

SWISS EPHEMERIS for the year 2170

JANUARY 2170

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁	♁
M 1	6 43 7	10 <sup>3</sup> 36'37	14 <sup>II</sup> 43	21 <sup>♂</sup> 32	20 <sup>♁</sup> 9	24 <sup>♁</sup> 25	18 <sup>♁</sup> 57	21 <sup>♁</sup> 54	24 <sup>♁</sup> 41	16 <sup>♁</sup> 29	12 <sup>R</sup> 30	18 <sup>R</sup> 19	17 <sup>II</sup> 4	10 <sup>♁</sup> 30	4 <sup>♁</sup> 19	
T 2	6 47 4	11 <sup>0</sup> 37'44	28 <sup>0</sup> 36	22 <sup>0</sup> 55	21 <sup>0</sup> 25	24 <sup>0</sup> 42	18 <sup>0</sup> 58	22 <sup>0</sup> 0	24 <sup>0</sup> 44	16 <sup>0</sup> 31	12 <sup>0</sup> 29	18 <sup>II</sup> 19	17 <sup>0</sup> 1	10 <sup>0</sup> 37	4 <sup>0</sup> 20	
W 3	6 51 1	12 <sup>0</sup> 38'51	12 <sup>0</sup> 51	24 <sup>0</sup> 20	22 <sup>0</sup> 40	24 <sup>0</sup> 58	18 <sup>R</sup> 58	22 <sup>0</sup> 7	24 <sup>0</sup> 47	16 <sup>0</sup> 33	12 <sup>0</sup> 28	18 <sup>0</sup> 17	16 <sup>0</sup> 58	10 <sup>0</sup> 44	4 <sup>0</sup> 21	
T 4	6 54 57	13 <sup>0</sup> 39'58	27 <sup>0</sup> 23	25 <sup>0</sup> 45	23 <sup>0</sup> 55	25 <sup>0</sup> 14	18 <sup>0</sup> 58	22 <sup>0</sup> 13	24 <sup>0</sup> 50	16 <sup>0</sup> 35	12 <sup>0</sup> 27	18 <sup>0</sup> 15	16 <sup>0</sup> 54	10 <sup>0</sup> 50	4 <sup>0</sup> 23	
F 5	6 58 54	14 <sup>0</sup> 41'05	12 <sup>0</sup> Ω	27 <sup>0</sup> 11	25 <sup>0</sup> 11	25 <sup>0</sup> 29	18 <sup>0</sup> 58	22 <sup>0</sup> 19	24 <sup>0</sup> 53	16 <sup>0</sup> 37	12 <sup>0</sup> 26	18 <sup>0</sup> 11	16 <sup>0</sup> 51	10 <sup>0</sup> 57	4 <sup>0</sup> 24	
S 6	7 2 50	15 <sup>0</sup> 42'13	26 <sup>0</sup> 49	28 <sup>0</sup> 37	26 <sup>0</sup> 26	25 <sup>0</sup> 44	18 <sup>0</sup> 57	22 <sup>0</sup> 25	24 <sup>0</sup> 55	16 <sup>0</sup> 39	12 <sup>0</sup> 24	18 <sup>0</sup> 7	16 <sup>0</sup> 48	11 <sup>0</sup> 4	4 <sup>0</sup> 25	
S 7	7 6 47	16 <sup>0</sup> 43'21	11 <sup>♁</sup> 29	0 <sup>♁</sup> 5	27 <sup>0</sup> 41	25 <sup>0</sup> 58	18 <sup>0</sup> 57	22 <sup>0</sup> 31	24 <sup>0</sup> 58	16 <sup>0</sup> 41	12 <sup>0</sup> 23	18 <sup>0</sup> 3	16 <sup>0</sup> 45	11 <sup>0</sup> 11	4 <sup>0</sup> 26	
M 8	7 10 43	17 <sup>0</sup> 44'28	25 <sup>0</sup> 59	1 <sup>0</sup> 32	28 <sup>0</sup> 57	26 <sup>0</sup> 12	18 <sup>0</sup> 56	22 <sup>0</sup> 38	25 <sup>0</sup> 1	16 <sup>0</sup> 43	12 <sup>0</sup> 22	18 <sup>0</sup> 0	16 <sup>0</sup> 42	11 <sup>0</sup> 17	4 <sup>0</sup> 27	
T 9	7 14 40	18 <sup>0</sup> 45'37	10 <sup>♁</sup> 14	3 <sup>0</sup> 1	0 <sup>♁</sup> 12	26 <sup>0</sup> 25	18 <sup>0</sup> 55	22 <sup>0</sup> 44	25 <sup>0</sup> 4	16 <sup>0</sup> 45	12 <sup>0</sup> 21	17 <sup>0</sup> 58	16 <sup>0</sup> 39	11 <sup>0</sup> 24	4 <sup>0</sup> 29	
W10	7 18 36	19 <sup>0</sup> 46'45	24 <sup>0</sup> 13	4 <sup>0</sup> 30	1 <sup>0</sup> 27	26 <sup>0</sup> 38	18 <sup>0</sup> 54	22 <sup>0</sup> 51	25 <sup>0</sup> 7	16 <sup>0</sup> 47	12 <sup>0</sup> 19	17 <sup>D</sup> 58	16 <sup>0</sup> 35	11 <sup>0</sup> 31	4 <sup>0</sup> 30	
T11	7 22 33	20 <sup>0</sup> 47'53	7 <sup>♁</sup> 54	5 <sup>0</sup> 59	2 <sup>0</sup> 43	26 <sup>0</sup> 50	18 <sup>0</sup> 52	22 <sup>0</sup> 57	25 <sup>0</sup> 10	16 <sup>0</sup> 49	12 <sup>0</sup> 18	17 <sup>0</sup> 59	16 <sup>0</sup> 32	11 <sup>0</sup> 38	4 <sup>0</sup> 32	
F12	7 26 30	21 <sup>0</sup> 49'02	21 <sup>0</sup> 19	7 <sup>0</sup> 29	3 <sup>0</sup> 58	27 <sup>0</sup> 2	18 <sup>0</sup> 51	23 <sup>0</sup> 4	25 <sup>0</sup> 13	16 <sup>0</sup> 51	12 <sup>0</sup> 17	18 <sup>0</sup> 1	16 <sup>0</sup> 29	11 <sup>0</sup> 44	4 <sup>0</sup> 33	
S13	7 30 26	22 <sup>0</sup> 50'11	4 <sup>♁</sup> 29	9 <sup>0</sup> 0	5 <sup>0</sup> 13	27 <sup>0</sup> 13	18 <sup>0</sup> 49	23 <sup>0</sup> 10	25 <sup>0</sup> 16	16 <sup>0</sup> 53	12 <sup>0</sup> 16	18 <sup>0</sup> 2	16 <sup>0</sup> 26	11 <sup>0</sup> 51	4 <sup>0</sup> 35	
S14	7 34 23	23 <sup>0</sup> 51'19	17 <sup>0</sup> 25	10 <sup>0</sup> 31	6 <sup>0</sup> 29	27 <sup>0</sup> 23	18 <sup>0</sup> 47	23 <sup>0</sup> 17	25 <sup>0</sup> 19	16 <sup>0</sup> 55	12 <sup>0</sup> 15	18 <sup>R</sup> 3	16 <sup>0</sup> 23	11 <sup>0</sup> 58	4 <sup>0</sup> 36	
M15	7 38 19	24 <sup>0</sup> 52'28	0 <sup>♁</sup> 9	12 <sup>0</sup> 2	7 <sup>0</sup> 44	27 <sup>0</sup> 33	18 <sup>0</sup> 45	23 <sup>0</sup> 23	25 <sup>0</sup> 22	16 <sup>0</sup> 58	12 <sup>0</sup> 13	18 <sup>0</sup> 2	16 <sup>0</sup> 20	12 <sup>0</sup> 4	4 <sup>0</sup> 38	
T16	7 42 16	25 <sup>0</sup> 53'37	12 <sup>0</sup> 42	13 <sup>0</sup> 34	8 <sup>0</sup> 59	27 <sup>0</sup> 43	18 <sup>0</sup> 42	23 <sup>0</sup> 30	25 <sup>0</sup> 25	17 <sup>0</sup> 0	12 <sup>0</sup> 12	18 <sup>0</sup> 0	16 <sup>0</sup> 16	12 <sup>0</sup> 11	4 <sup>0</sup> 40	
W17	7 46 12	26 <sup>0</sup> 54'45	25 <sup>0</sup> 5	15 <sup>0</sup> 7	10 <sup>0</sup> 15	27 <sup>0</sup> 51	18 <sup>0</sup> 40	23 <sup>0</sup> 37	25 <sup>0</sup> 29	17 <sup>0</sup> 2	12 <sup>0</sup> 11	17 <sup>0</sup> 55	16 <sup>0</sup> 13	12 <sup>0</sup> 18	4 <sup>0</sup> 41	
T18	7 50 9	27 <sup>0</sup> 55'52	7 <sup>♁</sup> 19	16 <sup>0</sup> 40	11 <sup>0</sup> 30	27 <sup>0</sup> 59	18 <sup>0</sup> 37	23 <sup>0</sup> 44	25 <sup>0</sup> 32	17 <sup>0</sup> 4	12 <sup>0</sup> 10	17 <sup>0</sup> 48	16 <sup>0</sup> 10	12 <sup>0</sup> 25	4 <sup>0</sup> 43	
F19	7 54 6	28 <sup>0</sup> 57'00	19 <sup>0</sup> 25	18 <sup>0</sup> 13	12 <sup>0</sup> 45	28 <sup>0</sup> 7	18 <sup>0</sup> 34	23 <sup>0</sup> 50	25 <sup>0</sup> 35	17 <sup>0</sup> 6	12 <sup>0</sup> 9	17 <sup>0</sup> 40	16 <sup>0</sup> 7	12 <sup>0</sup> 31	4 <sup>0</sup> 45	
S20	7 58 2	29 <sup>0</sup> 58'06	1 <sup>♁</sup> 24	19 <sup>0</sup> 47	14 <sup>0</sup> 0	28 <sup>0</sup> 13	18 <sup>0</sup> 31	23 <sup>0</sup> 57	25 <sup>0</sup> 38	17 <sup>0</sup> 8	12 <sup>0</sup> 7	17 <sup>0</sup> 32	16 <sup>0</sup> 4	12 <sup>0</sup> 38	4 <sup>0</sup> 47	
S21	8 1 59	0 <sup>♁</sup> 59'12	13 <sup>0</sup> 17	21 <sup>0</sup> 22	15 <sup>0</sup> 16	28 <sup>0</sup> 19	18 <sup>0</sup> 28	24 <sup>0</sup> 4	25 <sup>0</sup> 41	17 <sup>0</sup> 11	12 <sup>0</sup> 6	17 <sup>0</sup> 24	16 <sup>0</sup> 0	12 <sup>0</sup> 45	4 <sup>0</sup> 49	
M22	8 5 55	2 <sup>0</sup> 0'17	25 <sup>0</sup> 8	22 <sup>0</sup> 57	16 <sup>0</sup> 31	28 <sup>0</sup> 25	18 <sup>0</sup> 24	24 <sup>0</sup> 11	25 <sup>0</sup> 45	17 <sup>0</sup> 13	12 <sup>0</sup> 5	17 <sup>0</sup> 16	15 <sup>0</sup> 7	12 <sup>0</sup> 51	4 <sup>0</sup> 51	
T23	8 9 52	3 <sup>0</sup> 1'21	7 <sup>♁</sup> 0	24 <sup>0</sup> 32	17 <sup>0</sup> 46	28 <sup>0</sup> 30	18 <sup>0</sup> 21	24 <sup>0</sup> 18	25 <sup>0</sup> 48	17 <sup>0</sup> 15	12 <sup>0</sup> 4	17 <sup>0</sup> 11	15 <sup>0</sup> 54	12 <sup>0</sup> 58	4 <sup>0</sup> 53	
W24	8 13 48	4 <sup>0</sup> 2'25	18 <sup>0</sup> 56	26 <sup>0</sup> 8	19 <sup>0</sup> 1	28 <sup>0</sup> 34	18 <sup>0</sup> 17	24 <sup>0</sup> 25	25 <sup>0</sup> 51	17 <sup>0</sup> 17	12 <sup>0</sup> 3	17 <sup>0</sup> 7	15 <sup>0</sup> 51	13 <sup>0</sup> 5	4 <sup>0</sup> 55	
T25	8 17 45	5 <sup>0</sup> 3'27	1 <sup>♁</sup> 1	27 <sup>0</sup> 45	20 <sup>0</sup> 16	28 <sup>0</sup> 37	18 <sup>0</sup> 13	24 <sup>0</sup> 32	25 <sup>0</sup> 54	17 <sup>0</sup> 20	12 <sup>0</sup> 2	17 <sup>D</sup> 6	15 <sup>0</sup> 48	13 <sup>0</sup> 12	4 <sup>0</sup> 57	
F26	8 21 41	6 <sup>0</sup> 4'29	13 <sup>0</sup> 19	29 <sup>0</sup> 22	21 <sup>0</sup> 32	28 <sup>0</sup> 40	18 <sup>0</sup> 9	24 <sup>0</sup> 39	25 <sup>0</sup> 58	17 <sup>0</sup> 22	12 <sup>0</sup> 0	17 <sup>0</sup> 6	15 <sup>0</sup> 45	13 <sup>0</sup> 18	4 <sup>0</sup> 59	
S27	8 25 38	7 <sup>0</sup> 5'29	25 <sup>0</sup> 57	1 <sup>♁</sup> 0	22 <sup>0</sup> 47	28 <sup>0</sup> 41	18 <sup>0</sup> 5	24 <sup>0</sup> 46	26 <sup>0</sup> 1	17 <sup>0</sup> 24	11 <sup>0</sup> 59	17 <sup>0</sup> 7	15 <sup>0</sup> 41	13 <sup>0</sup> 25	5 <sup>0</sup> 2	
S28	8 29 34	8 <sup>0</sup> 6'29	8 <sup>II</sup> 58	2 <sup>0</sup> 39	24 <sup>0</sup> 2	28 <sup>0</sup> 43	18 <sup>0</sup> 0	24 <sup>0</sup> 53	26 <sup>0</sup> 4	17 <sup>0</sup> 26	11 <sup>0</sup> 58	17 <sup>0</sup> 8	15 <sup>0</sup> 38	13 <sup>0</sup> 32	5 <sup>0</sup> 4	
M29	8 33 31	9 <sup>0</sup> 7'28	22 <sup>0</sup> 26	4 <sup>0</sup> 18	25 <sup>0</sup> 17	28 <sup>R</sup> 43	17 <sup>0</sup> 55	25 <sup>0</sup> 0	26 <sup>0</sup> 8	17 <sup>0</sup> 29	11 <sup>0</sup> 57	17 <sup>R</sup> 8	15 <sup>0</sup> 35	13 <sup>0</sup> 39	5 <sup>0</sup> 6	
T30	8 37 28	10 <sup>0</sup> 8'25	6 <sup>♁</sup> 22	5 <sup>0</sup> 57	26 <sup>0</sup> 32	28 <sup>0</sup> 43	17 <sup>0</sup> 51	25 <sup>0</sup> 7	26 <sup>0</sup> 11	17 <sup>0</sup> 31	11 <sup>0</sup> 56	17 <sup>0</sup> 7	15 <sup>0</sup> 32	13 <sup>0</sup> 45	5 <sup>0</sup> 9	
W31	8 41 24	11 <sup>♁</sup> 9'22	20 <sup>♁</sup> 46	7 <sup>♁</sup> 38	27 <sup>♁</sup> 47	28 <sup>♁</sup> 42	17 <sup>♁</sup> 46	25 <sup>♁</sup> 14	26 <sup>♁</sup> 14	17 <sup>♁</sup> 33	11 <sup>♁</sup> 55	17 <sup>II</sup> 3	15 <sup>II</sup> 29	13 <sup>♁</sup> 52	5 <sup>♁</sup> 11	

