup> 4'	18 <sup>h</sup> 53'	5 <sup>h</sup> 23'	3 <sup>h</sup> 39'	3 <sup>h</sup> 37'	0 <sup>h</sup> 48'
S 9	23 11 58	16 <sup>h</sup> 16'30"	5 <sup>h</sup> 53'	5 <sup>h</sup> 18'	29 <sup>h</sup> 43'	29 <sup>h</sup> 38'	18 <sup>h</sup> 19'	2 <sup>h</sup> 33'	2 <sup>h</sup> 9'	15 <sup>h</sup> 3'	18 <sup>h</sup> 52'	5 <sup>h</sup> 20'	3 <sup>h</sup> 36'	3 <sup>h</sup> 44'	0 <sup>h</sup> 46'
M10	23 15 55	17 <sup>h</sup> 14'48"	20 <sup>h</sup> 40'	7 <sup>h</sup> 11'	0 <sup>h</sup> 26'	29 <sup>h</sup> 49'	18 <sup>h</sup> 29'	2 <sup>h</sup> 33'	2 <sup>h</sup> 7'	15 <sup>h</sup> 1'	18 <sup>h</sup> 52'	5 <sup>h</sup> 16'	3 <sup>h</sup> 33'	3 <sup>h</sup> 51'	0 <sup>h</sup> 43'
T 11	23 19 51	18 <sup>h</sup> 13'08"	5 <sup>h</sup> 14'	9 <sup>h</sup> 4'	1 <sup>h</sup> 8'	0 <sup>h</sup> 0'	18 <sup>h</sup> 38'	2 <sup>h</sup> 34'	2 <sup>h</sup> 6'	14 <sup>h</sup> 59'	18 <sup>h</sup> 51'	5 <sup>h</sup> 9'	3 <sup>h</sup> 30'	3 <sup>h</sup> 57'	0 <sup>h</sup> 41'
W12	23 23 48	19 <sup>h</sup> 11'30"	19 <sup>h</sup> 27'	10 <sup>h</sup> 58'	1 <sup>h</sup> 49'	0 <sup>h</sup> 11'	18 <sup>h</sup> 47'	2 <sup>h</sup> 34'	2 <sup>h</sup> 4'	14 <sup>h</sup> 58'	18 <sup>h</sup> 51'	5 <sup>h</sup> 2'	3 <sup>h</sup> 27'	4 <sup>h</sup> 4'	0 <sup>h</sup> 38'
T 13	23 27 45	20 <sup>h</sup> 9'54"	3 <sup>h</sup> 16'	12 <sup>h</sup> 53'	2 <sup>h</sup> 28'	0 <sup>h</sup> 24'	18 <sup>h</sup> 57'	2 <sup>h</sup> 35'	2 <sup>h</sup> 3'	14 <sup>h</sup> 56'	18 <sup>h</sup> 50'	4 <sup>h</sup> 55'	3 <sup>h</sup> 24'	4 <sup>h</sup> 11'	0 <sup>h</sup> 35'
F 14	23 31 41	21 <sup>h</sup> 8'19"	16 <sup>h</sup> 39'	14 <sup>h</sup> 47'	3 <sup>h</sup> 7'	0 <sup>h</sup> 37'	19 <sup>h</sup> 7'	2 <sup>h</sup> 35'	2 <sup>h</sup> 1'	14 <sup>h</sup> 54'	18 <sup>h</sup> 50'	4 <sup>h</sup> 50'	3 <sup>h</sup> 20'	4 <sup>h</sup> 17'	0 <sup>h</sup> 33'
S 15	23 35 38	22 <sup>h</sup> 6'46"	29 <sup>h</sup> 36'	16 <sup>h</sup> 41'	3 <sup>h</sup> 44'	0 <sup>h</sup> 51'	19 <sup>h</sup> 16'	2 <sup>h</sup> 36'	1 <sup>h</sup> 59'	14 <sup>h</sup> 53'	18 <sup>h</sup> 49'	4 <sup>h</sup> 45'	3 <sup>h</sup> 17'	4 <sup>h</sup> 24'	0 <sup>h</sup> 30'
S 16	23 39 34	23 <sup>h</sup> 5'15"	12 <sup>h</sup> 10'	18 <sup>h</sup> 35'	4 <sup>h</sup> 21'	1 <sup>h</sup> 5'	19 <sup>h</sup> 26'	2 <sup>h</sup> 37'	1 <sup>h</sup> 58'	14 <sup>h</sup> 51'	18 <sup>h</sup> 49'	4 <sup>h</sup> 43'	3 <sup>h</sup> 14'	4 <sup>h</sup> 31'	0 <sup>h</sup> 27'
M17	23 43 31	24 <sup>h</sup> 3'45"	24 <sup>h</sup> 25'	20 <sup>h</sup> 28'	4 <sup>h</sup> 56'	1 <sup>h</sup> 20'	19 <sup>h</sup> 36'	2 <sup>h</sup> 38'	1 <sup>h</sup> 56'	14 <sup>h</sup> 50'	18 <sup>h</sup> 48'	4 <sup>h</sup> 42'	3 <sup>h</sup> 11'	4 <sup>h</sup> 37'	0 <sup>h</sup> 24'
