

SWISS EPHEMERIS for the year 1889  
heliocentric

JANUARY 1889

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
T 1	6 43 20	10 <sup>5</sup> 49'41	10 <sup>5</sup> 51	16 <sup>3</sup> 53	26 <sup>7</sup> 56	21 <sup>1</sup> 54	19 <sup>1</sup> 12	15 <sup>3</sup> 37	18 <sup>4</sup> 42	1 <sup>11</sup> 9	5 <sup>11</sup> 4	8 <sup>5</sup> 40
W 2	6 47 17	11 <sup>0</sup> 50'53	11 <sup>0</sup> 51	19 <sup>0</sup> 53	28 <sup>2</sup> 32	22 <sup>2</sup> 32	19 <sup>0</sup> 17	15 <sup>0</sup> 40	18 <sup>0</sup> 42	1 <sup>0</sup> 9	5 <sup>0</sup> 4	8 <sup>0</sup> 42
T 3	6 51 13	12 <sup>0</sup> 52'04	12 <sup>0</sup> 50	22 <sup>2</sup> 56	0 <sup>8</sup> 8	23 <sup>0</sup> 9	19 <sup>0</sup> 22	15 <sup>0</sup> 42	18 <sup>0</sup> 43	1 <sup>0</sup> 9	5 <sup>0</sup> 4	8 <sup>0</sup> 43
F 4	6 55 10	13 <sup>0</sup> 53'16	13 <sup>0</sup> 49	26 <sup>0</sup> 1	1 <sup>4</sup> 44	23 <sup>0</sup> 47	19 <sup>0</sup> 27	15 <sup>0</sup> 44	18 <sup>0</sup> 44	1 <sup>0</sup> 10	5 <sup>0</sup> 4	8 <sup>0</sup> 45
S 5	6 59 7	14 <sup>0</sup> 54'27	14 <sup>0</sup> 49	29 <sup>0</sup> 11	3 <sup>0</sup> 20	24 <sup>0</sup> 25	19 <sup>0</sup> 31	15 <sup>0</sup> 46	18 <sup>0</sup> 45	1 <sup>0</sup> 10	5 <sup>0</sup> 5	8 <sup>0</sup> 47
S 6	7 3 3	15 <sup>0</sup> 55'38	15 <sup>0</sup> 48	2 <sup>2</sup> 23	4 <sup>0</sup> 56	25 <sup>0</sup> 2	19 <sup>0</sup> 36	15 <sup>0</sup> 48	18 <sup>0</sup> 46	1 <sup>0</sup> 11	5 <sup>0</sup> 5	8 <sup>0</sup> 48
M 7	7 7 0	16 <sup>0</sup> 56'48	16 <sup>0</sup> 49	5 <sup>0</sup> 40	6 <sup>0</sup> 32	25 <sup>0</sup> 40	19 <sup>0</sup> 41	15 <sup>0</sup> 51	18 <sup>0</sup> 46	1 <sup>0</sup> 11	5 <sup>0</sup> 5	8 <sup>0</sup> 50
T 8	7 10 56	17 <sup>0</sup> 57'58	17 <sup>0</sup> 49	9 <sup>0</sup> 1	8 <sup>0</sup> 8	26 <sup>0</sup> 18	19 <sup>0</sup> 46	15 <sup>0</sup> 53	18 <sup>0</sup> 47	1 <sup>0</sup> 11	5 <sup>0</sup> 5	8 <sup>0</sup> 51
W 9	7 14 53	18 <sup>0</sup> 59'07	18 <sup>0</sup> 50	12 <sup>0</sup> 26	9 <sup>0</sup> 44	26 <sup>0</sup> 55	19 <sup>0</sup> 51	15 <sup>0</sup> 55	18 <sup>0</sup> 48	1 <sup>0</sup> 12	5 <sup>0</sup> 5	8 <sup>0</sup> 53
T 10	7 18 49	20 <sup>0</sup> 0'15	19 <sup>0</sup> 51	15 <sup>0</sup> 57	11 <sup>0</sup> 20	27 <sup>0</sup> 33	19 <sup>0</sup> 55	15 <sup>0</sup> 57	18 <sup>0</sup> 49	1 <sup>0</sup> 12	5 <sup>0</sup> 5	8 <sup>0</sup> 54
F 11	7 22 46	21 <sup>0</sup> 1'23	20 <sup>0</sup> 53	19 <sup>0</sup> 32	12 <sup>0</sup> 56	28 <sup>0</sup> 10	20 <sup>0</sup> 0	15 <sup>0</sup> 59	18 <sup>0</sup> 49	1 <sup>0</sup> 12	5 <sup>0</sup> 6	8 <sup>0</sup> 56
S 12	7 26 42	22 <sup>0</sup> 2'31	21 <sup>0</sup> 55	23 <sup>0</sup> 13	14 <sup>0</sup> 32	28 <sup>0</sup> 48	20 <sup>0</sup> 5	16 <sup>0</sup> 1	18 <sup>0</sup> 50	1 <sup>0</sup> 13	5 <sup>0</sup> 6	8 <sup>0</sup> 58
S 13	7 30 39	23 <sup>0</sup> 3'38	22 <sup>0</sup> 57	27 <sup>0</sup> 0	16 <sup>0</sup> 8	29 <sup>0</sup> 25	20 <sup>0</sup> 10	16 <sup>0</sup> 4	18 <sup>0</sup> 51	1 <sup>0</sup> 13	5 <sup>0</sup> 6	8 <sup>0</sup> 59
M14	7 34 36	24 <sup>0</sup> 4'44	23 <sup>0</sup> 59	0 <sup>1</sup> 53	17 <sup>0</sup> 45	0 <sup>7</sup> 3	20 <sup>0</sup> 15	16 <sup>0</sup> 6	18 <sup>0</sup> 52	1 <sup>0</sup> 14	5 <sup>0</sup> 6	9 <sup>0</sup> 1
T 15	7 38 32	25 <sup>0</sup> 5'50	25 <sup>0</sup> 2	4 <sup>0</sup> 53	19 <sup>0</sup> 21	0 <sup>4</sup> 0	20 <sup>0</sup> 20	16 <sup>0</sup> 8	18 <sup>0</sup> 52	1 <sup>0</sup> 14	5 <sup>0</sup> 6	9 <sup>0</sup> 2