Delta T = 359.74 sec.

FEBRUARY 2170

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁	♁
T 1	8 45 21	12 <sup>♁</sup> 10'17	5 <sup>♁</sup> 34	9 <sup>♁</sup> 19	29 <sup>♁</sup> 2	28 <sup>R</sup> 40	17 <sup>R</sup> 40	25 <sup>♁</sup> 21	26 <sup>♁</sup> 18	17 <sup>♁</sup> 35	11 <sup>R</sup> 54	16 <sup>R</sup> 56	15 <sup>II</sup> 26	13 <sup>♁</sup> 59	5 <sup>♁</sup> 13	
F 2	8 49 17	13 <sup>0</sup> 11'12	20 <sup>0</sup> 39	11 <sup>0</sup> 1	0 <sup>♁</sup> 17	28 <sup>♁</sup> 38	17 <sup>♁</sup> 35	25 <sup>0</sup> 28	26 <sup>0</sup> 21	17 <sup>0</sup> 38	11 <sup>♁</sup> 53	16 <sup>II</sup> 48	15 <sup>0</sup> 22	14 <sup>0</sup> 5	5 <sup>0</sup> 16	
S 3	8 53 14	14 <sup>0</sup> 12'05	5 <sup>♁</sup> 49	12 <sup>0</sup> 43	1 <sup>0</sup> 32	28 <sup>0</sup> 34	17 <sup>0</sup> 30	25 <sup>0</sup> 35	26 <sup>0</sup> 25	17 <sup>0</sup> 40	11 <sup>0</sup> 52	16 <sup>0</sup> 39	15 <sup>0</sup> 19	14 <sup>0</sup> 12	5 <sup>0</sup> 18	
S 4	8 57 10	15 <sup>0</sup> 12'58	20 <sup>0</sup> 56	14 <sup>0</sup> 26	2 <sup>0</sup> 47	28 <sup>0</sup> 30	17 <sup>0</sup> 24	25 <sup>0</sup> 43	26 <sup>0</sup> 28	17 <sup>0</sup> 42	11 <sup>0</sup> 51	16 <sup>0</sup> 30	15 <sup>0</sup> 16	14 <sup>0</sup> 19	5 <sup>0</sup> 21	
M 5	9 1 7	16 <sup>0</sup> 13'49	5 <sup>♁</sup> 49	16 <sup>0</sup> 10	4 <sup>0</sup> 2	28 <sup>0</sup> 25	17 <sup>0</sup> 18	25 <sup>0</sup> 50	26 <sup>0</sup> 31	17 <sup>0</sup> 44	11 <sup>0</sup> 50	16 <sup>0</sup> 22	15 <sup>0</sup> 13	14 <sup>0</sup> 26	5 <sup>0</sup> 23	
T 6	9 5 4	17 <sup>0</sup> 14'40	20 <sup>0</sup> 21	17 <sup>0</sup> 54	5 <sup>0</sup> 17	28 <sup>0</sup> 20	17 <sup>0</sup> 12	25 <sup>0</sup> 57	26 <sup>0</sup> 35	17 <sup>0</sup> 47	11 <sup>0</sup> 49	16 <sup>0</sup> 17	15 <sup>0</sup> 10	14 <sup>0</sup> 32	5 <sup>0</sup> 26	
W 7	9 9 0	18 <sup>0</sup> 15'30	4 <sup>♁</sup> 29	19 <sup>0</sup> 40	6 <sup>0</sup> 32	28 <sup>0</sup> 13	17 <sup>0</sup> 6	26 <sup>0</sup> 4	26 <sup>0</sup> 38	17 <sup>0</sup> 49	11 <sup>0</sup> 48	16 <sup>0</sup> 14	15 <sup>0</sup> 6	14 <sup>0</sup> 39	5 <sup>0</sup> 29	
T 8	9 12 57	19 <sup>0</sup> 16'19	18 <sup>0</sup> 11	21 <sup>0</sup> 25	7 <sup>0</sup> 47	28 <sup>0</sup> 6	17 <sup>0</sup> 0	26 <sup>0</sup> 11	26 <sup>0</sup> 42	17 <sup>0</sup> 51	11 <sup>0</sup> 47	16 <sup>D</sup> 13	15 <sup>0</sup> 3	14 <sup>0</sup> 46	5 <sup>0</sup> 31	
F 9	9 16 53	20 <sup>0</sup> 17'08	1 <sup>♁</sup> 31	23 <sup>0</sup> 12	9 <sup>0</sup> 2	27 <sup>0</sup> 58	16 <sup>0</sup> 54	26 <sup>0</sup> 19	26 <sup>0</sup> 45	17 <sup>0</sup> 54	11 <sup>0</sup> 46	16 <sup>0</sup> 13	15 <sup>0</sup> 0	14 <sup>0</sup> 53	5 <sup>0</sup> 34	
S10	9 20 50	21 <sup>0</sup> 17'55	14 <sup>0</sup> 29	24 <sup>0</sup> 59	10 <sup>0</sup> 16	27 <sup>0</sup> 49	16 <sup>0</sup> 48	26 <sup>0</sup> 26	26 <sup>0</sup> 49	17 <sup>0</sup> 56	11 <sup>0</sup> 45	16 <sup>R</sup> 14	14 <sup>0</sup> 57	14 <sup>0</sup> 59	5 <sup>0</sup> 37	
S11	9 24 46	22 <sup>0</sup> 18'42	27 <sup>0</sup> 11	26 <sup>0</sup> 47	11 <sup>0</sup> 31	27 <sup>0</sup> 39	16 <sup>0</sup> 41	26 <sup>0</sup> 33	26 <sup>0</sup> 52	17 <sup>0</sup> 58	11 <sup>0</sup> 44	16 <sup>0</sup> 13	14 <sup>0</sup> 54	15 <sup>0</sup> 6	5 <sup>0</sup> 40	
M12	9 28 43	23 <sup>0</sup> 19'28	9 <sup>♁</sup> 39	28 <sup>0</sup> 35	12 <sup>0</sup> 46	27 <sup>0</sup> 29	16 <sup>0</sup> 35	26 <sup>0</sup> 40	26 <sup>0</sup> 56	18 <sup>0</sup> 0	11 <sup>0</sup> 43	16 <sup>0</sup> 11	14 <sup>0</sup> 51	15 <sup>0</sup> 13	5 <sup>0</sup> 43	
T13	9 32 39	24 <sup>0</sup> 20'12	21 <sup>0</sup> 56	0 <sup>♁</sup> 24	14 <sup>0</sup> 1	27 <sup>0</sup> 18	16 <sup>0</sup> 28	26 <sup>0</sup> 48	26 <sup>0</sup> 59	18 <sup>0</sup> 3	11 <sup>0</sup> 42	16 <sup>0</sup> 5	14 <sup>0</sup> 47	15 <sup>0</sup> 19	5 <sup>0</sup> 46	
W14	9 36 36	25 <sup>0</sup> 20'56	4 <sup>♁</sup> 5	2 <sup>0</sup> 13	15 <sup>0</sup> 16	27 <sup>0</sup> 6	16 <sup>0</sup> 21	26 <sup>0</sup> 55	27 <sup>0</sup> 3	18 <sup>0</sup> 5	11 <sup>0</sup> 42	15 <sup>0</sup> 57	14 <sup>0</sup> 44	15 <sup>0</sup> 26	5 <sup>0</sup> 48	
T15	9 40 33	26 <sup>0</sup> 21'38	16 <sup>0</sup> 8	4 <sup>0</sup> 3	16 <sup>0</sup> 30	26 <sup>0</sup> 53	16 <sup>0</sup> 14	27 <sup>0</sup> 2	27 <sup>0</sup> 6	18 <sup>0</sup> 7	11 <sup>0</sup> 41	15 <sup>0</sup> 46	14 <sup>0</sup> 41	15 <sup>0</sup> 33	5 <sup>0</sup> 51	
F16	9 44 29	27 <sup>0</sup> 22'18	28 <sup>0</sup> 6	5 <sup>0</sup> 52	17 <sup>0</sup> 45	26 <sup>0</sup> 40	16 <sup>0</sup> 7	27 <sup>0</sup> 9	27 <sup>0</sup> 9	18 <sup>0</sup> 9	11 <sup>0</sup> 40	15 <sup>0</sup> 33	14 <sup>0</sup> 38	15 <sup>0</sup> 40	5 <sup>0</sup> 54	
S17	9 48 26	28 <sup>0</sup> 22'58	10 <sup>♁</sup> 1	7 <sup>0</sup> 42	19 <sup>0</sup> 0	26 <sup>0</sup> 25	16 <sup>0</sup> 0	27 <sup>0&lt;/</sup>								