T 18	23 47 27	25 <sup>h</sup> 2'17"	6 <sup>h</sup> 25'	22 <sup>h</sup> 21'	5 <sup>h</sup> 30'	1 <sup>h</sup> 36'	19 <sup>h</sup> 46'	2 <sup>h</sup> 39'	1 <sup>h</sup> 54'	14 <sup>h</sup> 48'	18 <sup>h</sup> 48'	4 <sup>h</sup> 43'	3 <sup>h</sup> 8'	4 <sup>h</sup> 44'	0 <sup>h</sup> 22'
W19	23 51 24	26 <sup>h</sup> 0'50"	18 <sup>h</sup> 17'	24 <sup>h</sup> 13'	6 <sup>h</sup> 2'	1 <sup>h</sup> 53'	19 <sup>h</sup> 56'	2 <sup>h</sup> 40'	1 <sup>h</sup> 52'	14 <sup>h</sup> 46'	18 <sup>h</sup> 48'	4 <sup>h</sup> 44'	3 <sup>h</sup> 5'	4 <sup>h</sup> 50'	0 <sup>h</sup> 19'
T 20	23 55 20	26 <sup>h</sup> 59'25"	0 <sup>h</sup> 4'	26 <sup>h</sup> 4'	6 <sup>h</sup> 33'	2 <sup>h</sup> 10'	20 <sup>h</sup> 6'	2 <sup>h</sup> 42'	1 <sup>h</sup> 50'	14 <sup>h</sup> 45'	18 <sup>h</sup> 47'	4 <sup>h</sup> 45'	3 <sup>h</sup> 1'	4 <sup>h</sup> 57'	0 <sup>h</sup> 16'
F 21	23 59 17	27 <sup>h</sup> 58'02"	11 <sup>h</sup> 53'	27 <sup>h</sup> 54'	7 <sup>h</sup> 2'	2 <sup>h</sup> 28'	20 <sup>h</sup> 17'	2 <sup>h</sup> 43'	1 <sup>h</sup> 48'	14 <sup>h</sup> 43'	18 <sup>h</sup> 47'	4 <sup>h</sup> 45'	2 <sup>h</sup> 58'	5 <sup>h</sup> 4'	0 <sup>h</sup> 14'
S 22	0 3 14	28 <sup>h</sup> 56'41"	23 <sup>h</sup> 47'	29 <sup>h</sup> 43'	7 <sup>h</sup> 30'	2 <sup>h</sup> 46'	20 <sup>h</sup> 27'	2 <sup>h</sup> 44'	1 <sup>h</sup> 46'	14 <sup>h</sup> 42'	18 <sup>h</sup> 47'	4 <sup>h</sup> 43'	2 <sup>h</sup> 55'	5 <sup>h</sup> 10'	0 <sup>h</sup> 11'
S 23	0 7 10	29 <sup>h</sup> 55'21"	5 <sup>h</sup> 49'	1 <sup>h</sup> 32'	7 <sup>h</sup> 57'	3 <sup>h</sup> 5'	20 <sup>h</sup> 38'	2 <sup>h</sup> 46'	1 <sup>h</sup> 45'	14 <sup>h</sup> 40'	18 <sup>h</sup> 46'	4 <sup>h</sup> 38'	2 <sup>h</sup> 52'	5 <sup>h</sup> 17'	0 <sup>h</sup> 8'
M24	0 11 7	0 <sup>h</sup> 54'03"	18 <sup>h</sup> 3'	3 <sup>h</sup> 19'	8 <sup>h</sup> 22'	3 <sup>h</sup> 25'	20 <sup>h</sup> 48'	2 <sup>h</sup> 48'	1 <sup>h</sup> 43'	14 <sup>h</sup> 38'	18 <sup>h</sup> 46'	4 <sup>h</sup> 32'	2 <sup>h</sup> 49'	5 <sup>h</sup> 24'	0 <sup>h</sup> 5'
T 25	0 15 3	1 <sup>h</sup> 52'47"	0 <sup>h</sup> 30'	5 <sup>h</sup> 6'	8 <sup>h</sup> 45'	3 <sup>h</sup> 45'	20 <sup>h</sup> 59'	2 <sup>h</sup> 49'	1 <sup>h</sup> 41'	14 <sup>h</sup> 37'	18 <sup>h</sup> 46'	4 <sup>h</sup> 23'	2 <sup>h</sup> 45'	5 <sup>h</sup> 30'	0 <sup>h</sup> 3'
W26	0 19 0	2 <sup>h</sup> 51'33"	13 <sup>h</sup> 10'	6 <sup>h</sup> 52'	9 <sup>h</sup> 6'	4 <sup>h</sup> 6'	21 <sup>h</sup> 10'	2 <sup>h</sup> 51'	1 <sup>h</sup> 38'	14 <sup>h</sup> 35'	18 <sup>h</sup> 46'	4 <sup>h</sup> 13'	2 <sup>h</sup> 42'	5 <sup>h</sup> 37'	0 <sup>h</sup> 0'