W16	7 42 29	26 <sup>0</sup> 6'55	26 <sup>0</sup> 5	9 <sup>0</sup> 0	20 <sup>0</sup> 57	1 <sup>0</sup> 17	20 <sup>0</sup> 24	16 <sup>0</sup> 10	18 <sup>0</sup> 53	1 <sup>0</sup> 14	5 <sup>0</sup> 6	9 <sup>0</sup> 4
T 17	7 46 25	27 <sup>0</sup> 7'59	27 <sup>0</sup> 8	13 <sup>0</sup> 14	22 <sup>0</sup> 33	1 <sup>0</sup> 55	20 <sup>0</sup> 29	16 <sup>0</sup> 12	18 <sup>0</sup> 54	1 <sup>0</sup> 15	5 <sup>0</sup> 7	9 <sup>0</sup> 6
F 18	7 50 22	28 <sup>0</sup> 9'03	28 <sup>0</sup> 10	17 <sup>0</sup> 37	24 <sup>0</sup> 10	2 <sup>0</sup> 32	20 <sup>0</sup> 34	16 <sup>0</sup> 14	18 <sup>0</sup> 55	1 <sup>0</sup> 15	5 <sup>0</sup> 7	9 <sup>0</sup> 7
S 19	7 54 18	29 <sup>0</sup> 10'06	29 <sup>0</sup> 13	22 <sup>0</sup> 7	25 <sup>0</sup> 46	3 <sup>0</sup> 9	20 <sup>0</sup> 39	16 <sup>0</sup> 17	18 <sup>0</sup> 56	1 <sup>0</sup> 15	5 <sup>0</sup> 7	9 <sup>0</sup> 9
S 20	7 58 15	0 <sup>0</sup> 11'08	0 <sup>0</sup> 16	26 <sup>0</sup> 46	27 <sup>0</sup> 22	3 <sup>0</sup> 47	20 <sup>0</sup> 44	16 <sup>0</sup> 19	18 <sup>0</sup> 56	1 <sup>0</sup> 16	5 <sup>0</sup> 7	9 <sup>0</sup> 10
M21	8 2 11	1 <sup>0</sup> 12'10	1 <sup>0</sup> 18	1 <sup>0</sup> 33	28 <sup>0</sup> 59	4 <sup>0</sup> 24	20 <sup>0</sup> 48	16 <sup>0</sup> 21	18 <sup>0</sup> 57	1 <sup>0</sup> 16	5 <sup>0</sup> 7	9 <sup>0</sup> 12
T 22	8 6 8	2 <sup>0</sup> 13'11	2 <sup>0</sup> 21	6 <sup>0</sup> 29	0 <sup>11</sup> 35	5 <sup>0</sup> 1	20 <sup>0</sup> 53	16 <sup>0</sup> 23	18 <sup>0</sup> 58	1 <sup>0</sup> 16	5 <sup>0</sup> 7	9 <sup>0</sup> 14
W23	8 10 5	3 <sup>0</sup> 14'12	3 <sup>0</sup> 22	11 <sup>0</sup> 35	2 <sup>0</sup> 12	5 <sup>0</sup> 38	20 <sup>0</sup> 58	16 <sup>0</sup> 25	18 <sup>0</sup> 59	1 <sup>0</sup> 17	5 <sup>0</sup> 7	9 <sup>0</sup> 15
T 24	8 14 1	4 <sup>0</sup> 15'12	4 <sup>0</sup> 24	16 <sup>0</sup> 49	3 <sup>0</sup> 48	6 <sup>0</sup> 15	21 <sup>0</sup> 3	16 <sup>0</sup> 28	18 <sup>0</sup> 59	1 <sup>0</sup> 17	5 <sup>0</sup> 8	9 <sup>0</sup> 17
F 25	8 17 58	5 <sup>0</sup> 16'12	5 <sup>0</sup> 25	22 <sup>0</sup> 13	5 <sup>0</sup> 25	6 <sup>0</sup> 52	21 <sup>0</sup> 8	16 <sup>0</sup> 30	19 <sup>0</sup> 0	1 <sup>0</sup> 18	5 <sup>0</sup> 8	9 <sup>0</sup> 18
S 26	8 21 54	6 <sup>0</sup> 17'11	6 <sup>0</sup> 25	27 <sup>0</sup> 45	7 <sup>0</sup> 1	7 <sup>0</sup> 29	21 <sup>0</sup> 13	16 <sup>0</sup> 32	19 <sup>0</sup> 1	1 <sup>0</sup> 18	5 <sup>0</sup> 8	9 <sup>0</sup> 20
S 27	8 25 51	7 <sup>0</sup> 18'09	7 <sup>0</sup> 26	3 <sup>0</sup> 26	8 <sup>0</sup> 38	8 <sup>0</sup> 6	21 <sup>0</sup> 17	16 <sup>0</sup> 34	19 <sup>0</sup> 2	1 <sup>0</sup> 18	5 <sup>0</sup> 8	9 <sup>0</sup> 22
M28	8 29 47	8 <sup>0</sup> 19'07	8 <sup>0</sup> 25	9 <sup>0</sup> 16	10 <sup>0</sup> 15	8 <sup>0</sup> 43	21 <sup>0</sup> 22	16 <sup>0</sup> 36	19 <sup>0</sup> 2	1 <sup>0</sup> 19	5 <sup>0</sup> 8	9 <sup>0</sup> 23
T 29	8 33 44	9 <sup>0</sup> 20'05	9 <sup>0</sup> 25	15 <sup>0</sup> 13	11 <sup>0</sup> 51	9 <sup>0</sup> 20	21 <sup>0</sup> 27	16 <sup>0</sup> 38	19 <sup>0</sup> 3	1 <sup>0</sup> 19	5 <sup>0</sup> 8	9 <sup>0</sup> 25
W30	8 37 40	10 <sup>0</sup> 21'01	10 <sup>0</sup> 24	21 <sup>0</sup> 16	13 <sup>0</sup> 28	9 <sup>0</sup> 57	21 <sup>0</sup> 32	16 <sup>0</sup> 41	19 <sup>0</sup> 4	1 <sup>0</sup> 19	5 <sup>0</sup> 9	9 <sup>0</sup> 26
T 31	8 41 37	11 <sup>0</sup> 21'57	11 <sup>0</sup> 23	27 <sup>0</sup> 25	15 <sup>0</sup> 11	10 <sup>0</sup> 34	21 <sup>0</sup> 37	16 <sup>0</sup> 43	19 <sup>0</sup> 5	1 <sup>0</sup> 20	5 <sup>0</sup> 9	9 <sup>0</sup> 28