SWISS EPHEMERIS for the year 2170

MARCH 2170

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁
T 1	10 35 44	10X28'37	13Ω31	27X56	3Y53	22R44	14R29	28X43	27X54	18X38	11R31	14R10	13II57	17X 7	6Y36
F 2	10 39 41	11°28'53	28°39	29°15	5° 8	22M22	14M21	28°50	27°58	18°40	11E30	14II 0	13°53	17°14	6°39
S 3	10 43 37	12°29'08	14M 0	0Y28	6°22	21°59	14°13	28°57	28° 1	18°43	11°30	13°48	13°50	17°20	6°42
S 4	10 47 34	13°29'20	29°21	1°35	7°36	21°37	14° 5	29° 5	28° 5	18°45	11°29	13°37	13°47	17°27	6°46
M 5	10 51 30	14°29'31	14Ω32	2°34	8°50	21°14	13°57	29°12	28° 8	18°47	11°29	13°27	13°44	17°34	6°49
T 6	10 55 27	15°29'41	29°21	3°25	10° 4	20°51	13°50	29°19	28°11	18°49	11°29	13°20	13°41	17°41	6°52
W 7	10 59 24	16°29'48	13M44	4° 9	11°18	20°28	13°42	29°26	28°15	18°51	11°28	13°15	13°38	17°47	6°56
T 8	11 3 20	17°29'55	27°37	4°44	12°32	20° 4	13°34	29°33	28°18	18°53	11°28	13°13	13°34	17°54	6°59
F 9	11 7 17	18°30'00	11X 2	5° 9	13°46	19°40	13°26	29°40	28°21	18°55	11°27	13°12	13°31	18° 1	7° 3
S 10	11 11 13	19°30'03	24° 2	5°26	15° 0	19°17	13°18	29°47	28°25	18°57	11°27	13°12	13°28	18° 8	7° 6
S 11	11 15 10	20°30'05	6Z41	5R34	16°14	18°53	13°11	29°54	28°28	18°59	11°27	13°11	13°25	18°14	7°10
M12	11 19 6	21°30'05	19° 2	5°33	17°28	18°29	13° 3	0X 1	28°31	19° 1	11°26	13° 9	13°22	18°21	7°13
T 13	11 23 3	22°30'03	1X12	5°23	18°41	18° 6	12°55	0° 8	28°34	19° 3	11°26	13° 3	13°18	18°28	7°17
W14	11 26 59	23°30'00	13°13	5° 4	19°55	17°42	12°47	0°14	28°38	19° 5	11°26	12°55	13°15	18°34	7°20
T 15	11 30 56	24°29'55	25° 8	4°38	21° 9	17°19	12°40	0°21	28°41	19° 7	11°25	12°44	13°12	18°41	7°24
F 16	11 34 53	25°29'48	7X 1	4° 4	22°22	16°56	12°32	0°28	28°44	19° 9	11°25	12°31	13° 9	18°48	7°27
S 17	11 38 49	26°29'39	18°53	3°24	23°36	16°33	12°25	0°35	28°47	19°11	11°25	12°17	13° 6	18°55	7°31
S 18	11 42 46	27°29'29	0Y45	2°38	24°50	16°10	12°17	0°42	28°50	19°13	11°25	12° 2	13° 3	19° 1	7°35
M19	11 46 42	28°29'16	12°39	1°48	26° 3	15°47	12°10	0°48	28°53	19°15	11°25	11°49	12°59	19° 8	7°38
T 20	11 50 39	29°29'01	24°36	0°55	27°17	15°26	12° 3	0°55	28°57	19°16	11°24	11°39	12°56	19°15	7°42
W21	11 54 35	0Y28'44	6Z39	0° 0	28°30	15° 4	11°56	1° 2	29° 0	19°18	11°24	11°31	12°53	19°21	7°45
T 22	11 58 32	1°28'26	18°48	29X 4	29°43	14°43	11°49	1° 8	29° 3	19°20	11°24	11°26	12°50	19°28	7°49
F 23	12 2 28	2°28'05	1II 8	28° 8	0X57	14°22	11°42	1°15	29° 6	19°22	11°24	11°24	12°47	19°35	7°52
S 24	12 6 25	3°27'41	13°42	27°15	2°10	14° 2	11°35	1°22	29° 9	19°24	11°24	11°D23	12°43	19°42	7°56
S 25	12 10 22	4°27'16	26°33	26°23	3°23	13°42	11°28	1°28	29°12	19°25	11°D24	11°24	12°40	19°48	8° 0
M26	12 14 18	5°26'48	9Z47	25°36	4°36	13°23	11°21	1°34	29°15	19°27	11°24	11°R24	12°37	19°55	8° 3
T 27	12 18 15	6°26'18	23°26	24°52	5°49	13° 5	11°15	1°41	29°18	19°29	11°24	11°22	12°34	20° 2	8° 7
W28	12 22 11	7°25'46	7Ω32	24°14	7° 2	12°47	11° 8	1°47	29°21	19°31	11°24	11°19	12°31	20° 9	8°11
T 29	12 26 8	8°25'11	22° 4	23°40	8°15	12°30	11° 2	1°54	29°23	19°32	11°24	11°13	12°28	20°15	8°14
F 30	12 30 4	9°24'34	7M 0	23°12	9°28	12°14	10°56	2° 0	29°26	19°34	11°24	11° 5	12°24	20°22	8°18
S 31	12 34 1	10Y23'55	22M10	22X50	10Z41	11M58	10M50	2X 6	29X29	19X35	11E25	10II56	12II21	20X29	8Y21

Delta T = 360.09 sec.