T 27	0 22 56	3 <sup>h</sup> 50'21"	26 <sup>h</sup> 3'	8 <sup>h</sup> 36'	9 <sup>h</sup> 26'	4 <sup>h</sup> 27'	21 <sup>h</sup> 20'	2 <sup>h</sup> 53'	1 <sup>h</sup> 36'	14 <sup>h</sup> 34'	18 <sup>h</sup> 46'	4 <sup>h</sup> 2'	2 <sup>h</sup> 39'	5 <sup>h</sup> 44'	29 <sup>h</sup> 57'
F 28	0 26 53	4 <sup>h</sup> 49'11"	9 <sup>h</sup> 10'	10 <sup>h</sup> 20'	9 <sup>h</sup> 43'	4 <sup>h</sup> 49'	21 <sup>h</sup> 31'	2 <sup>h</sup> 55'	1 <sup>h</sup> 34'	14 <sup>h</sup> 32'	18 <sup>h</sup> 46'	3 <sup>h</sup> 52'	2 <sup>h</sup> 36'	5 <sup>h</sup> 50'	29 <sup>h</sup> 55'
S 29	0 30 49	5 <sup>h</sup> 48'04"	22 <sup>h</sup> 28'	12 <sup>h</sup> 3'	9 <sup>h</sup> 59'	5 <sup>h</sup> 11'	21 <sup>h</sup> 42'	2 <sup>h</sup> 57'	1 <sup>h</sup> 32'	14 <sup>h</sup> 31'	18 <sup>h</sup> 45'	3 <sup>h</sup> 43'	2 <sup>h</sup> 33'	5 <sup>h</sup> 57'	29 <sup>h</sup> 52'
S 30	0 34 46	6 <sup>h</sup> 46'58"	5 <sup>h</sup> 15'	13 <sup>h</sup> 45'	10 <sup>h</sup> 13'	5 <sup>h</sup> 34'	21 <sup>h</sup> 53'	3 <sup>h</sup> 0'	1 <sup>h</sup> 30'	14 <sup>h</sup> 29'	18 <sup>h</sup> 45'	3 <sup>h</sup> 43'	2 <sup>h</sup> 30'	6 <sup>h</sup> 4'	29 <sup>h</sup> 49'

Delta T = 69.83 sec.

## OCTOBER 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
M 1	0 38 42	7 <sup>h</sup> 45'55"	19 <sup>h</sup> 11'38"	15 <sup>h</sup> 26'	10 <sup>h</sup> 24'	5 <sup>h</sup> 57'	22 <sup>h</sup> 11'4"	3 <sup>h</sup> 2'	1 <sup>h</sup> 28'	14 <sup>h</sup> 28'	18 <sup>h</sup> 45'	3 <sup>h</sup> 33'	2 <sup>h</sup> 26'	6 <sup>h</sup> 10'	29 <sup>h</sup> 46'
T 2	0 42 39	8 <sup>h</sup> 44'55"	3 <sup>h</sup> 28'	17 <sup>h</sup> 6'	10 <sup>h</sup> 34'	6 <sup>h</sup> 20'	22 <sup>h</sup> 16'	3 <sup>h</sup> 4'	1 <sup>h</sup> 26'	14 <sup>h</sup> 26'	18 <sup>h</sup> 45'	3 <sup>h</sup> 32'	2 <sup>h</sup> 23'	6 <sup>h</sup> 17'	29 <sup>h</sup> 44'
W 3	0 46 36	9 <sup>h</sup> 43'56"	17 <sup>h</sup> 29'	18 <sup>h</sup> 45'	10 <sup>h</sup> 41'	6 <sup>h</sup> 45'	22 <sup>h</sup> 27'	3 <sup>h</sup> 7'	1 <sup>h</sup> 23'	14 <sup>h</sup> 25'	18 <sup>h</sup> 45'	3 <sup>h</sup> 32'	2 <sup>h</sup> 20'	6 <sup>h</sup> 23'	29 <sup>h</sup> 41'
T 4	0 50 32	10 <sup>h</sup> 43'00"	1 <sup>h</sup> 40'	20 <sup>h</sup> 24'	10 <sup>h</sup> 47'	7 <sup>h</sup> 9'	22 <sup>h</sup> 38'	3 <sup>h</sup> 9'	1 <sup>h</sup> 21'	14 <sup>h</sup> 23'	18 <sup>h</sup> 45'	3 <sup>h</sup> 32'	2 <sup>h</sup> 17'	6 <sup>h</sup> 30'	29 <sup>h</sup> 38'
F 5	0 54 29	11 <sup>h</sup> 42'07"	15 <sup>h</sup> 59'	22 <sup>h</sup> 1'	10 <sup>h</sup> 50'	7 <sup>h</sup> 34'	22 <sup>h</sup> 50'	3 <sup>h</sup> 12'	1 <sup>h</sup> 19'	14 <sup>h</sup> 22'	18 <sup>h</sup> 46'	3 <sup>h</sup> 32'	2 <sup>h</sup> 14'	6 <sup>h</sup> 37'	29 <sup>h</sup> 36'