Delta T = -5.74 sec.

FEBRUARY 1889

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
F 1	8 45 34	12 <sup>0</sup> 22'51	12 <sup>0</sup> 22	3 <sup>11</sup> 39	16 <sup>11</sup> 41	11 <sup>11</sup> 11	21 <sup>11</sup> 42	16 <sup>11</sup> 45	19 <sup>11</sup> 6	1 <sup>11</sup> 20	5 <sup>11</sup> 9	9 <sup>11</sup> 30
S 2	8 49 30	13 <sup>0</sup> 23'44	13 <sup>0</sup> 21	9 <sup>0</sup> 56	18 <sup>0</sup> 18	11 <sup>0</sup> 47	21 <sup>0</sup> 46	16 <sup>0</sup> 47	19 <sup>0</sup> 6	1 <sup>0</sup> 20	5 <sup>0</sup> 9	9 <sup>0</sup> 31
S 3	8 53 27	14 <sup>0</sup> 24'36	14 <sup>0</sup> 20	16 <sup>0</sup> 15	19 <sup>0</sup> 55	12 <sup>0</sup> 24	21 <sup>0</sup> 51	16 <sup>0</sup> 49	19 <sup>0</sup> 7	1 <sup>0</sup> 21	5 <sup>0</sup> 9	9 <sup>0</sup> 33
M 4	8 57 23	15 <sup>0</sup> 25'26	15 <sup>0</sup> 19	22 <sup>0</sup> 34	21 <sup>0</sup> 32	13 <sup>0</sup> 1	21 <sup>0</sup> 56	16 <sup>0</sup> 51	19 <sup>0</sup> 8	1 <sup>0</sup> 21	5 <sup>0</sup> 9	9 <sup>0</sup> 34
T 5	9 1 20	16 <sup>0</sup> 26'15	16 <sup>0</sup> 19	28 <sup>0</sup> 52	23 <sup>0</sup> 9	13 <sup>0</sup> 37	22 <sup>0</sup> 1	16 <sup>0</sup> 54	19 <sup>0</sup> 9	1 <sup>0</sup> 22	5 <sup>0</sup> 10	9 <sup>0</sup> 36
W 6	9 5 16	17 <sup>0</sup> 27'03	17 <sup>0</sup> 18	5 <sup>0</sup> 8	24 <sup>0</sup> 45	14 <sup>0</sup> 14	22 <sup>0</sup> 6	16 <sup>0</sup> 56	19 <sup>0</sup> 9	1 <sup>0</sup> 22	5 <sup>0</sup> 10	9 <sup>0</sup> 38
T 7	9 9 13	18 <sup>0</sup> 27'49	18 <sup>0</sup> 19	11 <sup>0</sup> 19	26 <sup>0</sup> 22	14 <sup>0</sup> 50	22 <sup>0</sup> 11	16 <sup>0</sup> 58	19 <sup>0</sup> 10	1 <sup>0</sup> 22	5 <sup>0</sup> 10	9 <sup>0</sup> 39
F 8	9 13 9	19 <sup>0</sup> 28'33	19 <sup>0</sup> 19	17 <sup>0</sup> 25	27 <sup>0</sup> 59	15 <sup>0</sup> 27	22 <sup>0</sup> 15	17 <sup>0</sup> 0	19 <sup>0</sup> 11	1 <sup>0</sup> 23	5 <sup>0</sup> 10	9 <sup>0</sup> 41
S 9	9 17 6	20 <sup>0</sup> 29'16	20 <sup>0</sup> 20	23 <sup>0</sup> 24	29 <sup>0</sup> 36	16 <sup>0</sup> 3	22 <sup>0</sup> 20	17 <sup>0</sup> 2	19 <sup>0</sup> 12	1 <sup>0</sup> 23	5 <sup>0</sup> 10	9 <sup>0</sup> 42
S 10	9 21 3	21 <sup>0</sup> 29'57	21 <sup>0</sup> 21	29 <sup>0</sup> 16	1 <sup>0</sup> 13	16 <sup>0</sup> 40	22 <sup>0</sup> 25	17 <sup>0</sup> 4	19 <sup>0</sup> 12	1 <sup>0</sup> 23	5 <sup>0</sup> 10	9 <sup>0</sup> 44
M11	9 24 59	22 <sup>0</sup> 30'37	22 <sup>0</sup> 23	5 <sup>0</sup> 0	2 <sup>0</sup> 50	17 <sup>0</sup> 16	22 <sup>0</sup> 30	17 <sup>0</sup> 7	19 <sup>0</sup> 13	1 <sup>0</sup> 24	5 <sup>0</sup> 10	9 <sup>0</sup> 46
T 12	9 28 56	23 <sup>0</sup> 31'15	23 <sup>0</sup> 25	10 <sup>0</sup> 34	4 <sup>0</sup> 27	17 <sup>0</sup> 52	22 <sup>0</sup> 35	17 <sup>0</sup> 9	19 <sup>0</sup> 14	1 <sup>0</sup> 24	5 <sup>0</sup> 11	9 <sup>0</sup> 47
W13	9 32 52	24 <sup>0</sup> 31'51	24 <sup>0</sup> 27	16 <sup>0</sup> 0	6 <sup>0</sup> 4	18 <sup>0</sup> 29	22 <sup>0</sup> 40	17 <sup>0</sup> 11	19 <sup>0</sup> 15	1 <sup>0</sup> 25	5 <sup>0</sup> 11	9 <sup>0</sup> 49
T 14	9 36 49	25 <sup>0</sup> 32'26	25 <sup>0</sup> 29	21 <sup>0</sup> 15	7 <sup>0</sup> 42	19 <sup>0</sup> 5	22 <sup>0</sup> 44	17 <sup>0</sup> 13	19 <sup>0</sup> 15	1 <sup>0</sup> 25	5 <sup>0</sup> 11	9 <sup>0</sup> 50
F 15	9 40 45	26 <sup>0</sup> 32'59	26 <sup>0</sup> 31	26 <sup>0</sup> 21	9 <sup>0</sup> 19	19 <sup>0</sup> 41	22 <sup>0</sup> 49	17 <sup>0</sup> 15	19 <sup>0</sup> 16	1 <sup>0</sup> 25	5 <sup>0</sup> 11	9 <sup>0</sup> 52
S 16	9 44 42	27 <sup>0</sup> 33'31	27 <sup>0</sup> 34	1 <sup>11</sup> 18	10 <sup>0</sup> 56	20 <sup>0</sup> 17	22 <sup>0</sup> 54	17 <sup>0</sup> 18	19 <sup>0</sup> 17	1 <sup>0</sup> 26	5 <sup>0</sup> 11	9 <sup>0</sup> 54
S 17	9 48 38	28 <sup>0</sup> 34'01	28 <sup>0</sup> 36	6 <sup>0</sup> 5	12 <sup>0</sup> 33	20 <sup>0</sup> 53	22 <sup>0</sup> 59	17 <sup>0</sup> 20	19 <sup>0</sup> 18	1 <sup>0</sup> 26	5 <sup>0</sup> 11	9 <sup>0</sup> 55
M18	9 52 35	29 <sup>0</sup> 34'29	29 <sup>0</sup> 38	10 <sup>0</sup> 42	14 <sup>0</sup> 10	21 <sup>0</sup> 29	23 <sup>0</sup> 4	17 <sup>0</sup> 22	19 <sup>0</sup> 19	1 <sup>0</sup> 26	5 <sup>0</sup> 12	9 <sup>0</sup> 57
T 19	9 56 32	0 <sup>11</sup> 34'56	0 <sup>11</sup> 40	15 <sup>0</sup> 11	15 <sup>0</sup> 48	22 <sup>0</sup> 5	23 <sup>0</sup> 9	17 <sup>0</sup> 24	19 <sup>0</sup> 19	1 <sup>0</sup> 27	5 <sup>0</sup> 12	9 <sup>0</sup> 59
W20	10 0 28	1 <sup>0</sup> 35'22	1 <sup>0</sup> 42	19 <sup>0</sup> 31	17 <sup>0</sup> 25	22 <sup>0</sup> 41	23 <sup>0</sup> 13	17 <sup>0</sup> 26	19 <sup>0</sup> 20	1 <sup>0</sup> 27	5 <sup>0</sup> 12	10 <sup>0</sup> 0
T 21	10 4 25	2 <sup>0</sup> 35'46	2 <sup>0</sup> 43	23 <sup>0</sup> 43	19 <sup>0</sup> 2	23 <sup>0</sup> 17	23 <sup>0</sup> 18	17 <sup>0</sup> 28	19 <sup>0</sup> 21	1 <sup>0</sup> 27	5 <sup>0</sup> 12	10 <sup>0</sup> 2
F 22	10 8 21	3 <sup>0</sup> 36'09	3 <sup>0</sup> 45	27 <sup>0</sup> 48	20 <sup>0</sup> 39	23 <sup>0</sup> 53	23 <sup>0</sup> 23	17 <sup>0</sup> 31	19 <sup>0</sup> 22	1 <sup>0</sup> 28	5 <sup>0</sup> 12	10 <sup>0</sup> 3
S 23	10 12 18	4 <sup>0</sup> 36'30	4 <sup>0</sup> 45	1 <sup>11</sup> 45	22 <sup>0</sup> 17	24 <sup>0</sup> 28	23 <sup>0</sup> 28	17 <sup>0</sup> 33	19 <sup>0</sup> 22	1 <sup>0</sup> 28	5 <sup>0</sup> 12	10 <sup>0</sup> 5
S 24	10 16 14	5 <sup>0</sup> 36'50	5 <sup>0</sup> 45	5 <sup>0</sup> 35	23 <sup>0</sup> 54	25 <sup>0</sup> 4	23 <sup>0</sup> 33	17 <sup>0</sup> 35	19 <sup>0</sup> 23	1 <sup>0</sup> 29	5 <sup>0</sup> 12	10 <sup>0</sup> 7
M25	10 20 11	6 <sup>0</sup> 37'09	6 <sup>0</sup> 45	9 <sup>0</sup> 19	25 <sup>0</sup> 31	25 <sup>0</sup> 40	23 <sup>0</sup> 38	17 <sup>0</sup> 37	19 <sup>0</sup> 24	1 <sup>0</sup> 29	5 <sup>0</sup> 13	10 <sup>0</sup> 8
T 26	10 24 7	7 <sup>0</sup> 37'26	7 <sup>0</sup> 44	12 <sup>0</sup> 56	27 <sup>0</sup> 9	26 <sup>0</sup> 15	23 <sup>0</sup> 43	17 <sup>0</sup> 39	19 <sup>0</sup> 25	1 <sup>0</sup> 29	5 <sup>0</sup> 13	10 <sup>0</sup> 10
W27	10 28 4	8 <sup>0</sup> 37'42	8 <sup>0</sup> 43	16 <sup>0</sup> 28	28 <sup>0</sup> 46	26 <sup>0</sup> 51	23 <sup>0</sup> 47	17 <sup>0</sup> 41	19 <sup>0</sup> 25	1 <sup>0</sup> 30	5 <sup>0</sup> 13	10 <sup>0</sup> 11
T 28	10 32 1	9 <sup>11</sup> 37'56	9 <sup>11</sup> 42	19 <sup>11</sup> 55	0 <sup>12</sup> 24	27 <sup>11</sup> 27	23 <sup>11</sup> 52	17 <sup>11</sup> 44	19 <sup>11</sup> 26	1 <sup>11</sup> 30	5 <sup>11</sup> 13	10 <sup>11</sup> 13