APRIL 2170

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Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁
S 1	12 37 57	11Y23'13	7Ω27	22R34	11Z54	11R43	10R44	2X12	29X32	19X37	11E25	10R47	12II18	20X35	8Y25
M 2	12 41 54	12°22'29	22°38	22X23	13° 7	11M28	10M38	2°18	29°35	19°39	11°25	10II39	12°15	20°42	8°29
T 3	12 45 51	13°21'44	7M32	22°D19	14°19	11°15	10°32	2°24	29°37	19°40	11°25	10°33	12°12	20°49	8°32
W 4	12 49 47	14°20'57	22° 4	22°20	15°32	11° 2	10°27	2°31	29°40	19°42	11°25	10°29	12° 9	20°56	8°36
T 5	12 53 44	15°20'08	6X 7	22°26	16°44	10°50	10°22	2°37	29°43	19°43	11°25	10°D28	12° 5	21° 2	8°39
F 6	12 57 40	16°19'17	19°41	22°38	17°57	10°38	10°16	2°42	29°46	19°45	11°26	10°28	12° 2	21° 9	8°43
S 7	13 1 37	17°18'24	2Z49	22°55	19° 9	10°28	10°11	2°48	29°48	19°46	11°26	10°29	11°59	21°16	8°47
S 8	13 5 33	18°17'30	15°32	23°17	20°21	10°18	10° 6	2°54	29°51	19°47	11°26	10°R30	11°56	21°22	8°50
M 9	13 9 30	19°16'34	27°56	23°43	21°34	10° 9	10° 2	3° 0	29°53	19°49	11°27	10°29	11°53	21°29	8°54
T 10	13 13 26	20°15'36	10X 5	24°14	22°46	10° 1	9°57	3° 6	29°56	19°50	11°27	10°27	11°49	21°36	8°57
W11	13 17 23	21°14'36	22° 4	24°49	23°58	9°53	9°52	3°11	29°58	19°52	11°27	10°23	11°46	21°43	9° 1
T 12	13 21 20	22°13'34	3X57	25°28	25°10	9°46	9°48	3°17	0X 1	19°53	11°28	10°16	11°43	21°49	9° 4
F 13	13 25 16	23°12'31	15°48	26°11	26°22	9°40	9°44	3°22	0° 3	19°54	11°28	10° 8	11°40	21°56	9° 8
S 14	13 29 13	24°11'26	27°40	26°57	27°34	9°35	9°40	3°28	0° 6	19°55	11°29	10° 0	11°37	22° 3	9°11
S 15	13 33 9	25°10'19	9Y34	27°47	28°46	9°31	9°36	3°33	0° 8	19°57	11°29	9°51	11°34	22°10	9°15
M16	13 37 6	26° 9'10	21°34	28°40	29°58	9°27	9°33	3°39	0°10	19°58	11°30	9°43	11°30	22°16	9°18
T 17	13 41 2	27° 7'59	3Z39	29°36	1II10	9°24	9°29	3°44	0°12	19°59	11°30	9°36	11°27	22°23	9°22
W18	13 44 59	28° 6'46	15°52	0Y35	2°21	9°22	9°26	3°49	0°15	20° 0	11°31	9°32	11°24	22°30	9°25
T 19	13 48 55	29° 5'31	28°14	1°37	3°33	9°21	9°23	3°54	0°17	20° 1	11°31	9°29	11°21	22°36	9°29
F 20	13 52 52	0Z 4'14	10II46	2°41	4°44	9°D21	9°20	3°59	0°19	20° 2	11°32	9°D28	11°18	22°43	9°32
S 21	13 56 48	1° 2'55	23°32	3°48	5°56	9°21	9°17	4° 5	0°21	20° 3	11°32	9°29	11°15	22°50	9°36
S 22	14 0 45	2° 1'33	6E32	4°58	7° 7	9°22	9°15	4° 9	0°23	20° 4	11°33	9°31	11°11	22°57	9°39
M23	14 4 42	3° 0'10	19°49	6°10	8°18	9°24	9°12	4°14	0°25	20° 5	11°34	9°32	11° 8	23° 3	9°43
T 24	14 8 38	3°58'44	3Ω26	7°24	9°30	9°26	9°10	4°19	0°27	20° 6	11°34	9°R33	11° 5	23°10	9°46
W25	14 12 35	4°57'16	17°23	8°40	10°41	9°29	9° 8	4°24	0°29	20° 7	11°35	9°32	11° 2	23°17	9°49
T 26	14 16 31	5°55'46	1M41	9°59	11°52	9°33	9° 6	4°29	0°31	20° 8	11°36	9°30	10°59	23°23	9°53
F 27	14 20 28	6°54'14	16°17	11°19	13° 3	9°38	9° 5	4°33	0°33	20° 9	11°37	9°26	10°55	23°30	9°56
S 28	14 24 24	7°52'39	1Z 6	12°42	14°13	9°43	9° 3	4°38	0°35	20°10	11°37	9°22	10°52	23°37	9°59
S 29	14 28 21	8°51'03	16° 1	14° 7	15°24	9°49	9° 2	4°42	0°36	20°10	11°38	9°18	10°49	23°44	10° 3
M30	14 32 17	9Z49'24	0II55	15Y33	16II35	9M55	9M 1	4X47	0X38	20X11	11E39	9II14	10II46	23X50	10Y 6

Delta T = 360.28 sec.

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SWISS EPHEMERIS for the year 2170

MAY 2170

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Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁	♁
T 1	14 36 14	10♄47'44	15♃38	17♃2	17♃45	10♃2	9°R 0	4♃51	0♃40	20♃12	11♃40	9°R11	10♃43	23♃57	10°Y 9	
W 2	14 40 11	11°46'02	0♃3	18°32	18°56	10°10	8♃59	4°55	0°41	20°13	11°40	9♃9	10°40	24° 4	10°12	
T 3	14 44 7	12°44'18	14° 6	20° 5	20° 6	10°19	8°59	4°59	0°43	20°13	11°41	9°D 9	10°36	24°10	10°15	
F 4	14 48 4	13°42'33	27°44	21°39	21°16	10°28	8°58	5° 3	0°45	20°14	11°42	9°10	10°33	24°17	10°19	
S 5	14 52 0	14°40'46	10♄56	23°15	22°26	10°37	8°D58	5° 7	0°46	20°15	11°43	9°12	10°30	24°24	10°22	
S 6	14 55 57	15°38'58	23°45	24°53	23°36	10°47	8°58	5°11	0°48	20°15	11°44	9°13	10°27	24°31	10°25	
M 7	14 59 53	16°37'08	6♃14	26°33	24°46	10°58	8°59	5°15	0°49	20°16	11°45	9°14	10°24	24°37	10°28	
T 8	15 3 50	17°35'17	18°26	28°15	25°56	11° 9	8°59	5°19	0°50	20°16	11°46	9°R15	10°21	24°44	10°31	
W 9	15 7 46	18°33'24	0♃28	29°59	27° 6	11°21	9° 0	5°22	0°52	20°17	11°47	9°14	10°17	24°51	10°34	
T 10	15 11 43	19°31'30	12°22	1♃45	28°16	11°34	9° 0	5°26	0°53	20°17	11°48	9°13	10°14	24°58	10°37	
F 11	15 15 40	20°29'34	24°13	3°32	29°25	11°47	9° 1	5°29	0°54	20°17	11°49	9°10	10°11	25° 4	10°40	
S 12	15 19 36	21°27'37	6♃7	5°22	0♄35	12° 0	9° 2	5°33	0°55	20°18	11°50	9° 8	10° 8	25°11	10°43	
S 13	15 23 33	22°25'39	18° 4	7°13	1°44	12°14	9° 4	5°36	0°57	20°18	11°51	9° 5	10° 5	25°18	10°46	
M14	15 27 29	23°23'39	0♃10	9° 6	2°53	12°29	9° 5	5°39	0°58	20°18	11°52	9° 3	10° 1	25°24	10°49	
T 15	15 31 26	24°21'38	12°25	11° 1	4° 2	12°44	9° 7	5°43	0°59	20°19	11°53	9° 1	9°58	25°31	10°51	
W16	15 35 22	25°19'35	24°52	12°58	5°11	12°59	9° 9	5°46	1° 0	20°19	11°54	9° 0	9°55	25°38	10°54	
T 17	15 39 19	26°17'31	7♃31	14°57	6°20	13°15	9°11	5°49	1° 1	20°19	11°55	8°D59	9°52	25°45	10°57	
F 18	15 43 15	27°15'25	20°23	16°57	7°29	13°32	9°13	5°52	1° 2	20°19	11°56	9° 0	9°49	25°51	11° 0	
S 19	15 47 12	28°13'18	3♄28	19° 0	8°37	13°48	9°15	5°54	1° 2	20°19	11°57	9° 0	9°46	25°58	11° 2	
S 20	15 51 9	29°11'09	16°47	21° 4	9°46	14° 6	9°18	5°57	1° 3	20°20	11°59	9° 1	9°42	26° 5	11° 5	
M21	15 55 5	0♃8'58	0♃19	23° 9	10°54	14°24	9°21	6° 0	1° 4	20°20	12° 0	9° 2	9°39	26°11	11° 8	
T 22	15 59 2	1° 6'46	14° 5	25°16	12° 2	14°42	9°23	6° 2	1° 5	20°20	12° 1	9° 3	9°36	26°18	11°10	
W23	16 2 58	2° 4'32	28° 4	27°25	13°10	15° 1	9°27	6° 5	1° 5	20°R20	12° 2	9°R 3	9°33	26°25	11°13	
T 24	16 6 55	3° 2'16	12♃15	29°34	14°18	15°20	9°30	6° 7	1° 6	20°20	12° 3	9° 3	9°30	26°32	11°15	
F 25	16 10 51	3°59'59	26°35	1♃44	15°26	15°39	9°33	6° 9	1° 7	20°20	12° 4	9° 2	9°26	26°38	11°18	
S 26	16 14 48	4°57'40	11♄1	3°55	16°34	15°59	9°37	6°11	1° 7	20°20	12° 6	9° 2	9°23	26°45	11°20	
S 27	16 18 44	5°55'19	25°30	6° 7	17°41	16°19	9°40	6°13	1° 8	20°19	12° 7	9° 2	9°20	26°52	11°23	
M28	16 22 41	6°52'57	9♃57	8°19	18°48	16°40	9°44	6°15	1° 8	20°19	12° 8	9° 1	9°17	26°58	11°25	
T 29	16 26 38	7°50'34	24°15	10°31	19°55	17° 1	9°48	6°17	1° 8	20°19	12° 9	9° 1	9°14	27° 5	11°27	
W30	16 30 34	8°48'10	8♃22	12°42	21° 2	17°22	9°53	6°19	1° 9	20°19	12°11	9° 1	9°11	27°12	11°30	
T 31	16 34 31	9♃45'44	22♃11	14♃53	22♄9	17♃44	9♃57	6♃21	1♃9	20♃19	12♄12	9♃1	9♃7	27♃19	11°Y32	

Delta T = 360.46 sec.