S 6	0 58 25	12 <sup>h</sup> 41'15"	0 <sup>h</sup> 25'	23 <sup>h</sup> 38'	10 <sup>h</sup> 50'	8 <sup>h</sup> 0'	23 <sup>h</sup> 1'	3 <sup>h</sup> 15'	1 <sup>h</sup> 17'	14 <sup>h</sup> 20'	18 <sup>h</sup> 46'	3 <sup>h</sup> 29'	2 <sup>h</sup> 10'	6 <sup>h</sup> 43'	29 <sup>h</sup> 33'
S 7	1 2 22	13 <sup>h</sup> 40'26"	14 <sup>h</sup> 53'	25 <sup>h</sup> 14'	10 <sup>h</sup> 49'	8 <sup>h</sup> 26'	23 <sup>h</sup> 13'	3 <sup>h</sup> 18'	1 <sup>h</sup> 14'	14 <sup>h</sup> 19'	18 <sup>h</sup> 46'	3 <sup>h</sup> 24'	2 <sup>h</sup> 7'	6 <sup>h</sup> 50'	29 <sup>h</sup> 31'
M 8	1 6 18	14 <sup>h</sup> 39'39"	29 <sup>h</sup> 18'	26 <sup>h</sup> 49'	10 <sup>h</sup> 45'	8 <sup>h</sup> 52'	23 <sup>h</sup> 25'	3 <sup>h</sup> 21'	1 <sup>h</sup> 12'	14 <sup>h</sup> 18'	18 <sup>h</sup> 46'	3 <sup>h</sup> 16'	2 <sup>h</sup> 4'	6 <sup>h</sup> 57'	29 <sup>h</sup> 28'
T 9	1 10 15	15 <sup>h</sup> 38'54"	13 <sup>h</sup> 35'	28 <sup>h</sup> 24'	10 <sup>h</sup> 38'	9 <sup>h</sup> 19'	23 <sup>h</sup> 36'	3 <sup>h</sup> 24'	1 <sup>h</sup> 10'	14 <sup>h</sup> 16'	18 <sup>h</sup> 46'	3 <sup>h</sup> 6'	2 <sup>h</sup> 1'	7 <sup>h</sup> 3'	29 <sup>h</sup> 25'
W10	1 14 11	16 <sup>h</sup> 38'11"	27 <sup>h</sup> 36'	29 <sup>h</sup> 57'	10 <sup>h</sup> 29'	9 <sup>h</sup> 46'	23 <sup>h</sup> 48'	3 <sup>h</sup> 27'	1 <sup>h</sup> 7'	14 <sup>h</sup> 15'	18 <sup>h</sup> 47'	2 <sup>h</sup> 54'	1 <sup>h</sup> 58'	7 <sup>h</sup> 10'	29 <sup>h</sup> 23'
T 11	1 18 8	17 <sup>h</sup> 37'30"	11 <sup>h</sup> 18'	1 <sup>h</sup> 30'	10 <sup>h</sup> 18'	10 <sup>h</sup> 14'	24 <sup>h</sup> 0'	3 <sup>h</sup> 30'	1 <sup>h</sup> 5'	14 <sup>h</sup> 14'	18 <sup>h</sup> 47'	2 <sup>h</sup> 42'	1 <sup>h</sup> 55'	7 <sup>h</sup> 17'	29 <sup>h</sup> 20'
F 12	1 22 5	18 <sup>h</sup> 36'51"	24 <sup>h</sup> 38'	3 <sup>h</sup> 3'	10 <sup>h</sup> 5'	10 <sup>h</sup> 42'	24 <sup>h</sup> 12'	3 <sup>h</sup> 33'	1 <sup>h</sup> 3'	14 <sup>h</sup> 12'	18 <sup>h</sup> 47'	2 <sup>h</sup> 32'	1 <sup>h</sup> 51'	7 <sup>h</sup> 23'	29 <sup>h</sup> 18'
S 13	1 26 1	19 <sup>h</sup> 36'14"	7 <sup>h</sup> 34'	4 <sup>h</sup> 34'	9 <sup>h</sup> 49'	11 <sup>h</sup> 11'	24 <sup>h</sup> 24'	3 <sup>h</sup> 37'	1 <sup>h</sup> 0'	14 <sup>h</sup> 11'	18 <sup>h</sup> 47'	2 <sup>h</sup> 23'	1 <sup>h</sup> 48'	7 <sup>h</sup> 30'	29 <sup>h</sup> 15'
S 14	1 29 58	20 <sup>h</sup> 35'39"	20 <sup>h</sup> 8'	6 <sup>h</sup> 5'	9 <sup>h</sup> 30'	11 <sup>h</sup> 39'	24 <sup>h</sup> 36'	3 <sup>h</sup> 40'	0 <sup>h</sup> 58'	14 <sup>h</sup> 10'	18 <sup>h</sup> 48'	2 <sup>h</sup> 17'	1 <sup>h</sup> 45'	7 <sup>h</sup> 37'	29 <sup>h</sup> 13'