Delta T = -5.75 sec.

created from Swiss Ephemeris, Copyright Astrodiest AG [13.11.2015]

SWISS EPHEMERIS for the year 1889  
heliocentric

MARCH 1889

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♂
F 1	10 35 57	10 <sup>h</sup> 38'09"	10 <sup>h</sup> 40'	23 <sup>h</sup> 17'	2 <sup>h</sup> 01'	28 <sup>h</sup> 02'	23 <sup>h</sup> 57'	17 <sup>h</sup> 46'	19 <sup>h</sup> 27'	1 <sup>h</sup> 30'	5 <sup>h</sup> 13'	10 <sup>h</sup> 15'
S 2	10 39 54	11°38'19"	11°38'	26°34'	3°39'	28°37'	24° 2'	17°48'	19°28'	1°31'	5°13'	10°16'
S 3	10 43 50	12°38'28"	12°36'	29°48'	5°16'	29°13'	24° 7'	17°50'	19°29'	1°31'	5°14'	10°18'
M 4	10 47 47	13°38'35"	13°35'	2 <sup>h</sup> 15'57"	6°53'	29°48'	24°12'	17°52'	19°29'	1°31'	5°14'	10°20'
T 5	10 51 43	14°38'39"	14°33'	6° 3'	8°31'	0 <sup>h</sup> 23'	24°16'	17°54'	19°30'	1°32'	5°14'	10°21'
W 6	10 55 40	15°38'42"	15°32'	9° 6'	10° 8'	0°58'	24°21'	17°57'	19°31'	1°32'	5°14'	10°23'
T 7	10 59 36	16°38'43"	16°31'	12° 6'	11°46'	1°34'	24°26'	17°59'	19°32'	1°33'	5°14'	10°24'
F 8	11 3 33	17°38'41"	17°30'	15° 3'	13°24'	2° 9'	24°31'	18° 1'	19°32'	1°33'	5°14'	10°26'
S 9	11 7 29	18°38'38"	18°29'	17°58'	15° 1'	2°44'	24°36'	18° 3'	19°33'	1°33'	5°14'	10°28'
S 10	11 11 26	19°38'32"	19°29'	20°51'	16°39'	3°19'	24°41'	18° 5'	19°34'	1°34'	5°15'	10°29'
M 11	11 15 23	20°38'24"	20°29'	23°43'	18°16'	3°54'	24°46'	18° 7'	19°35'	1°34'	5°15'	10°31'
T 12	11 19 19	21°38'14"	21°30'	26°32'	19°54'	4°28'	24°50'	18°10'	19°35'	1°34'	5°15'	10°33'
W 13	11 23 16	22°38'02"	22°31'	29°20'	21°31'	5° 3'	24°55'	18°12'	19°36'	1°35'	5°15'	10°34'
T 14	11 27 12	23°37'47"	23°32'	2 <sup>h</sup> 18'	23° 9'	5°38'	25° 0'	18°14'	19°37'	1°35'	5°15'	10°36'
F 15	11 31 9	24°37'30"	24°33'	4°54'	24°46'	6°13'	25° 5'	18°16'	19°38'	1°35'	5°15'	10°37'
S 16	11 35 5	25°37'11"	25°34'	7°39'	26°24'	6°47'	25°10'	18°18'	19°39'	1°36'	5°16'	10°39'
S 17	11 39 2	26°36'50"	26°36'	10°24'	28° 1'	7°22'	25°15'	18°20'	19°39'	1°36'	5°16'	10°41'
M 18	11 42 58	27°36'27"	27°37'	13° 9'	29°39'	7°56'	25°20'	18°23'	19°40'	1°37'	5°16'	10°42'
T 19	11 46 55	28°36'02"	28°39'	15°54'	1 <sup>h</sup> 16'	8°31'	25°24'	18°25'	19°41'	1°37'	5°16'	10°44'
W 20	11 50 52	29°35'34"	29°40'	18°38'	2°54'	9° 5'	25°29'	18°27'	19°42'	1°37'	5°16'	10°46'
T 21	11 54 48	0 <sup>h</sup> 35'06"	0 <sup>h</sup> 41'	21°23'	4°31'	9°40'	25°34'	18°29'	19°42'	1°38'	5°16'	10°47'
F 22	11 58 45	1°34'35"	1°42'	24° 9'	6° 9'	10°14'	25°39'	18°31'	19°43'	1°38'	5°17'	10°49'
S 23	12 2 41	2°34'02"	2°42'	26°55'	7°46'	10°48'	25°44'	18°33'	19°44'	1°38'	5°17'	10°50'
S 24	12 6 38	3°33'28"	3°42'	29°43'	9°24'	11°23'	25°49'	18°36'	19°45'	1°39'	5°17'	10°52'
M 25	12 10 34	4°32'53"	4°41'	2 <sup>h</sup> 31'	11° 1'	11°57'	25°54'	18°38'	19°45'	1°39'	5°17'	10°54'
T 26	12 14 31	5°32'15"	5°40'	5°21'	12°39'	12°31'	25°59'	18°40'	19°46'	1°40'	5°17'	10°55'
W 27	12 18 27	6°31'36"	6°39'	8°12'	14°16'	13° 5'	26° 3'	18°42'	19°47'	1°40'	5°17'	10°57'
T 28	12 22 24	7°30'54"	7°37'	11° 6'	15°53'	13°39'	26° 8'	18°44'	19°48'	1°40'	5°17'	10°59'
F 29	12 26 21	8°30'11"	8°35'	14° 1'	17°31'	14°13'	26°13'	18°46'	19°48'	1°41'	5°18'	11° 0'
S 30	12 30 17	9°29'26"	9°32'	16°59'	19° 8'	14°47'	26°18'	18°49'	19°49'	1°41'	5°18'	11° 2'
S 31	12 34 14	10 <sup>h</sup> 28'39"	10 <sup>h</sup> 30'	19 <sup>h</sup> 59'	20 <sup>h</sup> 45'	15 <sup>h</sup> 20'	26 <sup>h</sup> 23'	18 <sup>h</sup> 51'	19 <sup>h</sup> 50'	1 <sup>h</sup> 41'	5 <sup>h</sup> 18'	11 <sup>h</sup> 3'

