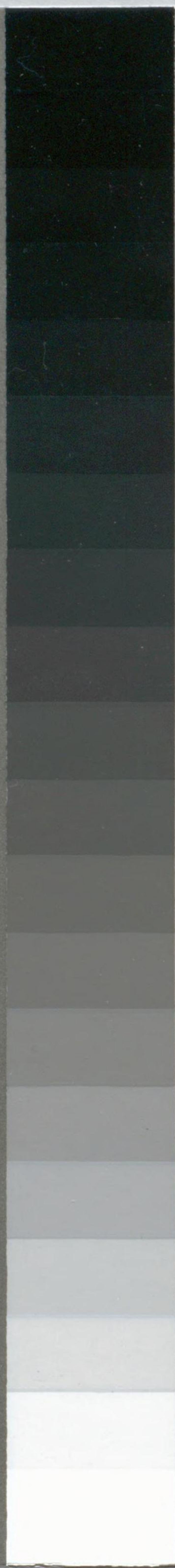


# Kodak Gray Scale



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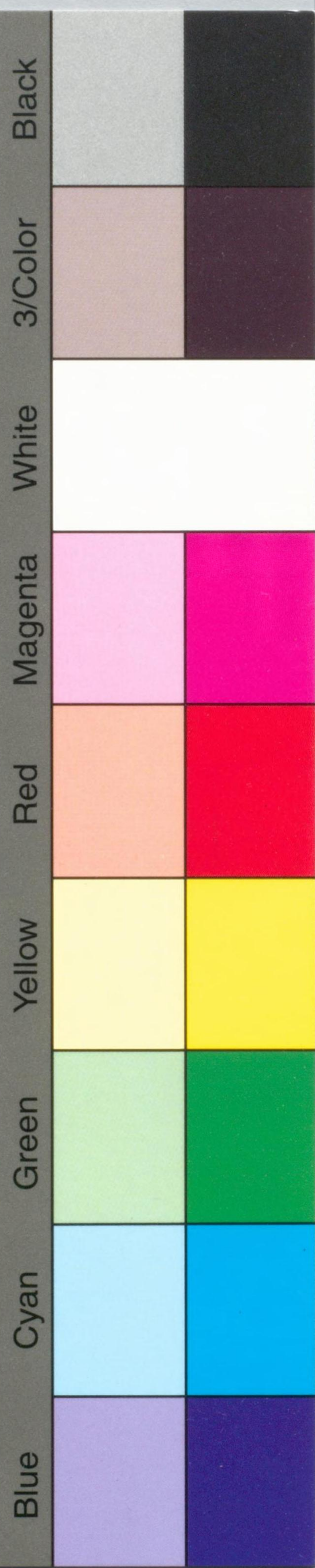
A 1 2 3 4 5 6 **M** 8 9 10 11 12 13 14 15 **B** 17 18 19



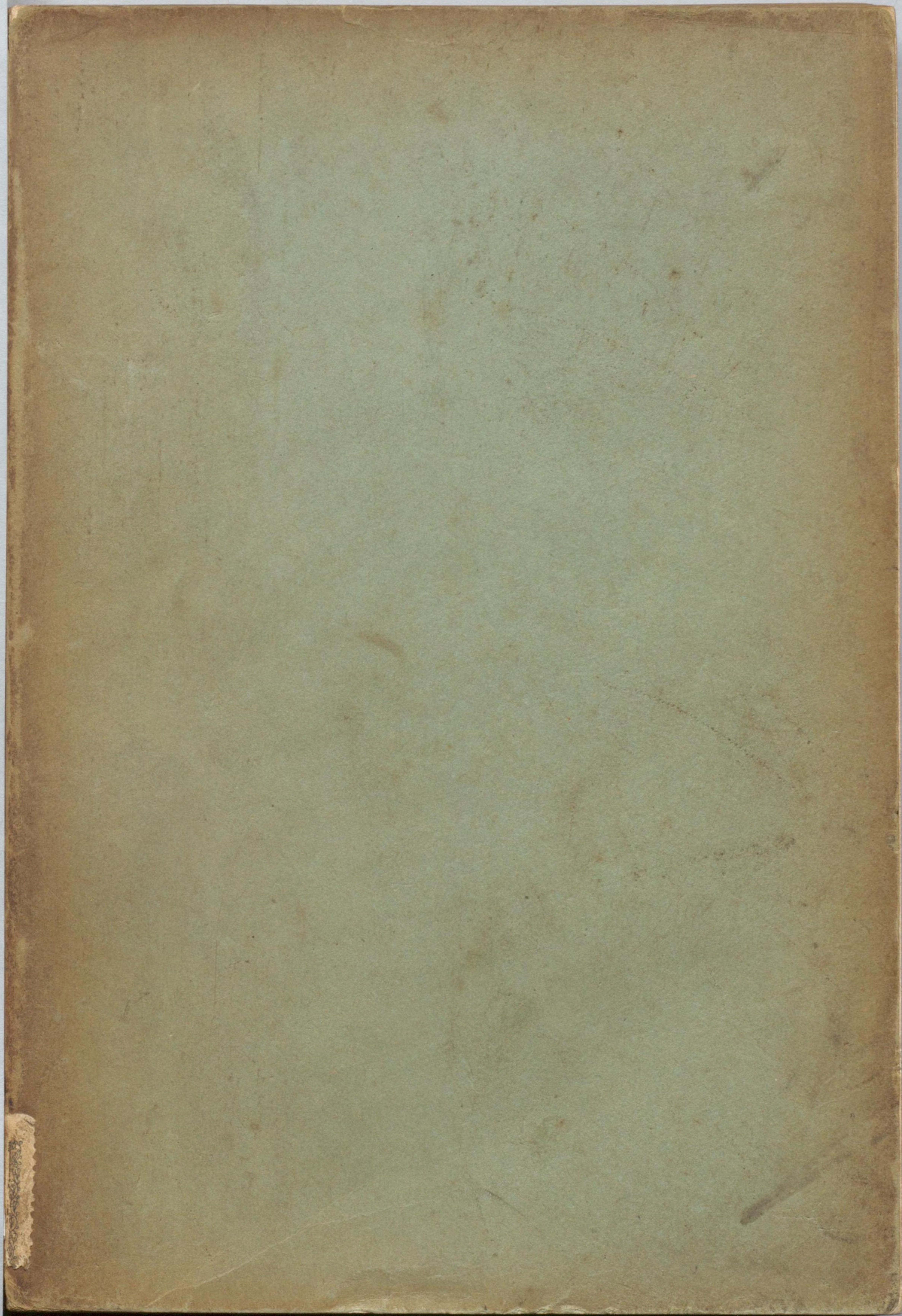
inches 1 2 3 4 5 6 7 8  
cm 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

# Kodak Color Control Patches

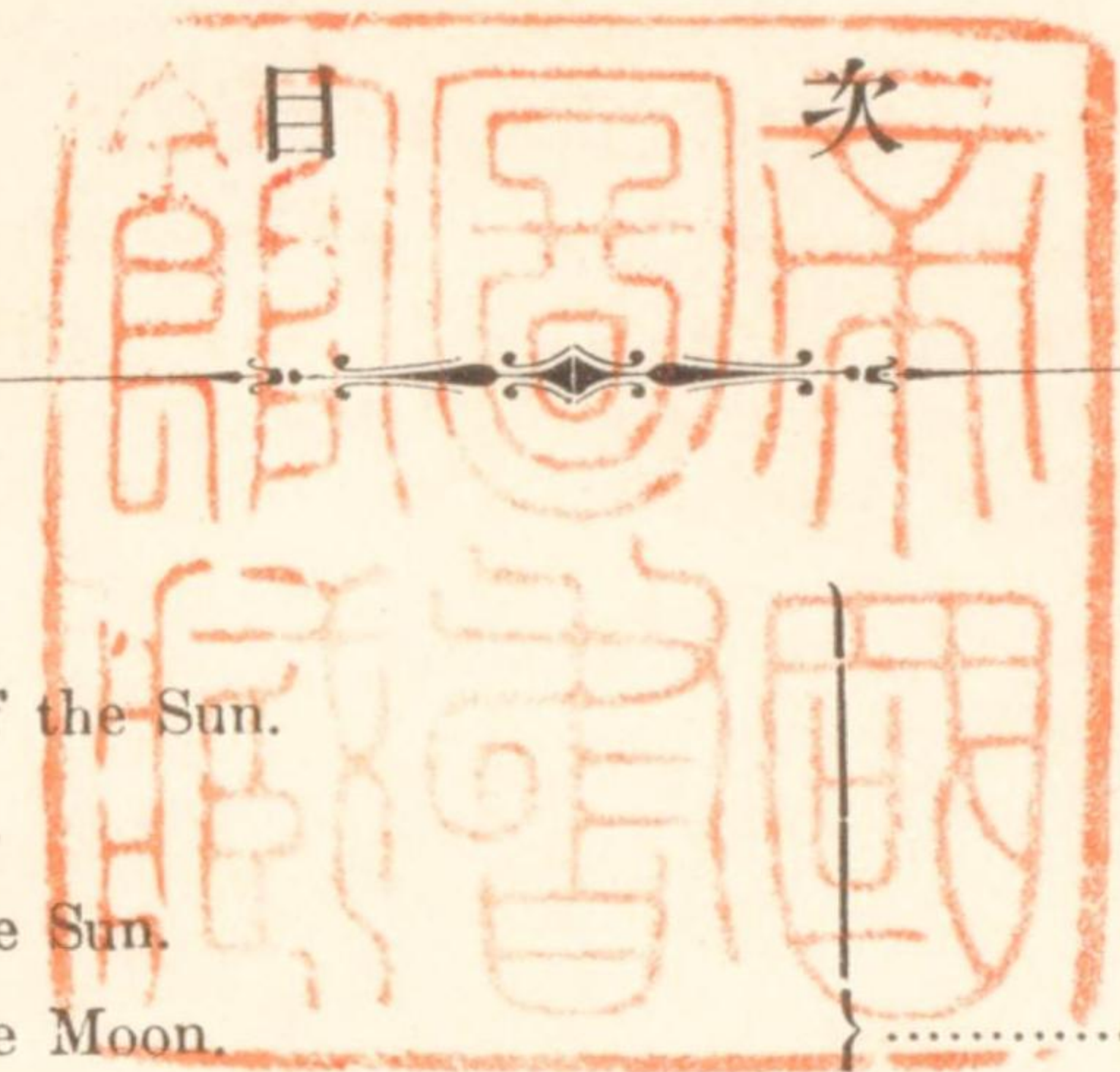
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3 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20







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Mean Noon.	Nutation in R.A. (in time).	The Sun's		The Moon's			
		Horizontal Parallax.	Aberration.	Mean Longitude.	Mean Longitude.	Mean Longitude Ascending Node.	Mean Longitude Perigee.
	s	''	''	°	°	°	°
Jan. 1	— 0·92	8·95	20·82	280·26070	163·8232	65·7397	21·2860
11	— 0·89	8·95	20·81	290·11717	295·5872	65·2102	22·4000
21	— 0·87	8·94	20·79	299·97365	67·3512	64·6807	23·5141
Feb. 31	— 0·86	8·93	20·77	309·83012	199·1152	64·1511	24·6281
10	— 0·85	8·92	20·74	319·68659	330·8791	63·6216	25·7421
20	— 0·86	8·90	20·70	329·54307	102·6431	63·0921	26·8562
Mar. 2	— 0·87	8·88	20·65	339·39954	234·4071	62·5625	27·9702
12	— 0·89	8·85	20·60	349·25601	6·1710	62·0330	29·0843
22	— 0·91	8·83	20·54	359·11249	137·9350	61·5034	30·1983
Apr. 1	— 0·93	8·80	20·48	8·96896	269·6990	60·9739	31·3123
11	— 0·95	8·78	20·42	18·82543	41·4629	60·4443	32·4264
21	— 0·96	8·75	20·36	28·68191	173·2269	59·9148	33·5404
May 1	— 0·96	8·73	20·31	38·53838	304·9909	59·3852	34·6545
11	— 0·96	8·71	20·26	48·39485	76·7549	58·8557	35·7685
21	— 0·95	8·69	20·22	58·25133	208·5188	58·3261	36·8825
June 31	— 0·93	8·68	20·19	68·10780	340·2828	57·7966	37·9966
10	— 0·90	8·67	20·16	77·96427	112·0468	57·2671	39·1106
20	— 0·87	8·66	20·14	87·82075	243·8107	56·7375	40·2247
July 30	— 0·84	8·66	20·13	97·67722	15·5747	56·2080	41·3387
10	— 0·81	8·66	20·13	107·53369	147·3387	55·6784	42·4527
20	— 0·79	8·66	20·15	117·39017	279·1026	55·1489	43·5668
Aug. 30	— 0·78	8·67	20·17	127·24664	50·8666	54·6194	44·6808
9	— 0·77	8·68	20·19	137·10311	182·6306	54·0898	45·7949
19	— 0·77	8·70	20·23	146·95959	314·3946	53·5603	46·9089
Sept. 29	— 0·78	8·72	20·27	156·81606	86·1585	53·0308	48·0229
8	— 0·79	8·74	20·32	166·67254	217·9225	52·5012	49·1370
18	— 0·81	8·76	20·38	176·52901	349·6865	51·9717	50·2510
Oct. 28	— 0·83	8·78	20·43	186·38548	121·4504	51·4421	51·3651
8	— 0·85	8·81	20·49	196·24196	253·2144	50·9126	52·4791
18	— 0·86	8·84	20·55	206·09843	24·9784	50·3830	53·5931
Nov. 28	— 0·87	8·86	20·61	215·95490	156·7423	49·8535	54·7072
7	— 0·87	8·88	20·66	225·81138	288·5063	49·3240	55·8212
17	— 0·86	8·90	20·71	235·66785	60·2703	48·7944	56·9353
Dec. 27	— 0·84	8·92	20·75	245·52432	192·0342	48·2649	58·0493
7	— 0·81	8·93	20·78	255·38080	323·7982	47·7353	59·1633
17	— 0·78	8·94	20·80	265·23727	95·5622	47·2058	60·2774
27	— 0·74	8·95	20·82	275·09374	227·3261	46·6762	61·3914
37	— 0·71	8·95	20·82	284·95021	359·0901	46·1467	62·5054

		Daily Motion			
Mean Obliquity, 1910·0	23 27 3·58	° +	° +	° -	° +
Precession for the Year 1910	50·2587	° +	° +	° -	° +
Precession for 1 Day	0·1376	0·9856473	13·176397	0·052954	0·111404



AT GREENWICH APPARENT NOON.

Date.	THE SUN'S					Equation of Time, to be added to Apparent Time.	Var. in 1 hour.
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Semi-diameter.*		
	h m s	s	° / ' "	"	' "	m s	s
Sat. 1	18 44 28.00	11.048	S. 23 3 29.5	11.73	16 17.54	3 25.79	1.188
Sun. 2	18 48 52.99	11.035	22 58 34.1	12.88	16 17.54	3 54.15	1.175
Mon. 3	18 53 17.67	11.021	22 53 11.3	14.02	16 17.53	4 22.19	1.161
Tues. 4	18 57 42.00	11.006	22 47 21.0	15.16	16 17.51	4 49.89	1.146
Wed. 5	19 2 5.96	10.989	22 41 3.6	16.29	16 17.49	5 17.20	1.130
Thur. 6	19 6 29.50	10.972	22 34 19.2	17.41	16 17.47	5 44.11	1.112
Frid. 7	19 10 52.60	10.953	22 27 8.0	18.52	16 17.45	6 10.58	1.093
Sat. 8	19 15 15.23	10.933	22 19 30.2	19.63	16 17.42	6 36.59	1.073
Sun. 9	19 19 37.36	10.911	22 11 26.0	20.72	16 17.38	7 2.09	1.052
Mon. 10	19 23 58.98	10.889	22 2 55.7	21.80	16 17.34	7 27.08	1.030
Tues. 11	19 28 20.03	10.865	21 53 59.5	22.88	16 17.30	7 51.51	1.006
Wed. 12	19 32 40.50	10.840	21 44 37.6	23.94	16 17.25	8 15.35	0.981
Thur. 13	19 37 0.35	10.814	21 34 50.4	24.99	16 17.20	8 38.59	0.955
Frid. 14	19 41 19.57	10.787	21 24 38.1	26.03	16 17.14	9 1.19	0.928
Sat. 15	19 45 38.13	10.759	21 14 1.1	27.05	16 17.08	9 23.13	0.900
Sun. 16	19 49 56.00	10.730	21 2 59.6	28.06	16 17.02	9 44.38	0.871
Mon. 17	19 54 13.16	10.700	20 51 34.0	29.06	16 16.96	10 4.93	0.841
Tues. 18	19 58 29.60	10.669	20 39 44.6	30.05	16 16.89	10 24.75	0.811
Wed. 19	20 2 45.29	10.638	20 27 31.8	31.02	16 16.82	10 43.84	0.780
Thur. 20	20 7 0.23	10.607	20 14 55.8	31.97	16 16.74	11 2.17	0.748
Frid. 21	20 11 14.41	10.574	20 1 57.1	32.91	16 16.65	11 19.74	0.716
Sat. 22	20 15 27.80	10.542	19 48 36.0	33.84	16 16.56	11 36.53	0.684
Sun. 23	20 19 40.41	10.509	19 34 52.8	34.75	16 16.46	11 52.55	0.651
Mon. 24	20 23 52.23	10.476	19 20 48.0	35.64	16 16.36	12 7.77	0.618
Tues. 25	20 28 3.26	10.443	19 6 21.9	36.52	16 16.25	12 22.20	0.585
Wed. 26	20 32 13.49	10.410	18 51 34.8	37.39	16 16.13	12 35.83	0.551
Thur. 27	20 36 22.92	10.376	18 36 27.1	38.24	16 16.00	12 48.67	0.518
Frid. 28	20 40 31.55	10.343	18 20 59.2	39.08	16 15.88	13 0.71	0.485
Sat. 29	20 44 39.37	10.309	18 5 11.4	39.90	16 15.75	13 11.94	0.451
Sun. 30	20 48 46.39	10.276	17 49 4.2	40.70	16 15.61	13 22.37	0.418
Mon. 31	20 52 52.60	10.242	17 32 37.9	41.49	16 15.47	13 32.00	0.385
Tues. 32	20 56 58.01	10.209	S. 17 15 52.9	42.26	16 15.32	13 40.83	0.351

\* The Semidiameter for Mean Noon may be assumed the same as that for Apparent Noon.

AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be subtracted from Mean Time.	Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.		
	h m s	° / ' "	° / ' "	"	m s	h m s
1	18 44 27.37	S. 23 3 30.2	280 12 58.0	N. 0.16	3 25.72	18 41 1.65
2	18 48 52.28	22 58 35.0	281 14 7.2	0.13	3 54.07	18 44 58.20
3	18 53 16.87	22 53 12.3	282 15 16.7	N. 0.07	4 22.11	18 48 54.76
4	18 57 41.12	22 47 22.2	283 16 26.4	S. 0.02	4 49.80	18 52 51.32
5	19 2 4.99	22 41 5.1	284 17 36.2	0.12	5 17.11	18 56 47.88
6	19 6 28.45	22 34 20.9	285 18 46.3	0.23	5 44.01	19 0 44.44
7	19 10 51.47	22 27 9.9	286 19 56.3	0.36	6 10.47	19 4 41.00
8	19 15 14.03	22 19 32.4	287 21 6.4	0.49	6 36.47	19 8 37.56
9	19 19 36.09	22 11 28.5	288 22 16.4	0.61	7 1.97	19 12 34.11
10	19 23 57.62	22 2 58.4	289 23 26.3	0.73	7 26.95	19 16 30.67
11	19 28 18.60	21 54 2.5	290 24 36.0	0.84	7 51.37	19 20 27.23
12	19 32 39.01	21 44 40.9	291 25 45.3	0.92	8 15.22	19 24 23.79
13	19 36 58.80	21 34 54.0	292 26 54.2	0.97	8 38.45	19 28 20.35
14	19 41 17.95	21 24 42.0	293 28 2.5	0.99	9 1.05	19 32 16.90
15	19 45 36.45	21 14 5.3	294 29 10.2	0.98	9 22.98	19 36 13.46
16	19 49 54.26	21 3 4.1	295 30 17.1	0.94	9 44.24	19 40 10.02
17	19 54 11.36	20 51 38.9	296 31 23.2	0.87	10 4.79	19 44 6.58
18	19 58 27.75	20 39 49.8	297 32 28.4	0.77	10 24.61	19 48 3.13
19	20 2 43.39	20 27 37.3	298 33 32.7	0.65	10 43.70	19 51 59.69
20	20 6 58.28	20 15 1.7	299 34 36.1	0.51	11 2.03	19 55 56.25
21	20 11 12.41	20 2 3.3	300 35 38.6	0.37	11 19.60	19 59 52.81
22	20 15 25.76	19 48 42.5	301 36 40.1	0.24	11 36.40	20 3 49.36
23	20 19 38.34	19 34 59.7	302 37 40.6	S. 0.11	11 52.42	20 7 45.92
24	20 23 50.12	19 20 55.2	303 38 40.2	N. 0.01	12 7.64	20 11 42.48
25	20 28 1.11	19 6 29.4	304 39 39.0	0.08	12 22.08	20 15 39.03
26	20 32 11.31	18 51 42.6	305 40 36.9	0.14	12 35.72	20 19 35.59
27	20 36 20.71	18 36 35.2	306 41 34.0	0.18	12 48.56	20 23 32.15
28	20 40 29.31	18 21 7.6	307 42 30.3	0.18	13 0.60	20 27 28.70
29	20 44 37.10	18 5 20.2	308 43 25.8	0.15	13 11.84	20 31 25.26
30	20 48 44.10	17 49 13.3	309 44 20.5	0.10	13 22.28	20 35 21.82
31	20 52 50.29	17 32 47.3	310 45 14.5	N. 0.03	13 31.92	20 39 18.37
32	20 56 55.68	S. 17 16 2.6	311 46 7.6	S. 0.07	13 40.75	20 43 14.93



AT GREENWICH APPARENT NOON.

Date.	THE SUN'S					Equation of Time, to be added to Apparent Time.	Var. in 1 hour.
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Semi-diameter.*		
	h m s	s	° / ' "	"	' "	m s	s
Tues. 1	20 56 58.01	10.209	S. 17 15 52.9	42.26	16 15.32	13 40.83	0.351
Wed. 2	21 1 2.61	10.175	16 58 49.6	43.01	16 15.17	13 48.85	0.318
Thur. 3	21 5 6.40	10.141	16 41 28.4	43.75	16 15.01	13 56.07	0.284
Frid. 4	21 9 9.39	10.108	16 23 49.6	44.47	16 14.85	14 2.49	0.251
Sat. 5	21 13 11.58	10.075	16 5 53.8	45.17	16 14.69	14 8.11	0.218
Sun. 6	21 17 12.97	10.041	15 47 41.3	45.86	16 14.52	14 12.93	0.184
Mon. 7	21 21 13.56	10.008	15 29 12.4	46.53	16 14.35	14 16.95	0.151
Tues. 8	21 25 13.35	9.975	15 10 27.7	47.18	16 14.17	14 20.18	0.118
Wed. 9	21 29 12.35	9.942	14 51 27.6	47.82	16 13.99	14 22.62	0.085
Thur. 10	21 33 10.57	9.909	14 32 12.4	48.43	16 13.82	14 24.27	0.052
Frid. 11	21 37 7.99	9.876	14 12 42.8	49.03	16 13.64	14 25.13	0.020
Sat. 12	21 41 4.63	9.844	13 52 59.0	49.61	16 13.46	14 25.22	0.013
Sun. 13	21 45 0.48	9.811	13 33 1.5	50.17	16 13.27	14 24.52	0.045
Mon. 14	21 48 55.56	9.779	13 12 50.8	50.71	16 13.08	14 23.05	0.077
Tues. 15	21 52 49.88	9.748	12 52 27.2	51.24	16 12.89	14 20.82	0.109
Wed. 16	21 56 43.45	9.716	12 31 51.3	51.75	16 12.70	14 17.84	0.140
Thur. 17	22 0 36.27	9.686	12 11 3.4	52.23	16 12.50	14 14.11	0.170
Frid. 18	22 4 28.36	9.656	11 50 4.1	52.70	16 12.30	14 9.66	0.200
Sat. 19	22 8 19.74	9.626	11 28 53.6	53.16	16 12.09	14 4.50	0.230
Sun. 20	22 12 10.41	9.597	11 7 32.5	53.59	16 11.88	13 58.63	0.259
Mon. 21	22 16 0.41	9.569	10 46 1.1	54.02	16 11.67	13 52.09	0.286
Tues. 22	22 19 49.74	9.542	10 24 19.7	54.42	16 11.46	13 44.89	0.313
Wed. 23	22 23 38.43	9.516	10 2 28.9	54.81	16 11.24	13 37.05	0.340
Thur. 24	22 27 26.49	9.490	9 40 29.0	55.18	16 11.02	13 28.58	0.365
Frid. 25	22 31 13.95	9.465	9 18 20.4	55.53	16 10.79	13 19.51	0.390
Sat. 26	22 35 0.83	9.441	8 56 3.4	55.88	16 10.55	13 9.86	0.414
Sun. 27	22 38 47.14	9.418	8 33 38.4	56.20	16 10.31	12 59.64	0.437
Mon. 28	22 42 32.90	9.396	8 11 5.9	56.51	16 10.07	12 48.88	0.459
Tues. 29	22 46 18.14	9.375	S. 7 48 26.1	56.80	16 9.83	12 37.60	0.481

\* The Semidiameter for Mean Noon may be assumed the same as that for Apparent Noon.

AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be subtracted from Mean Time.	Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.		
	h m s	° / ' "	° / ' "	"	m s	h m s
1	20 56 55.68	S. 17 16 2.6	311 46 7.6	S. 0.07	13 40.75	20 43 14.93
2	21 1 0.27	16 58 59.5	312 46 59.9	0.18	13 48.78	20 47 11.49
3	21 5 4.05	16 41 38.5	313 47 51.4	0.29	13 56.00	20 51 8.04
4	21 9 7.03	16 24 0.0	314 48 42.0	0.40	14 2.43	20 55 4.60
5	21 13 9.21	16 6 4.4	315 49 31.6	0.52	14 8.06	20 59 1.15
6	21 17 10.59	15 47 52.1	316 50 20.3	0.64	14 12.88	21 2 57.71
7	21 21 11.18	15 29 23.5	317 51 8.0	0.74	14 16.91	21 6 54.27
8	21 25 10.98	15 10 39.0	318 51 54.6	0.82	14 20.15	21 10 50.82
9	21 29 9.98	14 51 39.1	319 52 40.0	0.88	14 22.60	21 14 47.38
10	21 33 8.19	14 32 24.1	320 53 24.1	0.90	14 24.26	21 18 43.93
11	21 37 5.62	14 12 54.6	321 54 6.8	0.89	14 25.13	21 22 40.49
12	21 41 2.26	13 53 10.9	322 54 48.0	0.86	14 25.22	21 26 37.04
13	21 44 58.13	13 33 13.5	323 55 27.6	0.80	14 24.53	21 30 33.60
14	21 48 53.22	13 13 2.9	324 56 5.6	0.70	14 23.07	21 34 30.15
15	21 52 47.55	12 52 39.4	325 56 41.8	0.59	14 20.85	21 38 26.71
16	21 56 41.13	12 32 3.6	326 57 16.2	0.46	14 17.87	21 42 23.26
17	22 0 33.97	12 11 15.8	327 57 48.8	0.33	14 14.15	21 46 19.82
18	22 4 26.08	11 50 16.5	328 58 19.6	0.20	14 9.71	21 50 16.37
19	22 8 17.48	11 29 6.1	329 58 48.5	S. 0.07	14 4.55	21 54 12.93
20	22 12 8.17	11 7 45.0	330 59 15.6	N. 0.04	13 58.69	21 58 9.48
21	22 15 58.19	10 46 13.6	331 59 40.9	0.11	13 52.16	22 2 6.04
22	22 19 47.55	10 24 32.2	333 0 4.4	0.17	13 44.96	22 6 2.59
23	22 23 36.27	10 2 41.4	334 0 26.2	0.20	13 37.12	22 9 59.14
24	22 27 24.36	9 40 41.4	335 0 46.3	0.21	13 28.66	22 13 55.70
25	22 31 11.85	9 18 32.7	336 1 4.7	0.18	13 19.60	22 17 52.25
26	22 34 58.76	8 56 15.6	337 1 21.4	0.13	13 9.95	22 21 48.81
27	22 38 45.10	8 33 50.6	338 1 36.5	N. 0.05	12 59.74	22 25 45.36
28	22 42 30.89	8 11 17.9	339 1 50.0	S. 0.03	12 48.98	22 29 41.92
29	22 46 16.17	S. 7 48 38.0	340 2 2.0	S. 0.14	12 37.70	22 33 38.47



AT GREENWICH APPARENT NOON.

Date.	THE SUN'S					Equation of Time, to be added to Apparent Time.	Var. in 1 hour.	
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Semi-diameter.*			
	h m s	s	° / "	"	' "	m s	s	
Tues.	1	22 46 18.14	9.375	S. 7 48 26.1	56.80	16 9.83	12 37.60	0.481
Wed.	2	22 50 2.88	9.354	7 25 39.5	57.08	16 9.58	12 25.81	0.501
Thur.	3	22 53 47.12	9.334	7 2 46.5	57.34	16 9.33	12 13.53	0.521
Frid.	4	22 57 30.90	9.315	6 39 47.4	57.58	16 9.08	12 0.79	0.540
Sat.	5	23 1 14.23	9.296	6 16 42.6	57.81	16 8.82	11 47.60	0.558
Sun.	6	23 4 57.13	9.279	5 53 32.6	58.02	16 8.57	11 33.99	0.576
Mon.	7	23 8 39.62	9.262	5 30 17.6	58.22	16 8.31	11 19.96	0.593
Tues.	8	23 12 21.72	9.246	5 6 58.0	58.40	16 8.05	11 5.55	0.609
Wed.	9	23 16 3.43	9.231	4 43 34.4	58.56	16 7.79	10 50.75	0.624
Thur.	10	23 19 44.79	9.216	4 20 7.0	58.71	16 7.53	10 35.60	0.638
Frid.	11	23 23 25.81	9.202	3 56 36.4	58.84	16 7.27	10 20.11	0.652
Sat.	12	23 27 6.49	9.189	3 33 2.8	58.95	16 7.01	10 4.28	0.666
Sun.	13	23 30 46.87	9.176	3 9 26.7	59.05	16 6.75	9 48.15	0.679
Mon.	14	23 34 26.94	9.164	2 45 48.5	59.13	16 6.49	9 31.71	0.691
Tues.	15	23 38 6.73	9.153	2 22 8.6	59.19	16 6.23	9 15.00	0.702
Wed.	16	23 41 46.26	9.142	1 58 27.4	59.24	16 5.97	8 58.02	0.713
Thur.	17	23 45 25.55	9.132	1 34 45.3	59.26	16 5.71	8 40.80	0.722
Frid.	18	23 49 4.61	9.123	1 11 2.7	59.28	16 5.44	8 23.35	0.731
Sat.	19	23 52 43.47	9.115	0 47 20.0	59.28	16 5.18	8 5.70	0.739
Sun.	20	23 56 22.14	9.108	S. 0 23 37.4	59.26	16 4.91	7 47.88	0.746
Mon.	21	0 0 0.66	9.102	N. 0 0 4.5	59.23	16 4.65	7 29.89	0.752
Tues.	22	0 3 39.04	9.097	0 23 45.5	59.18	16 4.38	7 11.76	0.757
Wed.	23	0 7 17.30	9.093	0 47 25.3	59.12	16 4.11	6 53.53	0.762
Thur.	24	0 10 55.48	9.089	1 11 3.4	59.05	16 3.84	6 35.20	0.765
Frid.	25	0 14 33.59	9.087	1 34 39.7	58.96	16 3.56	6 16.81	0.767
Sat.	26	0 18 11.66	9.086	1 58 13.6	58.86	16 3.28	5 58.38	0.768
Sun.	27	0 21 49.71	9.085	2 21 45.0	58.75	16 3.01	5 39.93	0.769
Mon.	28	0 25 27.76	9.086	2 45 13.5	58.62	16 2.73	5 21.48	0.768
Tues.	29	0 29 5.84	9.088	3 8 38.7	58.48	16 2.45	5 3.05	0.767
Wed.	30	0 32 43.97	9.090	3 32 0.3	58.32	16 2.17	4 44.68	0.764
Thur.	31	0 36 22.16	9.093	3 55 18.0	58.15	16 1.89	4 26.37	0.761
Frid.	32	0 40 0.45	9.098	N. 4 18 31.4	57.96	16 1.60	4 8.15	0.757

\* The Semidiameter for Mean Noon may be assumed the same as that for Apparent Noon.

AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be subtracted from Mean Time.	Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.		
	h m s	° / "	° / "	"	m s	h m s
1	22 46 16.17	S. 7 48 38.0	340 2 2.0	S. 0.14	12 37.70	22 33 38.47
2	22 50 0.94	7 25 51.3	341 2 12.5	0.26	12 25.92	22 37 35.02
3	22 53 45.22	7 2 58.2	342 2 21.3	0.38	12 13.64	22 41 31.58
4	22 57 29.03	6 39 58.9	343 2 28.6	0.50	12 0.90	22 45 28.13
5	23 1 12.40	6 16 54.0	344 2 34.3	0.62	11 47.71	22 49 24.68
6	23 4 55.34	5 53 43.8	345 2 38.4	0.72	11 34.10	22 53 21.24
7	23 8 37.87	5 30 28.6	346 2 41.0	0.81	11 20.08	22 57 17.79
8	23 12 20.00	5 7 8.9	347 2 41.9	0.87	11 5.66	23 1 14.34
9	23 16 1.76	4 43 45.0	348 2 41.1	0.90	10 50.87	23 5 10.90
10	23 19 43.17	4 20 17.4	349 2 38.5	0.90	10 35.71	23 9 7.45
11	23 23 24.22	3 56 46.5	350 2 34.1	0.87	10 20.22	23 13 4.00
12	23 27 4.95	3 33 12.7	351 2 27.8	0.82	10 4.40	23 17 0.56
13	23 30 45.37	3 9 36.3	352 2 19.4	0.73	9 48.26	23 20 57.11
14	23 34 25.49	2 45 57.8	353 2 8.9	0.61	9 31.82	23 24 53.67
15	23 38 5.32	2 22 17.7	354 1 56.2	0.48	9 15.10	23 28 50.22
16	23 41 44.90	1 58 36.3	355 1 41.2	0.35	8 58.12	23 32 46.77
17	23 45 24.23	1 34 53.9	356 1 24.0	0.22	8 40.90	23 36 43.33
18	23 49 3.33	1 11 11.0	357 1 4.5	S. 0.09	8 23.46	23 40 39.88
19	23 52 42.24	0 47 28.0	358 0 42.7	N. 0.02	8 5.80	23 44 36.43
20	23 56 20.96	0 23 45.2	359 0 18.6	0.10	7 47.97	23 48 32.98
21	23 59 59.52	S. 0 0 3.0	359 59 52.2	0.16	7 29.98	23 52 29.54
22	0 3 37.95	N. 0 23 38.4	0 50 23.6	0.19	7 11.86	23 56 26.09
23	0 7 16.26	0 47 18.5	1 58 52.8	0.20	6 53.62	0 0 22.64
24	0 10 54.48	1 10 56.9	2 58 19.8	0.18	6 35.29	0 4 19.20
25	0 14 32.64	1 34 33.5	3 57 44.8	0.12	6 16.89	0 8 15.75
26	0 18 10.76	1 58 7.8	4 57 7.7	N. 0.05	5 58.45	0 12 12.30
27	0 21 48.85	2 21 39.5	5 56 28.5	S. 0.04	5 40.00	0 16 8.86
28	0 25 26.95	2 45 8.2	6 55 47.4	0.15	5 21.54	0 20 5.41
29	0 29 5.08	3 8 33.7	7 55 4.5	0.27	5 3.12	0 24 1.96
30	0 32 43.25	3 31 55.7	8 54 19.6	0.40	4 44.74	0 27 58.52
31	0 36 21.49	3 55 13.7	9 53 32.9	0.53	4 26.42	0 31 55.07
32	0 39 59.83	N. 4 18 27.4	10 52 44.3	S. 0.65	4 8.21	0 35 51.62



AT GREENWICH APPARENT NOON.

Date.	THE SUN'S					Equation of Time, to be added to subtracted from Apparent Time.	Var. in 1 hour.
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Semi-diameter.*		
Frid. 1	h m s	s	° / ' "	"	' "	m s	s
Sat. 2	0 40 0'45	9'098	N. 4 18 31'4	57'96	16 1'60	4 8'15	0'757
Sun. 3	0 43 38'85	9'103	4 41 40'3	57'77	16 1'32	3 50'05	0'751
Mon. 4	0 47 17'39	9'109	5 4 44'2	57'55	16 1'04	3 32'08	0'745
Tues. 5	0 50 56'07	9'115	5 27 42'9	57'33	16 0'76	3 14'26	0'739
Wed. 6	0 54 34'93	9'123	5 50 36'0	57'09	16 0'48	2 56'61	0'732
Thur. 7	0 58 13'97	9'131	6 13 23'1	56'83	16 0'20	2 39'14	0'723
Frid. 8	1 1 53'22	9'140	6 36 4'0	56'56	15 59'92	2 21'89	0'714
Sat. 9	1 5 32'69	9'149	6 58 38'1	56'28	15 59'65	2 4'85	0'705
Sun. 10	1 9 12'39	9'159	7 21 5'3	55'98	15 59'37	1 48'04	0'695
Mon. 11	1 12 52'34	9'170	7 43 25'0	55'66	15 59'10	1 31'48	0'685
Tues. 12	1 16 32'54	9'181	8 5 36'9	55'33	15 58'82	1 15'18	0'674
Wed. 13	1 20 13'02	9'193	8 27 40'7	54'98	15 58'55	0 59'15	0'662
Thur. 14	1 23 53'78	9'205	8 49 35'9	54'61	15 58'29	0 43'40	0'650
Frid. 15	1 27 34'84	9'217	9 11 22'2	54'23	15 58'02	0 27'95	0'638
Sat. 16	1 31 16'21	9'230	9 32 59'2	53'84	15 57'76	0 12'80	0'624
Sun. 17	1 34 57'91	9'244	9 54 26'7	53'44	15 57'50	0 2'02	0'610
Mon. 18	1 38 39'94	9'259	10 15 44'2	53'01	15 57'24	0 16'49	0'596
Tues. 19	1 42 22'34	9'274	10 36 51'4	52'58	15 56'98	0 30'61	0'581
Wed. 20	1 46 5'11	9'290	10 57 48'0	52'13	15 56'73	0 44'36	0'565
Thur. 21	1 49 48'27	9'307	11 18 33'8	51'67	15 56'47	0 57'72	0'548
Frid. 22	1 53 31'83	9'324	11 39 8'3	51'20	15 56'22	1 10'68	0'531
Sat. 23	1 57 15'81	9'342	11 59 31'3	50'71	15 55'96	1 23'21	0'513
Sun. 24	2 1 0'23	9'360	12 19 42'4	50'21	15 55'71	1 35'32	0'495
Mon. 25	2 4 45'11	9'380	12 39 41'4	49'70	15 55'45	1 46'97	0'476
Tues. 26	2 8 30'45	9'399	12 59 27'9	49'17	15 55'20	1 58'15	0'456
Wed. 27	2 12 16'27	9'419	13 19 1'6	48'63	15 54'95	2 8'85	0'436
Thur. 28	2 16 2'58	9'440	13 38 22'3	48'08	15 54'70	2 19'07	0'415
Frid. 29	2 19 49'41	9'462	13 57 29'6	47'52	15 54'45	2 28'77	0'394
Sat. 30	2 23 36'75	9'484	14 16 23'2	46'94	15 54'20	2 37'96	0'372
Sun. 31	2 27 24'62	9'506	14 35 2'9	46'35	15 53'95	2 46'61	0'349
31	2 31 13'04	9'529	N. 14 53 28'2	45'75	15 53'70	2 54'73	0'327

\* The Semidiameter for Mean Noon may be assumed the same as that for Apparent Noon.

AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be subtracted from added to Mean Time.	Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.		
1	h m s	° / ' "	° / ' "	"	m s	h m s
2	0 39 59'83	N. 4 18 27'4	10 52 44'3	S. 0'65	4 8'21	0 35 51'62
3	0 43 38'27	4 41 36'6	11 51 54'0	0'75	3 50'10	0 39 48'18
4	0 47 16'85	5 4 40'8	12 51 2'0	0'83	3 32'12	0 43 44'73
5	0 50 55'58	5 27 39'8	13 50 8'2	0'90	3 14'30	0 47 41'28
6	0 54 34'48	5 50 33'2	14 49 12'6	0'93	2 56'64	0 51 37'84
7	0 58 13'57	6 13 20'6	15 48 15'2	0'94	2 39'18	0 55 34'39
8	1 1 52'86	6 36 1'8	16 47 16'1	0'92	2 21'92	0 59 30'94
9	1 5 32'37	6 58 36'2	17 46 15'1	0'86	2 4'87	1 3 27'50
10	1 9 12'11	7 21 3'6	18 45 12'2	0'78	1 48'06	1 7 24'05
11	1 12 52'10	7 43 23'6	19 44 7'4	0'66	1 31'50	1 11 20'60
12	1 16 32'35	8 5 35'8	20 43 0'4	0'52	1 15'19	1 15 17'16
13	1 20 12'87	8 27 39'8	21 41 51'4	0'38	0 59'16	1 19 13'71
14	1 23 53'67	8 49 35'2	22 40 40'1	0'24	0 43'41	1 23 10'27
15	1 27 34'77	9 11 21'7	23 39 26'6	S. 0'12	0 27'95	1 27 6'82
16	1 31 16'18	9 32 59'0	24 38 10'9	0'00	0 12'80	1 31 3'37
17	1 34 57'91	9 54 26'7	25 36 52'9	N. 0'10	0 2'02	1 34 59'93
18	1 38 39'99	10 15 44'4	26 35 32'6	0'18	0 16'50	1 38 56'48
19	1 42 22'42	10 36 51'8	27 34 10'1	0'21	0 30'62	1 42 53'04
20	1 46 5'22	10 57 48'7	28 32 45'5	0'23	0 44'37	1 46 49'59
21	1 49 48'42	11 18 34'6	29 31 18'7	0'22	0 57'73	1 50 46'15
22	1 53 32'01	11 39 9'3	30 29 49'8	0'17	1 10'69	1 54 42'70
23	1 57 16'03	11 59 32'4	31 28 18'8	0'11	1 23'23	1 58 39'26
24	2 1 0'48	12 19 43'7	32 26 45'9	N. 0'01	1 35'33	2 2 35'81
25	2 4 45'39	12 39 42'8	33 25 11'0	S. 0'09	1 46'98	2 6 32'36
26	2 8 30'76	12 59 29'5	34 23 34'3	0'21	1 58'16	2 10 28'92
27	2 12 16'61	13 19 3'4	35 21 55'8	0'34	2 8'87	2 14 25'47
28	2 16 2'95	13 38 24'1	36 20 15'5	0'47	2 19'08	2 18 22'03
29	2 19 49'80	13 57 31'5	37 18 33'6	0'59	2 28'79	2 22 18'58
30	2 23 37'17	14 16 25'3	38 16 50'0	0'70	2 37'97	2 26 15'14
31	2 27 25'07	14 35 5'0	39 15 4'9	0'79	2 46'63	2 30 11'69
31	2 31 13'51	N. 14 53 30'4	40 13 18'2	S. 0'86	2 54'74	2 34 8'25



AT GREENWICH APPARENT NOON.

Date.	THE SUN'S					Equation of Time, to be subtracted from Apparent Time.	Var. in 1 hour.
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Semi-diameter.*		
	h m s	s	° / ' "	"	' "	m s	s
Sun. 1	2 31 13.04	9.529	N. 14 53 28.2	45.75	15 53.70	2 54.73	0.327
Mon. 2	2 35 2.02	9.552	15 11 39.0	45.14	15 53.46	3 2.29	0.304
Tues. 3	2 38 51.55	9.576	15 29 34.8	44.51	15 53.22	3 9.30	0.280
Wed. 4	2 42 41.65	9.599	15 47 15.4	43.87	15 52.98	3 15.74	0.256
Thur. 5	2 46 32.32	9.623	16 4 40.5	43.21	15 52.75	3 21.60	0.233
Frid. 6	2 50 23.56	9.647	16 21 49.6	42.55	15 52.52	3 26.90	0.209
Sat. 7	2 54 15.39	9.671	16 38 42.7	41.87	15 52.29	3 31.62	0.185
Sun. 8	2 58 7.79	9.695	16 55 19.2	41.17	15 52.06	3 35.76	0.161
Mon. 9	3 2 0.77	9.719	17 11 38.7	40.46	15 51.84	3 39.33	0.137
Tues. 10	3 5 54.32	9.743	17 27 41.1	39.74	15 51.62	3 42.32	0.113
Wed. 11	3 9 48.45	9.767	17 43 26.0	39.00	15 51.41	3 44.75	0.089
Thur. 12	3 13 43.13	9.790	17 58 53.0	38.25	15 51.20	3 46.61	0.066
Frid. 13	3 17 38.38	9.814	18 14 1.9	37.48	15 51.00	3 47.92	0.043
Sat. 14	3 21 34.18	9.837	18 28 52.2	36.71	15 50.80	3 48.67	0.019
Sun. 15	3 25 30.55	9.860	18 43 23.9	35.92	15 50.60	3 48.86	0.004
Mon. 16	3 29 27.46	9.883	18 57 36.5	35.12	15 50.41	3 48.50	0.026
Tues. 17	3 33 24.93	9.906	19 11 29.8	34.31	15 50.23	3 47.59	0.049
Wed. 18	3 37 22.95	9.929	19 25 3.6	33.49	15 50.04	3 46.14	0.072
Thur. 19	3 41 21.51	9.951	19 38 17.5	32.66	15 49.86	3 44.14	0.095
Frid. 20	3 45 20.61	9.974	19 51 11.4	31.82	15 49.68	3 41.60	0.117
Sat. 21	3 49 20.25	9.996	20 3 45.0	30.97	15 49.50	3 38.52	0.139
Sun. 22	3 53 20.42	10.018	20 15 58.0	30.11	15 49.32	3 34.92	0.161
Mon. 23	3 57 21.13	10.040	20 27 50.3	29.24	15 49.15	3 30.79	0.183
Tues. 24	4 1 22.35	10.062	20 39 21.5	28.36	15 48.98	3 26.13	0.205
Wed. 25	4 5 24.09	10.083	20 50 31.5	27.47	15 48.81	3 20.96	0.226
Thur. 26	4 9 26.34	10.104	21 1 20.0	26.57	15 48.64	3 15.29	0.247
Frid. 27	4 13 29.09	10.125	21 11 46.9	25.67	15 48.48	3 9.11	0.268
Sat. 28	4 17 32.34	10.145	21 21 52.0	24.75	15 48.32	3 2.44	0.288
Sun. 29	4 21 36.07	10.165	21 31 34.9	23.82	15 48.16	2 55.29	0.308
Mon. 30	4 25 40.27	10.185	21 40 55.5	22.89	15 48.01	2 47.66	0.328
Tues. 31	4 29 44.94	10.204	21 49 53.8	21.95	15 47.86	2 39.57	0.347
Wed. 32	4 33 50.05	10.222	N. 21 58 29.4	21.00	15 47.70	2 31.04	0.365

\* The Semidiameter for Mean Noon may be assumed the same as that for Apparent Noon.

AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be added to Mean Time.	Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.		
	h m s	° / ' "	° / ' "	"	m s	h m s
1	2 31 13.51	N. 14 53 30.4	40 13 18.2	S. 0.86	2 54.74	2 34 8.25
2	2 35 2.50	15 11 41.2	41 11 30.1	0.90	3 2.31	2 38 4.81
3	2 38 52.05	15 29 37.1	42 9 40.6	0.91	3 9.31	2 42 1.36
4	2 42 42.17	15 47 17.8	43 7 49.7	0.89	3 15.75	2 45 57.92
5	2 46 32.86	16 4 42.9	44 5 57.3	0.84	3 21.61	2 49 54.47
6	2 50 24.12	16 21 52.1	45 4 3.5	0.77	3 26.91	2 53 51.03
7	2 54 15.96	16 38 45.1	46 2 8.3	0.65	3 31.63	2 57 47.58
8	2 58 8.37	16 55 21.6	47 0 11.6	0.51	3 35.77	3 1 44.14
9	3 2 1.36	17 11 41.2	47 58 13.4	0.37	3 39.33	3 5 40.70
10	3 5 54.93	17 27 43.6	48 56 13.5	0.23	3 42.33	3 9 37.25
11	3 9 49.06	17 43 28.4	49 54 11.9	S. 0.69	3 44.75	3 13 33.81
12	3 13 43.75	17 58 55.4	50 52 8.6	N. 0.04	3 46.62	3 17 30.36
13	3 17 39.00	18 14 4.2	51 50 3.6	0.15	3 47.92	3 21 26.92
14	3 21 34.81	18 28 54.6	52 47 56.8	0.23	3 48.67	3 25 23.48
15	3 25 31.17	18 43 26.2	53 45 48.2	0.28	3 48.86	3 29 20.03
16	3 29 28.09	18 57 38.8	54 43 37.9	0.31	3 48.50	3 33 16.59
17	3 33 25.56	19 11 32.0	55 41 25.8	0.31	3 47.59	3 37 13.15
18	3 37 23.57	19 25 5.7	56 39 12.1	0.27	3 46.13	3 41 9.70
19	3 41 22.13	19 38 19.6	57 36 56.8	0.22	3 44.13	3 45 6.26
20	3 45 21.23	19 51 13.4	58 34 39.9	0.13	3 41.59	3 49 2.82
21	3 49 20.86	20 3 46.9	59 32 21.5	N. 0.04	3 38.52	3 52 59.37
22	3 53 21.02	20 15 59.8	60 30 1.7	S. 0.08	3 34.91	3 56 55.93
23	3 57 21.71	20 27 52.0	61 27 40.5	0.21	3 30.77	4 0 52.49
24	4 1 22.92	20 39 23.1	62 25 18.0	0.34	3 26.12	4 4 49.05
25	4 5 24.65	20 50 33.0	63 22 54.2	0.46	3 20.95	4 8 45.60
26	4 9 26.89	21 1 21.4	64 20 29.3	0.57	3 15.27	4 12 42.16
27	4 13 29.62	21 11 48.3	65 18 3.4	0.66	3 9.09	4 16 38.72
28	4 17 32.85	21 21 53.2	66 15 36.4	0.74	3 2.42	4 20 35.28
29	4 21 36.56	21 31 36.0	67 13 8.5	0.78	2 55.27	4 24 31.83
30	4 25 40.75	21 40 56.6	68 10 39.8	0.81	2 47.64	4 28 28.39
31	4 29 45.39	21 49 54.8	69 8 10.3	0.80	2 39.56	4 32 24.95
32	4 33 50.48	N. 21 58 30.2	70 5 40.0	S. 0.76	2 31.02	4 36 21.51



AT GREENWICH APPARENT NOON.

Date.		THE SUN'S					Equation of Time, to be subtracted from		Var. in 1 hour.
		Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Semi- diameter.*	added to Apparent Time.		
		h m s	s	° / '	'	' / ''	m s	s	
Wed.	1	4 33 50.05	10.222	N. 21 58 29.4	21.00	15 47.70	2 31.04	0.365	
Thur.	2	4 37 55.60	10.240	22 6 42.0	20.05	15 47.56	2 22.07	0.383	
Frid.	3	4 42 1.57	10.257	22 14 31.7	19.09	15 47.42	2 12.68	0.399	
Sat.	4	4 46 7.94	10.273	22 21 58.2	18.11	15 47.28	2 2.90	0.415	
Sun.	5	4 50 14.68	10.288	22 29 1.2	17.13	15 47.15	1 52.75	0.431	
Mon.	6	4 54 21.78	10.303	22 35 40.6	16.15	15 47.03	1 42.23	0.445	
Tues.	7	4 58 29.21	10.316	22 41 56.3	15.16	15 46.91	1 31.39	0.458	
Wed.	8	5 2 36.94	10.328	22 47 48.2	14.16	15 46.80	1 20.25	0.470	
Thur.	9	5 6 44.97	10.340	22 53 15.9	13.15	15 46.69	1 8.82	0.481	
Frid.	10	5 10 53.24	10.349	22 58 19.5	12.14	15 46.59	0 57.14	0.491	
Sat.	11	5 15 1.74	10.358	23 2 58.8	11.13	15 46.49	0 45.23	0.501	
Sun.	12	5 19 10.44	10.366	23 7 13.6	10.11	15 46.40	0 33.11	0.509	
Mon.	13	5 23 19.33	10.374	23 11 4.1	9.09	15 46.31	0 20.81	0.516	
Tues.	14	5 27 28.37	10.380	23 14 29.9	8.07	15 46.23	0 8.36	0.522	
Wed.	15	5 31 37.56	10.385	23 17 31.2	7.04	15 46.15	0 4.23	0.527	
Thur.	16	5 35 46.85	10.389	23 20 7.7	6.01	15 46.08	0 16.93	0.531	
Frid.	17	5 39 56.24	10.393	23 22 19.6	4.98	15 46.01	0 29.72	0.535	
Sat.	18	5 44 5.69	10.395	23 24 6.7	3.95	15 45.94	0 42.59	0.537	
Sun.	19	5 48 15.20	10.397	23 25 29.0	2.91	15 45.87	0 55.50	0.539	
Mon.	20	5 52 24.73	10.397	23 26 26.5	1.88	15 45.81	1 8.44	0.539	
Tues.	21	5 56 34.27	10.397	23 26 59.2	0.85	15 45.75	1 21.38	0.539	
Wed.	22	6 0 43.80	10.396	23 27 7.2	0.19	15 45.70	1 34.32	0.538	
Thur.	23	6 4 53.29	10.394	23 26 50.3	1.22	15 45.65	1 47.22	0.536	
Frid.	24	6 9 2.73	10.392	23 26 8.7	2.25	15 45.60	2 0.06	0.534	
Sat.	25	6 13 12.10	10.388	23 25 2.4	3.28	15 45.56	2 12.83	0.530	
Sun.	26	6 17 21.37	10.384	23 23 31.4	4.31	15 45.52	2 25.51	0.526	
Mon.	27	6 21 30.53	10.379	23 21 35.7	5.33	15 45.48	2 38.08	0.521	
Tues.	28	6 25 39.56	10.373	23 19 15.4	6.36	15 45.45	2 50.52	0.515	
Wed.	29	6 29 48.43	10.366	23 16 30.6	7.38	15 45.42	3 2.80	0.508	
Thur.	30	6 33 57.13	10.359	23 13 21.2	8.40	15 45.39	3 14.91	0.501	
Frid.	31	6 38 5.64	10.350	N. 23 9 47.5	9.41	15 45.37	3 26.83	0.492	

\* The Semidiameter for Mean Noon may be assumed the same as that for Apparent Noon.

AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be added to		Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.	subtracted from Mean Time.		
	h m s	° / '	° / ''	'	m s	h m s	
1	4 33 50.48	N. 21 58 30.2	70 5 40.0	S. 0.76	2 31.02	4 36 21.51	
2	4 37 56.01	22 6 42.8	71 3 9.0	0.68	2 22.05	4 40 18.06	
3	4 42 1.95	22 14 32.4	72 0 37.4	0.58	2 12.67	4 44 14.62	
4	4 46 8.29	22 21 58.8	72 58 5.0	0.45	2 2.89	4 48 11.18	
5	4 50 15.01	22 29 1.7	73 55 31.9	0.31	1 52.73	4 52 7.74	
6	4 54 22.08	22 35 41.1	74 52 58.1	0.16	1 42.22	4 56 4.29	
7	4 58 29.48	22 41 56.7	75 50 23.5	S. 0.02	1 31.38	5 0 0.85	
8	5 2 37.18	22 47 48.4	76 47 48.0	N. 0.12	1 20.24	5 3 57.41	
9	5 6 45.16	22 53 16.1	77 45 11.6	0.23	1 8.81	5 7 53.97	
10	5 10 53.40	22 58 19.6	78 42 34.4	0.32	0 57.13	5 11 50.53	
11	5 15 1.87	23 2 58.9	79 39 56.2	0.39	0 45.22	5 15 47.08	
12	5 19 10.54	23 7 13.7	80 37 17.0	0.43	0 33.11	5 19 43.64	
13	5 23 19.39	23 11 4.1	81 34 36.8	0.44	0 20.81	5 23 40.20	
14	5 27 28.40	23 14 29.9	82 31 55.7	0.41	0 8.36	5 27 36.76	
15	5 31 37.54	23 17 31.1	83 29 13.8	0.36	0 4.23	5 31 33.32	
16	5 35 46.80	23 20 7.7	84 26 30.9	0.29	0 16.93	5 35 29.88	
17	5 39 56.15	23 22 19.5	85 23 47.3	0.20	0 29.72	5 39 26.43	
18	5 44 5.57	23 24 6.6	86 21 2.9	N. 0.09	0 42.58	5 43 22.99	
19	5 48 15.04	23 25 29.0	87 18 17.8	S. 0.03	0 55.49	5 47 19.55	
20	5 52 24.54	23 26 26.5	88 15 32.0	0.16	1 8.43	5 51 16.11	
21	5 56 34.04	23 26 59.2	89 12 45.7	0.27	1 21.37	5 55 12.67	
22	6 0 43.53	23 27 7.2	90 9 59.0	0.38	1 34.30	5 59 0.23	
23	6 4 52.98	23 26 50.4	91 7 11.8	0.48	1 47.20	6 3 5.78	
24	6 9 2.38	23 26 8.8	92 4 24.3	0.57	2 0.04	6 7 2.34	
25	6 13 11.71	23 25 2.5	93 1 36.6	0.62	2 12.81	6 10 58.90	
26	6 17 20.95	23 23 31.5	93 58 48.7	0.64	2 25.49	6 14 55.46	
27	6 21 30.07	23 21 35.9	94 56 0.8	0.64	2 38.06	6 18 52.02	
28	6 25 39.07	23 19 15.7	95 53 12.9	0.61	2 50.49	6 22 48.57	
29	6 29 47.91	23 16 30.9	96 50 25.1	0.55	3 2.78	6 26 45.13	
30	6 33 56.58	23 13 21.7	97 47 37.5	0.45	3 14.89	6 30 41.69	
31	6 38 5.05	N. 23 9 48.0	98 44 50.0	S. 0.32	3 26.80	6 34 38.25	



AT GREENWICH APPARENT NOON.

Date.	THE SUN'S					Equation of Time, to be added to Apparent Time.	Var. in 1 hour.
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Semi-diameter.*		
	h m s	s	° / ' "	"	' "	m s	s
Frid. 1	6 38 5.64	10.350	N. 23 9 47.5	9.41	15 45.37	3 26.83	0.492
Sat. 2	6 42 13.93	10.340	23 5 49.4	10.42	15 45.36	3 38.53	0.482
Sun. 3	6 46 21.98	10.330	23 1 27.1	11.43	15 45.35	3 49.98	0.472
Mon. 4	6 50 29.76	10.318	22 56 40.6	12.44	15 45.34	4 1.18	0.460
Tues. 5	6 54 37.25	10.306	22 51 30.1	13.43	15 45.34	4 12.08	0.448
Wed. 6	6 58 44.43	10.292	22 45 55.7	14.43	15 45.35	4 22.66	0.434
Thur. 7	7 2 51.26	10.277	22 39 57.5	15.42	15 45.36	4 32.91	0.420
Frid. 8	7 6 57.72	10.261	22 33 35.7	16.40	15 45.38	4 42.79	0.404
Sat. 9	7 11 3.79	10.244	22 26 50.4	17.37	15 45.40	4 52.28	0.387
Sun. 10	7 15 9.45	10.227	22 19 41.8	18.34	15 45.43	5 1.36	0.369
Mon. 11	7 19 14.69	10.209	22 12 10.1	19.30	15 45.47	5 10.01	0.351
Tues. 12	7 23 19.47	10.189	22 4 15.4	20.25	15 45.51	5 18.21	0.332
Wed. 13	7 27 23.78	10.169	21 55 58.0	21.19	15 45.55	5 25.94	0.312
Thur. 14	7 31 27.60	10.149	21 47 18.1	22.13	15 45.60	5 33.19	0.292
Frid. 15	7 35 30.93	10.128	21 38 15.9	23.05	15 45.66	5 39.94	0.271
Sat. 16	7 39 33.75	10.106	21 28 51.5	23.97	15 45.71	5 46.18	0.249
Sun. 17	7 43 36.04	10.084	21 19 5.2	24.88	15 45.77	5 51.90	0.227
Mon. 18	7 47 37.80	10.062	21 8 57.3	25.78	15 45.84	5 57.09	0.205
Tues. 19	7 51 39.02	10.039	20 58 27.9	26.67	15 45.91	6 1.74	0.182
Wed. 20	7 55 39.69	10.016	20 47 37.3	27.54	15 45.98	6 5.84	0.159
Thur. 21	7 59 39.80	9.993	20 36 25.8	28.41	15 46.05	6 9.38	0.136
Frid. 22	8 3 39.35	9.969	20 24 53.5	29.27	15 46.13	6 12.37	0.113
Sat. 23	8 7 38.33	9.946	20 13 0.7	30.12	15 46.21	6 14.78	0.089
Sun. 24	8 11 36.74	9.922	20 0 47.6	30.96	15 46.29	6 16.63	0.065
Mon. 25	8 15 34.58	9.898	19 48 14.5	31.79	15 46.38	6 17.91	0.041
Tues. 26	8 19 31.84	9.874	19 35 21.6	32.61	15 46.48	6 18.61	0.018
Wed. 27	8.23 28.53	9.850	19 22 9.2	33.42	15 46.57	6 18.75	0.006
Thur. 28	8 27 24.64	9.826	19 8 37.5	34.22	15 46.66	6 18.30	0.031
Frid. 29	8 31 20.17	9.802	18 54 46.8	35.00	15 46.76	6 17.28	0.055
Sat. 30	8 35 15.12	9.777	18 40 37.3	35.78	15 46.87	6 15.67	0.079
Sun. 31	8 39 9.48	9.753	18 26 9.3	36.55	15 46.98	6 13.48	0.103
Mon. 32	8 43 3.25	9.728	N. 18 11 23.1	37.30	15 47.09	6 10.71	0.128

\* The Semidiameter for Mean Noon may be assumed the same as that for Apparent Noon.

AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be subtracted from Mean Time.	Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.		
	h m s	° / ' "	° / ' "	"	m s	h m s
1	6 38 5.05	N. 23 9 48.0	98 44 50.0	S. 0.32	3 26.80	6 34 38.25
2	6 42 13.31	23 5 50.1	99 42 2.8	0.19	3 38.50	6 38 34.81
3	6 46 21.32	23 1 27.8	100 39 15.7	S. 0.05	3 49.95	6 42 31.37
4	6 50 29.07	22 56 41.4	101 36 28.9	N. 0.10	4 1.14	6 46 27.92
5	6 54 36.53	22 51 31.0	102 33 42.3	0.24	4 12.05	6 50 24.48
6	6 58 43.67	22 45 56.7	103 30 55.7	0.36	4 22.63	6 54 21.04
7	7 2 50.48	22 39 58.6	104 28 9.3	0.46	4 32.87	6 58 17.60
8	7 6 56.91	22 33 36.9	105 25 23.0	0.53	4 42.75	7 2 14.16
9	7 11 2.96	22 26 51.8	106 22 36.7	0.56	4 52.25	7 6 10.71
10	7 15 8.60	22 19 43.3	107 19 50.3	0.58	5 1.33	7 10 7.27
11	7 19 13.81	22 12 11.7	108 17 4.0	0.56	5 9.98	7 14 3.83
12	7 23 18.57	22 4 17.2	109 14 17.7	0.52	5 18.18	7 18 0.39
13	7 27 22.86	21 55 59.9	110 11 31.3	0.46	5 25.91	7 21 56.95
14	7 31 26.66	21 47 20.2	111 8 45.0	0.38	5 33.16	7 25 53.50
15	7 35 29.98	21 38 18.1	112 5 58.8	0.27	5 39.92	7 29 50.06
16	7 39 32.78	21 28 53.8	113 3 12.7	0.16	5 46.16	7 33 46.62
17	7 43 35.06	21 19 7.7	114 0 26.7	N. 0.03	5 51.88	7 37 43.18
18	7 47 36.81	21 8 59.8	114 57 40.9	S. 0.09	5 57.07	7 41 39.73
19	7 51 38.02	20 58 30.6	115 54 55.5	0.20	6 1.73	7 45 36.29
20	7 55 38.67	20 47 40.1	116 52 10.3	0.30	6 5.83	7 49 32.85
21	7 59 38.78	20 36 28.7	117 49 25.6	0.39	6 9.37	7 53 29.41
22	8 3 38.32	20 24 56.5	118 46 41.3	0.43	6 12.36	7 57 25.96
23	8 7 37.29	20 13 3.8	119 43 57.7	0.47	6 14.78	8 1 22.52
24	8 11 35.70	20 0 50.8	120 41 14.7	0.48	6 16.63	8 5 19.08
25	8 15 33.54	19 48 17.8	121 38 32.5	0.45	6 17.91	8 9 15.63
26	8 19 30.80	19 35 25.0	122 35 51.2	0.39	6 18.61	8 13 12.19
27	8 23 27.50	19 22 12.7	123 33 10.8	0.32	6 18.75	8 17 8.75
28	8 27 23.61	19 8 41.0	124 30 31.4	0.20	6 18.31	8 21 5.30
29	8 31 19.14	18 54 50.4	125 27 53.1	S. 0.07	6 17.28	8 25 1.86
30	8 35 14.10	18 40 41.0	126 25 15.9	N. 0.07	6 15.68	8 28 58.42
31	8 39 8.47	18 26 13.1	127 22 39.8	0.21	6 13.49	8 32 54.97
32	8 43 2.25	N. 18 11 26.9	128 20 4.9	N. 0.34	6 10.72	8 36 51.53



AT GREENWICH APPARENT NOON.

Date.	THE SUN'S					Equation of Time, to be added to Apparent Time.	Var. in 1 hour.
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Semi-diameter.*		
	h m s	s	° / ' "	"	' "	m s	s
Mon. 1	8 43 3'25	9'728	N. 18 11 23'1	37'30	15 47'09	6 10'71	0'128
Tues. 2	8 46 56'44	9'704	17 56 19'0	38'04	15 47'21	6 7'35	0'153
Wed. 3	8 50 49'03	9'679	17 40 57'2	38'76	15 47'34	6 3'39	0'177
Thur. 4	8 54 41'02	9'654	17 25 18'1	39'48	15 47'47	5 58'84	0'202
Frid. 5	8 58 32'41	9'629	17 9 22'0	40'19	15 47'60	5 53'68	0'227
Sat. 6	9 2 23'19	9'603	16 53 9'1	40'88	15 47'74	5 47'93	0'252
Sun. 7	9 6 13'37	9'578	16 36 39'9	41'55	15 47'89	5 41'57	0'277
Mon. 8	9 10 2'95	9'553	16 19 54'5	42'22	15 48'04	5 34'01	0'303
Tues. 9	9 13 51'92	9'528	16 2 53'4	42'87	15 48'19	5 27'05	0'328
Wed. 10	9 17 40'30	9'503	15 45 36'9	43'50	15 48'35	5 18'89	0'352
Thur. 11	9 21 28'08	9'479	15 28 5'3	44'13	15 48'51	5 10'14	0'377
Frid. 12	9 25 15'28	9'454	15 10 18'8	44'74	15 48'68	5 0'81	0'401
Sat. 13	9 29 1'89	9'430	14 52 17'9	45'33	15 48'85	4 50'89	0'425
Sun. 14	9 32 47'93	9'407	14 34 2'9	45'91	15 49'03	4 40'41	0'449
Mon. 15	9 36 33'41	9'384	14 15 34'0	46'49	15 49'21	4 29'36	0'472
Tues. 16	9 40 18'33	9'361	13 56 51'5	47'05	15 49'39	4 17'76	0'495
Wed. 17	9 44 2'72	9'338	13 37 55'9	47'59	15 49'57	4 5'62	0'517
Thur. 18	9 47 46'57	9'316	13 18 47'3	48'12	15 49'76	3 52'96	0'539
Frid. 19	9 51 29'91	9'293	12 59 26'2	48'64	15 49'95	3 39'78	0'560
Sat. 20	9 55 12'75	9'275	12 39 52'8	49'14	15 50'14	3 26'10	0'580
Sun. 21	9 58 55'11	9'255	12 20 7'4	49'64	15 50'33	3 11'94	0'600
Mon. 22	10 2 37'00	9'236	12 0 10'3	50'12	15 50'53	2 57'31	0'619
Tues. 23	10 6 18'43	9'218	11 40 1'7	50'59	15 50'73	2 42'24	0'637
Wed. 24	10 9 59'44	9'200	11 19 42'1	51'04	15 50'93	2 26'73	0'655
Thur. 25	10 13 40'03	9'183	10 59 11'6	51'49	15 51'13	2 10'81	0'672
Frid. 26	10 17 20'22	9'166	10 38 30'6	51'92	15 51'33	1 54'49	0'688
Sat. 27	10 21 0'02	9'151	10 17 39'3	52'34	15 51'54	1 37'79	0'704
Sun. 28	10 24 39'46	9'136	9 56 38'1	52'75	15 51'75	1 20'72	0'719
Mon. 29	10 28 18'54	9'121	9 35 27'4	53'14	15 51'96	1 3'30	0'733
Tues. 30	10 31 57'28	9'108	9 14 7'3	53'52	15 52'17	0 45'53	0'747
Wed. 31	10 35 35'70	9'094	8 52 38'2	53'89	15 52'39	0 27'44	0'760
Thur. 32	10 39 13'80	9'081	N. 8 31 0'5	54'24	15 52'61	0 9'04	0'773

\* The Semidiameter for Mean Noon may be assumed the same as that for Apparent Noon.

AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be subtracted from Mean Time.	Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.		
	h m s	° / ' "	° / ' "	"	m s	h m s
1	8 43 2'25	N. 18 11 26'9	128 20 4'9	N. 0'34	6 10'72	8 36 51'53
2	8 46 55'45	17 56 22'9	129 17 31'1	0'46	6 7'36	8 40 48'09
3	8 50 48'05	17 41 1'1	130 14 58'4	0'56	6 3'41	8 44 44'64
4	8 54 40'05	17 25 22'0	131 12 26'7	0'64	5 58'86	8 48 41'20
5	8 58 31'46	17 9 25'9	132 9 56'1	0'69	5 53'71	8 52 37'75
6	9 2 22'26	16 53 13'1	133 7 26'5	0'70	5 47'95	8 56 34'31
7	9 6 12'46	16 36 43'8	134 4 57'8	0'60	5 41'60	9 0 30'87
8	9 10 2'06	16 19 58'5	135 2 30'0	0'64	5 34'64	9 4 27'42
9	9 13 51'06	16 2 57'3	136 0 3'2	0'58	5 27'08	9 8 23'98
10	9 17 39'46	15 45 40'8	136 57 37'2	0'50	5 18'92	9 12 20'53
11	9 21 27'27	15 28 9'1	137 55 12'1	0'39	5 10'18	9 16 17'09
12	9 25 14'49	15 10 22'6	138 52 48'0	0'27	5 0'84	9 20 13'65
13	9 29 1'13	14 52 21'6	139 50 24'8	0'16	4 50'93	9 24 10'20
14	9 32 47'20	14 34 6'4	140 48 2'6	N. 0'04	4 40'45	9 28 6'76
15	9 36 32'71	14 15 37'4	141 45 41'3	S. 0'07	4 29'40	9 32 3'31
16	9 40 17'67	13 56 54'9	142 43 21'1	0'17	4 17'80	9 35 59'87
17	9 44 2'08	13 37 59'2	143 41 2'0	0'24	4 5'66	9 39 56'42
18	9 47 45'97	13 18 50'5	144 38 44'0	0'31	3 52'99	9 43 52'98
19	9 51 29'35	12 59 29'2	145 36 27'2	0'35	3 39'81	9 47 49'53
20	9 55 12'22	12 39 55'6	146 34 11'7	0'36	3 26'13	9 51 46'09
21	9 58 54'61	12 20 10'0	147 31 57'6	0'33	3 11'97	9 55 42'64
22	10 2 36'54	12 0 12'7	148 29 45'0	0'28	2 57'35	9 59 39'20
23	10 6 18'02	11 40 4'0	149 27 33'9	0'20	2 42'27	10 3 35'75
24	10 9 59'07	11 19 44'1	150 25 24'5	S. 0'09	2 26'76	10 7 32'31
25	10 13 39'70	10 59 13'5	151 23 16'8	N. 0'03	2 10'84	10 11 28'86
26	10 17 19'93	10 38 32'2	152 21 10'9	0'16	1 54'52	10 15 25'41
27	10 20 59'78	10 17 40'7	153 19 6'8	0'30	1 37'81	10 19 21'97
28	10 24 39'26	9 56 39'3	154 17 4'7	0'43	1 20'73	10 23 18'52
29	10 28 18'38	9 35 28'3	155 15 4'4	0'56	1 3'31	10 27 15'08
30	10 31 57'17	9 14 7'9	156 13 5'9	0'66	0 45'54	10 31 11'63
31	10 35 35'63	8 52 38'6	157 11 9'4	0'73	0 27'45	10 35 8'19
32	10 39 13'78	N. 8 31 0'7	158 9 14'7	N. 0'78	0 9'04	10 39 4'74



AT GREENWICH APPARENT NOON.

Date.	THE SUN'S					Equation of Time, to be added to subtracted from Apparent Time.	Var. in hour.	
	Apparent Right Ascension.	Var. in hour.	Apparent Declination.	Var. in hour.	Semi-diameter.*			
	h m s	s	° / ' / "	"	' / "	m s	s	
Thur.	1	10 39 13.80	9.081	N. 8 31 0.5	54.24	15 52.61	0 9.04	0.773
Frid.	2	10 42 51.60	9.069	8 9 14.6	54.58	15 52.84	0 9.66	0.785
Sat.	3	10 46 29.11	9.057	7 47 20.7	54.90	15 53.07	0 28.65	0.797
Sun.	4	10 50 6.35	9.046	7 25 19.2	55.21	15 53.30	0 47.92	0.808
Mon.	5	10 53 43.33	9.036	7 3 10.4	55.51	15 53.54	1 7.44	0.819
Tues.	6	10 57 20.06	9.026	6 40 54.8	55.79	15 53.78	1 27.21	0.829
Wed.	7	11 0 56.56	9.016	6 18 32.6	56.05	15 54.02	1 47.21	0.838
Thur.	8	11 4 32.85	9.008	5 56 4.2	56.30	15 54.27	2 7.42	0.846
Frid.	9	11 8 8.94	9.000	5 33 30.0	56.54	15 54.52	2 27.83	0.854
Sat.	10	11 11 44.85	8.993	5 10 50.3	56.76	15 54.77	2 48.42	0.861
Sun.	11	11 15 20.59	8.986	4 48 5.4	56.97	15 55.03	3 9.17	0.868
Mon.	12	11 18 56.20	8.981	4 25 15.6	57.17	15 55.29	3 30.06	0.873
Tues.	13	11 22 31.68	8.976	4 2 21.4	57.35	15 55.55	3 51.07	0.878
Wed.	14	11 26 7.05	8.972	3 39 23.0	57.51	15 55.81	4 12.19	0.882
Thur.	15	11 29 42.35	8.969	3 16 20.7	57.67	15 56.07	4 33.39	0.885
Frid.	16	11 33 17.58	8.967	2 53 14.9	57.81	15 56.33	4 54.66	0.887
Sat.	17	11 36 52.77	8.966	2 30 6.0	57.93	15 56.59	5 15.97	0.888
Sun.	18	11 40 27.94	8.966	2 6 54.1	58.05	15 56.86	5 37.29	0.888
Mon.	19	11 44 3.13	8.967	1 43 39.7	58.15	15 57.12	5 58.60	0.887
Tues.	20	11 47 38.34	8.969	1 20 23.0	58.24	15 57.39	6 19.88	0.885
Wed.	21	11 51 13.62	8.971	0 57 4.3	58.31	15 57.65	6 41.10	0.883
Thur.	22	11 54 48.97	8.975	0 33 44.0	58.38	15 57.92	7 2.24	0.879
Frid.	23	11 58 24.44	8.980	N. 0 10 22.3	58.43	15 58.18	7 23.27	0.874
Sat.	24	12 2 0.03	8.986	S. 0 13 0.5	58.46	15 58.45	7 44.18	0.868
Sun.	25	12 5 35.77	8.993	0 36 24.0	58.49	15 58.71	8 4.93	0.861
Mon.	26	12 9 11.69	9.000	0 59 47.9	58.50	15 58.98	8 25.51	0.854
Tues.	27	12 12 47.79	9.009	1 23 11.9	58.50	15 59.24	8 45.90	0.845
Wed.	28	12 16 24.11	9.018	1 46 35.7	58.48	15 59.51	9 6.08	0.836
Thur.	29	12 20 0.66	9.028	2 9 58.7	58.44	15 59.77	9 26.03	0.826
Frid.	30	12 23 37.46	9.039	2 33 20.7	58.39	16 0.04	9 45.73	0.815
Sat.	31	12 27 14.52	9.050	S. 2 56 41.3	58.32	16 0.31	10 5.17	0.804

\* The Semidiameter for Mean Noon may be assumed the same as that for Apparent Noon.

AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be subtracted from added to Mean Time.	Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.		
	h m s	° / ' / "	° / ' / "	"	m s	h m s
1	10 39 13.78	N. 8 31 0.7	158 9 14.7	N. 0.78	0 9.04	10 39 4.74
2	10 42 51.63	8 9 14.4	159 7 21.8	0.80	0 9.67	10 43 1.29
3	10 46 29.19	7 47 20.2	160 5 30.6	0.78	0 28.66	10 46 57.85
4	10 50 6.47	7 25 18.4	161 3 41.1	0.74	0 47.93	10 50 54.40
5	10 53 43.50	7 3 9.4	162 1 53.4	0.68	1 7.46	10 54 50.96
6	10 57 20.28	6 40 53.5	163 0 7.3	0.59	1 27.23	10 58 47.51
7	11 0 56.83	6 18 31.0	163 58 22.8	0.49	1 47.23	11 2 44.06
8	11 4 33.17	5 56 2.3	164 56 39.8	0.37	2 7.45	11 6 40.62
9	11 8 9.31	5 33 27.7	165 54 58.5	0.24	2 27.86	11 10 37.17
10	11 11 45.27	5 10 47.6	166 53 18.7	0.12	2 48.46	11 14 33.72
11	11 15 21.07	4 48 2.4	167 51 40.5	N. 0.01	3 9.21	11 18 30.28
12	11 18 56.72	4 25 12.3	168 50 3.9	S. 0.09	3 30.11	11 22 26.83
13	11 22 32.25	4 2 17.7	169 48 28.9	0.18	3 51.13	11 26 23.38
14	11 26 7.68	3 39 18.9	170 46 55.4	0.25	4 12.26	11 30 19.94
15	11 29 43.03	3 16 16.3	171 45 23.6	0.29	4 33.46	11 34 16.49
16	11 33 18.31	2 53 10.2	172 43 53.5	0.30	4 54.73	11 38 13.05
17	11 36 53.56	2 30 0.9	173 42 25.1	0.29	5 16.04	11 42 9.60
18	11 40 28.78	2 6 48.7	174 40 58.5	0.24	5 37.37	11 46 6.15
19	11 44 4.02	1 43 33.9	175 39 33.8	0.16	5 58.69	11 50 2.71
20	11 47 39.29	1 20 16.9	176 38 11.1	S. 0.06	6 19.97	11 53 59.26
21	11 51 14.62	0 56 57.8	177 36 50.4	N. 0.06	6 41.20	11 57 55.81
22	11 54 50.03	0 33 37.1	178 35 31.8	0.19	7 2.34	12 1 52.37
23	11 58 25.54	N. 0 10 15.1	179 34 15.4	0.33	7 23.38	12 5 48.92
24	12 2 1.18	S. 0 13 8.1	180 33 1.3	0.47	7 44.29	12 9 45.47
25	12 5 36.98	0 36 31.9	181 31 49.4	0.59	8 5.04	12 13 42.03
26	12 9 12.95	0 59 56.2	182 30 39.9	0.69	8 25.63	12 17 38.58
27	12 12 49.11	1 23 20.5	183 29 32.7	0.77	8 46.03	12 21 35.13
28	12 16 25.48	1 46 44.5	184 28 27.8	0.83	9 6.21	12 25 31.69
29	12 20 2.08	2 10 7.9	185 27 25.1	0.84	9 26.16	12 29 28.24
30	12 23 38.93	2 33 30.2	186 26 24.7	0.83	9 45.87	12 33 24.79
31	12 27 16.04	S. 2 56 51.1	187 25 26.5	N. 0.79	10 5.31	12 37 21.35



AT GREENWICH APPARENT NOON.

Date.	THE SUN'S					Equation of Time, to be subtracted from Apparent Time.	Var. in 1 hour.
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Semi-diameter.*		
	h m s	s	° / ' "	"	' "	m s	s
Sat. 1	12 27 14.52	9.050	S. 2 56 41.3	58.32	16 0.31	10 5.17	0.804
Sun. 2	12 30 51.86	9.062	3 20 0.2	58.24	16 0.58	10 24.33	0.792
Mon. 3	12 34 29.50	9.075	3 43 16.9	58.14	16 0.86	10 43.19	0.779
Tues. 4	12 38 7.46	9.089	4 6 31.0	58.03	16 1.14	11 1.73	0.765
Wed. 5	12 41 45.76	9.103	4 29 42.3	57.90	16 1.42	11 19.94	0.751
Thur. 6	12 45 24.40	9.118	4 52 50.2	57.76	16 1.70	11 37.80	0.736
Frid. 7	12 49 3.41	9.134	5 15 54.5	57.59	16 1.98	11 55.29	0.721
Sat. 8	12 52 42.81	9.150	5 38 54.7	57.42	16 2.26	12 12.40	0.704
Sun. 9	12 56 22.62	9.167	6 1 50.5	57.22	16 2.54	12 29.10	0.687
Mon. 10	13 0 2.85	9.185	6 24 41.4	57.01	16 2.83	12 45.38	0.669
Tues. 11	13 3 43.52	9.204	6 47 27.1	56.79	16 3.11	13 1.22	0.650
Wed. 12	13 7 24.65	9.224	7 10 7.2	56.55	16 3.39	13 16.60	0.631
Thur. 13	13 11 6.25	9.244	7 32 41.4	56.29	16 3.67	13 31.51	0.611
Frid. 14	13 14 48.35	9.265	7 55 9.3	56.02	16 3.95	13 45.93	0.590
Sat. 15	13 18 30.97	9.287	8 17 30.4	55.73	16 4.23	13 59.82	0.568
Sun. 16	13 22 14.13	9.310	8 39 44.5	55.43	16 4.51	14 13.18	0.545
Mon. 17	13 25 57.85	9.334	9 1 51.1	55.11	16 4.78	14 25.98	0.521
Tues. 18	13 29 42.14	9.358	9 23 49.9	54.78	16 5.05	14 38.21	0.497
Wed. 19	13 33 27.04	9.384	9 45 40.7	54.44	16 5.32	14 49.84	0.471
Thur. 20	13 37 12.56	9.410	10 7 22.9	54.08	16 5.59	15 0.84	0.445
Frid. 21	13 40 58.72	9.437	10 28 56.3	53.70	16 5.86	15 11.21	0.418
Sat. 22	13 44 45.55	9.465	10 50 20.4	53.31	16 6.13	15 20.91	0.390
Sun. 23	13 48 33.06	9.494	11 11 35.1	52.90	16 6.39	15 29.93	0.361
Mon. 24	13 52 21.27	9.524	11 32 39.8	52.48	16 6.65	15 38.24	0.332
Tues. 25	13 56 10.20	9.554	11 53 34.1	52.04	16 6.90	15 45.85	0.302
Wed. 26	13 59 59.86	9.585	12 14 17.7	51.58	16 7.16	15 52.72	0.271
Thur. 27	14 3 50.27	9.616	12 34 50.1	51.11	16 7.41	15 58.86	0.240
Frid. 28	14 7 41.42	9.647	12 55 11.0	50.62	16 7.66	16 4.24	0.208
Sat. 29	14 11 33.34	9.679	13 15 19.9	50.11	16 7.92	16 8.86	0.176
Sun. 30	14 15 26.04	9.712	13 35 16.4	49.59	16 8.17	16 12.71	0.144
Mon. 31	14 19 19.52	9.745	13 55 0.1	49.04	16 8.42	16 15.78	0.112
Tues. 32	14 23 13.79	9.778	S. 14 14 30.4	48.48	16 8.67	16 18.06	0.079

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AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be added to Mean Time.	Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.		
	h m s	° / ' "	° / ' "	"	m s	h m s
1	12 27 16.04	S. 2 56 51.1	187 25 26.5	N. 0.79	10 5.31	12 37 21.35
2	12 30 53.43	3 20 10.3	188 24 30.4	0.73	10 24.47	12 41 17.90
3	12 34 31.12	3 43 27.2	189 23 36.3	0.64	10 43.33	12 45 14.45
4	12 38 9.13	4 6 41.7	190 22 44.3	0.53	11 1.87	12 49 11.01
5	12 41 47.48	4 29 53.2	191 21 54.3	0.41	11 20.08	12 53 7.56
6	12 45 26.17	4 53 1.4	192 21 6.2	0.28	11 37.94	12 57 4.11
7	12 49 5.23	5 16 5.9	193 20 20.0	0.16	11 55.44	13 1 0.67
8	12 52 44.68	5 39 6.4	194 19 35.7	N. 0.04	12 12.54	13 4 57.22
9	12 56 24.53	6 2 2.4	195 18 53.2	S. 0.07	12 29.24	13 8 53.77
10	13 0 4.80	6 24 53.5	196 18 12.5	0.17	12 45.52	13 12 50.33
11	13 3 45.52	6 47 39.5	197 17 33.6	0.25	13 1.36	13 16 46.88
12	13 7 26.69	7 10 19.8	198 16 56.5	0.29	13 16.75	13 20 43.44
13	13 11 8.34	7 32 54.1	199 16 21.2	0.32	13 31.65	13 24 39.99
14	13 14 50.48	7 55 22.1	200 15 47.6	0.32	13 46.06	13 28 36.54
15	13 18 33.14	8 17 43.4	201 15 15.8	0.28	13 59.96	13 32 33.10
16	13 22 16.34	8 39 57.6	202 14 45.8	0.21	14 13.31	13 36 29.65
17	13 26 0.09	9 2 4.4	203 14 17.7	S. 0.11	14 26.11	13 40 26.20
18	13 29 44.43	9 24 3.3	204 13 51.5	N. 0.01	14 38.33	13 44 22.76
19	13 33 29.36	9 45 54.1	205 13 27.3	0.14	14 49.96	13 48 19.31
20	13 37 14.91	10 7 36.4	206 13 5.2	0.27	15 0.96	13 52 15.87
21	13 41 1.11	10 29 9.9	207 12 45.2	0.41	15 11.32	13 56 12.42
22	13 44 47.97	10 50 34.1	208 12 27.5	0.55	15 21.01	14 0 8.98
23	13 48 35.51	11 11 48.7	209 12 12.0	0.66	15 30.02	14 4 5.53
24	13 52 23.76	11 32 53.4	210 11 58.7	0.73	15 38.33	14 8 2.68
25	13 56 12.71	11 53 47.7	211 11 47.8	0.79	15 45.93	14 11 58.64
26	14 0 2.40	12 14 31.4	212 11 39.1	0.81	15 52.79	14 15 55.20
27	14 3 52.83	12 35 3.8	213 11 32.6	0.81	15 58.92	14 19 51.75
28	14 7 44.01	12 55 24.6	214 11 28.3	0.77	16 4.30	14 23 48.31
29	14 11 35.95	13 15 33.4	215 11 26.2	0.71	16 8.91	14 27 44.86
30	14 15 28.66	13 35 29.8	216 11 26.2	0.61	16 12.75	14 31 41.42
31	14 19 22.16	13 55 13.4	217 11 28.1	0.50	16 15.81	14 35 37.97
32	14 23 16.44	S. 14 14 43.6	218 11 32.1	N. 0.38	16 18.08	14 39 34.53



AT GREENWICH APPARENT NOON.

Date.	THE SUN'S					Equation of Time, to be subtracted from Apparent Time.	Var. in 1 hour.	
	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Semi-diameter.*			
	h m s	s	° / "	"	' "	m s	s	
Tues.	1	14 23 13.79	9.778	S. 14 14 30.4	48.48	16 8.67	16 18.06	0.079
Wed.	2	14 27 8.86	9.811	14 33 47.1	47.90	16 8.93	16 19.55	0.045
Thur.	3	14 31 4.73	9.845	14 52 49.7	47.31	16 9.18	16 20.23	0.012
Frid.	4	14 35 1.40	9.879	15 11 37.8	46.69	16 9.42	16 20.11	0.022
Sat.	5	14 38 58.90	9.913	15 30 10.8	46.05	16 9.67	16 19.17	0.056
Sun.	6	14 42 57.21	9.947	15 48 28.4	45.40	16 9.91	16 17.42	0.090
Mon.	7	14 46 56.34	9.981	16 6 30.2	44.74	16 10.15	16 14.85	0.124
Tues.	8	14 50 56.30	10.015	16 24 15.8	44.05	16 10.39	16 11.46	0.159
Wed.	9	14 54 57.08	10.050	16 41 44.7	43.35	16 10.63	16 7.24	0.193
Thur.	10	14 58 58.70	10.085	16 58 56.5	42.63	16 10.87	16 2.20	0.228
Frid.	11	15 3 1.14	10.119	17 15 50.9	41.90	16 11.10	15 56.32	0.262
Sat.	12	15 7 4.42	10.154	17 32 27.5	41.14	16 11.33	15 49.62	0.297
Sun.	13	15 11 8.54	10.189	17 48 45.8	40.37	16 11.56	15 42.08	0.331
Mon.	14	15 15 13.48	10.223	18 4 45.4	39.59	16 11.78	15 33.72	0.366
Tues.	15	15 19 19.26	10.258	18 20 26.0	38.79	16 12.00	15 24.52	0.401
Wed.	16	15 23 25.89	10.293	18 35 47.3	37.98	16 12.21	15 14.48	0.436
Thur.	17	15 27 33.35	10.329	18 50 48.8	37.14	16 12.42	15 3.60	0.471
Frid.	18	15 31 41.66	10.364	19 5 30.2	36.30	16 12.63	14 51.89	0.506
Sat.	19	15 35 50.80	10.399	19 19 51.2	35.44	16 12.83	14 39.33	0.541
Sun.	20	15 40 0.79	10.434	19 33 51.4	34.57	16 13.02	14 25.94	0.575
Mon.	21	15 44 11.62	10.468	19 47 30.4	33.68	16 13.21	14 11.71	0.610
Tues.	22	15 48 23.27	10.503	20 0 47.9	32.78	16 13.40	13 56.66	0.644
Wed.	23	15 52 35.74	10.537	20 13 43.6	31.86	16 13.58	13 40.79	0.678
Thur.	24	15 56 49.03	10.570	20 26 17.0	30.92	16 13.75	13 24.10	0.712
Frid.	25	16 1 3.11	10.603	20 38 27.8	29.97	16 13.93	13 6.62	0.744
Sat.	26	16 5 17.97	10.635	20 50 15.6	29.01	16 14.10	12 48.37	0.776
Sun.	27	16 9 33.60	10.667	21 1 40.2	28.03	16 14.27	12 29.35	0.808
Mon.	28	16 13 49.98	10.698	21 12 41.1	27.04	16 14.43	12 9.58	0.839
Tues.	29	16 18 7.09	10.728	21 23 18.0	26.03	16 14.60	11 49.09	0.869
Wed.	30	16 22 24.90	10.757	21 33 30.6	25.01	16 14.76	11 27.89	0.898
Thur.	31	16 26 43.40	10.785	S. 21 43 18.5	23.98	16 14.91	11 6.01	0.925

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AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be added to Mean Time.	Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.		
	h m s	° / "	° / "	"	m s	h m s
1	14 23 16.44	S. 14 14 43.6	218 11 32.1	N. 0.38	16 18.08	14 39 34.53
2	14 27 11.52	14 34 0.2	219 11 37.9	0.25	16 19.56	14 43 31.08
3	14 31 7.41	14 53 2.6	220 11 45.6	N. 0.11	16 20.23	14 47 27.64
4	14 35 4.09	15 11 50.5	221 11 55.0	S. 0.02	16 20.10	14 51 24.19
5	14 39 1.59	15 30 23.3	222 12 6.1	0.14	16 19.15	14 55 20.75
6	14 42 59.91	15 48 40.7	223 12 18.9	0.24	16 17.39	14 59 17.31
7	14 46 59.04	16 6 42.3	224 12 33.2	0.32	16 14.82	15 3 13.86
8	14 50 59.00	16 24 27.7	225 12 49.1	0.39	16 11.42	15 7 10.42
9	14 54 59.78	16 41 56.4	226 13 6.5	0.42	16 7.19	15 11 6.97
10	14 59 1.39	16 59 7.9	227 13 25.3	0.42	16 2.13	15 15 3.53
11	15 3 3.83	17 16 2.1	228 13 45.6	0.40	15 56.25	15 19 0.09
12	15 7 7.10	17 32 38.3	229 14 7.2	0.35	15 49.54	15 22 56.64
13	15 11 11.20	17 48 56.3	230 14 30.2	0.25	15 42.00	15 26 53.20
14	15 15 16.13	18 4 55.6	231 14 54.7	0.14	15 33.62	15 30 49.76
15	15 19 21.90	18 20 35.9	232 15 20.5	S. 0.02	15 24.41	15 34 46.31
16	15 23 28.50	18 35 56.9	233 15 47.8	N. 0.12	15 14.37	15 38 42.87
17	15 27 35.94	18 50 58.1	234 16 16.7	0.25	15 3.48	15 42 39.43
18	15 31 44.22	19 5 39.2	235 16 47.1	0.38	14 51.76	15 46 35.98
19	15 35 53.34	19 19 59.8	236 17 19.2	0.50	14 39.20	15 50 32.54
20	15 40 3.30	19 33 59.7	237 17 53.0	0.59	14 25.80	15 54 29.10
21	15 44 14.09	19 47 38.4	238 18 28.5	0.66	14 11.57	15 58 25.65
22	15 48 25.71	20 0 55.5	239 19 5.7	0.69	13 56.51	16 2 22.21
23	15 52 38.14	20 13 50.8	240 19 44.6	0.70	13 40.63	16 6 18.77
24	15 56 51.39	20 26 23.9	241 20 25.2	0.68	13 23.94	16 10 15.33
25	16 1 5.42	20 38 34.4	242 21 7.5	0.62	13 6.46	16 14 11.88
26	16 5 20.24	20 50 21.8	243 21 51.4	0.54	12 48.20	16 18 8.44
27	16 9 35.82	21 1 46.0	244 22 36.8	0.44	12 29.18	16 22 5.00
28	16 13 52.15	21 12 46.5	245 23 23.7	0.32	12 9.41	16 26 1.56
29	16 18 9.20	21 23 23.1	246 24 12.0	0.18	11 48.92	16 29 58.12
30	16 22 26.96	21 33 35.3	247 25 1.7	N. 0.05	11 27.72	16 33 54.67
31	16 26 45.39	S. 21 43 22.9	248 25 52.6	S. 0.08	11 5.84	16 37 51.23



AT GREENWICH APPARENT NOON.