JUNE 2170

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Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁	♁
F 1	16 38 27	10♃43'18	5♄41	17♃3	23♄16	18♃6	10♃2	6♃22	1♃9	20°R18	12♄13	9°R 1	9♃4	27♃25	11°Y34	
S 2	16 42 24	11°40'50	18°51	19°12	24°22	18°28	10° 6	6°24	1° 9	20°R18	12°15	9♃1	9° 1	27°32	11°36	
S 3	16 46 20	12°38'21	1♃40	21°19	25°28	18°51	10°11	6°25	1° 9	20°18	12°16	9° 1	8°58	27°39	11°38	
M 4	16 50 17	13°35'52	14°11	23°25	26°35	19°14	10°16	6°26	1°10	20°17	12°17	9° 0	8°55	27°45	11°41	
T 5	16 54 14	14°33'21	26°26	25°30	27°40	19°37	10°21	6°28	1°R10	20°17	12°19	9° 0	8°52	27°52	11°43	
W 6	16 58 10	15°30'50	8♃29	27°32	28°46	20° 1	10°27	6°29	1°10	20°16	12°20	8°59	8°48	27°59	11°45	
T 7	17 2 7	16°28'18	20°25	29°32	29°52	20°25	10°32	6°30	1° 9	20°16	12°21	8°D59	8°45	28° 6	11°47	
F 8	17 6 3	17°25'46	2♃17	1♄30	0♄57	20°49	10°38	6°31	1° 9	20°16	12°23	9° 0	8°42	28°12	11°48	
S 9	17 10 0	18°23'12	14°12	3°26	2° 2	21°14	10°43	6°31	1° 9	20°15	12°24	9° 0	8°39	28°19	11°50	
S 10	17 13 56	19°20'38	26°12	5°19	3° 7	21°39	10°49	6°32	1° 9	20°14	12°26	9° 1	8°36	28°26	11°52	
M11	17 17 53	20°18'04	8♄22	7°10	4°12	22° 4	10°55	6°33	1° 9	20°14	12°27	9° 2	8°32	28°32	11°54	
T 12	17 21 49	21°15'29	20°46	8°58	5°16	22°29	11° 2	6°33	1° 8	20°13	12°28	9° 3	8°29	28°39	11°56	
W13	17 25 46	22°12'53	3♃25	10°44	6°20	22°55	11° 8	6°34	1° 8	20°13	12°30	9°R 4	8°26	28°46	11°57	
T 14	17 29 43	23°10'16	16°21	12°28	7°24	23°21	11°14	6°34	1° 8	20°12	12°31	9° 4	8°23	28°53	11°59	
F 15	17 33 39	24° 7'39	29°35	14° 8	8°28	23°48	11°21	6°34	1° 7	20°11	12°33	9° 3	8°20	28°59	12° 0	
S 16	17 37 36	25° 5'01	13♄5	15°47	9°31	24°14	11°28	6°34	1° 7	20°10	12°34	9° 1	8°17	29° 6	12° 2	
S 17	17 41 32	26° 2'23	26°50	17°22	10°35	24°41	11°35	6°R34	1° 6	20°10	12°36	8°59	8°13	29°13	12° 4	
M18	17 45 29	26°59'43	10♄46	18°55	11°38	25° 8	11°42	6°34	1° 6	20° 9	12°37	8°57	8°10	29°19	12° 5	
T 19	17 49 25	27°57'03	24°52	20°25	12°40	25°35	11°49	6°34	1° 5	20° 8	12°38	8°55	8° 7	29°26	12° 6	
W20	17 53 22	28°54'21	9♃3	21°53	13°43	26° 3	11°56	6°34	1° 4	20° 7	12°40	8°53	8° 4	29°33	12° 8	
T 21	17 57 18	29°51'39	23°17	23°18	14°45	26°31	12° 3	6°33	1° 3	20° 6	12°41	8°D52	8° 1	29°40	12° 9	
F 22	18 1 15	0♄48'56	7♄31	24°40	15°47	26°59	12°11	6°33	1° 3	20° 5	12°43	8°52	7°58	29°46	12°10	
S 23	18 5 12	1°46'12	21°42	26° 0	16°48	27°27	12°18	6°32	1° 2	20° 5	12°44	8°53	7°54	29°53	12°11	
S 24	18 9 8	2°43'28	5♃48	27°17	17°50	27°56	12°26	6°31	1° 1	20° 4	12°46	8°54	7°51	0°Y 0	12°13	
M25	18 13 5	3°40'42	19°48	28°30	18°50	28°24	12°34	6°31	1° 0	20° 3	12°47	8°56	7°48	0° 6	12°14	
T 26	18 17 1	4°37'57	3♃39	29°41	19°51	28°53	12°42	6°30	0°59	20° 2	12°49	8°R56	7°45	0°13	12°15	
W27	18 20 58	5°35'10	17°20	0♄49	20°51	29°22	12°50	6°29	0°58	20° 1	12°50	8°56	7°42	0°20	12°16	
T 28	18 24 54	6°32'24	0♄48	1°54	21°51	29°52	12°58	6°28	0°57	20° 0	12°52	8°55	7°38	0°27	12°17	
F 29	18 28 51	7°29'36	14° 1	2°56	22°51	0♄21	13° 7	6°27	0°56	19°58	12°53	8°52	7°35	0°33	12°18	
S 30	18 32 47	8♄26'49	26♄59	3♄54	23♄50	0♄51	13♃15	6♃25	0♃55	19♃57	12♄55	8♃48	7♃32	0°Y40	12°Y18	

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SWISS EPHEMERIS for the year 2170

JULY 2170

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁
S 1	18 36 44	9 <sup>h</sup> 24'02"	9 <sup>h</sup> 42'	4 <sup>h</sup> 50'	24 <sup>h</sup> 48'	1 <sup>h</sup> 21'	13 <sup>h</sup> 24'	6 <sup>h</sup> R24	0 <sup>h</sup> R54	19 <sup>h</sup> R56	12 <sup>h</sup> 56'	8 <sup>h</sup> R43	7 <sup>h</sup> II29	0 <sup>h</sup> Y47	12 <sup>h</sup> Y19
M 2	18 40 41	10 <sup>h</sup> 21'14"	22° 9'	5°41'	25°47'	1°51'	13°32'	6 <sup>h</sup> X22	0 <sup>h</sup> X52	19 <sup>h</sup> 55'	12°58'	8 <sup>h</sup> II38	7°26'	0°53'	12°20'
T 3	18 44 37	11 <sup>h</sup> 18'26"	4 <sup>h</sup> X22	6°30'	26°45'	2°22'	13°41'	6°21'	0°51'	19°54'	12°59'	8°33'	7°23'	1° 0'	12°21'
W 4	18 48 34	12 <sup>h</sup> 15'39"	16°25'	7°14'	27°42'	2°52'	13°50'	6°19'	0°50'	19°53'	13° 1'	8°29'	7°19'	1° 7'	12°21'
T 5	18 52 30	13 <sup>h</sup> 12'51"	18°20'	7°55'	28°39'	3°23'	13°59'	6°18'	0°49'	19°52'	13° 2'	8°27'	7°16'	1°14'	12°22'
F 6	18 56 27	14 <sup>h</sup> 10'03"	10 <sup>h</sup> Y13	8°32'	29°36'	3°54'	14° 8'	6°16'	0°47'	19°50'	13° 4'	8°D25	7°13'	1°20'	12°22'
S 7	19 0 23	15° 7'16"	22° 7'	9° 5'	0 <sup>h</sup> mp32	4°25'	14°17'	6°14'	0°46'	19°49'	13° 5'	8°26'	7°10'	1°27'	12°23'
S 8	19 4 20	16° 4'29"	4 <sup>h</sup> X 7	9°34'	1°27'	4°56'	14°27'	6°12'	0°44'	19°48'	13° 7'	8°27'	7° 7'	1°34'	12°23'
M 9	19 8 16	17° 1'43"	16°19'	9°59'	2°23'	5°28'	14°36'	6°10'	0°43'	19°46'	13° 8'	8°28'	7° 4'	1°40'	12°24'
T 10	19 12 13	17°58'56"	28°46'	10°19'	3°17'	6° 0'	14°46'	6° 8'	0°41'	19°45'	13°10'	8°30'	7° 0'	1°47'	12°24'
W11	19 16 10	18°56'10"	11 <sup>h</sup> II33	10°35'	4°11'	6°31'	14°55'	6° 5'	0°40'	19°44'	13°11'	8°R30	6°57'	1°54'	12°24'
T 12	19 20 6	19°53'25"	24°42'	10°46'	5° 5'	7° 4'	15° 5'	6° 3'	0°38'	19°42'	13°13'	8°29'	6°54'	2° 1'	12°24'
F 13	19 24 3	20°50'39"	8 <sup>h</sup> 514	10°53'	5°58'	7°36'	15°15'	6° 0'	0°37'	19°41'	13°14'	8°26'	6°51'	2° 7'	12°25'
S 14	19 27 59	21°47'54"	22° 7'	10°R54	6°50'	8° 8'	15°25'	5°58'	0°35'	19°40'	13°16'	8°21'	6°48'	2°14'	12°25'
S 15	19 31 56	22°45'09"	6 <sup>h</sup> Ω18	10°51'	7°42'	8°41'	15°35'	5°55'	0°33'	19°38'	13°17'	8°15'	6°44'	2°21'	12°R25
M16	19 35 52	23°42'24"	20°43'	10°44'	8°33'	9°13'	15°45'	5°53'	0°31'	19°37'	13°19'	8° 8'	6°41'	2°27'	12°25'
T 17	19 39 49	24°39'39"	5 <sup>h</sup> mp14	10°31'	9°23'	9°46'	15°55'	5°50'	0°30'	19°36'	13°20'	8° 1'	6°38'	2°34'	12°25'
W18	19 43 46	25°36'54"	19°46'	10°14'	10°13'	10°19'	16° 5'	5°47'	0°28'	19°34'	13°22'	7°55'	6°35'	2°41'	12°24'
T 19	19 47 42	26°34'10"	4 <sup>h</sup> Ω13	9°53'	11° 2'	10°53'	16°15'	5°44'	0°26'	19°33'	13°23'	7°51'	6°32'	2°48'	12°24'
F 20	19 51 39	27°31'25"	18°31'	9°27'	11°51'	11°26'	16°26'	5°41'	0°24'	19°31'	13°25'	7°49'	6°29'	2°54'	12°24'
S 21	19 55 35	28°28'40"	2 <sup>h</sup> II38	8°58'	12°38'	11°59'	16°36'	5°38'	0°22'	19°30'	13°26'	7°D49	6°25'	3° 1'	12°24'
S 22	19 59 32	29°25'56"	16°31'	8°24'	13°25'	12°33'	16°47'	5°35'	0°20'	19°28'	13°28'	7°50'	6°22'	3° 8'	12°24'
M23	20 3 28	0 <sup>h</sup> Ω23'12"	0 <sup>h</sup> X12	7°48'	14°11'	13° 7'	16°57'	5°32'	0°18'	19°27'	13°29'	7°51'	6°19'	3°14'	12°23'
T 24	20 7 25	1°20'28"	13°41'	7°10'	14°56'	13°41'	17° 8'	5°28'	0°16'	19°25'	13°31'	7°R51	6°16'	3°21'	12°23'
W25	20 11 21	2°17'44"	26°57'	6°29'	15°40'	14°15'	17°19'	5°25'	0°14'	19°24'	13°32'	7°49'	6°13'	3°28'	12°22'
T 26	20 15 18	3°15'01"	10 <sup>h</sup> Ω 2	5°47'	16°23'	14°49'	17°30'	5°22'	0°12'	19°22'	13°34'	7°45'	6°10'	3°34'	12°22'
F 27	20 19 15	4°12'18"	22°55'	5° 5'	17° 6'	15°24'	17°41'	5°18'	0°10'	19°20'	13°35'	7°39'	6° 6'	3°41'	12°21'
S 28	20 23 11	5° 9'36"	5 <sup>h</sup> Ω37	4°23'	17°47'	15°58'	17°52'	5°15'	0° 8'	19°19'	13°36'	7°30'	6° 3'	3°48'	12°20'
S 29	20 27 8	6° 6'54"	18° 7'	3°41'	18°27'	16°33'	18° 3'	5°11'	0° 6'	19°17'	13°38'	7°20'	6° 0'	3°55'	12°20'
M30	20 31 4	7° 4'13"	0 <sup>h</sup> X25	3° 2'	19° 6'	17° 8'	18°14'	5° 7'	0° 4'	19°16'	13°39'	7° 9'	5°57'	4° 1'	12°19'
T 31	20 35 1	8 <sup>h</sup> Ω 1'33"	12 <sup>h</sup> X33	2 <sup>h</sup> Ω25	19 <sup>h</sup> mp44	17 <sup>h</sup> Ω42	18 <sup>h</sup> mp25	5 <sup>h</sup> X 4	0 <sup>h</sup> X 2	19 <sup>h</sup> Ω14	13 <sup>h</sup> Ω41	6 <sup>h</sup> II59	5 <sup>h</sup> II54	4 <sup>h</sup> Y 8	12 <sup>h</sup> Y18