M15	1 33 54	21 <sup>h</sup> 35'06"	2 <sup>h</sup> 23'	7 <sup>h</sup> 35'	9 <sup>h</sup> 10'	12 <sup>h</sup> 8'	24 <sup>h</sup> 48'	3 <sup>h</sup> 44'	0 <sup>h</sup> 55'	14 <sup>h</sup> 9'	18 <sup>h</sup> 48'	2 <sup>h</sup> 14'	1 <sup>h</sup> 42'	7 <sup>h</sup> 43'	29 <sup>h</sup> 10'
T 16	1 37 51	22 <sup>h</sup> 34'34"	14 <sup>h</sup> 24'	9 <sup>h</sup> 4'	8 <sup>h</sup> 47'	12 <sup>h</sup> 38'	25 <sup>h</sup> 0'	3 <sup>h</sup> 47'	0 <sup>h</sup> 53'	14 <sup>h</sup> 7'	18 <sup>h</sup> 49'	2 <sup>h</sup> 12'	1 <sup>h</sup> 39'	7 <sup>h</sup> 50'	29 <sup>h</sup> 8'
W17	1 41 47	23 <sup>h</sup> 34'04"	26 <sup>h</sup> 16'	10 <sup>h</sup> 33'	8 <sup>h</sup> 22'	13 <sup>h</sup> 8'	25 <sup>h</sup> 13'	3 <sup>h</sup> 51'	0 <sup>h</sup> 51'	14 <sup>h</sup> 6'	18 <sup>h</sup> 49'	2 <sup>h</sup> 12'	1 <sup>h</sup> 36'	7 <sup>h</sup> 56'	29 <sup>h</sup> 5'
T 18	1 45 44	24 <sup>h</sup> 33'36"	8 <sup>h</sup> 4'	12 <sup>h</sup> 1'	7 <sup>h</sup> 55'	13 <sup>h</sup> 38'	25 <sup>h</sup> 25'	3 <sup>h</sup> 55'	0 <sup>h</sup> 48'	14 <sup>h</sup> 5'	18 <sup>h</sup> 50'	2 <sup>h</sup> 12'	1 <sup>h</sup> 32'	8 <sup>h</sup> 3'	29 <sup>h</sup> 3'
F 19	1 49 40	25 <sup>h</sup> 33'10"	19 <sup>h</sup> 53'	13 <sup>h</sup> 28'	7 <sup>h</sup> 27'	14 <sup>h</sup> 8'	25 <sup>h</sup> 37'	3 <sup>h</sup> 59'	0 <sup>h</sup> 46'	14 <sup>h</sup> 4'	18 <sup>h</sup> 50'	2 <sup>h</sup> 11'	1 <sup>h</sup> 29'	8 <sup>h</sup> 10'	29 <sup>h</sup> 1'
S 20	1 53 37	26 <sup>h</sup> 32'46"	1 <sup>h</sup> 50'	14 <sup>h</sup> 54'	6 <sup>h</sup> 56'	14 <sup>h</sup> 39'	25 <sup>h</sup> 50'	4 <sup>h</sup> 3'	0 <sup>h</sup> 43'	14 <sup>h</sup> 3'	18 <sup>h</sup> 51'	2 <sup>h</sup> 8'	1 <sup>h</sup> 26'	8 <sup>h</sup> 16'	28 <sup>h</sup> 58'
S 21	1 57 34	27 <sup>h</sup> 32'23"	13 <sup>h</sup> 58'	16 <sup>h</sup> 20'	6 <sup>h</sup> 24'	15 <sup>h</sup> 10'	26 <sup>h</sup> 2'	4 <sup>h</sup> 7'	0 <sup>h</sup> 41'	14 <sup>h</sup> 2'	18 <sup>h</sup> 51'	2 <sup>h</sup> 2'	1 <sup>h</sup> 23'	8 <sup>h</sup> 23'	28 <sup>h</sup> 56'
M22	2 1 30	28 <sup>h</sup> 32'02"	26 <sup>h</sup> 21'	17 <sup>h</sup> 45'	5 <sup>h</sup> 51'	15 <sup>h</sup> 42'	26 <sup>h</sup> 14'	4 <sup>h</sup> 11'	0 <sup>h</sup> 38'	14 <sup>h</sup> 1'	18 <sup>h</sup> 52'	1 <sup>h</sup> 54'	1 <sup>h</sup> 20'	8 <sup>h</sup> 30'	28 <sup>h</sup> 54'
T 23	2 5 27	29 <sup>h</sup> 31'42"	9 <sup>h</sup> 9'	19 <sup>h</sup> 9'	5 <sup>h</sup> 16'	16 <sup>h</sup> 13'	26 <sup>h</sup> 27'	4 <sup>h</sup> 15'	0 <sup>h</sup> 36'	14 <sup>h</sup> 0'	18 <sup>h</sup> 53'	1 <sup>h</sup> 43'	1 <sup>h</sup> 16'	8 <sup>h</sup> 36'	28 <sup>h</sup> 51'