Date.	THE SUN'S					Equation of Time, to be subtracted from added to Apparent Time.	Var. in i hour.
	Apparent Right Ascension.	Var. in i hour.	Apparent Declination.	Var. in i hour.	Semi-diameter.*		
	h m s	s	° / '	'	' / ''	m s	s
Thur. 1	16 26 43.40	10.785	S. 21 43 18.5	23.98	16 14.91	11 6.01	0.925
Frid. 2	16 31 2.56	10.812	21 52 41.6	22.93	16 15.06	10 43.48	0.952
Sat. 3	16 35 22.36	10.838	22 1 39.3	21.88	16 15.21	10 20.30	0.978
Sun. 4	16 39 42.76	10.862	22 10 11.6	20.81	16 15.36	9 56.52	1.003
Mon. 5	16 44 3.75	10.886	22 18 18.1	19.73	16 15.50	9 32.15	1.027
Tues. 6	16 48 25.29	10.909	22 25 58.5	18.64	16 15.64	9 7.24	1.049
Wed. 7	16 52 47.36	10.930	22 33 12.6	17.53	16 15.78	8 41.70	1.070
Thur. 8	16 57 9.93	10.950	22 40 0.1	16.42	16 15.91	8 15.86	1.090
Frid. 9	17 1 32.96	10.969	22 46 20.9	15.31	16 16.04	7 49.45	1.109
Sat. 10	17 5 56.44	10.987	22 52 14.8	14.18	16 16.16	7 22.61	1.127
Sun. 11	17 10 20.32	11.003	22 57 41.6	13.05	16 16.28	6 55.36	1.143
Mon. 12	17 14 44.58	11.018	23 2 41.0	11.90	16 16.40	6 27.73	1.158
Tues. 13	17 19 9.19	11.032	23 7 13.0	10.76	16 16.51	5 59.76	1.172
Wed. 14	17 23 34.13	11.045	23 11 17.4	9.61	16 16.61	5 31.46	1.185
Thur. 15	17 27 59.36	11.057	23 14 54.1	8.45	16 16.71	5 2.86	1.197
Frid. 16	17 32 24.86	11.068	23 18 3.0	7.29	16 16.80	4 34.00	1.208
Sat. 17	17 36 50.60	11.077	23 20 44.0	6.13	16 16.88	4 4.89	1.217
Sun. 18	17 41 16.56	11.085	23 22 57.0	4.96	16 16.95	3 35.57	1.225
Mon. 19	17 45 42.70	11.093	23 24 42.0	3.79	16 17.03	3 6.07	1.232
Tues. 20	17 50 9.00	11.099	23 25 58.7	2.61	16 17.10	2 36.42	1.238
Wed. 21	17 54 35.43	11.103	23 26 47.3	1.44	16 17.16	2 6.63	1.243
Thur. 22	17 59 1.95	11.106	23 27 7.7	0.26	16 17.21	1 36.75	1.246
Frid. 23	18 3 28.52	11.108	23 26 59.8	0.92	16 17.26	1 6.81	1.248
Sat. 24	18 7 55.13	11.108	23 26 23.6	2.10	16 17.30	0 36.85	1.248
Sun. 25	18 12 21.72	11.107	23 25 19.1	3.28	16 17.34	0 6.90	1.247
Mon. 26	18 16 48.26	11.104	23 23 46.4	4.45	16 17.37	0 23.00	1.244
Tues. 27	18 21 14.72	11.100	23 21 45.4	5.63	16 17.40	0 52.83	1.240
Wed. 28	18 25 41.07	11.094	23 19 16.2	6.80	16 17.43	1 22.53	1.234
Thur. 29	18 30 7.25	11.087	23 16 18.9	7.97	16 17.45	1 52.07	1.227
Frid. 30	18 34 33.24	11.078	23 12 53.5	9.14	16 17.47	2 21.42	1.218
Sat. 31	18 38 59.01	11.068	23 9 0.1	10.30	16 17.48	2 50.55	1.208
Sun. 32	18 43 24.51	11.056	S. 23 4 38.9	11.46	16 17.49	3 19.41	1.196

\* The Semidiameter for Mean Noon may be assumed the same as that for Apparent Noon.

AT GREENWICH MEAN NOON.

Date.	THE SUN'S Apparent				Equation of Time, to be added to subtracted from Mean Time.	Sidereal Time.
	Right Ascension.	Declination.	Longitude.	Latitude.		
	h m s	° / '	° / '	'	m s	h m s
1	16 26 45.39	S. 21 43 22.9	248 25 52.6	S. 0.08	11 5.84	16 37 51.23
2	16 31 4.49	21 52 45.7	249 26 44.6	0.21	10 43.31	16 41 47.79
3	16 35 24.22	22 1 43.1	250 27 37.8	0.32	10 20.13	16 45 44.35
4	16 39 44.56	22 10 15.0	251 28 32.0	0.41	9 56.35	16 49 40.91
5	16 44 5.48	22 18 21.2	252 29 27.1	0.48	9 31.99	16 53 37.46
6	16 48 26.95	22 26 1.3	253 30 23.1	0.52	9 7.08	16 57 34.02
7	16 52 48.94	22 33 15.1	254 31 19.9	0.53	8 41.64	17 1 30.58
8	16 57 11.43	22 40 2.4	255 32 17.3	0.52	8 15.71	17 5 27.14
9	17 1 34.39	22 46 22.9	256 33 15.5	0.47	7 49.31	17 9 23.70
10	17 5 57.79	22 52 16.6	257 34 14.2	0.40	7 22.47	17 13 20.26
11	17 10 21.59	22 57 43.1	258 35 13.5	0.30	6 55.23	17 17 16.82
12	17 14 45.77	23 2 42.3	259 36 13.3	0.18	6 27.61	17 21 13.38
13	17 19 10.29	23 7 14.1	260 37 13.6	S. 0.05	5 59.64	17 25 9.93
14	17 23 35.14	23 11 18.3	261 38 14.5	N. 0.09	5 31.35	17 29 6.49
15	17 28 0.29	23 14 54.8	262 39 16.0	0.22	5 2.76	17 33 3.05
16	17 32 25.70	23 18 3.6	263 40 18.1	0.34	4 33.91	17 36 59.61
17	17 36 51.36	23 20 44.5	264 41 20.8	0.44	4 4.81	17 40 56.17
18	17 41 17.22	23 22 57.3	265 42 24.2	0.51	3 35.50	17 44 52.73
19	17 45 43.27	23 24 42.2	266 43 28.3	0.55	3 6.01	17 48 49.29
20	17 50 9.48	23 25 58.9	267 44 33.2	0.57	2 36.36	17 52 45.85
21	17 54 35.82	23 26 47.4	268 45 38.8	0.55	2 6.59	17 56 42.40
22	17 59 2.25	23 27 7.7	269 46 45.2	0.50	1 36.72	18 0 38.96
23	18 3 28.73	23 26 59.8	270 47 52.4	0.42	1 6.79	18 4 35.52
24	18 7 55.24	23 26 23.6	271 49 0.2	0.33	0 36.84	18 8 32.08
25	18 12 21.74	23 25 19.1	272 50 8.6	0.22	0 6.90	18 12 28.64
26	18 16 48.19	23 23 46.4	273 51 17.6	N. 0.09	0 23.00	18 16 25.20
27	18 21 14.56	23 21 45.4	274 52 27.1	S. 0.04	0 52.81	18 20 21.76
28	18 25 40.81	23 19 16.3	275 53 37.0	0.17	1 22.50	18 24 18.32
29	18 30 6.91	23 16 19.1	276 54 47.2	0.30	1 52.03	18 28 14.88
30	18 34 32.81	23 12 53.8	277 55 57.8	0.41	2 21.37	18 32 11.44
31	18 38 58.49	23 9 0.6	278 57 8.5	0.50	2 50.49	18 36 7.99
32	18 43 23.90	S. 23 4 39.6	279 58 19.3	S. 0.57	3 19.34	18 40 4.55



GREENWICH MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	d	h m	h m
1	167 37 16.7	173 41 1.2	N. 5 6 51.2	N. 4 59 2.8	19.67	17 10.3	4 49.7
2	179 41 45.8	185 40 4.9	4 48 0.1	4 33 53.3	20.67	17 50.5	5 30.5
3	191 36 35.1	197 31 54.4	4 16 53.7	3 57 12.4	21.67	18 30.3	6 10.4
4	203 26 41.2	209 21 34.8	3 35 1.0	3 10 31.3	22.67	19 10.8	6 50.4
5	215 17 13.7	221 14 15.4	2 43 56.0	2 15 28.6	23.67	19 53.0	7 31.6
6	227 13 16.1	233 14 50.1	1 45 23.7	1 13 56.8	24.67	20 38.0	8 15.1
7	239 19 29.2	245 27 42.3	N. 0 41 25.0	N. 0 8 7.3	25.67	21 26.4	9 1.8
8	251 39 54.2	257 56 25.2	S. 0 25 35.5	S. 0 59 20.8	26.67	22 18.6	9 52.0
9	264 17 31.3	270 43 22.9	1 32 44.1	2 5 18.9	27.67	23 13.9	10 45.9
10	277 14 4.5	283 49 34.5	2 36 37.9	3 6 12.2	28.67	* *	11 42.3
11	290 29 45.8	297 14 25.2	3 33 32.8	3 58 11.3	0.01	0 11.0	12 39.7
12	304 3 14.1	310 55 49.6	4 19 40.6	4 37 35.3	1.01	1 8.1	13 36.2
13	317 51 44.4	324 50 28.9	4 51 33.6	5 1 17.2	2.01	2 3.7	14 30.6
14	331 51 31.9	338 54 21.9	5 6 32.7	5 7 11.0	3.01	2 56.9	15 22.6
15	345 58 29.0	353 3 24.9	5 3 8.9	4 54 28.4	4.01	3 47.7	16 12.4
16	0 8 43.8	7 14 3.7	4 41 16.7	4 23 46.2	5.01	4 36.9	17 1.2
17	14 19 6.3	21 23 36.6	4 2 13.5	3 36 59.6	6.01	5 25.5	17 49.9
18	28 27 22.9	35 30 15.9	3 8 29.3	2 37 10.2	7.01	6 14.7	18 39.9
19	42 32 8.3	49 32 54.0	2 3 32.4	1 28 8.4	8.01	7 5.7	19 32.1
20	56 32 27.4	63 30 41.8	S. 0 51 31.8	S. 0 14 17.2	9.01	7 59.3	20 27.2
21	70 27 29.0	77 22 40.0	N. 0 23 0.5	N. 0 59 46.8	10.01	8 55.7	21 24.8
22	84 16 3.8	91 7 27.4	1 35 28.5	2 9 34.1	11.01	9 54.2	22 23.7
23	97 56 35.5	104 43 11.6	2 41 33.8	3 11 1.1	12.01	10 53.1	23 22.0
24	111 26 58.4	118 7 39.2	3 37 33.4	4 0 51.2	13.01	11 50.4	* *
25	124 44 57.6	131 18 39.0	4 20 39.6	4 36 47.9	14.01	12 44.4	0 17.9
26	137 48 31.5	144 14 26.9	4 49 9.2	4 57 40.6	15.01	13 34.6	1 10.0
27	150 36 20.9	156 54 13.3	5 2 22.6	5 3 19.3	16.01	14 20.9	1 58.2
28	163 8 9.0	169 18 17.9	5 0 37.2	4 54 24.8	17.01	15 4.2	2 42.9
29	175 24 54.3	181 28 17.5	4 44 52.0	4 32 10.6	18.01	15 45.4	3 25.0
30	187 28 51.2	193 27 3.0	4 16 32.7	3 58 11.3	19.01	16 25.5	4 5.5
31	199 23 24.1	205 18 28.5	3 37 19.6	3 14 10.9	20.01	17 5.6	4 45.5
32	211 12 53.2	217 7 17.1	N. 2 48 59.1	N. 2 21 57.9	21.01	17 46.8	5 26.0

GREENWICH MEAN TIME.

Day.	THE MOON'S								
	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.				
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
	' / "	' / "	' / "	' / "		° / ' / "	s	° / ' / "	"
1	14 58.81	14 55.27	54 52.99	54 40.03					
2	14 52.39	14 50.20	54 29.47	54 21.46					
3	14 48.73	14 47.98	54 16.07	54 13.34					
4	14 47.96	14 48.66	54 13.26	54 15.81					
5	14 50.04	14 52.10	54 20.90	54 28.43					
6	14 54.79	14 58.05	54 38.27	54 50.21					
7	15 1.82	15 6.05	55 4.05	55 19.51					
8	15 10.62	15 15.47	55 36.25	55 54.03					
9	15 20.52	15 25.67	56 12.55	56 31.42					
10	15 30.83	15 35.91	56 50.32	57 8.92					
11	15 40.81	15 45.46	57 26.89	57 43.94					
12	15 49.80	15 53.75	57 59.81	58 14.32					
13	15 57.29	16 0.39	58 27.30	58 38.65					
14	16 3.03	16 5.22	58 48.33	58 56.32					
15	16 6.96	16 8.27	59 2.69	59 7.52					
16	16 9.18	16 9.73	59 10.87	59 12.85					
17	16 9.93	16 9.82	59 13.60	59 13.18					
18	16 9.39	16 8.67	59 11.61	59 8.97					
19	16 7.68	16 6.38	59 5.32	59 0.60					
20	16 4.80	16 2.91	58 54.80	58 47.88					
21	16 0.70	15 58.16	58 39.79	58 30.49					
22	15 55.29	15 52.09	58 19.98	58 8.24					
23	15 48.57	15 44.71	57 55.29	57 41.19					
24	15 40.59	15 36.22	57 26.08	57 10.09					
25	15 31.67	15 26.98	56 53.39	56 36.22					
26	15 22.23	15 17.50	56 18.83	56 1.51					
27	15 12.88	15 8.43	55 44.55	55 28.24					
28	15 4.23	15 0.35	55 12.84	54 58.65					
29	14 56.89	14 53.91	54 45.97	54 35.02					
30	14 51.45	14 49.59	54 26.04	54 19.24					
31	14 48.37	14 47.81	54 14.74	54 12.72					
32	14 47.95	14 48.80	54 13.24	54 16.33					

SATURDAY 1.				
Hour.	h m s	s	° / ' / "	"
0	11 22 31.10	18.712	N. 9 36 9.4	124.27
4	11 29 58.41	18.568	8 46 14.0	125.33
8	11 37 22.40	18.434	7 55 54.7	126.26
12	11 44 43.34	18.313	7 5 14.6	127.06
16	11 52 1.52	18.204	6 14 16.6	127.74
20	11 59 17.22	18.107	N. 5 23 3.5	128.33

SUNDAY 2.				
Hour.	h m s	s	° / ' / "	"
0	12 6 30.72	18.021	N. 4 31 37.8	128.78
4	12 13 42.31	17.947	3 40 2.4	129.13
8	12 20 52.27	17.885	2 48 19.8	129.39
12	12 28 0.89	17.836	1 56 32.4	129.53
16	12 35 8.45	17.798	1 4 42.7	129.58
20	12 42 15.23	17.770	N. 0 12 53.2	129.53

MONDAY 3.				
Hour.	h m s	s	° / ' / "	"
0	12 49 21.51	17.755	S. 0 38 53.8	129.38
4	12 56 27.57	17.753	1 30 36.0	129.13
8	13 3 33.70	17.761	2 22 10.9	128.78
12	13 10 40.18	17.782	3 13 36.3	128.33
16	13 17 47.28	17.813	4 4 49.8	127.78
20	13 24 55.28	17.856	S. 4 55 49.0	127.13

TUESDAY 4.				
Hour.	h m s	s	° / ' / "	"
0	13 32 4.45	17.911	S. 5 46 31.6	126.40
4	13 39 15.07	17.976	6 36 55.2	125.55
8	13 46 27.41	18.053	7 26 57.3	124.61
12	13 53 41.73	18.142	8 16 35.4	123.55
16	14 0 58.31	18.242	9 5 46.9	122.39
20	14 8 17.40	18.351	S. 9 54 29.0	121.11

WEDNESDAY 5.				
Hour.	h m s	s	° / ' / "	"
0	14 15 39.25	18.473	S. 10 42 39.3	119.72
4	14 23 4.13	18.603	11 30 14.6	118.21
8	14 30 32.28	18.745	12 17 12.3	116.58
12	14 38 3.95	18.897	13 3 29.3	114.81
16	14 45 39.38	19.058	13 49 2.4	112.92
20	14 53 18.79	19.228	S. 14 33 48.5	110.89

THURSDAY 6.				
Hour.	h m s	s	° / ' / "	"
0	15 1 2.39	19.408	S. 15 17 44.3	108.73
4	15 8 50.41	19.596	16 0 46.4	106.43
8	15 16 43.04	19.792	16 42 51.4	103.96
12	15 24 40.47	19.996	17 23 55.3	101.35
16	15 32 42.88	20.207	18 3 54.6	98.57
20	15 40 50.42	20.423	S. 18 42 45.5	95.63



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: FRIDAY 7, SATURDAY 8, SUNDAY 9, MONDAY 10, TUESDAY 11, WEDNESDAY 12, THURSDAY 13, FRIDAY 14, SATURDAY 15, SUNDAY 16, MONDAY 17, TUESDAY 18, WEDNESDAY 19, THURSDAY 20.

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: FRIDAY 21, SATURDAY 22, SUNDAY 23, MONDAY 24, TUESDAY 25, WEDNESDAY 26, THURSDAY 27, FRIDAY 28, SATURDAY 29, SUNDAY 30, MONDAY 31, TUESDAY, FEB. 1. Includes PHASES OF THE MOON section at the bottom.



GREENWICH MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	d	h m	h m
1	211 12 53.2	217 7 17.1	N. 2 48 59.1	N. 2 21 57.9	21.01	17 46.8	5 26.0
2	223 2 20.6	228 58 44.9	1 53 21.7	1 23 25.1	22.01	18 30.1	6 8.1
3	234 57 11.7	240 58 22.4	N. 0 52 23.6	N. 0 20 33.7	23.01	19 16.4	6 52.8
4	247 2 56.9	253 11 33.6	S. 0 11 47.0	S. 0 44 19.4	24.01	20 6.3	7 40.9
5	259 24 47.7	265 43 10.7	1 16 42.6	1 48 34.1	25.01	20 59.7	8 32.6
6	272 7 9.3	278 37 3.9	2 19 29.7	2 49 3.2	26.01	21 56.0	9 27.6
7	285 13 7.8	291 55 26.0	3 16 46.6	3 42 11.3	27.01	22 53.7	10 24.8
8	298 43 54.5	305 38 20.1	4 4 48.5	4 24 9.4	28.01	23 50.9	11 22.4
9	312 38 19.5	319 43 20.3	4 39 47.3	4 51 18.2	29.01	* *	12 18.9
10	326 52 41.8	334 5 36.6	4 58 22.3	5 0 44.7	0.45	0 46.4	13 13.3
11	341 21 12.0	348 38 32.8	4 58 17.1	4 50 57.9	1.45	1 39.7	14 5.6
12	355 56 43.7	3 14 51.2	4 38 52.2	4 22 12.4	2.45	2 31.0	14 56.2
13	10 32 6.8	17 47 47.5	4 1 16.9	3 36 30.1	3.45	3 21.2	15 46.2
14	25 1 17.6	32 12 9.2	3 8 20.5	2 37 20.1	4.45	4 11.3	16 36.7
15	39 20 2.0	46 24 43.1	2 4 2.7	1 29 3.7	5.45	5 2.5	17 28.7
16	53 26 5.5	60 24 7.8	S. 0 52 58.6	S. 0 16 22.8	6.45	5 55.5	18 22.9
17	67 18 52.5	74 10 24.7	N. 0 20 10.0	N. 0 56 7.6	7.45	6 50.8	19 19.2
18	80 58 51.3	87 44 19.3	1 30 59.7	2 4 17.8	8.45	7 48.0	20 16.9
19	94 26 55.3	101 6 44.9	2 35 36.4	3 4 31.8	9.45	8 45.8	21 14.4
20	107 43 52.1	114 18 19.0	3 30 43.6	3 53 54.1	10.45	9 42.6	22 10.1
21	120 50 5.8	127 19 10.8	4 13 48.8	4 30 16.1	11.45	10 36.8	23 2.7
22	133 45 31.5	140 9 4.2	4 43 7.7	4 52 18.5	12.45	11 27.6	23 51.7
23	146 29 45.4	152 47 31.8	4 57 46.5	4 59 32.6	13.45	12 14.9	* *
24	159 2 21.5	165 14 14.4	4 57 40.6	4 52 16.8	14.45	12 59.1	0 37.3
25	171 23 13.1	177 29 22.6	4 43 29.7	4 31 29.8	15.45	13 40.9	1 20.2
26	183 32 51.5	189 33 51.9	4 16 28.8	3 58 40.2	16.45	14 21.4	2 1.3
27	195 32 39.8	201 29 34.3	3 38 17.9	3 15 36.9	17.45	15 1.5	2 41.5
28	207 24 58.9	213 19 20.3	2 50 52.1	2 24 18.8	18.45	15 42.2	3 21.7
29	219 13 8.8	225 6 57.4	N. 1 56 12.6	N. 1 26 49.8	19.45	16 24.4	4 3.0

GREENWICH MEAN TIME.

Day.	THE MOON'S								
	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.				
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
	' / "	' / "	' / "	' / "		h m s	s	° / ' / "	"
1	14 47.95	14 48.80	54 13.24	54 16.33					
2	14 50.37	14 52.67	54 22.09	54 30.50					
3	14 55.66	14 59.33	54 41.46	54 54.91					
4	15 3.64	15 8.53	55 10.69	55 28.59					
5	15 13.93	15 19.75	55 48.38	56 9.75					
6	15 25.93	15 32.33	56 32.36	56 55.80					
7	15 38.83	15 45.30	57 19.62	57 43.35					
8	15 51.60	15 57.61	58 6.45	58 28.46					
9	16 3.19	16 8.21	58 48.89	59 7.28					
10	16 12.56	16 16.17	59 23.24	59 36.45					
11	16 18.95	16 20.90	59 46.68	59 53.81					
12	16 21.99	16 22.27	59 57.83	59 58.81					
13	16 21.75	16 20.53	59 56.93	59 52.43					
14	16 18.66	16 16.26	59 45.60	59 36.78					
15	16 13.40	16 10.16	59 26.28	59 14.42					
16	16 6.64	16 2.90	59 1.53	58 47.86					
17	15 59.03	15 55.05	58 33.65	58 19.09					
18	15 51.03	15 46.98	58 4.33	57 49.47					
19	15 42.91	15 38.85	57 34.58	57 19.72					
20	15 34.82	15 30.79	57 4.92	56 50.19					
21	15 26.80	15 22.85	56 35.57	56 21.10					
22	15 18.95	15 15.11	56 6.80	55 52.73					
23	15 11.36	15 7.71	55 38.97	55 25.60					
24	15 4.21	15 0.88	55 12.76	55 0.58					
25	14 57.77	14 54.93	54 49.20	54 38.80					
26	14 52.41	14 50.25	54 29.55	54 21.63					
27	14 48.50	14 47.21	54 15.23	54 10.50					
28	14 46.42	14 46.20	54 7.63	54 6.81					
29	14 46.57	14 47.58	54 8.18	54 11.84					

TUESDAY 1.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	14 0 13.22	18.189	S. 9 15 26.4	122.15
4	14 7 30.86	18.283	10 4 1.6	120.76
8	14 14 50.88	18.388	10 52 2.0	119.25
12	14 22 13.53	18.502	11 39 24.8	117.63
16	14 29 39.06	18.628	12 26 7.6	115.90
20	14 37 7.71	18.763	S. 13 12 7.4	114.06

WEDNESDAY 2.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	14 44 39.73	18.908	S. 13 57 21.3	112.08
4	14 52 15.35	19.063	14 41 46.6	110.00
8	14 59 54.79	19.226	15 25 20.3	107.78
12	15 7 38.27	19.399	16 7 59.2	105.43
16	15 15 26.02	19.581	16 49 40.1	102.95
20	15 23 18.22	19.771	S. 17 30 19.8	100.33

THURSDAY 3.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	15 31 15.08	19.968	S. 18 9 54.7	97.56
4	15 39 16.76	20.173	18 48 21.5	94.65
8	15 47 23.44	20.384	19 25 36.6	91.58
12	15 55 35.26	20.601	20 1 36.2	88.36
16	16 3 52.34	20.823	20 36 16.6	84.98
20	16 12 14.81	21.050	S. 21 9 33.9	81.43

FRIDAY 4.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	16 20 42.74	21.279	S. 21 41 24.2	77.73
4	16 29 16.21	21.511	22 11 43.4	73.84
8	16 37 55.27	21.744	22 40 27.5	69.80
12	16 46 39.92	21.978	23 7 32.3	65.58
16	16 55 30.16	22.209	23 32 53.6	61.17
20	17 4 25.95	22.439	S. 23 56 27.4	56.61

SATURDAY 5.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	17 13 27.23	22.666	S. 24 18 9.6	51.87
4	17 22 33.88	22.888	24 37 56.0	46.96
8	17 31 45.77	23.102	24 55 42.5	41.88
12	17 41 2.73	23.310	25 11 25.2	36.65
16	17 50 24.57	23.508	25 25 0.4	31.25
20	17 59 51.05	23.697	S. 25 36 24.2	25.71

SUNDAY 6.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	18 9 21.91	23.873	S. 25 45 33.1	20.02
4	18 18 56.85	24.037	25 52 24.1	14.20
8	18 28 35.55	24.186	25 56 53.9	8.26
12	18 38 17.65	24.320	25 58 59.7	2.21
16	18 48 2.80	24.438	25 58 39.1	3.94
20	18 57 50.58	24.540	S. 25 55 49.9	10.17



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
<b>MONDAY 7.</b>					<b>MONDAY 14.</b>				
0	19 7 40.60	24.625	S. 25 50 30.3	16.47	0	1 37 18.68	21.895	N. 6 45 48.1	153.67
4	19 17 32.43	24.691	25 42 39.0	22.82	4	1 46 4.84	21.955	7 46 54.4	151.82
8	19 27 25.63	24.739	25 32 14.8	29.19	8	1 54 52.57	22.025	8 47 13.6	149.73
12	19 37 19.78	24.769	25 19 17.4	35.59	12	2 3 42.12	22.106	9 46 40.0	147.43
16	19 47 14.44	24.782	25 3 46.5	41.98	16	2 12 33.72	22.196	10 45 8.0	144.88
20	19 57 9.18	24.776	S. 24 45 42.6	48.35	20	2 21 27.60	22.296	N. 11 42 32.1	142.09
<b>TUESDAY 8.</b>					<b>TUESDAY 15.</b>				
0	20 7 3.58	24.754	S. 24 25 6.2	54.68	0	2 30 23.96	22.403	N. 12 38 46.8	139.09
4	20 16 57.24	24.714	24 1 58.5	60.95	4	2 39 23.00	22.519	13 33 46.7	135.87
8	20 26 49.78	24.660	23 36 21.1	67.15	8	2 48 24.91	22.641	14 27 26.5	132.41
12	20 36 40.83	24.591	23 8 16.2	73.24	12	2 57 29.82	22.770	15 19 41.0	128.76
16	20 46 30.05	24.508	22 37 46.3	79.23	16	3 6 37.89	22.904	16 10 25.0	124.88
20	20 56 17.13	24.413	S. 22 4 54.1	85.08	20	3 15 49.24	23.043	N. 16 59 33.4	120.78
<b>WEDNESDAY 9.</b>					<b>WEDNESDAY 16.</b>				
0	21 6 1.79	24.307	S. 21 29 43.2	90.80	0	3 25 3.94	23.183	N. 17 47 1.4	116.50
4	21 15 43.78	24.191	20 52 17.2	96.34	4	3 34 22.06	23.327	18 32 44.0	112.01
8	21 25 22.89	24.067	20 12 40.0	101.72	8	3 43 43.64	23.471	19 16 36.6	107.33
12	21 34 58.93	23.936	19 30 56.0	106.91	12	3 53 8.68	23.616	19 58 34.6	102.47
16	21 44 31.76	23.799	18 47 10.1	111.88	16	4 2 37.15	23.757	20 38 33.7	97.42
20	21 54 1.27	23.659	S. 18 1 27.0	116.66	20	4 12 9.00	23.896	N. 21 16 29.6	92.21
<b>THURSDAY 10.</b>					<b>THURSDAY 17.</b>				
0	22 3 27.39	23.517	S. 17 13 52.0	121.21	0	4 21 44.12	24.030	N. 21 52 18.4	86.83
4	22 12 50.07	23.373	16 24 30.5	125.54	4	4 31 22.41	24.159	22 25 56.2	81.30
8	22 22 9.31	23.230	15 33 28.1	129.63	8	4 41 3.70	24.280	22 57 19.5	75.62
12	22 31 25.11	23.088	14 40 50.6	133.46	12	4 50 47.79	24.393	23 26 24.9	69.81
16	22 40 37.53	22.948	13 46 44.0	137.04	16	5 0 34.47	24.495	23 53 9.4	63.88
20	22 49 46.66	22.813	S. 12 51 14.5	140.38	20	5 10 23.47	24.586	N. 24 17 30.2	57.83
<b>FRIDAY 11.</b>					<b>FRIDAY 18.</b>				
0	22 58 52.60	22.683	S. 11 54 28.0	143.43	0	5 20 14.51	24.664	N. 24 39 24.8	51.69
4	23 7 55.47	22.558	10 56 31.1	146.25	4	5 30 7.28	24.730	24 58 51.0	45.48
8	23 16 55.44	22.439	9 57 30.0	148.79	8	5 40 1.42	24.779	25 15 47.2	39.18
12	23 25 52.64	22.330	8 57 31.0	151.07	12	5 49 56.57	24.813	25 30 11.7	32.86
16	23 34 47.30	22.228	7 56 40.6	153.08	16	5 59 52.35	24.832	25 42 3.8	26.48
20	23 43 39.61	22.133	S. 6 55 5.2	154.82	20	6 9 48.36	24.833	N. 25 51 22.7	20.09
<b>SATURDAY 12.</b>					<b>SATURDAY 19.</b>				
0	23 52 29.79	22.050	S. 5 52 51.1	156.30	0	6 19 44.19	24.817	N. 25 58 8.1	13.70
4	0 1 18.08	21.976	4 50 4.9	157.51	4	6 29 39.41	24.783	26 2 20.0	7.31
8	0 10 4.71	21.913	3 46 52.9	158.44	8	6 39 33.59	24.731	26 3 59.2	0.95
12	0 18 49.94	21.859	2 43 21.4	159.12	12	6 49 26.33	24.662	26 3 6.2	5.36
16	0 27 34.04	21.818	1 39 36.9	159.53	16	6 59 17.20	24.574	25 59 42.5	11.61
20	0 36 17.28	21.787	S. 0 35 45.6	159.68	20	7 9 5.77	24.471	N. 25 53 49.7	17.78
<b>SUNDAY 13.</b>					<b>SUNDAY 20.</b>				
0	0 44 59.92	21.768	N. 0 28 6.3	159.58	0	7 18 51.68	24.352	N. 25 45 29.9	23.86
4	0 53 42.25	21.761	1 31 52.6	159.23	4	7 28 34.54	24.217	25 34 45.4	20.83
8	1 2 24.52	21.764	2 35 27.2	158.62	8	7 38 13.98	24.068	25 21 39.0	35.68
12	1 11 7.02	21.780	3 38 44.1	157.74	12	7 47 49.68	23.905	25 6 13.5	41.41
16	1 19 50.04	21.807	4 41 37.1	156.63	16	7 57 21.33	23.730	24 48 32.3	47.00
20	1 28 33.84	21.845	N. 5 44 0.4	155.27	20	8 6 48.64	23.544	N. 24 28 38.9	52.43