Delta T = -5.76 sec.

APRIL 1889

00:00 UT

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

Delta T = -5.77 sec.

created from Swiss Ephemeris, Copyright Astrodienst AG [13.11.2015]

SWISS EPHEMERIS for the year 1889  
heliocentric

MAY 1889

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♃
W 1	14 36 27	10♁47'17	10♁46	10♁ 8	10♁44	2♁20	28♁54	19♁58	20♁14	1♁53	5♁23	11♁54
T 2	14 40 23	11°45'28	11°42	16°27	12°20	2°52	28°59	20° 0	20°15	1°53	5°23	11°56
F 3	14 44 20	12°43'38	12°39	22°46	13°56	3°24	29° 4	20° 2	20°15	1°53	5°23	11°58
S 4	14 48 16	13°41'45	13°35	29° 4	15°32	3°56	29° 9	20° 4	20°16	1°54	5°23	11°59
S 5	14 52 13	14°39'51	14°32	5♁19	17° 8	4°28	29°14	20° 7	20°17	1°54	5°23	12° 1
M 6	14 56 10	15°37'55	15°30	11°31	18°44	4°59	29°19	20° 9	20°18	1°55	5°24	12° 3
T 7	15 0 6	16°35'57	16°27	17°36	20°20	5°31	29°23	20°11	20°18	1°55	5°24	12° 4
W 8	15 4 3	17°33'57	17°25	23°36	21°55	6° 3	29°28	20°13	20°19	1°55	5°24	12° 6
T 9	15 7 59	18°31'55	18°23	29°27	23°31	6°34	29°33	20°15	20°20	1°56	5°24	12° 8
F 10	15 11 56	19°29'51	19°22	5♁11	25° 7	7° 6	29°38	20°17	20°21	1°56	5°24	12° 9
S 11	15 15 52	20°27'46	20°21	10°45	26°43	7°37	29°43	20°20	20°21	1°56	5°24	12°11
S 12	15 19 49	21°25'39	21°20	16°10	28°18	8° 9	29°48	20°22	20°22	1°57	5°24	12°13
M13	15 23 45	22°23'29	22°19	21°25	29°54	8°40	29°53	20°24	20°23	1°57	5°25	12°14
T 14	15 27 42	23°21'19	23°19	26°31	1♁29	9°12	29°58	20°26	20°24	1°57	5°25	12°16
W15	15 31 39	24°19'07	24°19	1♁27	3° 5	9°43	0♁ 3	20°28	20°25	1°58	5°25	12°18
T 16	15 35 35	25°16'53	25°18	6°14	4°40	10°14	0° 7	20°30	20°25	1°58	5°25	12°19
F 17	15 39 32	26°14'38	26°18	10°51	6°16	10°45	0°12	20°33	20°26	1°59	5°25	12°21
S 18	15 43 28	27°12'22	27°17	15°20	7°51	11°16	0°17	20°35	20°27	1°59	5°25	12°23
S 19	15 47 25	28°10'05	28°17	19°39	9°26	11°47	0°22	20°37	20°28	1°59	5°26	12°24
M20	15 51 21	29° 7'46	29°15	23°51	11° 2	12°18	0°27	20°39	20°28	2° 0	5°26	12°26
T 21	15 55 18	0♁ 7'27	0♁14	27°55	12°37	12°49	0°32	20°41	20°29	2° 0	5°26	12°28
W22	15 59 14	1° 3'06	1°12	1♁52	14°12	13°20	0°37	20°43	20°30	2° 0	5°26	12°29
T 23	16 3 11	2° 0'45	2° 9	5°42	15°47	13°51	0°42	20°45	20°31	2° 1	5°26	12°31
F 24	16 7 8	2°58'22	3° 6	9°26	17°23	14°22	0°47	20°48	20°31	2° 1	5°26	12°33
S 25	16 11 4	3°55'59	4° 3	13° 3	18°58	14°53	0°52	20°50	20°32	2° 1	5°27	12°34
S 26	16 15 1	4°53'34	5° 0	16°35	20°33	15°24	0°57	20°52	20°33	2° 2	5°27	12°36
M27	16 18 57	5°51'09	5°56	20° 1	22° 8	15°54	1° 1	20°54	20°34	2° 2	5°27	12°38
T 28	16 22 54	6°48'43	6°52	23°23	23°43	16°25	1° 6	20°56	20°35	2° 3	5°27	12°39
W29	16 26 50	7°46'15	7°48	26°40	25°18	16°55	1°11	20°58	20°35	2° 3	5°27	12°41
T 30	16 30 47	8°43'47	8°43	29°54	26°53	17°26	1°16	21° 1	20°36	2° 3	5°27	12°43
F 31	16 34 43	9♁41'18	9♁39	3♁ 3	28♁28	17♁56	1♁21	21♁ 3	20♁37	2♁ 4	5♁27	12♁44

Delta T = -5.78 sec.