Delta T = 360.82 sec.

AUGUST 2170

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁
W 1	20 38 57	8 <sup>h</sup> Ω58'54"	24 <sup>h</sup> X33	1°R51	20 <sup>h</sup> mp21	18 <sup>h</sup> Ω18	18 <sup>h</sup> mp36	5°R 0	0°R 0	19°R13	13 <sup>h</sup> Ω42	6°R50	5 <sup>h</sup> II50	4 <sup>h</sup> Y15	12°R17
T 2	20 42 54	9°56'15"	6 <sup>h</sup> Y26	1 <sup>h</sup> Ω20	20°57'	18°53'	18°48'	4 <sup>h</sup> X56	29 <sup>h</sup> Ω58	19 <sup>h</sup> Ω11	13°43'	6 <sup>h</sup> II43	5°47'	4°21'	12°Y17
F 3	20 46 50	10°53'38"	18°17'	0°55'	21°31'	19°28'	18°59'	4°52'	29°55'	19° 9'	13°45'	6°38'	5°44'	4°28'	12°16'
S 4	20 50 47	11°51'02"	0 <sup>h</sup> X 9	0°34'	22° 4'	20° 4'	19°10'	4°48'	29°53'	19° 8'	13°46'	6°35'	5°41'	4°35'	12°15'
S 5	20 54 44	12°48'26"	12° 7'	0°19'	22°36'	20°39'	19°22'	4°44'	29°51'	19° 6'	13°47'	6°D35	5°38'	4°42'	12°14'
M 6	20 58 40	13°45'52"	24°17'	0° 9'	23° 6'	21°15'	19°34'	4°40'	29°49'	19° 4'	13°49'	6°35'	5°35'	4°48'	12°12'
T 7	21 2 37	14°43'20"	6 <sup>h</sup> II44	0°D 6	23°35'	21°51'	19°45'	4°36'	29°46'	19° 3'	13°50'	6°R35	5°31'	4°55'	12°11'
W 8	21 6 33	15°40'48"	19°32'	0° 9'	24° 2'	22°27'	19°57'	4°32'	29°44'	19° 1'	13°51'	6°35'	5°28'	5° 2'	12°10'
T 9	21 10 30	16°38'18"	2 <sup>h</sup> Ω46	0°18'	24°28'	23° 3'	20° 9'	4°28'	29°42'	19° 0'	13°53'	6°32'	5°25'	5° 8'	12° 9'
F 10	21 14 26	17°35'49"	16°27'	0°34'	24°52'	23°39'	20°20'	4°23'	29°39'	18°58'	13°54'	6°27'	5°22'	5°15'	12° 8'
S 11	21 18 23	18°33'21"	0 <sup>h</sup> Ω34	0°57'	25°15'	24°15'	20°32'	4°19'	29°37'	18°56'	13°55'	6°19'	5°19'	5°22'	12° 6'
S 12	21 22 19	19°30'54"	15° 5'	1°27'	25°36'	24°52'	20°44'	4°15'	29°35'	18°55'	13°57'	6°10'	5°16'	5°28'	12° 5'
M13	21 26 16	20°28'28"	29°53'	2° 3'	25°54'	25°29'	20°56'	4°11'	29°32'	18°53'	13°58'	5°59'	5°12'	5°35'	12° 3'
T 14	21 30 13	21°26'03"	14 <sup>h</sup> mp50	2°46'	26°12'	26° 5'	21° 8'	4° 6'	29°30'	18°51'	13°59'	5°49'	5° 9'	5°42'	12° 2'
W15	21 34 9	22°23'40"	29°45'	3°36'	26°27'	26°42'	21°20'	4° 2'	29°28'	18°50'	14° 0'	5°40'	5° 6'	5°49'	12° 0'
T 16	21 38 6	23°21'17"	14 <sup>h</sup> Ω32	4°32'	26°40'	27°19'	21°32'	3°57'	29°25'	18°48'	14° 2'	5°33'	5° 3'	5°55'	11°59'
F 17	21 42 2	24°18'55"	29° 3'	5°34'	26°51'	27°56'	21°45'	3°53'	29°23'	18°47'	14° 3'	5°29'	5° 0'	6° 2'	11°57'
S 18	21 45 59	25°16'34"	13 <sup>h</sup> II15	6°43'	27° 0'	28°34'	21°57'	3°49'	29°21'	18°45'	14° 4'	5°27'	4°56'	6° 9'	11°56'
S 19	21 49 55	26°14'14"	27° 7'	7°57'	27° 7'	29°11'	22° 9'	3°44'	29°18'	18°43'	14° 5'	5°27'	4°53'	6°15'	11°54'
M20	21 53 52	27°11'55"	10 <sup>h</sup> X39	9°17'	27°12'	29°48'	22°21'	3°40'	29°16'	18°42'	14° 6'	5°27'	4°50'	6°22'	11°52'
T 21	21 57 48	28° 9'37"	23°54'	10°43'	27°14'	0 <sup>h</sup> II26	22°34'	3°35'	29°13'	18°40'	14° 7'	5°26'	4°47'	6°29'	11°50'
W22	22 1 45	29° 7'20"	6 <sup>h</sup> Ω54	12°13'	27°R14	1° 4'	22°46'	3°31'	29°11'	18°38'	14° 9'	5°23'	4°44'	6°36'	11°49'
T 23	22 5 42	0 <sup>h</sup> mp 5'05"	19°41'	13°48'	27°12'	1°41'	22°58'	3°26'	29° 9'	18°37'	14°10'	5°17'	4°41'	6°42'	11°47'
F 24	22 9 38	1° 2'50"	2 <sup>h</sup> Ω16	15°27'	27° 8'	2°19'	23°11'	3°21'	29° 6'	18°35'	14°11'	5° 9'	4°37'	6°49'	11°45'
S 25	22 13 35	2° 0'37"	14°41'	17°10'	27° 1'	2°57'	23°23'	3°17'	29° 4'	18°34'	14°12'	4°58'	4°34'	6°56'	11°43'
S 26	22 17 31	2°58'25"	26°58'	18°56'	26°51'	3°35'	23°36'	3°12'	29° 1'	18°32'	14°13'	4°45'	4°31'	7° 2'	11°41'
M27	22 21 28	3°56'14"	9 <sup>h</sup> X 6	20°45'	26°40'	4°14'	23°48'	3° 8'	28°59'	18°31'	14°14'	4°31'	4°28'	7° 9'	11°39'
T 28	22 25 24	4°54'05"	21° 7'	22°36'	26°25'	4°52'	24° 1'	3° 3'	28°57'	18°29'	14°15'	4°18'	4°25'	7°16'	11°37'
W29	22 29 21	5°51'57"	3 <sup>h</sup> Y 2	24°30'	26° 9'	5°30'	24°14'	2°59'	28°54'	18°27'	14°16'	4° 5'	4°22'	7°22'	11°35'
T 30	22 33 17	6°49'51"	14°52'	26°25'	25°50'	6° 9'	24°26'	2°54'	28°52'	18°26'	14°17'	3°56'	4°18'	7°29'	11°33'
F 31	22 37 14	7 <sup>h</sup> mp47'47"	26 <sup>h</sup> Y41	28 <sup>h</sup> Ω21	25 <sup>h</sup> mp29	6 <sup>h</sup> II48	24 <sup>h</sup> mp39	2 <sup>h</sup> X50	28 <sup>h</sup> Ω50	18 <sup>h</sup> Ω24	14 <sup>h</sup> Ω18	3 <sup>h</sup> II49	4 <sup>h</sup> II15	7 <sup>h</sup> Y36	11 <sup>h</sup> Y30

Delta T = 361.00 sec.