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
<b>MONDAY 21.</b>					<b>MONDAY 28.</b>				
0	8 16 11.37	23.348	N. 24 6 36.9	57.70	0	13 45 53.61	18.054	S. 7 53 48.3	125.33
4	8 25 29.29	23.144	23 42 30.4	62.81	4	13 53 7.66	18.119	8 43 41.0	124.03
8	8 34 42.22	22.933	23 16 23.5	67.73	8	14 0 23.37	18.192	9 33 1.3	122.63
12	8 43 49.99	22.714	22 48 20.5	72.48	12	14 7 40.97	18.276	10 21 46.5	121.12
16	8 52 52.49	22.493	22 18 25.8	77.04	16	14 15 0.69	18.369	11 9 54.0	119.48
20	9 1 49.62	22.268	N. 21 46 43.8	81.42	20	14 22 22.76	18.472	S. 11 57 21.0	117.74
<b>TUESDAY 22.</b>					<b>TUESDAY, MAR. 1.</b>				
0	9 10 41.30	22.040	N. 21 13 19.1	85.61	0	14 29 47.41	18.584	S. 12 44 4.9	115.89
4	9 19 27.51	21.812	20 38 16.4	89.58					
8	9 28 8.24	21.583	20 1 40.4	93.38					
12	9 36 43.50	21.356	19 23 35.4	96.98					
16	9 45 13.35	21.132	18 44 6.4	100.39					
20	9 53 37.84	20.910	N. 18 3 18.1	103.61					
<b>WEDNESDAY 23.</b>					<b>PHASES OF THE MOON.</b>				
0	10 1 57.06	20.693	N. 17 21 14.8	106.63					
4	10 10 11.12	20.480	16 38 1.2	109.46					
8	10 18 20.14	20.273	15 53 41.8	112.12					
12	10 26 24.26	20.072	15 8 21.0	114.58					
16	10 34 23.64	19.878	14 22 3.1	116.88					
20	10 42 18.43	19.691	N. 13 34 52.4	118.98					
<b>THURSDAY 24.</b>									
0	10 50 8.84	19.511	N. 12 46 53.1	120.93					
4	10 57 55.04	19.341	11 58 9.3	122.70					
8	11 5 37.24	19.178	11 8 44.8	124.31					
12	11 13 15.64	19.024	10 18 43.6	125.76					
16	11 20 50.46	18.879	9 28 9.5	127.05					
20	11 28 21.91	18.744	N. 8 37 6.2	128.20					
<b>FRIDAY 25.</b>									
0	11 35 50.22	18.618	N. 7 45 37.2	129.19					
4	11 43 15.62	18.501	6 53 46.1	130.04					
8	11 50 38.34	18.394	6 1 36.2	130.76					
12	11 57 58.62	18.298	5 9 11.0	131.32					
16	12 5 16.69	18.210	4 16 33.7	131.77					
20	12 12 32.79	18.133	N. 3 23 47.3	132.08					
<b>SATURDAY 26.</b>									
0	12 19 47.16	18.066	N. 2 30 55.1	132.26					
4	12 27 0.06	18.010	1 38 0.0	132.32					
8	12 34 11.71	17.963	N. 0 45 5.0	132.25					
12	12 41 22.37	17.928	S. 0 7 47.1	132.07					
16	12 48 32.28	17.900	1 0 33.3	131.77					
20	12 55 41.67	17.884	S. 1 53 11.0	131.36					
<b>SUNDAY 27.</b>									
0	13 2 50.80	17.878	S. 2 45 37.5	130.83					
4	13 9 59.91	17.883	3 37 49.8	130.18					
8	13 17 9.24	17.897	4 29 45.4	129.43					
12	13 24 19.03	17.922	5 21 21.7	128.57					
16	13 31 29.54	17.956	6 12 36.1	127.60					
20	13 38 40.98	18.000	S. 7 3 25.8	126.53					

Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
Feb. 1	1	☾	Last Quarter	23 27.1
9	9	●	New Moon	13 13.0
16	16	☽	First Quarter	6 32.5
23	23	☾	Full Moon	15 35.8
Feb. 12	12	☾	Perigee	10.0
28	28	☾	Apogee	10.6



GREENWICH MEAN TIME.

THE MOON'S

Day.	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.		Upper.	Lower.
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	d	h m	h m
1	219 13 8.8	225 6 57.4	N. 1 56 12.6	N. 1 26 49.8	19.45	16 24.4	4 3.0
2	231 1 21.7	236 57 0.3	N. 0 56 26.5	N. 0 25 18.6	20.45	17 8.9	4 46.3
3	242 54 33.1	248 54 41.4	S. 0 6 17.0	S. 0 38 2.7	21.45	17 56.5	5 32.3
4	254 58 6.7	261 5 30.9	1 9 40.3	1 40 50.2	22.45	18 47.5	6 21.6
5	267 17 34.3	273 34 55.5	2 11 12.0	2 40 23.6	23.45	19 41.5	7 14.1
6	279 58 9.4	286 27 46.2	3 8 1.3	3 33 40.1	24.45	20 37.5	8 9.3
7	293 4 10.2	299 47 38.1	3 56 53.8	4 17 15.3	25.45	21 34.3	9 5.9
8	306 38 16.8	313 36 3.0	4 34 17.6	4 47 34.4	26.45	22 30.4	10 2.5
9	320 40 41.6	327 51 45.3	4 56 41.2	5 1 16.4	27.45	23 25.1	10 57.9
10	335 8 35.2	342 30 20.9	5 1 3.4	4 55 51.8	28.45	* *	11 51.8
11	349 56 1.9	357 24 30.5	4 45 38.2	4 30 27.6	29.45	0 18.1	12 44.1
12	4 54 35.6	12 25 4.1	4 10 32.8	3 46 15.3	0.99	1 10.0	13 35.9
13	19 54 45.8	27 22 35.6	3 18 3.7	2 46 32.7	1.99	2 1.8	14 27.9
14	34 47 36.2	42 8 59.1	2 12 21.0	1 36 10.3	2.99	2 54.3	15 21.2
15	49 26 6.8	56 38 32.1	S. 0 58 43.1	S. 0 20 41.2	3.99	3 48.6	16 16.5
16	63 45 57.4	70 48 13.8	N. 0 17 16.0	N. 0 54 31.3	4.99	4 44.8	17 13.6
17	77 45 21.2	84 37 25.1	1 30 31.2	2 4 45.9	5.99	5 42.7	18 12.0
18	91 24 35.7	98 7 6.2	2 36 49.6	3 6 20.2	6.99	6 41.2	19 10.1
19	104 45 12.5	111 19 11.5	3 32 59.2	3 56 31.3	7.99	7 38.5	20 6.3
20	117 49 19.7	124 15 53.1	4 16 44.2	4 33 28.6	8.99	8 33.2	20 59.3
21	130 39 6.9	136 59 14.9	4 46 37.9	4 56 8.3	9.99	9 24.5	21 48.7
22	143 16 28.8	149 30 59.1	5 1 58.2	5 4 8.2	10.99	10 12.1	22 34.7
23	155 42 55.4	161 52 25.9	5 2 41.3	4 57 42.7	11.99	10 56.6	23 17.9
24	167 59 38.0	174 4 38.9	4 49 19.5	4 37 40.4	12.99	11 38.7	23 59.1
25	180 7 36.5	186 8 38.6	4 22 56.1	4 5 18.7	13.99	12 19.3	* *
26	192 7 54.7	198 5 35.4	3 45 1.8	3 22 20.0	14.99	12 59.3	0 39.3
27	204 1 53.6	209 57 4.2	2 57 29.0	2 30 44.7	15.99	13 39.6	1 19.4
28	215 51 24.6	221 45 14.5	2 2 24.1	1 32 44.2	16.99	14 21.2	2 0.2
29	227 38 56.6	233 32 56.3	N. 1 2 2.5	N. 0 30 37.0	17.99	15 4.7	2 42.6
30	239 27 41.4	245 23 42.5	S. 0 1 14.6	S. 0 33 14.3	18.99	15 50.8	3 27.4
31	251 21 32.5	257 21 46.1	1 5 3.8	1 36 24.1	19.99	16 39.9	4 15.0
32	263 24 59.7	269 31 50.6	S. 2 6 56.0	S. 2 36 19.8	20.99	17 31.8	5 5.5

GREENWICH MEAN TIME.

THE MOON'S

Day.	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.				
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
	' / "	' / "	' / "	' / "		° / ' / "		° / ' / "	
1	14 46.57	14 47.58	54 8.18	54 11.84					
2	14 49.23	14 51.56	54 17.91	54 26.45					
3	14 54.58	14 58.30	54 37.53	54 51.14					
4	15 2.69	15 7.74	55 7.24	55 25.71					
5	15 13.39	15 19.60	55 46.41	56 9.17					
6	15 26.29	15 33.39	56 33.72	56 59.70					
7	15 40.77	15 48.31	57 26.74	57 54.34					
8	15 55.82	16 3.16	58 21.90	58 48.79					
9	16 10.15	16 16.63	59 14.41	59 38.14					
10	16 22.41	16 27.33	59 59.32	60 17.37					
11	16 31.28	16 34.13	60 31.81	60 42.26					
12	16 35.82	16 36.33	60 48.46	60 50.33					
13	16 35.67	16 33.90	60 47.91	60 41.44					
14	16 31.14	16 27.48	60 31.31	60 17.93					
15	16 23.07	16 18.04	60 1.74	59 43.31					
16	16 12.56	16 6.79	59 23.24	59 2.06					
17	16 0.82	15 54.80	58 40.23	58 18.18					
18	15 48.83	15 42.98	57 56.27	57 34.81					
19	15 37.30	15 31.86	57 14.03	56 54.11					
20	15 26.69	15 21.80	56 35.15	56 17.26					
21	15 17.22	15 12.95	56 0.47	55 44.77					
22	15 8.96	15 5.27	55 30.18	55 16.66					
23	15 1.87	14 58.76	55 4.21	54 52.82					
24	14 55.93	14 53.39	54 42.46	54 33.14					
25	14 51.14	14 49.18	54 24.90	54 17.73					
26	14 47.53	14 46.21	54 11.68	54 6.84					
27	14 45.24	14 44.65	54 3.30	54 1.15					
28	14 44.47	14 44.72	54 0.48	54 1.42					
29	14 45.45	14 46.68	54 4.07	54 8.58					
30	14 48.46	14 50.78	54 15.07	54 23.59					
31	14 53.70	14 57.23	54 34.28	54 47.23					
32	15 1.38	15 6.14	55 2.43	55 19.86					

TUESDAY 1.					
h	m	s	° / ' / "	"	
0	14 29	47.41	18.584	S. 12 44 4.9	115.89
4	14 37	14.85	18.704	13 30 2.8	113.92
8	14 44	45.31	18.835	14 15 12.1	111.83
12	14 52	18.99	18.973	14 59 29.6	109.62
16	14 59	56.10	19.121	15 42 52.6	107.28
20	15 7	36.83	19.276	S. 16 25 18.3	104.83

WEDNESDAY 2.					
h	m	s	° / ' / "	"	
0	15 15	21.38	19.438	S. 17 6 43.5	102.25
4	15 23	9.93	19.608	17 47 5.2	99.53
8	15 31	2.65	19.787	18 26 20.1	96.69
12	15 38	59.71	19.970	19 4 25.2	93.71
16	15 47	1.25	20.159	19 41 17.1	90.59
20	15 55	7.41	20.355	S. 20 16 52.5	87.33

THURSDAY 3.					
h	m	s	° / ' / "	"	
0	16 3	18.32	20.555	S. 20 51 8.0	83.93
4	16 11	34.07	20.759	21 24 0.0	80.38
8	16 19	54.76	20.966	21 55 25.1	76.68
12	16 28	20.46	21.176	22 25 19.7	72.83
16	16 36	51.21	21.387	22 53 40.1	68.84
20	16 45	27.05	21.599	S. 23 20 22.8	64.69

FRIDAY 4.					
h	m	s	° / ' / "	"	
0	16 54	7.98	21.812	S. 23 45 24.0	60.38
4	17 2	53.98	22.022	24 8 40.0	55.93
8	17 11	45.02	22.230	24 30 7.2	51.32
12	17 20	41.01	22.435	24 49 41.9	46.55
16	17 29	41.87	22.636	25 7 20.6	41.64
20	17 38	47.46	22.829	S. 25 22 59.7	36.58

SATURDAY 5.					
h	m	s	° / ' / "	"	
0	17 47	57.65	23.018	S. 25 36 35.6	31.39
4	17 57	12.25	23.198	25 48 5.2	26.05
8	18 6	31.07	23.368	25 57 25.0	20.58
12	18 15	53.86	23.529	26 4 32.0	14.98
16	18 25	20.39	23.679	26 9 23.3	9.27
20	18 34	50.37	23.817	S. 26 11 56.2	3.45

SUNDAY 6.					
h	m	s	° / ' / "	"	
0	18 44	23.51	23.942	S. 26 12 8.2	2.48
4	18 53	59.48	24.053	26 9 57.0	8.48
8	19 3	37.96	24.151	26 5 20.7	14.57
12	19 13	18.60	24.234	25 58 17.5	20.71
16	19 23	1.06	24.302	25 48 46.1	26.91
20	19 32	44.99	24.355	S. 25 36 45.5	33.15



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days Monday 7 to Sunday 13 and Monday 14 to Sunday 20.

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days Monday 21 to Friday April 1 and Phases of the Moon.



GREENWICH MEAN TIME.

THE MOON'S								
Day.	Longitude.		Latitude.		Age.	Meridian Passage.		
	Noon.	Midnight.	Noon.	Midnight.		Noon.	Upper.	
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	d	h m	h m	
1	263 24 59.7	269 31 50.6	S. 2 6 56.0	S. 2 36 19.8	20.99	17 31.8	5 5.5	
2	275 42 56.9	281 58 55.5	3 4 14.9	3 30 20.0	21.99	18 25.8	5 58.6	
3	288 20 22.2	294 47 50.4	3 54 12.7	4 15 29.9	22.99	19 20.8	6 53.2	
4	301 21 49.2	308 2 42.2	4 33 48.3	4 48 43.8	23.99	20 15.7	7 48.3	
5	314 50 46.2	321 46 9.6	4 59 53.1	5 6 53.8	24.99	21 9.6	8 42.8	
6	328 48 50.0	335 58 33.9	5 9 26.0	5 7 13.1	25.99	22 2.4	9 36.1	
7	343 14 55.6	350 37 16.5	5 0 3.0	4 47 50.4	26.99	22 54.4	10 28.4	
8	358 4 46.2	5 36 23.5	4 30 37.2	4 8 33.6	27.99	23 46.4	11 20.3	
9	13 10 58.8	20 47 16.4	3 41 58.5	3 11 19.9	28.99	* *	12 12.7	
10	28 23 58.2	35 59 46.9	2 37 13.3	2 0 20.6	0.61	0 39.3	13 6.5	
11	43 33 29.5	51 3 59.6	1 21 28.0	S. 0 41 24.3	1.61	1 34.3	14 2.7	
12	58 30 20.0	65 51 43.4	S. 0 0 57.7	N. 0 39 5.1	2.61	2 31.7	15 1.3	
13	73 7 34.4	80 17 28.3	N. 1 18 1.3	1 55 12.5	3.61	3 31.4	16 1.7	
14	87 21 10.5	94 18 36.1	2 30 5.9	3 2 14.2	4.61	4 32.1	17 2.2	
15	101 9 48.2	107 54 56.6	3 31 15.9	3 56 54.3	5.61	5 31.8	18 0.7	
16	114 34 16.1	121 8 5.8	4 18 57.3	4 37 16.6	6.61	6 28.8	18 55.8	
17	127 36 47.2	134 0 43.8	4 51 47.8	5 2 29.1	7.61	7 21.8	19 46.7	
18	140 20 19.2	146 35 58.1	5 9 21.3	5 12 26.9	8.61	8 10.7	20 33.7	
19	152 48 4.2	158 57 0.3	5 11 50.4	5 7 37.9	9.61	8 55.9	21 17.4	
20	165 3 8.2	171 6 48.4	4 59 57.0	4 48 56.7	10.61	9 38.3	21 58.8	
21	177 8 20.5	183 8 2.2	4 34 47.2	4 17 39.6	11.61	10 18.9	22 38.8	
22	189 6 10.5	195 3 1.4	3 57 46.3	3 35 21.2	12.61	10 58.7	23 18.6	
23	200 58 50.2	206 53 51.9	3 10 39.0	2 43 55.3	13.61	11 38.6	23 58.9	
24	212 48 21.8	218 42 34.7	2 15 26.4	1 45 29.9	14.61	12.19.6	* *	
25	224 36 46.2	230 31 12.9	1 14 23.7	N. 0 42 26.4	15.61	13 2.5	0 40.8	
26	236 26 12.3	242 22 3.4	N. 0 9 57.1	S. 0 22 44.9	16.61	13 47.8	1 24.8	
27	248 19 6.3	254 17 42.8	S. 0 55 20.0	1 27 28.3	17.61	14 35.9	2 11.5	
28	260 18 16.1	266 21 11.4	1 58 50.0	2 29 4.7	18.61	15 26.7	3 1.0	
29	272 26 55.0	278 35 54.6	2 57 52.5	3 24 52.9	19.61	16 19.5	3 52.9	
30	284 48 38.6	291 5 35.9	3 49 45.8	4 12 10.5	20.61	17 13.2	4 46.3	
31	297 27 14.9	303 54 3.3	S. 4 31 46.8	S. 4 48 14.2	21.61	18 6.8	5 40.1	

GREENWICH MEAN TIME.

THE MOON'S										
Day.	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.					
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.		Var. in 10 <sup>m</sup> .
	' / "	' / "	' / "	' / "		h m s	s	° / ' / "	' / "	
1	15 1.38	15 6.14	55 2.43	55 19.86						
2	15 11.51	15 17.45	55 39.51	56 1.31						
3	15 23.94	15 30.91	56 25.09	56 50.63						
4	15 38.29	15 45.97	57 17.65	57 45.76						
5	15 53.81	16 1.69	58 14.52	58 43.40						
6	16 9.44	16 16.86	59 11.77	59 38.95						
7	16 23.74	16 29.92	60 4.22	60 26.86						
8	16 35.20	16 39.40	60 46.19	61 1.58						
9	16 42.39	16 44.07	61 12.53	61 18.67						
10	16 44.38	16 43.32	61 19.81	61 15.94						
11	16 40.95	16 37.38	61 7.27	60 54.17						
12	16 32.73	16 27.17	60 37.15	60 16.79						
13	16 20.88	16 14.07	59 53.75	59 28.75						
14	16 6.90	15 59.54	59 2.47	58 35.52						
15	15 52.16	15 44.89	58 8.47	57 41.81						
16	15 37.83	15 31.09	57 15.96	56 51.27						
17	15 24.73	15 18.81	56 27.99	56 6.29						
18	15 13.36	15 8.38	55 46.29	55 28.08						
19	15 3.91	14 59.93	55 11.69	54 57.10						
20	14 56.42	14 53.38	54 44.25	54 33.10						
21	14 50.78	14 48.63	54 23.61	54 15.71						
22	14 46.88	14 45.53	54 9.31	54 4.35						
23	14 44.55	14 43.95	54 0.79	53 58.57						
24	14 43.71	14 43.82	53 57.67	53 58.08						
25	14 44.29	14 45.13	53 59.82	54 2.89						
26	14 46.34	14 47.94	54 7.33	54 13.20						
27	14 49.95	14 52.39	54 20.55	54 29.47						
28	14 55.27	14 58.61	54 40.02	54 52.26						
29	15 2.42	15 6.74	55 6.25	55 22.04						
30	15 11.55	15 16.84	55 39.66	55 59.07						
31	15 22.61	15 28.83	56 20.21	56 42.99						
<b>FRIDAY 1.</b>										
0	17 30 48.97	22.306	S. 25 24 1.2	40.35						
4	17 39 46.30	22.471	25 39 10.2	35.38						
8	17 48 47.53	22.629	25 52 18.3	30.28						
12	17 57 52.47	22.780	26 3 22.7	25.07						
16	18 7 0.94	22.923	26 12 20.6	19.75						
20	18 16 12.71	23.056	S. 26 19 9.7	14.32						
<b>SATURDAY 2.</b>										
0	18 25 27.56	23.179	S. 26 23 47.3	8.80						
4	18 34 45.23	23.292	26 26 11.5	3.19						
8	18 44 5.47	23.393	26 26 20.0	2.49						
12	18 53 28.00	23.483	26 24 11.4	8.24						
16	19 2 52.54	23.560	26 19 43.9	14.07						
20	19 12 18.80	23.626	S. 26 12 56.1	19.93						
<b>SUNDAY 3.</b>										
0	19 21 46.49	23.679	S. 26 3 47.1	25.83						
4	19 31 15.31	23.720	25 52 15.9	31.77						
8	19 40 44.97	23.749	25 38 22.0	37.73						
12	19 50 15.17	23.766	25 22 5.2	43.68						
16	19 59 45.62	23.770	25 3 25.5	49.63						
20	20 9 16.06	23.764	S. 24 42 23.0	55.57						
<b>MONDAY 4.</b>										
0	20 18 46.23	23.748	S. 24 18 58.6	61.47						
4	20 28 15.87	23.721	23 53 12.9	67.33						
8	20 37 44.75	23.685	23 25 7.1	73.13						
12	20 47 12.66	23.640	22 54 42.8	78.88						
16	20 56 39.42	23.588	22 22 1.7	84.54						
20	21 6 4.84	23.529	S. 21 47 5.7	90.11						
<b>TUESDAY 5.</b>										
0	21 15 28.79	23.465	S. 21 9 57.2	95.58						
4	21 24 51.14	23.397	20 30 38.9	100.93						
8	21 34 11.81	23.326	19 49 13.4	106.16						
12	21 43 30.72	23.250	19 5 44.2	111.25						
16	21 52 47.81	23.174	18 20 14.5	116.10						
20	22 2 3.07	23.098	S. 17 32 48.2	120.98						
<b>WEDNESDAY 6.</b>										
0	22 11 16.52	23.023	S. 16 43 28.9	125.59						
4	22 20 28.16	22.948	15 52 21.1	130.03						
8	22 29 38.04	22.877	14 59 29.1	134.28						
12	22 38 46.26	22.808	14 4 57.5	138.32						
16	22 47 52.89	22.745	13 8 51.4	142.15						
20	22 56 58.06	22.687	S. 12 11 15.8	145.78						



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: THURSDAY 7, THURSDAY 14, FRIDAY 8, FRIDAY 15, SATURDAY 9, SATURDAY 16, SUNDAY 10, SUNDAY 17, MONDAY 11, MONDAY 18, TUESDAY 12, TUESDAY 19, WEDNESDAY 13, WEDNESDAY 20.

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: THURSDAY 21, THURSDAY 28, FRIDAY 22, FRIDAY 29, SATURDAY 23, SATURDAY 30, SUNDAY 24, SUNDAY, MAY 1, MONDAY 25, PHASES OF THE MOON, TUESDAY 26, WEDNESDAY 27.



GREENWICH MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	° / ' "	° / ' "	° / ' "	° / ' "	d	h m	h m
1	297 27 14.9	303 54 3.3	S. 4 31 46.8	S. 4 48 14.2	21.61	18 6.8	5 40.1
2	310 26 26.5	317 4 47.0	5 1 12.9	5 10 23.8	22.61	18 59.4	6 33.2
3	323 49 22.8	330 40 27.2	5 15 28.7	5 16 11.5	23.61	19 50.8	7 25.2
4	337 38 6.1	344 42 16.9	5 12 18.6	5 3 40.4	24.61	20 41.2	8 16.1
5	351 52 48.3	359 9 19.2	4 50 11.8	4 31 53.5	25.61	21 31.6	9 6.3
6	6 31 17.0	13 57 58.9	4 8 53.3	3 41 26.4	26.61	22 22.9	9 57.0
7	21 28 32.7	29 1 57.6	3 9 56.4	2 34 54.8	27.61	23 16.4	10 49.3
8	36 37 5.9	44 12 46.5	1 57 0.2	S. 1 16 57.4	28.61	* *	11 44.2
9	51 47 47.0	59 20 55.7	S. 0 35 35.3	N. 0 6 15.2	0.27	0 12.9	12 42.5
10	66 51 6.1	74 17 17.7	N. 0 47 43.4	1 28 1.3	1.27	1 12.8	13 43.7
11	81 38 38.6	88 54 26.1	2 6 24.8	2 42 15.8	2.27	2 15.1	14 46.5
12	96 4 8.2	103 7 23.1	3 15 2.6	3 44 20.5	3.27	3 17.7	15 48.4
13	110 3 59.1	116 53 53.3	4 9 51.0	4 31 21.9	4.27	4 18.3	16 47.1
14	123 37 11.4	130 14 6.2	4 48 46.6	5 2 2.6	5.27	5 14.7	17 41.2
15	136 44 55.5	143 10 2.4	5 11 11.7	5 16 18.2	6.27	6 6.4	18 30.5
16	149 29 52.8	155 44 55.6	5 17 28.6	5 14 51.4	7.27	6 53.6	19 15.8
17	161 55 40.6	168 2 38.5	5 8 36.4	4 58 54.2	8.27	7 37.2	19 58.1
18	174 6 20.3	180 7 16.5	4 45 56.3	4 29 54.7	9.27	8 18.4	20 38.5
19	186 5 56.6	192 2 49.1	4 11 2.3	3 49 32.5	10.27	8 58.3	21 18.1
20	197 58 21.0	203 52 58.1	3 25 39.3	2 59 37.4	11.27	9 38.0	21 58.1
21	209 47 4.3	215 41 2.0	2 31 42.4	2 2 10.5	12.27	10 18.5	22 39.3
22	221 35 12.4	227 29 54.7	1 31 18.9	N. 0 59 25.5	13.27	11 0.6	23 22.6
23	233 25 27.4	239 22 7.5	N. 0 26 49.1	S. 0 6 10.8	14.27	11 45.2	* *
24	245 20 11.3	251 19 54.5	S. 0 39 14.1	1 12 0.0	15.27	12 32.7	0 8.6
25	257 21 31.8	263 25 18.0	1 44 7.7	2 15 15.8	16.27	13 22.9	0 57.5
26	269 31 27.6	275 40 15.3	2 45 2.8	3 13 7.6	17.27	14 15.4	1 49.0
27	281 51 55.9	288 6 44.6	3 39 9.1	4 2 46.8	18.27	15 9.0	2 42.2
28	294 24 56.5	300 46 47.2	4 23 41.2	4 41 32.8	19.27	16 2.5	3 35.9
29	307 12 32.3	313 42 27.1	4 56 3.8	5 6 57.2	20.27	16 54.7	4 28.8
30	320 16 46.2	326 55 42.9	5 13 58.2	5 16 53.4	21.27	17 45.2	5 20.2
31	333 39 28.8	340 28 12.9	5 15 31.5	5 9 44.2	22.27	18 34.4	6 10.0
32	347 22 1.0	354 20 54.5	S. 4 59 26.7	S. 4 44 37.7	23.27	19 22.9	6 58.6

GREENWICH MEAN TIME.