JUNE 1889

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♃
S 1	16 38 40	10♁38'47	10♁35	6♁ 9	0♁ 3	18♁27	1♁26	21♁ 5	20♁38	2♁ 4	5♁28	12♁46
S 2	16 42 37	11°36'16	11°31	9°12	1°38	18°57	1°31	21° 7	20°38	2° 4	5°28	12°48
M 3	16 46 33	12°33'43	12°27	12°12	3°13	19°27	1°36	21° 9	20°39	2° 5	5°28	12°49
T 4	16 50 30	13°31'10	13°24	15° 9	4°48	19°58	1°41	21°11	20°40	2° 5	5°28	12°51
W 5	16 54 26	14°28'35	14°20	18° 4	6°23	20°28	1°46	21°14	20°41	2° 6	5°28	12°53
T 6	16 58 23	15°25'59	15°17	20°57	7°58	20°58	1°51	21°16	20°41	2° 6	5°28	12°54
F 7	17 2 19	16°23'21	16°15	23°48	9°33	21°28	1°55	21°18	20°42	2° 6	5°29	12°56
S 8	17 6 16	17°20'43	17°12	26°38	11° 8	21°58	2° 0	21°20	20°43	2° 7	5°29	12°58
S 9	17 10 12	18°18'04	18°11	29°26	12°43	22°28	2° 5	21°22	20°44	2° 7	5°29	12°59
M10	17 14 9	19°15'23	19° 9	2♁13	14°17	22°58	2°10	21°24	20°44	2° 7	5°29	13° 1
T 11	17 18 6	20°12'42	20° 8	4°59	15°52	23°28	2°15	21°27	20°45	2° 8	5°29	13° 3
W12	17 22 2	21°10'00	21° 7	7°45	17°27	23°58	2°20	21°29	20°46	2° 8	5°29	13° 4
T 13	17 25 59	22° 7'17	22° 6	10°30	19° 2	24°28	2°25	21°31	20°47	2° 8	5°30	13° 6
F 14	17 29 55	23° 4'33	23° 5	13°14	20°37	24°58	2°30	21°33	20°48	2° 9	5°30	13° 8
S 15	17 33 52	24° 1'49	24° 5	15°59	22°12	25°27	2°35	21°35	20°48	2° 9	5°30	13° 9
S 16	17 37 48	24°59'05	25° 4	18°44	23°46	25°57	2°40	21°37	20°49	2°10	5°30	13°11
M17	17 41 45	25°56'20	26° 2	21°29	25°21	26°27	2°45	21°40	20°50	2°10	5°30	13°13
T 18	17 45 42	26°53'35	27° 1	24°14	26°56	26°56	2°50	21°42	20°51	2°10	5°30	13°14
W19	17 49 38	27°50'49	27°59	27° 1	28°31	27°26	2°54	21°44	20°51	2°11	5°30	13°16
T 20	17 53 35	28°48'03	28°57	29°48	0♁ 6	27°55	2°59	21°46	20°52	2°11	5°31	13°18
F 21	17 57 31	29°45'18	29°54	2♁37	1°41	28°25	3° 4	21°48	20°53	2°11	5°31	13°19
S 22	18 1 28	0♁42'32	0♁51	5°27	3°16	28°54	3° 9	21°50	20°54	2°12	5°31	13°21
S 23	18 5 24	1°39'46	1°47	8°18	4°50	29°24	3°14	21°52	20°54	2°12	5°31	13°23
M24	18 9 21	2°37'00	2°44	11°11	6°25	29°53	3°19	21°55	20°55	2°12	5°31	13°24
T 25	18 13 17	3°34'13	3°40	14° 7	8° 0	0♁22	3°24	21°57	20°56	2°13	5°31	13°26
W26	18 17 14	4°31'27	4°35	17° 4	9°35	0°52	3°29	21°59	20°57	2°13	5°32	13°28
T 27	18 21 11	5°28'41	5°31	20° 5	11°10	1°21	3°34	22° 1	20°58	2°14	5°32	13°30
F 28	18 25 7	6°25'55	6°27	23° 8	12°45	1°50	3°39	22° 3	20°58	2°14	5°32	13°31
S 29	18 29 4	7°23'08	7°22	26°14	14°20	2°19	3°44	22° 5	20°59	2°14	5°32	13°33
S 30	18 33 0	8♁20'22	8♁18	29♁23	15♁55	2♁48	3♁49	22♁ 8	21♁ 0	2♁15	5♁32	13♁35

Delta T = -5.80 sec.

created from Swiss Ephemeris, Copyright Astrodienst AG [13.11.2015]