W24	2 9 23	0 <sup>h</sup> 31'25"	22 <sup>h</sup> 0'	20 <sup>h</sup> 32'	4 <sup>h</sup> 41'	16 <sup>h</sup> 45'	26 <sup>h</sup> 40'	4 <sup>h</sup> 19'	0 <sup>h</sup> 33'	13 <sup>h</sup> 58'	18 <sup>h</sup> 53'	1 <sup>h</sup> 31'	1 <sup>h</sup> 13'	8 <sup>h</sup> 43'	28 <sup>h</sup> 49'
T 25	2 13 20	1 <sup>h</sup> 31'10"	5 <sup>h</sup> 15'	21 <sup>h</sup> 55'	4 <sup>h</sup> 5'	17 <sup>h</sup> 18'	26 <sup>h</sup> 52'	4 <sup>h</sup> 24'	0 <sup>h</sup> 31'	13 <sup>h</sup> 57'	18 <sup>h</sup> 54'	1 <sup>h</sup> 17'	1 <sup>h</sup> 10'	8 <sup>h</sup> 50'	28 <sup>h</sup> 47'
F 26	2 17 16	2 <sup>h</sup> 30'57"	18 <sup>h</sup> 46'	23 <sup>h</sup> 16'	3 <sup>h</sup> 28'	17 <sup>h</sup> 50'	27 <sup>h</sup> 5'	4 <sup>h</sup> 28'	0 <sup>h</sup> 29'	13 <sup>h</sup> 57'	18 <sup>h</sup> 55'	1 <sup>h</sup> 5'	1 <sup>h</sup> 7'	8 <sup>h</sup> 56'	28 <sup>h</sup> 45'
S 27	2 21 13	3 <sup>h</sup> 30'45"	2 <sup>h</sup> 11'29"	24 <sup>h</sup> 36'	2 <sup>h</sup> 52'	18 <sup>h</sup> 23'	27 <sup>h</sup> 18'	4 <sup>h</sup> 33'	0 <sup>h</sup> 26'	13 <sup>h</sup> 56'	18 <sup>h</sup> 55'	0 <sup>h</sup> 54'	1 <sup>h</sup> 4'	9 <sup>h</sup> 3'	28 <sup>h</sup> 43'
S 28	2 25 9	4 <sup>h</sup> 30'36"	16 <sup>h</sup> 21'	25 <sup>h</sup> 55'	2 <sup>h</sup> 15'	18 <sup>h</sup> 56'	27 <sup>h</sup> 30'	4 <sup>h</sup> 37'	0 <sup>h</sup> 24'	13 <sup>h</sup> 55'	18 <sup>h</sup> 56'	0 <sup>h</sup> 46'	1 <sup>h</sup> 1'	9 <sup>h</sup> 10'	28 <sup>h</sup> 41'
M29	2 29 6	5 <sup>h</sup> 30'29"	0 <sup>h</sup> 519'	27 <sup>h</sup> 13'	1 <sup>h</sup> 39'	19 <sup>h</sup> 29'	27 <sup>h</sup> 43'	4 <sup>h</sup> 42'	0 <sup>h</sup> 21'	13 <sup>h</sup> 54'	18 <sup>h</sup> 57'	0 <sup>h</sup> 41'	0 <sup>h</sup> 57'	9 <sup>h</sup> 16'	28 <sup>h</sup> 39'
T 30	2 33 3	6 <sup>h</sup> 30'25"	14 <sup>h</sup> 21'	28 <sup>h</sup> 30'	1 <sup>h</sup> 3'	20 <sup>h</sup> 2'	27 <sup>h</sup> 56'	4 <sup>h</sup> 47'	0 <sup>h</sup> 19'	13 <sup>h</sup> 53'	18 <sup>h</sup> 58'	0 <sup>h</sup> 38'	0 <sup>h</sup> 54'	9 <sup>h</sup> 23'	28 <sup>h</sup> 37'
W31	2 36 59	7 <sup>h</sup> 30'22"	28 <sup>h</sup> 25'	29 <sup>h</sup> 46'	0 <sup>h</sup> 28'	20 <sup>h</sup> 36'	28 <sup>h</sup> 11'9"	4 <sup>h</sup> 51'	0 <sup>h</sup> 16'	13 <sup>h</sup> 52'	18 <sup>h</sup> 59'	0 <sup>h</sup> 38'	0 <sup>h</sup> 51'	9 <sup>h</sup> 30'	28 <sup>h</sup> 35'

# SWISS EPHEMERIS for the year 2018

NOVEMBER 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
T 1	2 40 56	8♂30'22	12♂30	0♂59	29°R54	21♂10	28♂22	4♂56	0°R14	13°R51	19♂0	0°R38	0♂48	9♂36	28°R33
F 2	2 44 52	9°30'24	26°36	2°12	29♂21	21°44	28°35	5°1	0♂11	13♂51	19°1	0♂37	0°45	9°43	28♂31