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SWISS EPHEMERIS for the year 2170

SEPTEMBER 2170

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁
S 1	22 41 10	8♎45'44	8♉32	0♎19	25°R 6	7♎26	24♎51	2°R45	28°R47	18°R23	14♉19	3°R44	4♎12	7♎43	11°R28
S 2	22 45 7	9°43'43	20°29	2°16	24♎41	8° 5	25° 4	2♎41	28°45	18°21	14°20	3♎42	4° 9	7°49	11°R26
M 3	22 49 4	10°41'44	2♎37	4°14	24°13	8°44	25°17	2°36	28°43	18°20	14°21	3°D42	4° 6	7°56	11°24
T 4	22 53 0	11°39'47	15° 1	6°12	23°44	9°23	25°30	2°32	28°40	18°18	14°22	3°R42	4° 2	8° 3	11°22
W 5	22 56 57	12°37'52	27°46	8°10	23°14	10° 2	25°43	2°27	28°38	18°17	14°23	3°41	3°59	8° 9	11°19
T 6	23 0 53	13°35'59	10♉57	10° 8	22°41	10°42	25°55	2°23	28°36	18°16	14°24	3°39	3°56	8°16	11°17
F 7	23 4 50	14°34'08	24°37	12° 4	22° 8	11°21	26° 8	2°18	28°33	18°14	14°24	3°34	3°53	8°23	11°14
S 8	23 8 46	15°32'19	8♎46	14° 0	21°33	12° 0	26°21	2°14	28°31	18°13	14°25	3°27	3°50	8°29	11°12
S 9	23 12 43	16°30'32	23°23	15°56	20°58	12°40	26°34	2°10	28°29	18°11	14°26	3°17	3°47	8°36	11°10
M10	23 16 39	17°28'46	8♎22	17°50	20°21	13°20	26°47	2° 5	28°27	18°10	14°27	3° 7	3°43	8°43	11° 7
T 11	23 20 36	18°27'02	23°34	19°44	19°44	13°59	27° 0	2° 1	28°24	18° 9	14°28	2°56	3°40	8°50	11° 5
W12	23 24 33	19°25'20	8♎48	21°36	19° 7	14°39	27°13	1°57	28°22	18° 7	14°28	2°47	3°37	8°56	11° 2
T 13	23 28 29	20°23'40	23°53	23°27	18°30	15°19	27°25	1°53	28°20	18° 6	14°29	2°40	3°34	9° 3	11° 0
F 14	23 32 26	21°22'01	8♎41	25°17	17°54	15°59	27°38	1°49	28°18	18° 5	14°30	2°35	3°31	9°10	10°57
S 15	23 36 22	22°20'24	23° 6	27° 7	17°17	16°40	27°51	1°44	28°16	18° 3	14°31	2°33	3°27	9°16	10°55
S 16	23 40 19	23°18'48	7♎5	28°55	16°42	17°20	28° 4	1°40	28°14	18° 2	14°31	2°D33	3°24	9°23	10°52
M17	23 44 15	24°17'14	20°40	0♎42	16° 7	18° 0	28°17	1°36	28°12	18° 1	14°32	2°R34	3°21	9°30	10°49
T 18	23 48 12	25°15'42	3♉52	2°27	15°33	18°41	28°30	1°32	28°10	18° 0	14°33	2°33	3°18	9°36	10°47
W19	23 52 8	26°14'11	16°45	4°12	15° 1	19°21	28°43	1°29	28° 7	17°58	14°33	2°31	3°15	9°43	10°44
T 20	23 56 5	27°12'42	29°21	5°56	14°30	20° 2	28°56	1°25	28° 5	17°57	14°34	2°27	3°12	9°50	10°41
F 21	0 0 2	28°11'14	11♎44	7°39	14° 1	20°43	29° 9	1°21	28° 4	17°56	14°34	2°20	3° 8	9°56	10°39
S 22	0 3 58	29° 9'48	23°57	9°20	13°34	21°23	29°22	1°17	28° 2	17°55	14°35	2°11	3° 5	10° 3	10°36
S 23	0 7 55	0♎8'24	6♎3	11° 1	13° 9	22° 4	29°35	1°13	28° 0	17°54	14°35	2° 0	3° 2	10°10	10°33
M24	0 11 51	1° 7'02	18° 2	12°40	12°46	22°45	29°48	1°10	27°58	17°53	14°36	1°48	2°59	10°17	10°31
T 25	0 15 48	2° 5'41	29°57	14°19	12°25	23°26	0♎1	1° 6	27°56	17°52	14°36	1°37	2°56	10°23	10°28
W26	0 19 44	3° 4'22	11♎48	15°57	12° 6	24° 8	0°14	1° 3	27°54	17°51	14°37	1°27	2°53	10°30	10°25
T 27	0 23 41	4° 3'06	23°38	17°33	11°50	24°49	0°27	0°59	27°52	17°50	14°37	1°19	2°49	10°37	10°22
F 28	0 27 37	5° 1'51	5♉29	19° 9	11°36	25°30	0°40	0°56	27°51	17°49	14°38	1°13	2°46	10°43	10°20
S 29	0 31 34	6° 0'39	17°22	20°44	11°25	26°12	0°53	0°53	27°49	17°48	14°38	1° 9	2°43	10°50	10°17
S 30	0 35 31	6♎59'29	29♉21	22♎18	11♎16	26♎53	1♎6	0♎49	27°47	17°47	14°38	1°D 8	2♎40	10°57	10°14

Delta T = 361.19 sec.

OCTOBER 2170

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁
M 1	0 39 27	7♎58'21	11♎31	23♎51	11°R 9	27♎35	1♎19	0°R46	27°R45	17°R46	14♉39	1♎9	2♎37	11°R 3	10°R11
T 2	0 43 24	8°57'15	23°55	25°23	11♎5	28°16	1°32	0♎43	27°44	17°45	14°39	1°10	2°33	11°10	10°R 9
W 3	0 47 20	9°56'12	6♉37	26°54	11°D 4	28°58	1°45	0°40	27°42	17°44	14°39	1°R11	2°30	11°17	10° 6
T 4	0 51 17	10°55'11	19°43	28°24	11° 4	29°40	1°58	0°37	27°41	17°43	14°40	1°10	2°27	11°23	10° 3
F 5	0 55 13	11°54'12	3♎15	29°53	11° 7	0♎22	2°11	0°34	27°39	17°42	14°40	1° 8	2°24	11°30	10° 0
S 6	0 59 10	12°53'15	17°16	1♎22	11°13	1° 4	2°24	0°32	27°38	17°42	14°40	1° 4	2°21	11°37	9°58
S 7	1 3 6	13°52'21	1♎46	2°50	11°21	1°46	2°36	0°29	27°36	17°41	14°40	0°58	2°18	11°44	9°55
M 8	1 7 3	14°51'29	16°39	4°16	11°31	2°29	2°49	0°26	27°35	17°40	14°41	0°51	2°14	11°50	9°52
T 9	1 11 0	15°50'39	1♎49	5°42	11°43	3°11	3° 2	0°24	27°34	17°40	14°41	0°44	2°11	11°57	9°49
W10	1 14 56	16°49'51	17° 6	7° 7	11°57	3°53	3°15	0°21	27°32	17°39	14°41	0°38	2° 8	12° 4	9°47
T 11	1 18 53	17°49'06	2♎19	8°31	12°13	4°36	3°28	0°19	27°31	17°38	14°41	0°34	2° 5	12°10	9°44
F 12	1 22 49	18°48'22	17°18	9°54	12°31	5°18	3°41	0°17	27°30	17°38	14°41	0°31	2° 2	12°17	9°41
S 13	1 26 46	19°47'40	1♎56	11°16	12°51	6° 1	3°53	0°15	27°29	17°37	14°41	0°D30	1°59	12°24	9°38
S 14	1 30 42	20°47'00	16° 8	12°37	13°13	6°44	4° 6	0°13	27°27	17°37	14°41	0°31	1°55	12°30	9°36
M15	1 34 39	21°46'22	29°52	13°56	13°37	7°27	4°19	0°11	27°26	17°36	14°R41	0°33	1°52	12°37	9°33
T 16	1 38 35	22°45'46	13♉9	15°15	14° 2	8° 9	4°31	0° 9	27°25	17°36	14°41	0°34	1°49	12°44	9°30
W17	1 42 32	23°45'11	26° 4	16°32	14°29	8°52	4°44	0° 7	27°24	17°35	14°41	0°R34	1°46	12°50	9°28
T 18	1 46 29	24°44'38	8♎38	17°48	14°58	9°35	4°57	0° 5	27°23	17°35	14°41	0°33	1°43	12°57	9°25
F 19	1 50 25	25°44'07	20°57	19° 3	15°29	10°19	5° 9	0° 4	27°22	17°34	14°41	0°30	1°39	13° 4	9°22
S 20	1 54 22	26°43'37	3♎4	20°16	16° 0	11° 2	5°22	0° 2	27°21	17°34	14°41	0°26	1°36	13°11	9°20
S 21	1 58 18	27°43'10	15° 2	21°27	16°34	11°45	5°34	0° 1	27°21	17°34	14°41	0°21	1°33	13°17	9°17
M22	2 2 15	28°42'44	26°56	22°37	17° 8	12°28	5°47	29°59	27°20	17°33	14°41	0°15	1°30	13°24	9°15
T 23	2 6 11	29°42'20	8♎47	23°44	17°44	13°12	5°59	29°58	27°19	17°33	14°40	0° 9	1°27	13°31	9°12
W24	2 10 8	0♎41'57	20°38	24°50	18°22	13°55	6°12	29°57	27°18	17°33	14°40	0° 4	1°24	13°37	9°10
T 25	2 14 4	1°41'37	2♉30	25°53	19° 0	14°39	6°24	29°56	27°18	17°33	14°40	0° 0	1°20	13°44	9° 7
F 26	2 18 1	2°41'19	14°26	26°53	19°40	15°22	6°36	29°55	27°17	17°33	14°40	29°58	1°17	13°51	9° 5
S 27	2 21 57	3°41'03	26°27	27°51	20°21	16° 6	6°48	29°54	27°17	17°33	14°40	29°D57	1°14	13°57	9° 2
S 28	2 25 54	4°40'49	8♎36	28°45	21° 3	16°50	7° 1	29°54	27°16	17°33	14°39	29°57	1°11	14° 4	9° 0
M29	2 29 51	5°40'37	20°54	29°36	21°47	17°34	7°13	29°53	27°16	17°33	14°39	29°58	1° 8	14°11	8°57
T 30	2 33 47	6°40'27	3♉25	0♎23	22°31	18°18	7°25	29°53	27°15	17°D32	14°39	0♎0	1° 5	14°17	8°55
W31	2 37 44	7♎40'20	16♉12	1♎6	23♎16	19♎2	7♎37	29°52	27°15	17°33	14°38	0♎1	1♎1	14°24	8°53

Delta T = 361.37 sec.