SWISS EPHEMERIS for the year 1889  
heliocentric

JULY 1889

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♁
M 1	18 36 57	9♁17'35	9♁13	2♁36	17♁29	3♁17	3♁54	22♁10	21♁1	2♁15	5♁32	13♁36
T 2	18 40 53	10°14'48	10° 9	5°53	19° 4	3°46	3°59	22°12	21° 1	2°15	5°33	13°38
W 3	18 44 50	11°12'00	11° 5	9°14	20°39	4°15	4° 3	22°14	21° 2	2°16	5°33	13°40
T 4	18 48 46	12° 9'13	12° 1	12°40	22°14	4°44	4° 8	22°16	21° 3	2°16	5°33	13°41
F 5	18 52 43	13° 6'25	12°58	16°10	23°49	5°13	4°13	22°18	21° 4	2°17	5°33	13°43
S 6	18 56 40	14° 3'37	13°55	19°46	25°24	5°42	4°18	22°21	21° 4	2°17	5°33	13°45
S 7	19 0 36	15° 0'49	14°52	23°27	26°59	6°11	4°23	22°23	21° 5	2°17	5°33	13°46
M 8	19 4 33	15°58'01	15°50	27°15	28°34	6°39	4°28	22°25	21° 6	2°18	5°33	13°48
T 9	19 8 29	16°55'12	16°49	1♁8	0♁9	7° 8	4°33	22°27	21° 7	2°18	5°34	13°50
W10	19 12 26	17°52'24	17°47	5° 9	1°44	7°37	4°38	22°29	21° 8	2°18	5°34	13°52
T 11	19 16 22	18°49'36	18°46	9°16	3°19	8° 5	4°43	22°31	21° 8	2°19	5°34	13°53
F 12	19 20 19	19°46'48	19°45	13°31	4°55	8°34	4°48	22°33	21° 9	2°19	5°34	13°55
S 13	19 24 15	20°44'00	20°44	17°54	6°30	9° 3	4°53	22°36	21°10	2°19	5°34	13°57
S 14	19 28 12	21°41'12	21°43	22°24	8° 5	9°31	4°58	22°38	21°11	2°20	5°34	13°58
M15	19 32 9	22°38'25	22°42	27° 4	9°40	10° 0	5° 3	22°40	21°11	2°20	5°35	14° 0
T 16	19 36 5	23°35'38	23°41	1♁52	11°15	10°28	5° 8	22°42	21°12	2°21	5°35	14° 2
W17	19 40 2	24°32'52	24°40	6°48	12°50	10°57	5°13	22°44	21°13	2°21	5°35	14° 3
T 18	19 43 58	25°30'07	25°38	11°54	14°26	11°25	5°18	22°46	21°14	2°21	5°35	14° 5
F 19	19 47 55	26°27'22	26°36	17° 9	16° 1	11°53	5°22	22°49	21°14	2°22	5°35	14° 7
S 20	19 51 51	27°24'38	27°34	22°34	17°36	12°22	5°27	22°51	21°15	2°22	5°35	14° 8
S 21	19 55 48	28°21'55	28°31	28° 7	19°11	12°50	5°32	22°53	21°16	2°22	5°35	14°10
M22	19 59 44	29°19'13	29°27	3♁48	20°47	13°18	5°37	22°55	21°17	2°23	5°36	14°12
T 23	20 3 41	0♁16'32	0♁24	9°38	22°22	13°46	5°42	22°57	21°17	2°23	5°36	14°14
W24	20 7 38	1°13'51	1°20	15°35	23°57	14°14	5°47	22°59	21°18	2°24	5°36	14°15
T 25	20 11 34	2°11'12	2°16	21°39	25°33	14°43	5°52	23° 1	21°19	2°24	5°36	14°17
F 26	20 15 31	3° 8'33	3°12	27°49	27° 8	15°11	5°57	23° 4	21°20	2°24	5°36	14°19
S 27	20 19 27	4° 5'56	4° 8	4♁3	28°43	15°39	6° 2	23° 6	21°21	2°25	5°36	14°20
S 28	20 23 24	5° 3'18	5° 3	10°20	0♁19	16° 7	6° 7	23° 8	21°21	2°25	5°37	14°22
M29	20 27 20	6° 0'42	5°59	16°39	1°54	16°35	6°12	23°10	21°22	2°25	5°37	14°24
T 30	20 31 17	6°58'07	6°55	22°58	3°30	17° 3	6°17	23°12	21°23	2°26	5°37	14°25
W31	20 35 13	7♁55'32	7♁51	29♁16	5♁5	17♁31	6♁22	23♁14	21♁24	2♁26	5♁37	14♁27

Delta T = -5.82 sec.

AUGUST 1889

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♁
T 1	20 39 10	8♁52'58	8♁47	5♁31	6♁41	17♁58	6♁27	23♁17	21♁24	2♁26	5♁37	14♁29
F 2	20 43 7	9°50'24	9°43	11°42	8°16	18°26	6°32	23°19	21°25	2°27	5°37	14°31
S 3	20 47 3	10°47'52	10°40	17°48	9°52	18°54	6°37	23°21	21°26	2°27	5°38	14°32
S 4	20 51 0	11°45'20	11°37	23°47	11°27	19°22	6°42	23°23	21°27	2°28	5°38	14°34
M 5	20 54 56	12°42'49	12°34	29°38	13° 3	19°50	6°47	23°25	21°27	2°28	5°38	14°36
T 6	20 58 53	13°40'18	13°32	5♁21	14°39	20°17	6°52	23°27	21°28	2°28	5°38	14°37
W 7	21 2 49	14°37'48	14°31	10°55	16°14	20°45	6°57	23°29	21°29	2°29	5°38	14°39
T 8	21 6 46	15°35'20	15°30	16°20	17°50	21°13	7° 1	23°32	21°30	2°29	5°38	14°41
F 9	21 10 42	16°32'52	16°29	21°35	19°26	21°40	7° 6	23°34	21°31	2°29	5°38	14°43
S 10	21 14 39	17°30'25	17°28	26°40	21° 2	22° 8	7°11	23°36	21°31	2°30	5°39	14°44
S 11	21 18 36	18°27'59	18°28	1♁36	22°37	22°36	7°16	23°38	21°32	2°30	5°39	14°46
M12	21 22 32	19°25'34	19°27	6°22	24°13	23° 3	7°21	23°40	21°33	2°30	5°39	14°48
T 13	21 26 29	20°23'11	20°27	11° 0	25°49	23°31	7°26	23°42	21°34	2°31	5°39	14°49
W14	21 30 25	21°20'48	21°26	15°28	27°25	23°58	7°31	23°45	21°34	2°31	5°39	14°51
T 15	21 34 22	22°18'27	22°25	19°47	29° 1	24°26	7°36	23°47	21°35	2°32	5°39	14°53
F 16	21 38 18	23°16'08	23°24	23°59	0♁37	24°53	7°41	23°49	21°36	2°32	5°40	14°55
S 17	21 42 15	24°13'51	24°22	28° 3	2°13	25°21	7°46	23°51	21°37	2°32	5°40	14°56
S 18	21 46 11	25°11'35	25°21	1♁59	3°49	25°48	7°51	23°53	21°37	2°33	5°40	14°58
M19	21 50 8	26° 9'20	26°18	5°49	5°25	26°15	7°56	23°55	21°38	2°33	5°40	15° 0
T 20	21 54 5	27° 7'08	27°16	9°32	7° 1	26°43	8° 1	23°57	21°39	2°33	5°40	15° 1
W21	21 58 1	28° 4'57	28°13	13°10	8°37	27°10	8° 6	24° 0	21°40	2°34	5°40	15° 3
T 22	22 1 58	29° 2'47	29°10	16°41	10°13	27°37	8°11	24° 2	21°40	2°34	5°41	15° 5
F 23	22 5 54	0♁0'40	0♁7	20° 8	11°49	28° 5	8°16	24° 4	21°41	2°35	5°41	15° 7
S 24	22 9 51	0°58'34	1° 3	23°29	13°25	28°32	8°21	24° 6	21°42	2°35	5°41	15° 8
S 25	22 13 47	1°56'30	1°59	26°47	15° 1	28°59	8°26	24° 8	21°43	2°35	5°41	15°10
M26	22 17 44	2°54'27	2°56	29°59	16°37	29°26	8°31	24°10	21°44	2°36	5°41	15°12
T 27	22 21 40	3°52'26	3°52	3♁9	18°13	29°53	8°36	24°13	21°44	2°36	5°41	15°13
W28	22 25 37	4°50'26	4°48	6°15	19°50	0♁20	8°41	24°15	21°45	2°36	5°41	15°15
T 29	22 29 34	5°48'28	5°44	9°18	21°26	0°48	8°46	24°17	21°46	2°37	5°42	15°17
F 30	22 33 30	6°46'31	6°41	12°17	23° 2	1°15	8°51	24°19	21°47	2°37	5°42	15°19
S 31	22 37 27	7♁44'36	7♁38	15♁15	24♁39	1♁42	8♁56	24♁21	21♁47	2♁37	5♁42	15♁20

Delta T = -5.84 sec.

created from Swiss Ephemeris, Copyright Astrodienst AG [13.11.2015]

SWISS EPHEMERIS for the year 1889  
heliocentric

SEPTEMBER 1889

00:00 UT

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

Delta T = -5.86 sec.