Day.	THE MOON'S								
	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.				
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
	' "	' "	' "	' "		h m s	s	° / ' "	"
1	15 22.61	15 28.83	56 20.21	56 42.99					
2	15 35.44	15 42.40	57 7.24	57 32.72					
3	15 49.61	15 56.96	57 59.12	58 26.07					
4	16 4.34	16 11.59	58 53.10	59 19.67					
5	16 18.54	16 25.02	59 45.16	60 8.89					
6	16 30.83	16 35.79	60 30.18	60 48.37					
7	16 39.75	16 42.53	61 2.84	61 13.05					
8	16 44.05	16 44.21	61 18.59	61 19.17					
9	16 43.00	16 40.47	61 14.75	61 5.49					
10	16 36.70	16 31.80	60 51.68	60 33.75					
11	16 25.95	16 19.31	60 12.29	59 47.99					
12	16 12.10	16 4.49	59 21.55	58 53.67					
13	15 56.68	15 48.84	58 25.04	57 56.31					
14	15 41.12	15 33.65	57 28.03	57 0.67					
15	15 26.55	15 19.88	56 34.63	56 10.24					
16	15 13.75	15 8.17	55 47.74	55 27.29					
17	15 3.17	14 58.80	55 9.01	54 52.96					
18	14 55.03	14 51.86	54 39.15	54 27.55					
19	14 49.28	14 47.26	54 18.10	54 10.72					
20	14 45.80	14 44.84	54 5.33	54 1.84					
21	14 44.37	14 44.35	54 0.12	54 0.04					
22	14 44.75	14 45.55	54 1.51	54 4.43					
23	14 46.72	14 48.23	54 8.71	54 14.25					
24	14 50.07	14 52.23	54 20.99	54 28.88					
25	14 54.68	14 57.44	54 37.90	54 48.01					
26	15 0.51	15 3.86	54 59.21	55 11.51					
27	15 7.53	15 11.50	55 24.93	55 39.48					
28	15 15.77	15 20.37	55 55.16	56 11.98					
29	15 25.26	15 30.45	56 29.91	56 48.92					
30	15 35.92	15 41.62	57 8.95	57 29.87					
31	15 47.52	15 53.54	57 51.49	58 13.57					
32	15 59.62	16 5.65	58 35.84	58 57.94					

SUNDAY 1.									
	h	m	s	s	°	'	"	"	"
0	20	1	58.76	23.235	S.	25	7	16.4	49.89
4	20	11	16.01	23.201		24	46	11.5	55.52
8	20	20	32.35	23.159		24	22	52.3	61.08
12	20	29	47.58	23.108		23	57	19.8	66.61
16	20	39	1.50	23.051		23	29	35.6	72.06
20	20	48	13.96	22.987	S.	22	59	41.5	77.44

MONDAY 2.									
	h	m	s	s	°	'	"	"	"
0	20	57	24.82	22.918	S.	22	27	39.1	82.74
4	21	6	33.96	22.844		21	53	30.7	87.94
8	21	15	41.30	22.767		21	17	18.6	93.05
12	21	24	46.76	22.688		20	39	5.0	98.05
16	21	33	50.30	22.608		19	58	52.9	102.94
20	21	42	51.91	22.527	S.	19	16	44.8	107.71

TUESDAY 3.									
	h	m	s	s	°	'	"	"	"
0	21	51	51.60	22.448	S.	18	32	43.8	112.35
4	22	0	49.39	22.368		17	46	53.3	116.84
8	22	9	45.33	22.293		16	59	16.4	121.20
12	22	18	39.50	22.222		16	9	56.9	125.40
16	22	27	32.00	22.154		15	18	58.4	129.45
20	22	36	22.95	22.093	S.	14	26	24.7	133.33

WEDNESDAY 4.									
	h	m	s	s	°	'	"	"	"
0	22	45	12.49	22.037	S.	13	32	19.8	137.03
4	22	54	0.76	21.988		12	36	48.2	140.57
8	23	2	47.95	21.947		11	39	54.0	143.91
12	23	11	34.23	21.913		10	41	41.9	147.06
16	23	20	19.83	21.888		9	42	16.6	150.01
20	23	29	4.95	21.873	S.	8	41	42.9	152.76

THURSDAY 5.									
	h	m	s	s	°	'	"	"	"
0	23	37	49.83	21.868	S.	7	40	6.0	155.28
4	23	46	34.73	21.874		6	37	31.1	157.58
8	23	55	19.88	21.891		5	34	3.8	159.66
12	0	4	5.55	21.918		4	29	49.6	161.48
16	0	12	52.02	21.957		3	24	54.5	163.07
20	0	21	39.55	22.007	S.	2	19	24.6	164.39

FRIDAY 6.									
	h	m	s	s	°	'	"	"	"
0	0	30	28.43	22.069	S.	1	13	25.9	165.45
4	0	39	18.95	22.143	S.	0	7	5.2	166.23
8	0	48	11.40	22.230	N.	0	59	31.1	166.74
12	0	57	6.07	22.328		2	6	16.0	166.94
16	1	6	3.24	22.438		3	13	2.5	166.87
20	1	15	3.20	22.560	N.	4	19	43.3	166.48



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table of Moon's Right Ascension and Declination for Greenwich Mean Time, covering dates from Saturday 7 to Friday 20. Columns include Hour, Right Ascension, Variation in 10m, Declination, and Variation in 10m.

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table of Moon's Right Ascension and Declination for Greenwich Mean Time, covering dates from Saturday 21 to Friday 27, and Phases of the Moon for May. Columns include Hour, Right Ascension, Variation in 10m, Declination, and Variation in 10m.



GREENWICH MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	d	h m	h m
1	347 22 1'0	354 20 54'5	S. 4 59 26'7	S. 4 44 37'7	23'27	19 22'0	6 58'6
2	1 24 49'4	8 33 36'3	4 25 20'8	4 1 45'0	24'27	20 11'8	7 47'2
3	15 46 58'5	23 4 32'4	3 34 4'7	3 2 40'8	25'27	21 2'4	8 36'8
4	30 25 46'4	37 50 1'7	2 28 0'5	1 50 37'5	26'27	21 55'9	9 28'7
5	45 16 32'5	52 44 26'7	S. 1 11 11'0	S. 0 30 24'9	27'27	22 53'2	10 24'1
6	60 12 47'3	67 40 34'8	N. 0 10 54'4	N. 0 51 58'1	28'27	23 54'3	11 23'4
7	75 6 48'8	82 30 29'8	1 31 58'7	2 10 10'8	29'27	* *	12 25'9
8	89 50 41'8	97 6 34'2	2 45 53'8	3 18 32'3	0'95	0 57'8	13 29'6
9	104 17 23'2	111 22 33'4	3 47 37'5	4 12 47'6	1'95	2 0'9	14 31'5
10	118 21 38'3	125 14 20'7	4 33 47'9	4 50 29'6	2'95	3 1'1	15 29'5
11	132 0 32'7	138 40 14'9	5 2 50'2	5 10 51'6	3'95	3 56'6	16 22'4
12	145 13 35'9	151 40 51'3	5 14 40'1	5 14 24'3	4'95	4 47'0	17 10'5
13	158 2 22'7	164 18 36'4	5 10 15'7	5 2 27'0	5'95	5 33'0	17 54'7
14	170 30 2'1	176 37 12'6	4 51 11'8	4 36 44'4	6'95	6 15'7	18 36'3
15	182 40 42'8	188 41 8'5	4 19 19'4	3 59 11'6	7'95	6 56'4	19 16'4
16	194 39 5'7	200 35 10'6	3 36 36'0	3 11 47'4	8'95	7 36'3	19 56'2
17	206 29 58'4	212 24 3'3	2 45 1'1	2 16 33'0	9'95	8 16'4	20 36'9
18	218 17 58'0	224 12 13'5	1 46 38'8	1 15 35'4	10'95	8 57'9	21 19'4
19	230 7 18'8	236 3 40'3	N. 0 43 39'9	N. 0 11 10'7	11'95	9 41'6	22 4'5
20	242 1 41'9	248 1 45'4	S. 0 21 33'4	S. 0 54 12'4	12'95	10 28'2	22 52'6
21	254 4 9'7	260 9 10'6	1 26 25'8	1 57 51'9	13'95	11 17'8	23 43'7
22	266 17 1'8	272 27 54'3	2 28 8'9	2 56 54'5	14'95	12 10'2	* *
23	278 41 56'4	284 59 14'4	3 23 46'8	3 48 23'2	15'95	13 4'2	0 37'1
24	291 19 52'4	297 43 52'9	4 10 22'4	4 29 24'5	16'95	13 58'4	1 31'4
25	304 11 17'0	310 42 4'4	4 45 10'5	4 57 23'4	17'95	14 51'5	2 25'1
26	317 16 14'7	323 53 46'8	5 5 48'3	5 10 12'8	18'95	15 42'6	3 17'3
27	330 34 39'2	337 18 50'6	5 10 27'8	5 6 26'6	19'95	16 31'9	4 7'5
28	344 6 19'6	350 57 4'5	4 58 6'6	4 45 28'8	20'95	17 19'7	4 55'9
29	357 51 3'3	4 48 13'4	4 28 37'7	4 7 42'3	21'95	18 7'2	5 43'4
30	11 48 30'8	18 51 50'0	3 42 55'9	3 14 36'1	22'95	18 55'5	6 31'1
31	25 58 2'3	33 6 56'2	S. 2 43 5'2	S. 2 8 50'2	23'95	19 46'0	7 20'4

GREENWICH MEAN TIME.

Day.	THE MOON'S								
	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.				
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
	' / "	' / "	' / "	' / "		h m s	s	° / ' / "	"
1	15 59'62	16 5'65	58 35'84	58 57'94					
2	16 11'53	16 17'12	59 19'46	59 39'92					
3	16 22'26	16 26'84	59 58'79	60 15'54					
4	16 30'67	16 33'65	60 29'61	60 40'50					
5	16 35'63	16 36'52	60 47'77	60 51'05					
6	16 36'27	16 34'84	60 50'10	60 44'84					
7	16 32'24	16 28'54	60 35'33	60 21'79					
8	16 23'84	16 18'27	60 4'57	59 44'15					
9	16 11'98	16 5'13	59 21'09	58 56'00					
10	15 57'90	15 50'46	58 29'50	58 2'24					
11	15 42'99	15 35'61	57 34'84	57 7'84					
12	15 28'48	15 21'71	56 41'73	56 16'94					
13	15 15'41	15 9'62	55 53'81	55 32'59					
14	15 4'41	14 59'84	55 13'52	54 56'77					
15	14 55'93	14 52'67	54 42'43	54 30'53					
16	14 50'10	14 48'19	54 21'09	54 14'09					
17	14 46'93	14 46'28	54 9'47	54 7'12					
18	14 46'23	14 46'73	54 6'92	54 8'75					
19	14 47'75	14 49'23	54 12'47	54 17'92					
20	14 51'15	14 53'44	54 24'93	54 33'35					
21	14 56'08	14 59'01	54 43'01	54 53'74					
22	15 2'19	15 5'59	55 5'40	55 17'86					
23	15 9'18	15 12'92	55 30'99	55 44'67					
24	15 16'77	15 20'73	55 58'81	56 13'34					
25	15 24'79	15 28'93	56 28'22	56 43'38					
26	15 33'14	15 37'39	56 58'78	57 14'37					
27	15 41'70	15 46'03	57 30'13	57 46'01					
28	15 50'37	15 54'68	58 1'92	58 17'75					
29	15 58'95	16 3'12	58 33'38	58 48'64					
30	16 7'13	16 10'90	59 3'32	59 17'16					
31	16 14'37	16 17'45	59 29'87	59 41'14					

WEDNESDAY 1.									
	h	m	s	s	°	'	"	"	
0	23	21	22'32	21'202	S.	9	35	22'7	145'73
4	23	29	50'84	21'177		8	36	35'0	148'21
8	23	38	18'89	21'163		7	36	50'3	150'48
12	23	46	46'73	21'160		6	36	13'3	152'57
16	23	55	14'65	21'168		5	34	48'6	154'46
20	0	3	42'93	21'190	S.	4	32	41'1	156'13

THURSDAY 2.									
	h	m	s	s	°	'	"	"	
0	0	12	11'87	21'224	S.	3	29	55'6	157'62
4	0	20	41'78	21'270		2	26	37'3	158'88
8	0	29	12'96	21'330		1	22	51'4	159'92
12	0	37	45'73	21'403	S.	0	18	43'4	160'72
16	0	46	20'40	21'488	N.	0	45	41'2	161'28
20	0	54	57'30	21'588	N.	1	50	16'5	161'61

FRIDAY 3.									
	h	m	s	s	°	'	"	"	
0	1	3	36'74	21'701	N.	2	54	56'8	161'69
4	1	12	19'04	21'827		3	59	35'8	161'52
8	1	21	4'52	21'965		5	4	7'4	161'07
12	1	29	53'49	22'118		6	8	25'0	160'34
16	1	38	46'25	22'282		7	12	21'8	159'34
20	1	47	43'11	22'458	N.	8	15	51'1	158'05

SATURDAY 4.									
	h	m	s	s	°	'	"	"	
0	1	56	44'35	22'647	N.	9	18	45'8	156'46
4	2	5	50'24	22'846		10	20	58'6	154'56
8	2	15	1'03	23'055		11	22	22'2	152'35
12	2	24	16'96	23'274		12	22	48'9	149'83
16	2	33	38'25	23'502		13	22	11'3	146'98
20	2	43	5'09	23'736	N.	14	20	21'4	143'80

SUNDAY 5.									
	h	m	s	s	°	'	"	"	
0	2	52	37'62	23'977	N.	15	17	11'5	140'31
4	3	2	15'99	24'221		16	12	33'7	136'48
8	3	12	0'27	24'469		17	6	20'1	132'32
12	3	21	50'51	24'718		17	58	22'8	127'84
16	3	31	46'72	24'966		18	48	34'0	123'03
20	3	41	48'84	25'210	N.	19	36	46'0	117'90

MONDAY 6.									
	h	m	s	s	°	'	"	"	
0	3	51	56'77	25'450	N.	20	22	51'1	112'47
4	4	2	10'38	25'683		21	6	42'1	106'73
8	4	12	29'47	25'905		21	48	11'8	100'70
12	4	22	53'75	26'116		22	27	13'7	94'41
16	4	33	22'92	26'312		23	3	41'4	87'85
20	4	43	56'59	26'491	N.	23	37	28'9	81'07



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: TUESDAY 7, WEDNESDAY 8, THURSDAY 9, FRIDAY 10, SATURDAY 11, SUNDAY 12, MONDAY 13, TUESDAY 14, WEDNESDAY 15, THURSDAY 16, FRIDAY 17, SATURDAY 18, SUNDAY 19, MONDAY 20.

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: TUESDAY 21, WEDNESDAY 22, THURSDAY 23, FRIDAY 24, SATURDAY 25, SUNDAY 26, MONDAY 27, TUESDAY 28, WEDNESDAY 29, THURSDAY 30, FRIDAY, JULY 1.

PHASES OF THE MOON.

Table with columns: Date, Phase, Time (h m). Rows: June 7 (New Moon), June 14 (First Quarter), June 22 (Full Moon), June 29 (Last Quarter), June 5 (Perigee), June 17 (Apogee).



GREENWICH MEAN TIME.

THE MOON'S

Day.	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.		Upper.	Lower.
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	d	h m	h m
1	25 58 12.3	33 6 56.2	S. 2 43 5.2	S. 2 8 50.2	23.95	19 46.0	7 20.4
2	40 18 16.2	47 31 42.4	1 32 21.8	S. 0 54 15.3	24.95	20 39.9	8 12.5
3	54 46 49.7	62 3 7.7	S. 0 15 8.7	N. 0 24 17.1	25.95	21 37.7	9 8.3
4	69 20 1.6	76 36 51.8	N. 1 3 20.1	1 41 18.4	26.95	22 39.0	10 8.0
5	83 52 55.2	91 7 26.5	2 17 31.1	2 51 19.8	27.95	23 42.1	11 10.5
6	98 19 39.7	105 28 49.4	3 22 11.0	3 49 35.5	28.95	* *	12 13.3
7	112 34 13.3	119 35 13.0	4 13 10.5	4 32 39.0	0.61	0 44.0	13 13.8
8	126 31 16.4	133 21 57.8	4 47 50.3	4 58 40.1	1.61	1 42.4	14 9.9
9	140 6 59.1	146 46 10.2	5 5 9.4	5 7 23.4	2.61	2 36.1	15 1.1
10	153 19 29.5	159 47 2.7	5 5 31.5	4 59 45.9	3.61	3 25.0	15 47.9
11	166 9 2.2	172 25 47.3	4 50 20.9	4 37 32.1	4.61	4 9.9	16 31.2
12	178 37 42.5	184 45 17.4	4 21 36.1	4 2 49.6	5.61	4 52.0	17 12.4
13	190 49 4.6	196 49 39.6	3 41 29.6	3 17 52.9	6.61	5 32.6	17 52.7
14	202 47 40.4	208 43 46.1	2 52 15.9	2 24 55.1	7.61	6 12.9	18 33.2
15	214 38 36.2	220 32 50.3	1 56 6.7	1 26 6.9	8.61	6 53.9	19 15.0
16	226 27 7.6	232 22 6.1	N. 0 55 12.2	N. 0 23 39.5	9.61	7 36.6	19 58.9
17	238 18 22.1	244 16 29.8	S. 0 8 13.9	S. 0 40 10.0	10.61	8 22.0	20 45.8
18	250 17 0.8	256 20 23.3	1 11 50.0	1 42 54.1	11.61	9 10.5	21 35.9
19	262 27 2.3	268 37 18.7	2 13 1.4	2 41 50.6	12.61	10 2.1	22 28.8
20	274 51 28.9	281 9 44.8	3 8 59.7	3 34 5.9	13.61	10 56.0	23 23.4
21	287 32 13.3	293 58 56.6	3 56 46.8	4 16 40.2	14.61	11 50.9	* *
22	300 29 51.9	307 4 52.0	4 33 25.2	4 46 42.2	15.61	12 45.4	0 18.3
23	313 43 45.5	320 26 17.6	4 56 14.1	5 1 46.8	16.61	13 38.1	1 12.0
24	327 12 11.1	334 1 6.7	5 3 9.0	5 0 14.1	17.61	14 28.8	2 3.7
25	340 52 44.6	347 46 44.7	4 52 59.2	4 41 26.1	18.61	15 17.6	2 53.4
26	354 42 48.0	1 40 37.2	4 25 41.3	4 5 55.8	19.61	16 5.3	3 41.5
27	8 39 56.7	15 40 33.1	3 42 24.9	3 15 28.1	20.61	16 53.1	4 29.1
28	22 42 15.3	29 44 53.9	2 45 28.9	2 12 53.8	21.61	17 42.2	5 17.4
29	36 48 20.5	43 52 27.9	1 38 12.5	S. 1 1 57.3	22.61	18 33.8	6 7.6
30	50 57 8.3	58 2 13.1	S. 0 24 42.4	N. 0 12 56.7	23.61	19 28.8	7 0.9
31	65 7 31.5	72 12 50.4	N. 0 50 23.7	1 27 2.0	24.61	20 27.3	7 57.6
32	79 17 53.5	86 22 21.1	N. 2 2 16.0	N. 2 35 31.6	25.61	21 28.2	8 57.6

GREENWICH MEAN TIME.

THE MOON'S

Day.	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.				
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
	' / "	' / "	' / "	' / "		h m s	s	° / ' / "	"
1	16 14.37	16 17.45	59 29.87	59 41.14					
2	16 20.03	16 22.04	59 50.62	59 57.99					
3	16 23.39	16 23.98	60 2.91	60 5.08					
4	16 23.76	16 22.69	60 4.29	60 0.38					
5	16 20.75	16 17.96	59 53.27	59 42.99					
6	16 14.33	16 9.94	59 29.69	59 13.62					
7	16 4.89	15 59.27	58 55.10	58 34.53					
8	15 53.22	15 46.88	58 12.36	57 49.10					
9	15 40.37	15 33.82	57 25.25	57 1.30					
10	15 27.38	15 21.18	56 37.72	56 14.96					
11	15 15.30	15 9.85	55 53.42	55 33.43					
12	15 4.89	15 0.50	55 15.27	54 59.19					
13	14 56.73	14 53.62	54 45.38	54 33.99					
14	14 51.20	14 49.46	54 25.10	54 18.76					
15	14 48.43	14 48.08	54 14.97	54 13.71					
16	14 48.42	14 49.40	54 14.93	54 18.52					
17	14 50.99	14 53.15	54 24.35	54 32.27					
18	14 55.84	14 58.98	54 42.10	54 53.64					
19	15 2.53	15 6.43	55 6.66	55 20.92					
20	15 10.60	15 14.96	55 36.18	55 52.17					
21	15 19.45	15 24.01	56 8.64	56 25.33					
22	15 28.56	15 33.05	56 42.01	56 58.45					
23	15 37.41	15 41.61	57 14.44	57 29.82					
24	15 45.61	15 49.36	57 44.45	57 58.22					
25	15 52.85	15 56.09	58 11.05	58 22.89					
26	15 59.04	16 1.72	58 33.72	58 43.52					
27	16 4.12	16 6.22	58 52.28	58 59.99					
28	16 8.03	16 9.55	59 6.63	59 12.19					
29	16 10.75	16 11.63	59 16.61	59 19.83					
30	16 12.16	16 12.31	59 21.76	59 22.29					
31	16 12.04	16 11.33	59 21.32	59 18.72					
32	16 10.15	16 8.47	59 14.39	59 8.24					

FRIDAY 1.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	1 40 14.78	21.653	N. 7 29 51.4	154.08
4	1 48 56.35	21.814	8 31 13.5	152.72
8	1 57 41.93	21.988	9 32 0.3	151.12
12	2 6 31.82	22.173	10 32 5.5	149.27
16	2 15 26.29	22.368	11 31 22.8	147.13
20	2 24 25.60	22.577	N. 12 29 45.5	144.72

SATURDAY 2.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	2 33 30.01	22.793	N. 13 27 7.2	142.03
4	2 42 39.74	23.019	14 23 21.1	139.07
8	2 51 55.00	23.253	15 18 20.4	135.82
12	3 1 15.96	23.494	16 11 58.0	132.28
16	3 10 42.76	23.741	17 4 7.1	128.43
20	3 20 15.51	23.990	N. 17 54 40.5	124.30

SUNDAY 3.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	3 29 54.28	24.242	N. 18 43 31.3	119.88
4	3 39 39.10	24.493	19 30 32.2	115.16
8	3 49 29.96	24.744	20 15 36.4	110.14
12	3 59 26.79	24.991	20 58 37.1	104.86
16	4 9 29.47	25.232	21 39 27.4	99.28
20	4 19 37.84	25.464	N. 22 18 0.8	93.45

MONDAY 4.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	4 29 51.66	25.686	N. 22 54 11.0	87.36
4	4 40 10.67	25.895	23 27 51.9	81.02
8	4 50 34.52	26.089	23 58 58.1	74.45
12	5 1 2.82	26.266	24 27 24.1	67.68
16	5 11 35.14	26.423	24 53 5.2	60.72
20	5 22 10.95	26.558	N. 25 15 57.1	53.58

TUESDAY 5.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	5 32 49.74	26.669	N. 25 35 56.1	46.32
4	5 43 30.90	26.756	25 52 59.1	38.92
8	5 54 13.82	26.816	26 7 3.6	31.44
12	6 4 57.84	26.848	26 18 7.9	23.91
16	6 15 42.28	26.851	26 26 10.8	16.33
20	6 26 26.46	26.825	N. 26 31 12.0	8.77

WEDNESDAY 6.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	6 37 9.69	26.772	N. 26 33 11.8	1.23
4	6 47 51.27	26.688	26 32 11.2	6.27
8	6 58 30.53	26.578	26 28 11.9	13.66
12	7 9 6.82	26.441	26 21 16.2	20.95
16	7 19 39.50	26.278	26 11 27.2	28.11
20	7 30 7.97	26.091	N. 25 58 48.4	35.10



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: THURSDAY 7, THURSDAY 14, FRIDAY 8, FRIDAY 15, SATURDAY 9, SATURDAY 16, SUNDAY 10, SUNDAY 17, MONDAY 11, MONDAY 18, TUESDAY 12, TUESDAY 19, WEDNESDAY 13, WEDNESDAY 20.

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: THURSDAY 21, THURSDAY 28, FRIDAY 22, FRIDAY 29, SATURDAY 23, SATURDAY 30, SUNDAY 24, SUNDAY 31, MONDAY 25, MONDAY, AUG. 1, PHASES OF THE MOON, WEDNESDAY 27.



GREENWICH MEAN TIME.

THE MOON'S

Day.	Longitude.		Latitude.		Age. Noon.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.		Upper.	Lower.
	° / ' / "	° / ' / "	° / ' / "	° / ' / "		h m	h m
1	79 17 53.5	86 22 21.1	N. 2 2 16.0	N. 2 35 31.6	25.61	21 28.2	8 57.6
2	93 25 50.3	100 27 54.7	3 6 16.8	3 34 3.1	26.61	22 29.6	9 59.0
3	107 28 6.1	114 25 54.3	3 58 25.8	4 19 4.4	27.61	23 28.8	10 59.6
4	121 20 49.2	128 12 21.5	4 35 44.1	4 48 14.7	28.61	* *	11 57.1
5	135 0 4.1	141 43 33.4	4 56 31.2	5 0 33.9	0.22	0 24.3	12 50.3
6	148 22 30.7	154 56 42.3	5 0 27.4	4 56 20.4	1.22	1 15.3	13 39.2
7	161 26 0.8	167 50 24.9	4 48 24.8	4 36 54.9	2.22	2 2.1	14 24.3
8	174 9 59.5	180 24 56.0	4 22 7.2	4 4 19.4	3.22	2 45.8	15 6.8
9	186 35 31.5	192 42 8.3	3 43 49.7	3 20 56.7	4.22	3 27.4	15 47.8
10	198 45 13.0	204 45 16.8	2 55 58.8	2 29 14.4	5.22	4 8.1	16 28.4
11	210 42 53.9	216 38 41.3	2 1 1.2	1 31 36.4	6.22	4 48.9	17 9.8
12	222 33 18.1	228 27 24.7	N. 1 1 17.4	N. 0 30 21.1	7.22	5 31.0	17 52.8
13	234 21 42.4	240 16 52.5	S. 0 0 55.9	S. 0 32 16.7	8.22	6 15.1	18 38.2
14	246 13 35.9	252 12 32.8	1 3 23.9	1 33 59.7	9.22	7 2.1	19 26.7
15	258 14 20.8	264 19 35.9	2 3 45.6	2 32 22.4	10.22	7 52.1	20 18.2
16	270 28 50.1	276 42 32.0	2 59 30.0	3 24 47.3	11.22	8 44.9	21 12.1
17	283 1 4.7	289 24 46.1	3 47 52.9	4 8 24.7	12.22	9 39.6	22 7.1
18	295 53 47.5	302 28 13.7	4 26 0.7	4 40 19.7	13.22	10 34.6	23 1.9
19	309 8 1.7	315 53 1.1	4 51 1.7	4 57 48.7	14.22	11 28.7	23 55.2
20	322 42 54.5	329 37 17.7	5 0 25.7	4 58 41.9	15.22	12 21.2	* *
21	336 35 40.9	343 37 29.1	4 52 30.6	4 41 50.7	16.22	13 11.7	0 46.6
22	350 42 5.0	357 48 49.4	4 26 46.9	4 7 29.5	17.22	14 0.9	1 36.4
23	4 57 3.6	12 6 10.3	3 44 14.6	3 17 23.8	18.22	14 49.6	2 25.2
24	19 15 35.4	26 24 49.0	2 47 23.3	2 14 43.4	19.22	15 39.1	3 14.2
25	33 33 25.8	40 41 5.0	1 39 57.0	S. 1 3 39.6	20.22	16 30.4	4 4.5
26	47 47 30.9	54 52 31.7	S. 0 26 27.3	N. 0 11 3.3	21.22	17 24.4	4 57.0
27	61 55 59.3	68 57 47.6	N. 0 48 16.0	1 24 35.7	22.22	18 21.5	5 52.6
28	75 57 52.3	82 56 9.7	1 59 29.3	2 32 25.8	23.22	19 20.9	6 51.0
29	89 52 35.8	96 47 5.9	3 2 56.7	3 30 36.6	24.22	20 21.2	7 51.1
30	103 39 33.6	110 29 50.4	3 55 3.1	4 15 57.9	25.22	21 20.0	8 50.9
31	117 17 46.5	124 3 10.2	4 33 6.2	4 46 17.1	26.22	22 15.8	9 48.4
32	130 45 48.8	137 25 28.5	N. 4 55 24.2	N. 5 0 24.7	27.22	23 7.6	10 42.2

GREENWICH MEAN TIME.

THE MOON'S

Day.	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.				
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
	' / "	' / "	' / "	' / "		h m s	s	° / ' / "	"
1	16 10.15	16 8.47	59 14.39	59 8.24					
2	16 6.28	16 3.57	59 0.22	58 50.31					
3	16 0.35	15 56.64	58 38.51	58 24.91					
4	15 52.48	15 47.94	58 9.68	57 53.01					
5	15 43.07	15 37.94	57 35.15	57 16.37					
6	15 32.65	15 27.28	56 56.99	56 37.34					
7	15 21.95	15 16.75	56 17.80	55 58.74					
8	15 11.77	15 7.09	55 40.48	55 23.35					
9	15 2.80	14 58.97	55 7.63	54 53.60					
10	14 55.67	14 52.95	54 41.51	54 31.54					
11	14 50.85	14 49.43	54 23.87	54 18.63					
12	14 48.69	14 48.65	54 15.91	54 15.77					
13	14 49.31	14 50.68	54 18.22	54 23.24					
14	14 52.74	14 55.45	54 30.76	54 40.69					
15	14 58.79	15 2.69	54 52.91	55 7.24					
16	15 7.12	15 11.99	55 23.45	55 41.27					
17	15 17.20	15 22.70	56 0.41	56 20.55					
18	15 28.37	15 34.11	56 41.33	57 2.35					
19	15 39.81	15 45.36	57 23.22	57 43.54					
20	15 50.64	15 55.57	58 2.91	58 20.99					
21	16 0.06	16 4.05	58 37.46	58 52.03					
22	16 7.45	16 10.25	59 4.50	59 14.74					
23	16 12.41	16 13.94	59 22.67	59 28.29					
24	16 14.87	16 15.21	59 31.67	59 32.91					
25	16 15.01	16 14.32	59 32.18	59 29.65					
26	16 13.19	16 11.66	59 25.50	59 19.91					
27	16 9.79	16 7.63	59 13.07	59 5.13					
28	16 5.19	16 2.52	58 56.22	58 46.43					
29	15 59.63	15 56.54	58 35.84	58 24.53					
30	15 53.26	15 49.81	58 12.53	57 59.86					
31	15 46.18	15 42.40	57 46.57	57 32.69					
32	15 38.45	15 34.38	57 18.25	57 3.33					

MONDAY 1.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	5 12 40.40	25.777	N. 25 3 0.8	57.41
4	5 23 0.67	25.909	25 24 37.4	50.61
8	5 33 23.91	26.023	25 43 29.3	43.69
12	5 43 49.63	26.116	25 59 33.6	36.65
16	5 54 17.30	26.186	26 12 47.9	29.53
20	6 4 46.35	26.232	N. 26 23 10.4	22.34

TUESDAY 2.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	6 15 16.23	26.253	N. 26 30 39.8	15.11
4	6 25 46.31	26.249	26 35 15.4	7.86
8	6 36 15.98	26.220	26 36 57.1	0.62
12	6 46 44.66	26.165	26 35 45.5	6.58
16	6 57 11.72	26.085	26 31 41.7	13.73
20	7 7 36.56	25.981	N. 26 24 47.3	20.79

WEDNESDAY 3.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	7 17 58.62	25.853	N. 26 15 4.6	27.75
4	7 28 17.33	25.703	26 2 36.5	34.57
8	7 38 32.17	25.531	25 47 26.2	41.26
12	7 48 42.67	25.340	25 29 37.5	47.77
16	7 58 48.37	25.132	25 9 14.7	54.09
20	8 8 48.86	24.907	N. 24 46 22.5	60.23

THURSDAY 4.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	8 18 43.79	24.668	N. 24 21 5.6	66.14
4	8 28 32.85	24.418	23 53 29.4	71.83
8	8 38 15.76	24.157	23 23 39.4	77.28
12	8 47 52.32	23.888	22 51 41.3	82.51
16	8 57 22.35	23.613	22 17 41.0	87.48
20	9 6 45.72	23.333	N. 21 41 44.4	92.19

FRIDAY 5.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	9 16 2.35	23.052	N. 21 3 57.6	96.66
4	9 25 12.20	22.770	20 24 26.7	100.87
8	9 34 15.28	22.487	19 43 17.9	104.83
12	9 43 11.61	22.208	19 0 37.0	108.53
16	9 52 1.27	21.932	18 16 30.3	111.98
20	10 0 44.35	21.660	N. 17 31 3.6	115.20

SATURDAY 6.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	10 9 20.99	21.394	N. 16 44 22.7	118.17
4	10 17 51.33	21.135	15 56 33.4	120.90
8	10 26 15.56	20.884	15 7 41.2	123.40
12	10 34 33.86	20.643	14 17 51.6	125.69
16	10 42 46.45	20.408	13 27 9.8	127.76
20	10 50 53.54	20.185	N. 12 35 40.9	129.62



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m., Declination, Var. in 10m. for days Sunday 7 through Saturday 13 and Sunday 14 through Saturday 20.

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m., Declination, Var. in 10m. for days Sunday 21 through Sunday 28, Monday 29 through Monday 29, Tuesday 30 through Tuesday 30, Wednesday 31 through Wednesday 31, Thursday, Sept. 1 through Thursday, Sept. 1, and Phases of the Moon.