S 3	2 48 49	10°30'28	10♂41	3°22	28°50	22°18	28°48	5°6	0°9	13°50	19°1	0°34	0°42	9°49	28°29
S 4	2 52 45	11°30'34	24°44	4°30	28°21	22°53	29°1	5°11	0°7	13°49	19°2	0°29	0°38	9°56	28°27
M 5	2 56 42	12°30'42	8♂43	5°36	27°53	23°28	29°14	5°16	0°4	13°48	19°3	0°20	0°35	10°3	28°25
T 6	3 0 38	13°30'52	22°33	6°40	27°27	24°3	29°27	5°21	0°2	13°48	19°4	0°9	0°32	10°9	28°24
W 7	3 4 35	14°31'04	6♂12	7°40	27°3	24°38	29°40	5°27	0°0	13°47	19°6	29♂57	0°29	10°16	28°22
T 8	3 8 32	15°31'18	19°36	8°38	26°42	25°13	29°53	5°32	29♂57	13°47	19°7	29°44	0°26	10°23	28°20
F 9	3 12 28	16°31'34	2♂43	9°32	26°22	25°49	0♂6	5°37	29°55	13°46	19°8	29°33	0°22	10°29	28°19
S 10	3 16 25	17°31'51	15°30	10°21	26°5	26°25	0°19	5°43	29°53	13°45	19°9	29°23	0°19	10°36	28°17
S 11	3 20 21	18°32'10	28°0	11°7	25°51	27°0	0°33	5°48	29°50	13°45	19°10	29°16	0°16	10°43	28°16
M 12	3 24 18	19°32'31	10♂13	11°47	25°39	27°37	0°46	5°54	29°48	13°45	19°11	29°12	0°13	10°49	28°14
T 13	3 28 14	20°32'53	22°12	12°21	25°29	28°13	0°59	6°0	29°46	13°44	19°12	29°10	0°10	10°56	28°13
W 14	3 32 11	21°33'17	4♂4	12°50	25°22	28°49	1°12	6°5	29°43	13°44	19°14	29°D10	0°7	11°3	28°11
T 15	3 36 7	22°33'42	15°51	13°11	25°17	29°26	1°26	6°11	29°41	13°43	19°15	29°11	0°3	11°9	28°10
F 16	3 40 4	23°34'08	27°41	13°24	25°D15	0♂3	1°39	6°17	29°39	13°43	19°16	29°R11	0°0	11°16	28°9
S 17	3 44 1	24°34'35	9♂37	13°R29	25°15	0°39	1°52	6°23	29°37	13°43	19°18	29°9	29♂57	11°22	28°8
S 18	3 47 57	25°35'04	21°47	13°25	25°17	1°16	2°6	6°28	29°35	13°42	19°19	29°6	29°54	11°29	28°6
M 19	3 51 54	26°35'35	4♂13	13°11	25°22	1°54	2°19	6°34	29°33	13°42	19°20	29°0	29°51	11°36	28°5
T 20	3 55 50	27°36'06	17°0	12°47	25°29	2°31	2°32	6°40	29°31	13°42	19°22	28°52	29°47	11°42	28°4
W 21	3 59 47	28°36'39	0♂10	12°13	25°39	3°8	2°46	6°46	29°28	13°42	19°23	28°42	29°44	11°49	28°3
T 22	4 3 43	29°37'13	13°41	11°27	25°51	3°46	2°59	6°53	29°26	13°42	19°24	28°32	29°41	11°56	28°2
F 23	4 7 40	0♂37'49	27°34	10°32	26°5	4°23	3°12	6°59	29°24	13°42	19°26	28°22	29°38	12°2	28°1
S 24	4 11 36	1°38'26	11♂42	9°27	26°21	5°1	3°26	7°5	29°22	13°42	19°27	28°13	29°35	12°9	28°0
S 25	4 15 33	2°39'04	26°1	8°15	26°39	5°39	3°39	7°11	29°20	13°D42	19°29	28°7	29°32	12°16	28°0
M 26	4 19 30	3°39'45	10♂26	6°57	26°59	6°17	3°53	7°17	29°19	13°42	19°30	28°3	29°28	12°22	27°59
T 27	4 23 26	4°40'26	24°51	5°36	27°21	6°55	4°6	7°24	29°17	13°42	19°32	28°D 2	29°25	12°29	27°58
W 28	4 27 23	5°41'09	9♂13	4°13	27°44	7°33	4°19	7°30	29°15	13°42	19°33	28°2	29°22	12°36	27°57
T 29	4 31 19	6°41'54	23°27	2°53	28°10	8°12	4°33	7°36	29°13	13°42	19°35	28°3	29°19	12°42	27°57
F 30	4 35 16	7°42'41	7♂32	1♂38	28♂38	8♂50	4♂46	7♂43	29♂11	13♂42	19♂37	28°R 4	29♂16	12♂49	27♂56

Delta T = 69.92 sec.