OCTOBER 1889

00:00 UT

Day	Sid.t	Terra	☾	♃	♄	♅	♆	♁	♂	♆	♁	♃
T 1	0 39 40	7 <sup>u</sup> 59'46"	7 <sup>u</sup> 52'	16 <sup>u</sup> 17	14 <sup>u</sup> 40	15 <sup>u</sup> 31	11 <sup>u</sup> 30	25 <sup>u</sup> 28	22 <sup>u</sup> 11	2 <sup>u</sup> 49	5 <sup>u</sup> 47	16 <sup>u</sup> 14
W 2	0 43 36	8°58'51"	8°50'	19°53'	16°17'	15°57'	11°35'	25°30'	22°12'	2°49'	5°47'	16°16'
T 3	0 47 33	9°57'58"	9°50'	23°34'	17°54'	16°24'	11°40'	25°32'	22°13'	2°50'	5°47'	16°18'
F 4	0 51 29	10°57'06"	10°49'	27°22'	19°31'	16°50'	11°45'	25°34'	22°13'	2°50'	5°47'	16°19'
S 5	0 55 26	11°56'16"	11°50'	1 <sup>u</sup> 16	21° 9'	17°17'	11°50'	25°36'	22°14'	2°50'	5°47'	16°21'
S 6	0 59 23	12°55'28"	12°50'	5°16'	22°46'	17°43'	11°55'	25°38'	22°15'	2°51'	5°48'	16°23'
M 7	1 3 19	13°54'41"	13°51'	9°24'	24°23'	18° 9'	12° 0'	25°41'	22°16'	2°51'	5°48'	16°24'
T 8	1 7 16	14°53'57"	14°52'	13°39'	26° 1'	18°36'	12° 5'	25°43'	22°16'	2°51'	5°48'	16°26'
W 9	1 11 12	15°53'14"	15°53'	18° 2'	27°38'	19° 2'	12°10'	25°45'	22°17'	2°52'	5°48'	16°28'
T 10	1 15 9	16°52'34"	16°54'	22°33'	29°16'	19°29'	12°15'	25°47'	22°18'	2°52'	5°48'	16°30'
F 11	1 19 5	17°51'55"	17°55'	27°12'	0 <sup>u</sup> 53	19°55'	12°20'	25°49'	22°19'	2°52'	5°48'	16°31'
S 12	1 23 2	18°51'19"	18°57'	2 <sup>u</sup> 1	2°31'	20°21'	12°25'	25°51'	22°20'	2°53'	5°48'	16°33'
S 13	1 26 58	19°50'45"	19°57'	6°58'	4° 8'	20°48'	12°30'	25°53'	22°20'	2°53'	5°49'	16°35'
M 14	1 30 55	20°50'14"	20°58'	12° 4'	5°45'	21°14'	12°35'	25°56'	22°21'	2°54'	5°49'	16°37'
T 15	1 34 52	21°49'44"	21°58'	17°19'	7°23'	21°40'	12°40'	25°58'	22°22'	2°54'	5°49'	16°38'
W 16	1 38 48	22°49'17"	22°58'	22°44'	9° 0'	22° 7'	12°45'	26° 0'	22°23'	2°54'	5°49'	16°40'
T 17	1 42 45	23°48'52"	23°58'	28°17'	10°38'	22°33'	12°50'	26° 2'	22°23'	2°55'	5°49'	16°42'
F 18	1 46 41	24°48'30"	24°58'	3 <sup>u</sup> 59	12°15'	22°59'	12°55'	26° 4'	22°24'	2°55'	5°49'	16°44'
S 19	1 50 38	25°48'09"	25°57'	9°49'	13°53'	23°26'	13° 0'	26° 6'	22°25'	2°55'	5°50'	16°45'
S 20	1 54 34	26°47'51"	26°55'	15°46'	15°31'	23°52'	13° 5'	26° 8'	22°26'	2°56'	5°50'	16°47'
M 21	1 58 31	27°47'36"	27°54'	21°51'	17° 8'	24°18'	13°10'	26°11'	22°26'	2°56'	5°50'	16°49'
T 22	2 2 27	28°47'22"	28°52'	28° 0'	18°46'	24°45'	13°15'	26°13'	22°27'	2°56'	5°50'	16°51'
W 23	2 6 24	29°47'10"	29°50'	4 <sup>u</sup> 14	20°23'	25°11'	13°20'	26°15'	22°28'	2°57'	5°50'	16°52'
T 24	2 10 20	0 <sup>u</sup> 47'01"	0 <sup>u</sup> 48'	10°32'	22° 1'	25°37'	13°25'	26°17'	22°29'	2°57'	5°50'	16°54'
F 25	2 14 17	1°46'53"	1°46'	16°51'	23°38'	26° 3'	13°30'	26°19'	22°29'	2°58'	5°51'	16°56'
S 26	2 18 14	2°46'48"	2°44'	23°10'	25°16'	26°30'	13°35'	26°21'	22°30'	2°58'	5°51'	16°58'
S 27	2 22 10	3°46'44"	3°42'	29°28'	26°53'	26°56'	13°40'	26°23'	22°31'	2°58'	5°51'	16°59'
M 28	2 26 7	4°46'42"	4°41'	5 <sup>u</sup> 43	28°31'	27°22'	13°45'	26°26'	22°32'	2°59'	5°51'	17° 1'
T 29	2 30 3	5°46'42"	5°39'	11°54'	0 <sup>u</sup> 8	27°48'	13°50'	26°28'	22°33'	2°59'	5°51'	17° 3'
W 30	2 34 0	6°46'44"	6°39'	17°59'	1°46'	28°15'	13°55'	26°30'	22°33'	2°59'	5°51'	17° 5'
T 31	2 37 56	7 <sup>u</sup> 46'47"	7 <sup>u</sup> 38'	23 <sup>u</sup> 58	3 <sup>u</sup> 23	28 <sup>u</sup> 41	14 <sup>u</sup> 0	26 <sup>u</sup> 32	22 <sup>u</sup> 34	3 <sup>u</sup> 0	5 <sup>u</sup> 51	17 <sup>u</sup> 7

Delta T = -5.88 sec.

created from Swiss Ephemeris, Copyright Astrodienst AG [13.11.2015]

SWISS EPHEMERIS for the year 1889  
heliocentric

NOVEMBER 1889

00:00 UT

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

Delta T = -5.90 sec.

DECEMBER 1889

00:00 UT

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

Delta T = -5.92 sec.

created from Swiss Ephemeris, Copyright Astrodienst AG [13.11.2015]