GREENWICH MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon	Midnight.	Noon.	Upper.	Lower.
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	d	h m	h m
1	130 45 48.8	137 25 28.5	N. 4 55 24.2	N. 5 0 24.7	27.22	23 7.6	10 42.2
2	144 1 56.0	150 34 58.6	5 1 20.2	4 58 15.6	28.22	23 55.4	11 32.0
3	157 4 25.6	163 30 8.7	4 51 19.5	4 40 43.7	29.22	* *	12 18.1
4	169 52 2.4	176 10 5.3	4 26 42.3	4 9 31.4	0.75	0 40.0	13 1.4
5	182 24 19.9	188 34 53.0	3 49 28.9	3 26 53.6	1.75	1 22.3	13 42.9
6	194 41 55.9	200 45 44.2	3 2 4.8	2 35 22.3	2.75	2 3.4	14 23.8
7	206 46 38.0	212 45 1.1	2 7 5.4	1 37 33.5	3.75	2 44.2	15 4.9
8	218 41 20.9	224 36 8.7	1 7 5.4	N. 0 35 59.5	4.75	3 25.8	15 47.2
9	230 29 58.0	236 23 25.1	N. 0 4 33.6	S. 0 26 55.0	5.75	4 9.1	16 31.5
10	242 17 8.4	248 11 47.5	S. 0 58 8.9	1 28 50.9	6.75	4 54.6	17 18.4
11	254 8 3.1	260 6 36.4	1 58 44.0	2 27 30.6	7.75	5 43.0	18 8.2
12	266 8 7.9	272 13 17.3	2 54 53.0	3 20 32.6	8.75	6 34.0	19 0.4
13	278 22 42.3	284 36 58.0	3 44 10.4	4 5 26.4	9.75	7 27.2	19 54.3
14	290 56 35.3	297 22 0.7	4 24 0.9	4 39 33.2	10.75	8 21.5	20 48.6
15	303 53 34.1	310 31 28.7	4 51 43.0	5 0 10.5	11.75	9 15.6	21 42.3
16	317 15 49.3	324 6 31.9	5 4 38.1	5 4 49.8	12.75	10 8.6	22 34.6
17	331 3 22.6	338 5 58.5	5 0 33.5	4 51 41.6	13.75	11 0.3	23 25.6
18	345 13 47.1	352 26 7.8	4 38 11.8	4 20 8.3	14.75	11 50.7	* *
19	359 42 12.9	7 1 9.8	3 57 42.4	3 31 12.3	15.75	12 40.7	0 15.7
20	14 22 3.0	21 43 56.3	3 1 3.1	2 27 46.3	16.75	13 31.2	1 5.8
21	29 5 55.2	36 27 8.9	1 51 58.2	S. 1 14 19.1	17.75	14 23.3	1 57.0
22	43 46 51.7	51 4 24.1	S. 0 35 31.1	N. 0 3 42.8	18.75	15 18.0	2 50.3
23	58 19 14.1	65 30 56.5	N. 0 42 40.6	1 20 41.9	19.75	16 15.5	3 46.4
24	72 39 12.7	79 43 50.5	1 57 10.2	2 31 31.9	20.75	17 15.4	4 45.3
25	86 44 42.9	93 41 47.3	3 3 17.9	3 32 3.2	21.75	18 16.0	5 45.7
26	100 35 3.9	107 24 35.9	3 57 27.2	4 19 13.5	22.75	19 15.3	6 45.9
27	114 10 27.6	120 52 43.8	4 37 9.6	4 51 7.2	23.75	20 11.5	7 43.9
28	127 31 30.1	134 6 51.3	5 1 1.0	5 6 49.5	24.75	21 3.7	8 38.1
29	140 38 51.9	147 7 35.6	5 8 34.2	5 6 19.9	25.75	21 51.9	9 28.3
30	153 33 5.8	159 55 25.7	5 0 13.7	4 50 25.6	26.75	22 36.8	10 14.7
31	166 14 38.0	172 30 45.7	N. 4 37 7.8	N. 4 20 34.5	27.75	23 19.3	10 58.3

GREENWICH MEAN TIME.

Day.	THE MOON'S								
	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.				
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10m.	Declination.	Var. in 10m.
	' / "	' / "	' / "	' / "		h m s	s	° / ' / "	"
1	15 38.45	15 34.38	57 18.25	57 3.33					
2	15 30.20	15 25.95	56 48.03	56 32.46					
3	15 21.67	15 17.38	56 16.76	56 1.08					
4	15 13.17	15 9.06	55 45.61	55 30.57					
5	15 5.14	15 1.44	55 16.17	55 2.64					
6	14 58.04	14 55.01	54 50.20	54 39.09					
7	14 52.40	14 50.27	54 29.53	54 21.71					
8	14 48.66	14 47.63	54 15.81	54 12.03					
9	14 47.21	14 47.45	54 10.52	54 11.39					
10	14 48.36	14 49.96	54 14.73	54 20.61					
11	14 52.28	14 55.28	54 29.06	54 40.08					
12	14 58.97	15 3.32	54 53.60	55 9.53					
13	15 8.28	15 13.82	55 27.72	55 47.98					
14	15 19.83	15 26.26	56 10.05	56 33.60					
15	15 32.99	15 39.90	56 58.24	57 23.56					
16	15 46.87	15 53.73	57 49.08	58 14.25					
17	16 0.36	16 6.58	58 38.52	59 1.33					
18	16 12.27	16 17.26	59 22.15	59 40.46					
19	16 21.45	16 24.75	59 55.83	60 7.92					
20	16 27.09	16 28.43	60 16.48	60 21.41					
21	16 28.79	16 28.19	60 22.71	60 20.51					
22	16 26.70	16 24.41	60 15.05	60 6.65					
23	16 21.41	16 17.84	59 55.67	59 42.55					
24	16 13.78	16 9.37	59 27.70	59 11.53					
25	16 4.70	15 59.87	58 54.42	58 36.73					
26	15 54.96	15 50.04	58 18.74	58 0.70					
27	15 45.16	15 40.37	57 42.83	57 25.25					
28	15 35.67	15 31.12	57 8.07	56 51.38					
29	15 26.71	15 22.44	56 35.21	56 19.60					
30	15 18.33	15 14.39	56 4.54	55 50.08					
31	15 10.61	15 7.00	55 36.23	55 23.00					
<b>THURSDAY 1.</b>									
0	8 58 37.90	23.152	N. 22 16 41.3	87.87					
4	9 7 50.47	22.896	21 40 36.9	92.46					
8	9 16 56.89	22.639	21 2 44.9	96.83					
12	9 25 57.13	22.382	20 23 10.8	100.97					
16	9 34 51.20	22.125	19 42 0.3	104.88					
20	9 43 39.16	21.872	N. 18 59 18.7	108.55					
<b>FRIDAY 2.</b>									
0	9 52 21.06	21.621	N. 18 15 11.6	112.00					
4	10 0 57.01	21.376	17 29 44.5	115.22					
8	10 9 27.12	21.135	16 43 2.8	118.22					
12	10 17 51.54	20.901	15 55 11.6	121.00					
16	10 26 10.42	20.674	15 6 16.3	123.57					
20	10 34 23.95	20.455	N. 14 16 22.1	125.92					
<b>SATURDAY 3.</b>									
0	10 42 32.32	20.244	N. 13 25 33.7	128.07					
4	10 50 35.73	20.043	12 33 56.3	130.02					
8	10 58 34.41	19.849	11 41 34.5	131.77					
12	11 6 28.56	19.666	10 48 33.0	133.32					
16	11 14 18.44	19.492	9 54 56.4	134.69					
20	11 22 4.26	19.328	N. 9 0 49.0	135.88					
<b>SUNDAY 4.</b>									
0	11 29 46.29	19.176	N. 8 6 15.3	136.90					
4	11 37 24.78	19.033	7 11 19.2	137.74					
8	11 44 59.97	18.901	6 16 4.8	138.43					
12	11 52 32.13	18.780	5 20 36.1	138.94					
16	12 0 1.51	18.671	4 24 56.9	139.31					
20	12 7 28.38	18.570	N. 3 29 10.8	139.51					
<b>MONDAY 5.</b>									
0	12 14 52.99	18.483	N. 2 33 21.4	139.58					
4	12 22 15.60	18.404	1 37 32.3	139.49					
8	12 29 36.47	18.337	N. 0 41 46.8	139.28					
12	12 36 55.86	18.281	S. 0 13 51.7	138.92					
16	12 44 14.03	18.235	1 9 20.1	138.43					
20	12 51 31.22	18.200	S. 2 4 35.2	137.81					
<b>TUESDAY 6.</b>									
0	12 58 47.71	18.176	S. 2 59 33.9	137.07					
4	13 6 3.74	18.162	3 54 13.3	136.19					
8	13 13 10.56	18.158	4 48 30.3	135.20					
12	13 20 35.42	18.165	5 42 22.1	134.09					
16	13 27 51.57	18.183	6 35 45.9	132.87					
20	13 35 8.24	18.209	S. 7 28 38.8	131.53					



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: WEDNESDAY 7, THURSDAY 8, FRIDAY 9, SATURDAY 10, SUNDAY 11, MONDAY 12, TUESDAY 13, WEDNESDAY 14, THURSDAY 15, FRIDAY 16, SATURDAY 17, SUNDAY 18, MONDAY 19, TUESDAY 20.

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: WEDNESDAY 21, THURSDAY 22, FRIDAY 23, SATURDAY 24, SUNDAY 25, MONDAY 26, TUESDAY 27, WEDNESDAY 28, THURSDAY 29, FRIDAY 30, SATURDAY, OCT. 1. Includes PHASES OF THE MOON section at the bottom.



GREENWICH MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	° / ' "	° / ' "	° / ' "	° / ' "	d	h m	h m
1	166 14 38.0	172 30 45.7	N. 4 37 7.8	N. 4 20 34.5	27.75	23 19.3	10 58.3
2	178 43 53.0	184 54 4.6	4 1 1.3	3 38 46.0	28.75	* *	11 39.9
3	191 1 26.8	197 6 7.9	3 14 7.0	2 47 23.7	0.14	0 0.3	12 20.7
4	203 8 18.1	209 8 10.2	2 18 55.7	1 49 3.5	1.14	0 41.0	13 1.5
5	215 5 59.4	221 2 3.4	1 18 6.9	N. 0 46 25.9	2.14	1 22.2	13 43.2
6	226 56 42.7	232 50 20.7	N. 0 14 20.1	S. 0 17 51.6	3.14	2 4.7	14 26.7
7	238 43 23.5	244 36 19.6	S. 0 49 50.6	1 21 18.7	4.14	2 49.3	15 12.5
8	250 29 39.8	256 23 57.1	1 51 58.2	2 21 31.9	5.14	3 36.4	16 0.9
9	262 19 46.4	268 17 44.1	2 49 42.7	3 16 13.3	6.14	4 25.9	16 51.5
10	274 18 27.5	280 22 34.3	3 40 46.9	4 3 6.0	7.14	5 17.6	17 43.9
11	286 30 42.2	292 43 28.0	4 22 53.6	4 39 51.7	8.14	6 10.4	18 36.9
12	299 1 26.1	305 25 8.6	4 53 42.5	5 4 8.4	9.14	7 3.3	19 29.6
13	311 55 3.2	318 31 32.8	5 10 52.2	5 13 37.5	10.14	7 55.6	20 21.3
14	325 14 53.2	332 5 12.5	5 12 9.6	5 6 16.0	11.14	8 46.7	21 11.9
15	339 2 29.8	346 6 34.3	4 55 48.2	4 40 42.0	12.14	9 36.9	22 1.8
16	353 17 4.3	0 33 27.5	4 20 59.0	3 56 47.8	13.14	10 26.7	22 51.8
17	7 55 0.9	15 20 52.7	3 28 24.0	2 56 11.5	14.14	11 17.2	23 43.0
18	22 50 3.4	30 21 27.5	2 20 41.7	1 42 32.8	15.14	12 9.4	* *
19	37 53 57.0	45 26 23.3	S. 1 2 28.8	S. 0 21 17.8	16.14	13 4.4	0 36.5
20	52 57 40.3	60 26 46.1	N. 0 20 11.0	N. 1 1 8.3	17.14	14 2.8	1 33.2
21	67 52 46.0	75 14 52.6	1 40 47.2	2 18 24.9	18.14	15 4.2	2 33.2
22	82 32 27.9	89 45 2.7	2 53 23.9	3 25 12.8	19.14	16 7.0	3 35.6
23	96 52 16.9	103 53 58.7	3 53 26.4	4 17 45.9	20.14	17 8.8	4 38.2
24	110 50 3.6	117 40 33.5	4 37 58.1	4 53 55.4	21.14	18 7.2	5 38.5
25	124 25 35.9	131 5 22.0	5 5 34.5	5 12 56.1	22.14	19 1.1	6 34.8
26	137 40 6.4	144 10 5.9	5 16 4.5	5 15 6.3	23.14	19 50.5	7 26.3
27	150 35 38.6	156 57 3.4	5 10 10.7	5 1 28.7	24.14	20 35.9	8 13.6
28	163 14 39.4	169 28 45.3	4 49 12.9	4 33 37.2	25.14	21 18.5	8 57.5
29	175 39 39.6	181 47 39.7	4 14 57.1	3 53 28.7	26.14	21 59.5	9 39.2
30	187 53 2.2	193 56 3.5	3 29 29.1	3 3 16.4	27.14	22 39.7	10 19.6
31	199 56 58.6	205 56 2.8	2 35 9.3	2 5 27.2	28.14	23 20.4	10 59.9
32	211 53 30.7	217 49 37.1	N. 1 34 29.5	N. 1 2 36.3	29.14	* *	11 41.1

GREENWICH MEAN TIME.

Day.	THE MOON'S								
	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.				
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
	' "	' "	' "	' "		° / ' "	° / ' "		
1	15 10.61	15 7.00	55 36.23	55 23.00					
2	15 3.57	15 0.34	55 10.45	54 58.62					
3	14 57.33	14 54.57	54 47.60	54 37.48					
4	14 52.08	14 49.90	54 28.36	54 20.37					
5	14 48.07	14 46.62	54 13.65	54 8.34					
6	14 45.59	14 45.03	54 4.58	54 2.53					
7	14 44.08	14 45.47	54 2.34	54 4.15					
8	14 46.55	14 48.25	54 8.11	54 14.31					
9	14 50.58	14 53.57	54 22.85	54 33.82					
10	14 57.23	15 1.56	54 47.23	55 3.08					
11	15 6.55	15 12.17	55 21.35	55 41.93					
12	15 18.36	15 25.10	56 4.66	56 29.32					
13	15 32.28	15 39.80	56 55.62	57 23.20					
14	15 47.56	15 55.38	57 51.60	58 20.30					
15	16 3.14	16 10.64	58 48.71	59 16.17					
16	16 17.69	16 24.10	59 42.00	60 5.50					
17	16 29.69	16 34.30	60 25.99	60 42.88					
18	16 37.79	16 40.05	60 55.67	61 3.97					
19	16 41.04	16 40.73	61 7.58	61 6.46					
20	16 39.18	16 36.45	61 0.76	60 50.76					
21	16 32.67	16 27.99	60 36.92	60 19.78					
22	16 22.57	16 16.58	59 59.91	59 37.95					
23	16 10.19	16 3.55	59 14.53	58 50.22					
24	15 56.82	15 50.13	58 25.57	58 1.02					
25	15 43.56	15 37.21	57 36.97	57 13.72					
26	15 31.16	15 25.43	56 51.52	56 30.54					
27	15 20.06	15 15.09	56 10.88	55 52.63					
28	15 10.50	15 6.30	55 35.83	55 20.46					
29	15 2.49	14 59.05	55 6.50	54 53.90					
30	14 55.98	14 53.24	54 42.62	54 32.61					
31	14 50.85	14 48.79	54 23.86	54 16.31					
32	14 47.06	14 45.65	54 9.95	54 4.79					

SATURDAY 1.				
	h	m	s	
0	11 16	36.44	19.186	N. 9 41 14.2 134.49
4	11 24	15.13	19.040	8 47 11.9 135.68
8	11 31	50.45	18.906	7 52 42.9 136.71
12	11 39	22.67	18.782	6 57 51.1 137.58
16	11 46	52.03	18.668	6 2 40.2 138.29
20	11 54	18.78	18.564	N. 5 7 14.1 138.86

SUNDAY 2.				
	h	m	s	
0	12 1	43.18	18.471	N. 4 11 36.4 139.26
4	12 9	5.48	18.389	3 15 50.6 139.53
8	12 16	25.93	18.318	2 20 0.2 139.65
12	12 23	44.79	18.257	1 24 8.6 139.63
16	12 31	2.30	18.205	N. 0 28 19.2 139.47
20	12 38	18.71	18.164	S. 0 27 24.7 139.18

MONDAY 3.				
	h	m	s	
0	12 45	34.26	18.133	S. 1 22 59.9 138.73
4	12 52	49.20	18.113	2 18 23.1 138.18
8	13 0	3.77	18.102	3 13 31.4 137.48
12	13 7	18.20	18.102	4 8 21.4 136.66
16	13 14	32.74	18.112	5 2 50.2 135.72
20	13 21	47.61	18.130	S. 5 56 54.7 134.63

TUESDAY 4.				
	h	m	s	
0	13 29	3.05	18.158	S. 6 50 31.8 133.44
4	13 36	19.27	18.196	7 43 38.6 132.11
8	13 43	36.51	18.243	8 36 12.1 130.66
12	13 50	54.97	18.298	9 28 9.3 129.08
16	13 58	14.87	18.362	10 19 27.3 127.39
20	14 5	36.41	18.435	S. 11 10 3.2 125.58

WEDNESDAY 5.				
	h	m	s	
0	14 12	59.80	18.516	S. 11 59 54.0 123.63
4	14 20	25.23	18.605	12 48 56.8 121.58
8	14 27	52.89	18.703	13 37 8.7 119.39
12	14 35	22.97	18.806	14 24 26.7 117.08
16	14 42	55.64	18.918	15 10 47.8 114.66
20	14 50	31.08	19.037	S. 15 56 9.2 112.11

THURSDAY 6.				
	h	m	s	
0	14 58	9.43	19.161	S. 16 40 27.9 109.43
4	15 5	50.85	19.292	17 23 40.9 106.63
8	15 13	35.48	19.428	18 5 45.4 103.72
12	15 21	23.46	19.570	18 46 38.3 100.67
16	15 29	14.90	19.717	19 26 16.6 97.50
20	15 37	9.89	19.868	S. 20 4 37.4 94.21



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: FRIDAY 7, SATURDAY 8, SUNDAY 9, MONDAY 10, TUESDAY 11, WEDNESDAY 12, THURSDAY 13, FRIDAY 14, SATURDAY 15, SUNDAY 16, MONDAY 17, TUESDAY 18, WEDNESDAY 19, THURSDAY 20.

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: FRIDAY 21, SATURDAY 22, SUNDAY 23, MONDAY 24, TUESDAY 25, WEDNESDAY 26, THURSDAY 27, FRIDAY 28, SATURDAY 29, SUNDAY 30, MONDAY 31, TUESDAY, NOV. 1. Includes PHASES OF THE MOON section at the bottom.



GREENWICH MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	° / ' "	° / ' "	° / ' "	° / ' "	d	h m	h m
1	211 53 30.7	217 49 37.1	N. 1 34 29.5	N. 1 2 36.3	29.14	* *	11 41.1
2	223 44 37.0	229 38 46.0	N. 0 30 7.3	S. 0 2 37.2	0.42	0 2.3	12 23.9
3	235 32 20.4	241 25 37.8	S. 0 35 17.6	1 7 34.3	1.42	0 46.1	13 8.9
4	247 18 56.8	253 12 37.4	1 39 8.3	2 9 41.0	2.42	1 32.3	13 56.4
5	259 7 1.2	265 2 31.7	2 38 54.3	3 6 30.6	3.42	2 21.0	14 46.2
6	270 59 33.8	276 58 34.0	3 32 13.0	3 55 44.8	4.42	3 11.7	15 37.6
7	283 0 0.6	289 4 23.2	4 16 50.0	4 35 13.0	5.42	4 3.6	16 29.7
8	295 12 12.1	301 23 58.5	4 50 38.6	5 2 51.9	6.42	4 55.6	17 21.3
9	307 40 13.2	314 1 26.6	5 11 38.6	5 16 45.2	7.42	5 46.8	18 11.9
10	320 28 7.8	327 0 43.1	5 17 59.1	5 15 8.8	8.42	6 36.7	19 1.2
11	333 39 35.0	340 25 1.7	5 8 4.8	4 56 40.2	9.42	7 25.4	19 49.5
12	347 17 15.4	354 16 20.5	4 40 51.4	4 20 39.0	10.42	8 13.6	20 37.8
13	1 22 12.7	8 34 38.3	3 56 8.9	3 27 33.2	11.42	9 2.2	21 27.0
14	15 53 13.1	23 17 21.3	2 55 10.8	2 19 28.4	12.42	9 52.4	22 18.5
15	30 46 17.2	38 19 4.8	1 40 59.6	S. 1 0 25.2	13.42	10 45.6	23 13.6
16	45 54 39.6	53 31 51.0	S. 0 18 31.8	N. 0 23 49.9	14.42	11 42.7	* *
17	61 9 24.6	68 46 4.8	N. 1 5 47.7	1 46 29.4	15.42	12 44.2	0 13.0
18	76 20 38.3	83 51 56.0	2 25 6.2	3 0 53.8	16.42	13 48.7	1 16.2
19	91 18 56.7	98 40 47.8	3 33 14.8	4 1 39.3	17.42	14 53.9	2 21.4
20	105 56 47.5	113 6 24.8	4 25 45.6	4 45 19.5	18.42	15 56.4	3 25.6
21	120 9 19.9	127 5 23.4	5 0 14.4	5 10 29.7	19.42	16 54.2	4 26.0
22	133 54 35.2	140 37 3.7	5 16 10.0	5 17 23.9	20.42	17 46.5	5 21.0
23	147 13 4.3	153 42 57.8	5 14 23.5	5 7 22.8	21.42	18 34.0	6 10.8
24	160 7 9.1	166 26 6.5	4 56 37.3	4 42 23.9	22.42	19 17.9	6 56.3
25	172 40 19.7	178 50 20.0	4 24 59.5	4 4 42.0	23.42	19 59.2	7 38.8
26	184 56 38.6	190 59 46.3	3 41 49.1	3 16 38.7	24.42	20 39.5	8 19.4
27	197 0 13.2	202 58 27.8	2 49 28.8	2 20 37.8	25.42	21 19.7	8 59.5
28	208 54 57.2	214 50 6.7	1 50 24.2	1 19 6.5	26.42	22 0.9	9 40.1
29	220 44 19.9	226 37 58.3	N. 0 47 3.7	N. 0 14 34.8	27.42	22 43.9	10 22.1
30	232 31 21.9	238 24 49.1	S. 0 18 1.1	S. 0 50 24.3	28.42	23 29.4	11 6.3
31	244 18 37.0	250 13 1.6	S. 1 22 15.4	S. 1 53 15.2	29.42	* *	11 53.1

GREENWICH MEAN TIME.

Day.	THE MOON'S								
	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.				
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
	' "	' "	' "	' "		° / ' "		° / ' "	
1	14 47.06	14 45.65	54 9.95	54 4.79					
2	14 44.57	14 43.84	54 0.85	53 58.15					
3	14 43.45	14 43.45	53 56.75	53 56.73					
4	14 43.85	14 44.67	53 58.18	54 1.21					
5	14 45.95	14 47.71	54 5.90	54 12.34					
6	14 49.98	14 52.79	54 20.66	54 30.97					
7	14 56.17	15 0.12	54 43.34	54 57.83					
8	15 4.67	15 9.81	55 14.48	55 33.28					
9	15 15.51	15 21.77	55 54.19	56 17.13					
10	15 28.54	15 35.75	56 41.93	57 8.35					
11	15 43.33	15 51.15	57 36.10	58 4.78					
12	15 59.10	16 7.02	58 33.91	59 2.91					
13	16 14.72	16 22.01	59 31.14	59 57.90					
14	16 28.72	16 34.61	60 22.44	60 44.03					
15	16 39.51	16 43.23	61 1.96	61 15.61					
16	16 45.65	16 46.68	61 24.48	61 28.25					
17	16 46.29	16 44.48	61 26.80	61 20.19					
18	16 41.34	16 36.98	61 8.67	60 52.69					
19	16 31.55	16 25.24	60 32.81	60 9.70					
20	16 18.26	16 10.80	59 44.10	59 16.77					
21	16 3.05	15 55.21	58 48.40	58 19.65					
22	15 47.43	15 39.84	57 51.13	57 23.32					
23	15 32.56	15 25.67	56 56.65	56 31.44					
24	15 19.26	15 13.37	56 7.95	55 46.34					
25	15 8.01	15 3.21	55 26.72	55 9.16					
26	14 58.99	14 55.31	54 53.65	54 40.19					
27	14 52.18	14 49.57	54 28.71	54 19.14					
28	14 47.44	14 45.80	54 11.37	54 5.32					
29	14 44.58	14 43.80	54 0.90	53 58.00					
30	14 43.39	14 43.36	53 56.53	53 56.42					
31	14 43.69	14 44.35	53 57.60	54 0.05					

TUESDAY 1.				
h	m	s	° / ' "	"
0	14	1	3.76	126.82
4	14	8	24.40	125.03
8	14	15	47.20	123.10
12	14	23	12.33	121.06
16	14	30	39.98	118.88
20	14	38	10.32	116.58

WEDNESDAY 2.				
h	m	s	° / ' "	"
0	14	45	43.52	114.14
4	14	53	19.72	111.58
8	15	0	59.07	108.88
12	15	8	41.70	106.04
16	15	16	27.72	103.09
20	15	24	17.26	100.00

THURSDAY 3.				
h	m	s	° / ' "	"
0	15	32	10.39	96.78
4	15	40	7.19	93.43
8	15	48	7.72	89.95
12	15	56	12.04	86.34
16	16	4	20.17	82.59
20	16	12	32.12	78.72

FRIDAY 4.				
h	m	s	° / ' "	"
0	16	20	47.87	74.73
4	16	29	7.41	70.61
8	16	37	30.69	66.38
12	16	45	57.63	62.02
16	16	54	28.15	57.55
20	17	3	2.16	52.97

SATURDAY 5.				
h	m	s	° / ' "	"
0	17	11	39.51	48.28
4	17	20	20.07	43.49
8	17	29	3.67	38.62
12	17	37	50.13	33.64
16	17	46	39.25	28.59
20	17	55	30.81	23.47

SUNDAY 6.				
h	m	s	° / ' "	"
0	18	4	24.59	18.27
4	18	13	20.35	13.02
8	18	22	17.84	7.71
12	18	31	16.79	2.35
16	18	40	16.96	3.04
20	18	49	18.07	8.46



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days MONDAY 7 through SUNDAY 13, and MONDAY 14 through SUNDAY 20.

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days MONDAY 21 through MONDAY 28, TUESDAY 29, WEDNESDAY 30, THURSDAY, DEC. 1, PHASES OF THE MOON, and SUNDAY 27.



GREENWICH MEAN TIME.

Day.	THE MOON'S						
	Longitude.		Latitude.		Age.	Meridian Passage.	
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Upper.	Lower.
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	d	h m	h m
1	244 18 37.0	250 13 1.6	S. 1 22 15.4	S. 1 53 15.2	29.42	* *	11 53.1
2	256 8 17.9	262 4 40.1	2 23 4.6	2 51 24.9	0.62	0 17.4	12 42.4
3	268 2 22.3	274 1 38.7	3 17 57.9	3 42 25.9	1.62	1 7.8	13 33.6
4	280 2 43.8	286 5 52.4	4 4 32.2	4 24 0.9	2.62	1 59.5	14 25.6
5	292 11 20.3	298 19 24.2	4 40 37.4	4 54 7.6	3.62	2 51.5	15 17.2
6	304 30 22.3	310 44 33.4	5 4 18.9	5 11 0.0	4.62	3 42.6	16 7.6
7	317 2 17.6	323 23 55.8	5 14 1.1	5 13 13.7	5.62	4 32.1	16 56.2
8	329 49 49.2	336 20 19.3	5 8 31.0	4 59 48.5	6.62	5 19.9	17 43.3
9	342 55 46.3	349 36 29.6	4 47 3.5	4 30 16.5	7.62	6 6.5	18 29.7
10	356 22 45.7	3 14 47.7	4 9 31.1	3 44 54.6	8.62	6 52.9	19 16.3
11	10 12 44.1	17 16 36.8	3 16 38.7	2 45 0.5	9.62	7 40.2	20 4.6
12	24 26 20.8	31 41 42.5	2 10 22.1	1 33 11.9	10.62	8 29.8	20 56.0
13	39 2 18.6	46 27 35.3	S. 0 54 3.9	S. 0 13 38.2	11.62	9 23.2	21 51.6
14	53 56 49.0	61 29 5.5	N. 0 27 21.2	N. 1 8 6.3	12.62	10 21.3	22 52.3
15	69 3 22.6	76 38 30.9	1 47 47.8	2 25 36.5	13.62	11 24.3	23 57.1
16	84 13 16.9	91 46 25.4	3 0 46.7	3 32 36.7	14.62	12 30.3	* *
17	99 16 43.6	106 43 2.8	4 0 31.7	4 24 4.7	15.62	13 36.1	1 3.4
18	114 4 22.1	121 19 50.4	4 42 57.1	4 56 58.8	16.62	14 38.5	2 7.9
19	128 28 48.2	135 30 47.1	5 6 7.7	5 10 28.5	17.62	15 35.5	3 7.7
20	142 25 31.5	149 12 56.9	5 10 11.3	5 5 30.7	18.62	16 26.8	4 1.8
21	155 53 9.1	162 26 23.0	4 56 44.5	4 44 12.4	19.62	17 13.4	4 50.6
22	168 53 0.9	175 13 31.4	4 28 15.1	4 9 13.8	20.62	17 56.6	5 35.3
23	181 28 27.1	187 38 24.1	3 47 29.4	3 23 22.5	21.62	18 37.8	6 17.3
24	193 44 0.5	199 45 55.6	2 57 13.2	2 29 20.9	22.62	19 18.2	6 58.0
25	205 44 48.3	211 41 17.5	2 0 4.3	1 29 41.9	23.62	19 59.1	7 38.5
26	217 36 0.7	223 29 33.5	N. 0 58 31.7	N. 0 26 51.7	24.62	20 41.4	8 20.0
27	229 22 29.5	235 15 19.9	S. 0 5 0.4	S. 0 36 46.7	25.62	21 25.9	9 3.3
28	241 8 33.5	247 2 35.7	1 8 8.8	1 38 48.7	26.62	22 13.2	9 49.2
29	252 57 49.3	258 54 34.1	2 8 28.0	2 36 48.1	27.62	23 3.0	10 37.8
30	264 53 7.2	270 53 42.6	3 3 30.6	3 28 17.3	28.62	23 54.8	11 28.7
31	276 56 31.8	283 1 43.9	3 50 50.4	4 10 52.8	29.62	* *	12 21.1
32	289 9 26.2	295 19 44.1	S. 4 28 8.3	S. 4 42 21.8	0.82	0 47.3	13 13.4

GREENWICH MEAN TIME.