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SWISS EPHEMERIS for the year 2170

NOVEMBER 2170

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁	♁
T 1	2 41 40	8♑40'15	29♄18	1♂43	24♏2	19♂46	7♄49	29°R52	27°R15	17♁33	14°R38	0♏3	0♏58	14°Y31	8°R50	
F 2	2 45 37	9°40'11	12♌45	2°16	24°50	20°30	8°1	29♁52	27♁15	17°33	14♄37	0°R3	0°55	14°37	8°Y48	
S 3	2 49 33	10°40'10	26°35	2°43	25°38	21°14	8°13	29°D52	27°14	17°33	14°37	0°2	0°52	14°44	8°46	
S 4	2 53 30	11°40'12	10♏49	3°3	26°27	21°59	8°25	29°52	27°14	17°33	14°37	0°1	0°49	14°51	8°43	
M 5	2 57 27	12°40'15	25°24	3°16	27°17	22°43	8°37	29°52	27°14	17°33	14°36	29♄58	0°45	14°58	8°41	
T 6	3 1 23	13°40'20	10♁17	3°R21	28°7	23°27	8°49	29°52	27°D14	17°33	14°36	29°56	0°42	15°4	8°39	
W 7	3 5 20	14°40'27	25°19	3°18	28°59	24°12	9°0	29°52	27°14	17°34	14°35	29°54	0°39	15°11	8°37	
T 8	3 9 16	15°40'37	10♑23	3°6	29°51	24°56	9°12	29°53	27°14	17°34	14°35	29°53	0°36	15°18	8°35	
F 9	3 13 13	16°40'48	25°19	2°45	0♁44	25°41	9°23	29°53	27°14	17°34	14°34	29°D52	0°33	15°24	8°33	
S 10	3 17 9	17°41'01	9♂59	2°13	1°37	26°26	9°35	29°54	27°14	17°35	14°33	29°53	0°30	15°31	8°31	
S 11	3 21 6	18°41'16	24°18	1°32	2°31	27°11	9°46	29°55	27°15	17°35	14°33	29°53	0°26	15°38	8°29	
M12	3 25 2	19°41'32	8♁10	0°41	3°26	27°55	9°58	29°56	27°15	17°36	14°32	29°54	0°23	15°44	8°27	
T 13	3 28 59	20°41'50	21°37	29♑42	4°22	28°40	10°9	29°57	27°15	17°36	14°32	29°55	0°20	15°51	8°25	
W14	3 32 56	21°42'09	4♁38	28°34	5°18	29°25	10°20	29°58	27°16	17°37	14°31	29°56	0°17	15°58	8°23	
T 15	3 36 52	22°42'30	17°16	27°20	6°14	0♁10	10°32	29°59	27°16	17°37	14°30	29°R56	0°14	16°4	8°21	
F 16	3 40 49	23°42'52	29°37	26°1	7°11	0°55	10°43	0♁0	27°16	17°38	14°30	29°56	0°10	16°11	8°20	
S 17	3 44 45	24°43'15	11♁43	24°41	8°9	1°40	10°54	0°2	27°17	17°38	14°29	29°56	0°7	16°18	8°18	
S 18	3 48 42	25°43'40	23°39	23°21	9°7	2°26	11°5	0°3	27°18	17°39	14°28	29°55	0°4	16°24	8°16	
M19	3 52 38	26°44'06	5♁30	22°4	10°6	3°11	11°15	0°5	27°18	17°40	14°27	29°55	0°1	16°31	8°15	
T 20	3 56 35	27°44'33	17°20	20°54	11°5	3°56	11°26	0°6	27°19	17°40	14°27	29°54	29♄58	16°38	8°13	
W21	4 0 31	28°45'02	29°12	19°51	12°5	4°42	11°37	0°8	27°20	17°41	14°26	29°54	29°55	16°44	8°12	
T 22	4 4 28	29°45'32	11♁9	18°57	13°5	5°27	11°48	0°10	27°20	17°42	14°25	29°D54	29°51	16°51	8°10	
F 23	4 8 25	0♁46'04	23°13	18°14	14°6	6°12	11°58	0°12	27°21	17°43	14°24	29°54	29°48	16°58	8°9	
S 24	4 12 21	1°46'37	5♏26	17°43	15°7	6°58	12°9	0°14	27°22	17°43	14°23	29°R54	29°45	17°4	8°7	
S 25	4 16 18	2°47'12	17°50	17°24	16°8	7°44	12°19	0°16	27°23	17°44	14°22	29°54	29°42	17°11	8°6	
M26	4 20 14	3°47'48	0♁26	17°D16	17°10	8°29	12°29	0°18	27°24	17°45	14°21	29°54	29°39	17°18	8°5	
T 27	4 24 11	4°48'26	13°14	17°19	18°12	9°15	12°39	0°21	27°25	17°46	14°21	29°53	29°36	17°25	8°4	
W28	4 28 7	5°49'05	26°16	17°33	19°15	10°1	12°49	0°23	27°26	17°47	14°20	29°53	29°32	17°31	8°2	
T 29	4 32 4	6°49'46	9♏33	17°56	20°18	10°47	12°59	0°26	27°27	17°48	14°19	29°52	29°29	17°38	8°1	
F 30	4 36 0	7♁50'28	23♏4	18♑27	21♁21	11♁32	13♁9	0♁29	27♁28	17♁49	14♄18	29♄51	29♄26	17°Y45	8°Y0	

Delta T = 361.55 sec.

DECEMBER 2170

00:00 UT

Day	Sid.t	☉	☽	♀	♁	♂	♃	♅	♁	♁	♁	♁	♁	♁	♁	♁
S 1	4 39 57	8♁51'12	6♏51	19♑7	22♁25	12♁18	13♁19	0♁31	27♁30	17♁50	14°R17	29♄51	29♄23	17°Y51	7°R59	
S 2	4 43 54	9°51'58	20°53	19°53	23°29	13°4	13°29	0°34	27°31	17°51	14♄16	29°51	29°20	17°58	7°Y58	
M 3	4 47 50	10°52'45	5♁9	20°46	24°34	13°50	13°38	0°37	27°32	17°52	14°15	29°52	29°16	18°5	7°57	
T 4	4 51 47	11°53'34	19°37	21°44	25°38	14°36	13°48	0°40	27°34	17°54	14°14	29°53	29°13	18°11	7°56	
W 5	4 55 43	12°54'24	4♑13	22°46	26°43	15°22	13°57	0°43	27°35	17°55	14°13	29°54	29°10	18°18	7°56	
T 6	4 59 40	13°55'15	18°53	23°53	27°48	16°9	14°7	0°47	27°36	17°56	14°12	29°54	29°7	18°25	7°55	
F 7	5 3 36	14°56'08	3♁29	25°3	28°54	16°55	14°16	0°50	27°38	17°57	14°11	29°R55	29°4	18°31	7°54	
S 8	5 7 33	15°57'02	17°56	26°16	0♑0	17°41	14°25	0°53	27°40	17°58	14°10	29°54	29°1	18°38	7°53	
S 9	5 11 29	16°57'57	2♁8	27°32	1°6	18°27	14°34	0°57	27°41	18°0	14°9	29°52	28°57	18°45	7°53	
M10	5 15 26	17°58'53	15°59	28°49	2°12	19°14	14°43	1°0	27°43	18°1	14°7	29°50	28°54	18°51	7°52	
T 11	5 19 23	18°59'50	29°28	0♁9	3°19	20°0	14°51	1°4	27°45	18°2	14°6	29°47	28°51	18°58	7°52	
W12	5 23 19	20°0'47	12♁34	1°31	4°26	20°47	15°0	1°8	27°46	18°4	14°5	29°44	28°48	19°5	7°51	
T 13	5 27 16	21°1'46	25°18	2°54	5°33	21°33	15°8	1°12	27°48	18°5	14°4	29°42	28°45	19°11	7°51	
F 14	5 31 12	22°2'44	7♁41	4°18	6°40	22°20	15°17	1°16	27°50	18°7	14°3	29°40	28°42	19°18	7°51	
S 15	5 35 9	23°3'44	19°49	5°43	7°47	23°6	15°25	1°20	27°52	18°8	14°2	29°D39	28°38	19°25	7°51	
S 16	5 39 5	24°4'44	1°Y46	7°9	8°55	23°53	15°33	1°24	27°54	18°10	14°1	29°39	28°35	19°31	7°50	
M17	5 43 2	25°5'44	13°37	8°36	10°3	24°39	15°41	1°28	27°56	18°11	14°0	29°40	28°32	19°38	7°50	
T 18	5 46 58	26°6'45	25°27	10°4	11°11	25°26	15°49	1°32	27°58	18°13	13°58	29°42	28°29	19°45	7°50	
W19	5 50 55	27°7'46	7♁20	11°32	12°19	26°13	15°57	1°37	28°0	18°14	13°57	29°44	28°26	19°51	7°D50	
T 20	5 54 52	28°8'48	19°20	13°1	13°27	26°59	16°4	1°41	28°2	18°16	13°56	29°45	28°22	19°58	7°50	
F 21	5 58 48	29°9'51	1♏32	14°30	14°36	27°46	16°12	1°46	28°4	18°18	13°55	29°R46	28°19	20°5	7°50	
S 22	6 2 45	0♁10'54	13°58	16°0	15°45	28°33	16°19	1°50	28°6	18°19	13°54	29°45	28°16	20°12	7°50	
S 23	6 6 41	1°11'57	26°40	17°30	16°54	29°20	16°26	1°55	28°8	18°21	13°52	29°42	28°13	20°18	7°50	
M24	6 10 38	2°13'01	9♄37	19°0	18°3	0♁7	16°33	2°0	28°11	18°23	13°51	29°38	28°10	20°25	7°51	
T 25	6 14 34	3°14'06	22°50	20°31	19°12	0°53	16°40	2°5	28°13	18°24	13°50	29°33	28°7	20°32	7°51	
W26	6 18 31	4°15'11	6♑16	22°2	20°22	1°40	16°47	2°10	28°15	18°26	13°49	29°27	28°3	20°38	7°51	
T 27	6 22 28	5°16'17	19°55	23°33	21°31	2°27	16°53	2°15	28°18	18°28	13°48	29°21	28°0	20°45	7°52	
F 28	6 26 24	6°17'23	3♏44	25°5	22°41	3°14	17°0	2°20	28°20	18°30	13°46	29°16	27°57	20°52	7°52	
S 29	6 30 21	7°18'30	17°41	26°37	23°51	4°1	17°6	2°25	28°22	18°31	13°45	29°13	27°54	20°58	7°53	
S 30	6 34 17	8°19'37	1♁43	28°9	25°1	4°48	17°12	2°30	28°25	18°33	13°44	29°11	27°51	21°5	7°53	
M31	6 38 14	9♁20'45	15♁50	29♁42	26♑11	5♁35	17♁18	2♁35	28♁27	18♁35	13♄43	29°D11	27♄48	21°Y12	7°Y4	

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