DECEMBER 2018

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
S 1	4 39 12	8♂43'28	21♂29	0°R29	29♂7	9♂28	5♂0	7♂49	29°R10	13♂42	19♂38	28°R 3	29♂13	12♂56	27°R56
S 2	4 43 9	9°44'18	5♂15	29♂29	29°37	10°7	5°13	7°56	29♂8	13°42	19°40	28♂0	29°9	13°2	27♂55
M 3	4 47 5	10°45'08	18°51	28°40	0♂10	10°46	5°26	8°2	29°6	13°43	19°42	27°55	29°6	13°9	27°55
T 4	4 51 2	11°46'01	2♂16	28°2	0°43	11°24	5°40	8°9	29°5	13°43	19°43	27°48	29°3	13°16	27°55
W 5	4 54 59	12°46'54	15°29	27°36	1°18	12°3	5°53	8°16	29°3	13°43	19°45	27°40	29°0	13°22	27°54
T 6	4 58 55	13°47'49	28°29	27°20	1°55	12°42	6°7	8°22	29°1	13°44	19°47	27°32	28°57	13°29	27°54
F 7	5 2 52	14°48'45	11♂16	27°D16	2°33	13°21	6°20	8°29	29°0	13°44	19°48	27°24	28°53	13°35	27°54
S 8	5 6 48	15°49'42	23°48	27°23	3°12	14°0	6°33	8°36	28°58	13°45	19°50	27°18	28°50	13°42	27°54
S 9	5 10 45	16°50'40	6♂7	27°38	3°52	14°40	6°47	8°42	28°57	13°45	19°52	27°13	28°47	13°49	27°D54
M 10	5 14 41	17°51'39	18°14	28°3	4°34	15°19	7°0	8°49	28°56	13°45	19°54	27°11	28°44	13°55	27°54
T 11	5 18 38	18°52'38	0♂10	28°35	5°17	15°58	7°13	8°56	28°54	13°46	19°55	27°D11	28°41	14°2	27°54
W 12	5 22 34	19°53'38	12°0	29°15	6°0	16°37	7°27	9°3	28°53	13°47	19°57	27°12	28°38	14°9	27°54
T 13	5 26 31	20°54'39	23°47	0♂1	6°45	17°17	7°40	9°9	28°52	13°47	19°59	27°13	28°34	14°15	27°54
F 14	5 30 28	21°55'41	5♂35	0°52	7°31	17°56	7°53	9°16	28°50	13°48	20°1	27°15	28°31	14°22	27°54
S 15	5 34 24	22°56'42	17°30	1°48	8°18	18°36	8°6	9°23	28°49	13°48	20°3	27°R16	28°28	14°29	27°55
S 16	5 38 21	23°57'45	29°38	2°49	9°5	19°16	8°19	9°30	28°48	13°49	20°5	27°16	28°25	14°35	27°55
M 17	5 42 17	24°58'48	12♂1	3°53	9°54	19°55	8°33	9°37	28°47	13°50	20°6	27°15	28°22	14°42	27°56
T 18	5 46 14	25°59'51	24°47	5°0	10°43	20°35	8°46	9°44	28°46	13°51	20°8	27°12	28°19	14°49	27°56
W 19	5 50 10	27°0'54	7♂56	6°10	11°33	21°15	8°59	9°51	28°45	13°51	20°10	27°8	28°15	14°55	27°56
T 20	5 54 7	28°1'58	21°32	7°23	12°24	21°55	9°12	9°58	28°44	13°52	20°12	27°3	28°12	15°2	27°57
F 21	5 58 3	29°3'03	5♂33	8°38	13°16	22°35	9°25	10°5	28°43	13°53	20°14	26°59	28°9	15°9	27°58
S 22	6 2 0	0♂4'08	19°57	9°55	14°9	23°15	9°38	10°12	28°42	13°54	20°16	26°55	28°6	15°15	27°58
S 23	6 5 57	1°5'13	4♂38	11°14	15°2	23°55	9°51	10°19	28°42	13°55	20°18	26°52	28°3	15°22	27°59
M 24	6 9 53	2°6'19	19°28	12°34	15°56	24°35	10°4	10°26	28°41	13°56	20°20	26°51	27°59	15°29	28°0
T 25	6 13 50	3°7'25	4♂21	13°55	16°51	25°15	10°17	10°33	28°40	13°57	20°22	26°D51	27°56	15°35	28°1
W 26	6 17 46	4°8'32	19°8	15°18	17°46	25°55	10°30	10°40	28°40	13°58	20°24	26°52	27°53	15°42	28°2
T 27	6 21 43	5°9'39	3♂44	16°41	18°42	26°35	10°43	10°47	28°39	13°59	20°26	26°53	27°50	15°49	28°3
F 28	6 25 39	6°10'47	18°4	18°6	19°38	27°15	10°55	10°54	28°39	14°0	20°28	26°55	27°47	15°55	28°4
S 29	6 29 36	7°11'55	2♂6	19°31	20°35	27°55	11°8	11°1	28°38	14°1	20°30	26°R55	27°44	16°2	28°5
S 30	6 33 32	8°13'04	15°49	20°57	21°33	28°36	11°21	11°8	28°38	14°2	20°32	26°55	27°40	16°8	28°6
M 31	6 37 29	9♂14'14	29♂14	22♂24	22♂31	29♂16	11♂34	11♂16	28♂17	14♂4	20♂34	26♂54	27♂37	16♂15	28♂7

Delta T = 69.96 sec.

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