Day.	THE MOON'S								
	Semidiameter.		Horizontal Parallax.		RIGHT ASCENSION AND DECLINATION.				
	Noon.	Midnight.	Noon.	Midnight.	Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
	' / "	' / "	' / "	' / "		° / ' / "	s	° / ' / "	"
1	14 43.69	14 44.35	53 57.60	54 0.05					
2	14 45.36	14 46.70	54 3.73	54 8.63					
3	14 48.38	14 50.40	54 14.77	54 22.18					
4	14 52.78	14 55.53	54 30.91	54 41.01					
5	14 58.68	15 2.23	54 52.54	55 5.56					
6	15 6.22	15 10.63	55 20.13	55 36.28					
7	15 15.47	15 20.75	55 54.04	56 13.40					
8	15 26.46	15 32.56	56 34.31	56 56.67					
9	15 39.02	15 45.78	57 20.33	57 45.06					
10	15 52.72	15 59.80	58 10.56	58 36.47					
11	16 6.86	16 13.76	59 2.34	59 27.63					
12	16 20.33	16 26.40	59 51.72	60 13.98					
13	16 31.80	16 36.33	60 33.73	60 50.33					
14	16 39.83	16 42.17	61 3.16	61 11.70					
15	16 43.22	16 42.94	61 15.57	61 14.55					
16	16 41.31	16 38.37	61 8.58	60 57.81					
17	16 34.21	16 28.95	60 42.56	60 23.31					
18	16 22.77	16 15.86	60 0.66	59 35.29					
19	16 8.38	16 0.57	59 7.92	58 39.28					
20	15 52.59	15 44.63	58 10.06	57 40.90					
21	15 36.85	15 29.37	57 12.37	56 44.96					
22	15 22.30	15 15.74	56 19.08	55 55.03					
23	15 9.75	15 4.37	55 33.06	55 13.36					
24	14 59.64	14 55.57	54 56.04	54 41.13					
25	14 52.17	14 49.42	54 28.67	54 18.61					
26	14 47.31	14 45.83	54 10.89	54 5.43					
27	14 44.91	14 44.55	54 2.11	54 0.78					
28	14 44.70	14 45.32	54 1.32	54 3.58					
29	14 46.36	14 47.80	54 7.42	54 12.68					
30	14 49.59	14 51.69	54 19.22	54 26.92					
31	14 54.08	14 56.73	54 35.67	54 45.36					
32	14 59.61	15 2.70	54 55.92	55 7.30					

THURSDAY 1.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	16 8 11.14	20.538	S. 22 21 43.4	80.82
4	16 16 26.04	20.704	22 53 16.1	76.89
8	16 24 44.93	20.870	23 23 13.2	72.84
12	16 33 7.78	21.033	23 51 31.3	68.65
16	16 41 34.50	21.193	24 18 7.5	64.34
20	16 50 5.01	21.348	S. 24 42 58.7	59.90

FRIDAY 2.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	16 58 39.18	21.498	S. 25 6 2.0	55.36
4	17 7 16.88	21.642	25 27 14.7	50.68
8	17 15 57.93	21.778	25 46 34.0	45.91
12	17 24 42.15	21.906	26 3 57.6	41.03
16	17 33 29.34	22.025	26 19 22.9	36.06
20	17 42 19.29	22.134	S. 26 32 47.9	31.00

SATURDAY 3.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	17 51 11.73	22.233	S. 26 44 10.4	25.86
4	18 0 6.42	22.322	26 53 28.7	20.64
8	18 9 3.08	22.398	27 0 41.1	15.38
12	18 18 1.42	22.462	27 5 46.4	10.05
16	18 27 1.15	22.514	27 8 43.3	4.68
20	18 36 1.96	22.553	S. 27 9 30.9	0.72

SUNDAY 4.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	18 45 3.56	22.578	S. 27 8 8.6	6.14
4	18 54 5.62	22.592	27 4 35.9	11.58
8	19 3 7.86	22.593	26 58 52.5	17.03
12	19 12 9.96	22.580	26 50 58.8	22.45
16	19 21 11.63	22.556	26 40 54.8	27.88
20	19 30 12.58	22.521	S. 26 28 41.1	33.26

MONDAY 5.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	19 39 12.55	22.475	S. 26 14 18.4	38.62
4	19 48 11.27	22.418	25 57 47.8	43.93
8	19 57 8.52	22.351	25 39 10.5	49.18
12	20 6 4.05	22.275	25 18 27.8	54.37
16	20 14 57.68	22.193	24 55 41.3	59.48
20	20 23 49.22	22.102	S. 24 30 52.9	64.53

TUESDAY 6.				
Hour.	Right Ascension.	Var. in 10 <sup>m</sup> .	Declination.	Var. in 10 <sup>m</sup> .
0	20 32 38.52	22.006	S. 24 4 4.3	69.49
4	20 41 25.45	21.904	23 35 17.8	74.37
8	20 50 9.90	21.800	23 4 35.5	79.14
12	20 58 51.79	21.692	22 31 59.9	83.81
16	21 7 31.06	21.581	21 57 33.4	88.38
20	21 16 7.68	21.471	S. 21 21 18.5	92.83



GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: WEDNESDAY 7, THURSDAY 8, FRIDAY 9, SATURDAY 10, SUNDAY 11, MONDAY 12, TUESDAY 13, WEDNESDAY 14, THURSDAY 15, FRIDAY 16, SATURDAY 17, SUNDAY 18, MONDAY 19, TUESDAY 20.

GREENWICH MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Table with columns: Hour, Right Ascension, Var. in 10m, Declination, Var. in 10m. Rows for days: WEDNESDAY 21, THURSDAY 22, FRIDAY 23, SATURDAY 24, SUNDAY 25, MONDAY 26, TUESDAY 27, WEDNESDAY 28, THURSDAY 29, FRIDAY 30, SATURDAY 31, SUNDAY, JAN. 1, 1911. Includes PHASES OF THE MOON section at the bottom.



GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.			
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m
1	21 41 58.75	5.894	S. 13 54 31.1	53.63	3 07	1	21 55 18.61	4.514	S. 5 48 34.6	10.69	1 11.8
2	21 44 17.32	5.655	13 33 5.5	53.49	2 59.1	2	21 53 26.57	4.819	5 44 49.8	8.05	1 6.0
3	21 46 30.13	5.411	13 11 44.7	53.25	2 57.4	3	21 51 27.48	5.101	5 42 8.6	5.38	1 0.1
4	21 48 37.00	5.160	12 50 30.3	52.94	2 55.5	4	21 49 21.94	5.356	5 40 31.1	2.72	0 54.1
5	21 50 37.78	4.902	12 29 23.8	52.57	2 53.6	5	21 47 10.64	5.581	5 39 57.1	0.09	0 48.0
6	21 52 32.28	4.637	S. 12 8 26.9	52.14	2 51.5	6	21 44 54.32	5.774	S. 5 40 25.9	2.50	0 41.8
7	21 54 20.32	4.364	11 47 41.1	51.64	2 49.4	7	21 42 33.76	5.933	5 41 56.4	5.04	0 35.5
8	21 56 1.70	4.083	11 27 8.2	51.07	2 47.1	8	21 40 9.82	6.056	5 44 27.1	7.50	0 29.2
9	21 57 36.24	3.793	11 6 49.9	50.42	2 44.7	9	21 37 43.37	6.141	5 47 56.0	9.88	0 22.8
10	21 59 3.73	3.495	10 46 48.2	49.70	2 42.2	10	21 35 15.34	6.187	5 52 20.5	12.15	0 16.5
11	22 0 23.96	3.188	S. 10 27 4.9	48.90	2 39.6	11	21 32 46.66	6.194	S. 5 57 38.1	14.31	0 10.1
12	22 1 36.70	2.871	10 7 42.0	48.01	2 36.9	12	21 30 18.30	6.161	6 3 45.9	16.32	0 37.1
13	22 2 41.75	2.545	9 48 41.3	47.03	2 34.0	13	21 27 51.22	6.089	6 10 40.3	18.19	23 51.0
14	22 3 38.89	2.211	9 30 4.9	45.97	2 31.0	14	21 25 26.35	5.977	6 18 17.6	19.89	23 44.7
15	22 4 27.89	1.868	9 11 55.1	44.82	2 27.9	15	21 23 4.62	5.827	6 26 33.8	21.43	23 38.5
16	22 5 8.54	1.516	S. 8 54 14.2	43.57	2 24.6	16	21 20 46.94	5.640	S. 6 35 24.9	22.80	23 32.3
17	22 5 40.61	1.155	8 37 4.4	42.22	2 21.2	17	21 18 34.16	5.418	6 44 46.5	23.98	23 26.3
18	22 6 3.92	0.786	8 20 28.1	40.78	2 17.6	18	21 16 27.11	5.164	6 54 34.2	24.97	23 20.4
19	22 6 18.28	0.409	8 4 27.8	39.23	2 13.9	19	21 14 26.54	4.880	7 4 43.7	25.78	23 14.6
20	22 6 23.51	0.025	7 49 5.8	37.58	2 10.1	20	21 12 33.13	4.568	7 15 10.5	26.41	23 8.9
21	22 6 19.48	0.364	S. 7 34 24.6	35.83	2 6.1	21	21 10 47.50	4.232	S. 7 25 50.2	26.86	23 3.3
22	22 6 6.07	0.756	7 20 26.5	33.98	2 1.9	22	21 9 10.20	3.874	7 36 38.4	27.14	22 57.9
23	22 5 43.18	1.153	7 7 14.0	32.03	1 57.6	23	21 7 41.70	3.499	7 47 31.0	27.25	22 52.7
24	22 5 10.77	1.550	6 54 49.6	29.98	1 53.1	24	21 6 22.39	3.109	7 58 24.2	27.19	22 47.6
25	22 4 28.82	1.946	6 43 15.6	27.84	1 48.5	25	21 5 12.58	2.708	8 9 14.2	26.96	22 42.7
26	22 3 37.39	2.339	S. 6 32 34.1	25.60	1 43.7	26	21 4 12.50	2.298	S. 8 19 57.5	26.61	22 37.9
27	22 2 36.56	2.727	6 22 47.2	23.28	1 38.7	27	21 3 22.33	1.881	8 30 30.7	26.13	22 33.3
28	22 1 26.50	3.109	6 13 56.9	20.88	1 33.6	28	21 2 42.18	1.462	8 40 50.8	25.53	22 28.8
29	22 0 7.37	3.482	6 6 5.1	18.42	1 28.4	29	21 2 12.10	1.043	S. 8 50 55.1	24.82	22 24.6
30	21 58 39.45	3.842	5 59 13.3	15.89	1 23.0						
31	21 57 3.06	4.187	S. 5 53 22.7	13.31	1 17.4						
32	21 55 18.61	4.514	S. 5 48 34.6	10.69	1 11.8						

GREENWICH MEAN TIME.

MARCH.						APRIL.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.			
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m
1	21 2 12.10	1.043	S. 8 50 55.1	24.82	22 24.6	1	21 52 54.87	7.628	S. 9 56 13.6	16.92	21 16.3
2	21 1 52.07	0.625	9 0 41.2	24.01	22 20.5	2	21 55 59.56	7.762	9 49 10.8	18.32	21 15.5
3	21 1 42.04	0.210	9 10 6.7	23.10	22 16.5	3	21 59 7.37	7.888	9 41 34.4	19.70	21 14.7
4	21 1 41.90	0.199	9 19 9.3	22.11	22 12.7	4	22 2 18.12	8.008	9 33 25.1	21.07	21 14.0
5	21 1 51.51	0.602	9 27 47.3	21.05	22 9.1	5	22 5 31.67	8.122	9 24 43.2	22.42	21 13.3
6	21 2 10.71	0.997	S. 9 35 59.0	19.92	22 5.6	6	22 8 47.87	8.229	S. 9 15 29.1	23.76	21 12.7
7	21 2 39.29	1.384	9 43 43.0	18.74	22 2.3	7	22 12 6.58	8.330	9 5 43.3	25.07	21 12.1
8	21 3 17.02	1.760	9 50 58.1	17.51	21 59.2	8	22 15 27.65	8.426	8 55 26.4	26.36	21 11.5
9	21 4 3.66	2.126	9 57 43.1	16.23	21 56.1	9	22 18 50.96	8.517	8 44 38.8	27.62	21 11.0
10	21 4 58.95	2.481	10 3 56.9	14.92	21 53.2	10	22 22 16.39	8.603	8 33 21.2	28.86	21 10.5
11	21 6 2.62	2.825	S. 10 9 38.9	13.57	21 50.5	11	22 25 43.82	8.684	S. 8 21 34.1	30.08	21 10.0
12	21 7 14.40	3.157	10 14 48.4	12.20	21 47.9	12	22 29 13.14	8.761	8 9 18.0	31.27	21 9.6
13	21 8 34.02	3.477	10 19 24.8	10.80	21 45.4	13	22 32 44.26	8.834	7 56 33.5	32.44	21 9.2
14	21 10 1.19	3.786	10 23 27.4	9.38	21 43.0	14	22 36 17.09	8.903	7 43 21.2	33.59	21 8.8
15	21 11 35.63	4.084	10 26 55.9	7.96	21 40.7	15	22 39 51.53	8.969	7 29 41.5	34.72	21 8.5
16	21 13 17.08	4.370	S. 10 29 49.8	6.52	21 38.6	16	22 43 27.52	9.031	S. 7 15 35.1	35.82	21 8.2
17	21 15 5.28	4.646	10 32 9.0	5.07	21 36.5	17	22 47 4.96	9.090	7 1 2.4	36.90	21 7.9
18	21 16 59.97	4.911	10 33 53.3	3.61	21 34.6	18	22 50 43.81	9.147	6 46 4.0	37.96	21 7.6
19	21 19 0.90	5.166	10 35 2.3	2.13	21 32.8	19	22 54 23.99	9.201	6 30 40.5	38.99	21 7.3
20	21 21 7.81	5.410	10 35 35.8	0.65	21 31.0	20	22 58 5.45	9.253	6 14 52.4	40.01	21 7.1
21	21 23 20.47	5.644	S. 10 35 33.8	0.83	21 29.4	21	23 1 48.12	9.302	S. 5 58 40.4	41.00	21 6.9
22	21 25 38.63	5.868	10 34 56.1	2.31	21 27.8	22	23 5 31.95	9.350	5 42 5.0	41.96	21 6.7
23	21 28 2.06	6.083	10 33 42.8	3.80	21 26.3	23	23 9 16.90	9.396	5 25 6.8	42.90	21 6.5
24	21 30 30.54	6.289	10 31 53.9	5.29	21 24.9	24	23 13 2.92	9.440	5 7 46.4	43.81	21 6.4
25	21 33 3.85	6.486	10 29 29.4	6.77	21 23.6	25	23 16 49.96	9.482	4 50 4.4	44.70	21 6.2
26	21 35 41.77	6.674	S. 10 26 29.4	8.24	21 22.4	26	23 20 37.98	9.522	S. 4 32 1.5	45.56	21 6.1
27	21 38 24.10	6.853	10 22 54.0	9.71	21 21.2	27	23 24 26.94	9.560	4 13 38.2	46.39	21 6.0
28	21 41 10.62	7.023	10 18 43.5	11.17	21 20.1	28	23 28 16.81	9.597	3 54 55.1	47.20	21 5.9
29	21 44 1.15	7.186	10 13 57.9	12.63	21 19.1	29	23 32 7.56	9.633	3 35 52.9	47.98	21 5.8
30	21 46 55.49	7.342	10 8 37.5	14.07	21 18.1	30	23 35 59.15	9.667	3 16 32.3	48.73	21 5.7
31	21 49 53.45	7.489	S. 10 2 42.7	15.50	21 17.2	31	23 39 51.56	9.700	S. 2 56 53.9	49.46	21 5.7
32	21 52 54.87	7.628	S. 9 56 13.6	16.92	21 16.3						

Day.	1	6	11	16	21	26
Semidiameter.	18.52	20.01	21.66	23.46	25.36	27.25
Hor. Parallax.	19.40	20.96	22.69	24.58	26.57	28.55

Day.	1	6	11	16	21	26
Semidiameter.	29.24	30.38	30.81	30.43	29.32	27.68
Hor. Parallax.	30.63	31.83	32.27	31.88	30.71	29.00

Day.	1	6	11	16	21	26
Semidiameter.	26.57	24.62	22.71	20.92	19.29	17.82
Hor. Parallax.	27.83	25.79	23.79	21.91	20.20	18.67

Day.	1	6	11	16	21	26
Semidiameter.	16.29	15.16	14.17	13.29	12.51	11.81
Hor. Parallax.	17.06	15.89	14.85	13.93	13.10	12.37



GREENWICH MEAN TIME.

MAY.						JUNE.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° / ' / "	"	h m		h m s	s	° / ' / "	"	h m
1	23 39 51.56	9.700	S. 2 56 53.9	49.46	21 5.7	1	1 45 43.31	10.638	N. 8 35 26.9	57.65	21 9.7
2	23 43 44.77	9.733	2 36 58.5	50.16	21 5.6	2	1 49 59.05	10.675	8 58 28.1	57.45	21 10.0
3	23 47 38.73	9.764	2 16 46.7	50.83	21 5.6	3	1 54 15.69	10.713	9 21 24.2	57.22	21 10.3
4	23 51 33.44	9.793	1 56 19.2	51.47	21 5.6	4	1 58 33.25	10.752	9 44 14.4	56.96	21 10.7
5	23 55 28.87	9.822	1 35 36.7	52.08	21 5.6	5	2 2 51.75	10.791	10 6 58.1	56.67	21 11.1
6	23 59 25.00	9.850	S. 1 14 40.0	52.66	21 5.6	6	2 7 11.19	10.831	N. 10 29 34.5	56.35	21 11.5
7	0 3 21.82	9.879	0 53 29.7	53.21	21 5.6	7	2 11 31.59	10.871	10 52 2.9	56.00	21 11.9
8	0 7 19.30	9.908	0 32 6.6	53.73	21 5.6	8	2 15 52.97	10.912	11 14 22.5	55.62	21 12.3
9	0 11 17.44	9.936	S. 0 10 31.4	54.22	21 5.7	9	2 20 15.33	10.953	11 36 32.6	55.21	21 12.8
10	0 15 16.22	9.963	N. 0 11 15.2	54.68	21 5.7	10	2 24 38.69	10.995	11 58 32.5	54.77	21 13.2
11	0 19 15.64	9.990	N. 0 33 12.5	55.11	21 5.8	11	2 29 3.07	11.038	N. 12 20 21.4	54.30	21 13.7
12	0 23 15.70	10.016	0 55 19.7	55.51	21 5.8	12	2 33 28.48	11.081	12 41 58.7	53.80	21 14.2
13	0 27 16.40	10.043	1 17 36.2	55.88	21 5.9	13	2 37 54.94	11.125	13 3 23.7	53.27	21 14.7
14	0 31 17.74	10.070	1 40 1.4	56.22	21 6.0	14	2 42 22.46	11.169	13 24 35.7	52.71	21 15.2
15	0 35 19.72	10.097	2 2 34.6	56.54	21 6.1	15	2 46 51.07	11.214	13 45 34.0	52.13	21 15.8
16	0 39 22.36	10.124	N. 2 25 15.0	56.83	21 6.2	16	2 51 20.78	11.259	N. 14 6 17.8	51.52	21 16.4
17	0 43 25.66	10.152	2 48 2.1	57.09	21 6.3	17	2 55 51.59	11.305	14 26 46.5	50.87	21 17.0
18	0 47 29.63	10.181	3 10 55.1	57.33	21 6.5	18	3 0 23.53	11.352	14 46 59.4	50.19	21 17.6
19	0 51 34.28	10.209	3 33 53.4	57.53	21 6.6	19	3 4 56.60	11.400	15 6 55.9	49.49	21 18.2
20	0 55 39.63	10.238	3 56 56.3	57.71	21 6.8	20	3 9 30.83	11.449	15 26 35.2	48.76	21 18.8
21	0 59 45.68	10.269	N. 4 20 3.2	57.86	21 6.9	21	3 14 6.22	11.499	N. 15 45 56.6	48.00	21 19.5
22	1 3 52.46	10.298	4 43 13.4	57.99	21 7.1	22	3 18 42.79	11.548	16 4 59.5	47.21	21 20.2
23	1 7 59.97	10.329	5 6 26.2	58.08	21 7.3	23	3 23 20.53	11.598	16 23 43.1	46.40	21 20.9
24	1 12 8.24	10.360	5 29 41.0	58.15	21 7.5	24	3 27 59.46	11.647	16 42 6.7	45.55	21 21.6
25	1 16 17.27	10.392	5 52 57.0	58.19	21 7.7	25	3 32 39.58	11.697	17 0 9.7	44.68	21 22.4
26	1 20 27.08	10.425	N. 6 16 13.5	58.20	21 8.0	26	3 37 20.90	11.747	N. 17 17 51.4	43.78	21 23.1
27	1 24 37.69	10.459	6 39 30.1	58.18	21 8.2	27	3 42 3.42	11.797	17 35 11.0	42.85	21 23.9
28	1 28 49.12	10.494	7 2 45.9	58.13	21 8.5	28	3 46 47.13	11.847	17 52 7.9	41.89	21 24.7
29	1 33 1.38	10.529	7 26 0.2	58.05	21 8.7	29	3 51 32.04	11.897	18 8 41.5	40.90	21 25.5
30	1 37 14.49	10.565	7 49 12.2	57.95	21 9.0	30	3 56 18.14	11.947	18 24 51.0	39.88	21 26.4
31	1 41 28.46	10.601	N. 8 12 21.4	57.82	21 9.3	31	4 1 5.42	11.996	N. 18 40 35.8	38.84	21 27.2
32	1 45 43.31	10.638	N. 8 35 26.9	57.65	21 9.7						

Day. 1 6 11 16 21 26

Semidiameter. 11.18 10.62 10.12 9.66 9.24 8.87  
Hor. Parallax. 11.72 11.13 10.60 10.12 9.68 9.29

Day. 1 6 11 16 21 26

Semidiameter. 8.46 8.15 7.87 7.61 7.37 7.15  
Hor. Parallax. 8.86 8.54 8.24 7.97 7.72 7.49

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° / ' / "	"	h m		h m s	s	° / ' / "	"	h m
1	4 1 5.42	11.996	N. 18 40 35.8	38.84	21 27.2	1	6 37 17.39	12.972	N. 22 31 58.1	4.35	22 1.6
2	4 5 53.88	12.045	18 55 55.1	37.76	21 28.1	2	6 42 28.77	12.976	22 29 54.8	5.95	22 2.8
3	4 10 43.50	12.093	19 10 48.3	36.66	21 29.0	3	6 47 40.21	12.976	22 27 13.1	7.55	22 4.1
4	4 15 34.27	12.140	19 25 14.7	35.53	21 29.9	4	6 52 51.67	12.977	22 23 53.1	9.15	22 5.3
5	4 20 26.17	12.187	19 39 13.7	34.37	21 30.9	5	6 58 3.09	12.975	22 19 54.7	10.75	22 6.6
6	4 25 19.18	12.233	N. 19 52 44.6	33.19	21 31.8	6	7 3 14.42	12.970	N. 22 15 18.0	12.34	22 7.8
7	4 30 13.29	12.278	20 5 46.9	31.98	21 32.8	7	7 8 25.61	12.963	22 10 3.0	13.93	22 9.1
8	4 35 8.47	12.322	20 18 19.8	30.75	21 33.8	8	7 13 36.60	12.954	22 4 9.9	15.52	22 10.3
9	4 40 4.69	12.365	20 30 22.9	29.49	21 34.8	9	7 18 47.36	12.943	21 57 38.8	17.10	22 11.5
10	4 45 1.94	12.407	20 41 55.5	28.21	21 35.8	10	7 23 57.83	12.930	21 50 29.8	18.68	22 12.8
11	4 50 0.18	12.448	N. 20 52 57.2	26.91	21 36.9	11	7 29 7.97	12.915	N. 21 42 43.1	20.25	22 14.0
12	4 54 59.40	12.488	21 3 27.3	25.59	21 37.9	12	7 34 17.74	12.899	21 34 19.0	21.80	22 15.2
13	4 59 59.57	12.527	21 13 25.3	24.24	21 39.0	13	7 39 27.09	12.881	21 25 17.5	23.34	22 16.4
14	5 5 0.67	12.565	21 22 50.8	22.87	21 40.1	14	7 44 35.99	12.861	21 15 39.1	24.88	22 17.6
15	5 10 2.66	12.601	21 31 43.2	21.48	21 41.2	15	7 49 44.39	12.840	21 5 23.9	26.41	22 18.8
16	5 15 5.51	12.636	N. 21 40 2.1	20.07	21 42.3	16	7 54 52.27	12.817	N. 20 54 32.3	27.92	22 20.0
17	5 20 9.18	12.670	21 47 47.1	18.65	21 43.5	17	7 59 59.58	12.793	20 43 4.5	29.42	22 21.1
18	5 25 13.65	12.703	21 54 57.6	17.21	21 44.6	18	8 5 6.20	12.767	20 31 1.0	30.90	22 22.3
19	5 30 18.87	12.734	22 1 33.3	15.75	21 45.8	19	8 10 12.38	12.740	20 18 22.0	32.37	22 23.5
20	5 35 24.82	12.763	22 7 33.8	14.28	21 46.9	20	8 15 17.81	12.712	20 5 7.9	33.82	22 24.6
21	5 40 31.46	12.791	N. 22 12 58.7	12.79	21 48.1	21	8 20 22.56	12.683	N. 19 51 19.2	35.26	22 25.7
22	5 45 38.74	12.817	22 17 47.6	11.28	21 49.3	22	8 25 26.60	12.653	19 36 56.2	36.68	22 26.8
23	5 50 46.63	12.841	22 22 0.3	9.76	21 50.5	23	8 30 29.92	12.622	19 21 59.3	38.08	22 27.9
24	5 55 55.08	12.863	22 25 36.4	8.23	21 51.7	24	8 35 32.48	12.591	19 6 29.1	39.46	22 29.0
25	6 1 4.05	12.884	22 28 35.6	6.68	21 52.9	25	8 40 34.27	12.558	18 50 25.8	40.82	22 30.1
26	6 6 13.49	12.903	N. 22 30 57.6	5.13	21 54.1	26	8 45 35.27	12.525	N. 18 33 50.2	42.16	22 31.2
27	6 11 23.36	12.920	22 32 42.3	3.57	21 55.4	27	8 50 35.47	12.491	18 16 42.7	43.48	22 32.2
28	6 16 33.61	12.935	22 33 49.3	2.00	21 56.6	28	8 55 34.84	12.457	17 59 3.9	44.78	22 33.3
29	6 21 44.19	12.947	22 34 18.6	0.42	21 57.9	29	9 0 33.37	12.422	17 40 54.1	46.05	22 34.3
30	6 26 55.05	12.957	22 34 9.9	1.17	21 59.1	30	9 5 31.06	12.386	17 22 14.0	47.30	22 35.3
31	6 32 6.13	12.966	N. 22 33 23.1	2.76	22 0.3	31	9 10 27.88	12.350	N. 17 3 4.2	48.53	22 36.3
32	6 37 17.39	12.972	N. 22 31 58.1	4.35	22 1.6	32	9 15 23.84	12.313	N. 16 43 25.2	49.73	22 37.2

Day. 1 6 11 16 21 26

Semidiameter. 6.95 6.77 6.59 6.43 6.29 6.15  
Hor. Parallax. 7.28 7.09 6.91 6.74 6.59 6.45

Day. 1 6 11 16 21 26

Semidiameter. 6.00 5.89 5.79 5.69 5.60 5.52  
Hor. Parallax. 6.29 6.17 6.06 5.96 5.87 5.78



GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m
1	9 15 23.84	12.313	N. 16 43 25.2	49.73	22 37.2	1	11 37 18.00	11.475	N. 4 1 53.2	72.92	23 0.6
2	9 20 18.92	12.276	16 23 17.7	50.91	22 38.2	2	11 41 53.26	11.465	3 32 39.3	73.24	23 1.2
3	9 25 13.11	12.239	16 2 42.2	52.06	22 39.2	3	11 46 28.30	11.456	3 3 18.1	73.52	23 1.8
4	9 30 6.42	12.202	15 41 39.4	53.19	22 40.1	4	11 51 3.15	11.449	2 33 50.4	73.78	23 2.5
5	9 34 58.85	12.166	15 20 9.9	54.29	22 41.0	5	11 55 37.84	11.443	2 4 17.0	74.01	23 3.1
6	9 39 50.39	12.129	N. 14 58 14.4	55.36	22 41.9	6	12 0 12.41	11.439	N. 1 34 38.5	74.20	23 3.8
7	9 44 41.06	12.093	14 35 53.6	56.40	22 42.8	7	12 4 46.90	11.436	1 4 55.7	74.36	23 4.4
8	9 49 30.85	12.057	14 13 8.0	57.41	22 43.7	8	12 9 21.35	11.435	0 35 9.4	74.49	23 5.0
9	9 54 19.78	12.021	13 49 58.3	58.40	22 44.5	9	12 13 55.80	11.436	N. 0 5 20.2	74.60	23 5.6
10	9 59 7.86	11.986	13 26 25.2	59.36	22 45.4	10	12 18 30.28	11.438	S. 0 24 31.1	74.67	23 6.3
11	10 3 55.10	11.951	N. 13 2 29.4	60.30	22 46.2	11	12 23 4.84	11.442	S. 0 54 23.6	74.71	23 6.9
12	10 8 41.51	11.917	12 38 11.5	61.20	22 47.0	12	12 27 39.52	11.448	1 24 16.7	74.72	23 7.6
13	10 13 27.11	11.884	12 13 32.2	62.08	22 47.8	13	12 32 14.35	11.455	1 54 9.6	74.69	23 8.2
14	10 18 11.92	11.852	11 48 32.2	62.93	22 48.6	14	12 36 49.38	11.464	2 24 1.6	74.64	23 8.8
15	10 22 55.97	11.820	11 23 12.3	63.75	22 49.4	15	12 41 24.64	11.475	2 53 52.0	74.55	23 9.5
16	10 27 39.27	11.790	N. 10 57 33.0	64.54	22 50.2	16	12 46 0.18	11.488	S. 3 23 39.9	74.44	23 10.1
17	10 32 21.84	11.760	10 31 35.1	65.30	22 50.9	17	12 50 36.05	11.502	3 53 24.7	74.29	23 10.8
18	10 37 3.71	11.732	10 5 19.2	66.03	22 51.7	18	12 55 12.28	11.518	4 23 5.6	74.12	23 11.5
19	10 41 44.92	11.704	9 38 46.1	66.74	22 52.4	19	12 59 48.92	11.536	4 52 42.0	73.91	23 12.2
20	10 46 25.49	11.677	9 11 56.3	67.41	22 53.1	20	13 4 26.01	11.556	5 22 13.0	73.67	23 12.8
21	10 51 5.44	11.652	N. 8 44 50.6	68.06	22 53.9	21	13 9 3.59	11.577	S. 5 51 37.9	73.40	23 13.5
22	10 55 44.81	11.628	8 17 29.7	68.67	22 54.6	22	13 13 41.70	11.600	6 20 56.0	73.10	23 14.2
23	11 0 23.63	11.606	7 49 54.2	69.26	22 55.2	23	13 18 20.39	11.625	6 50 6.4	72.76	23 14.9
24	11 5 1.92	11.585	7 22 4.9	69.82	22 55.9	24	13 22 59.69	11.651	7 19 8.4	72.40	23 15.7
25	11 9 39.72	11.565	6 54 2.5	70.36	22 56.6	25	13 27 39.64	11.679	7 48 1.3	72.00	23 16.4
26	11 14 17.06	11.546	N. 6 25 47.7	70.87	22 57.3	26	13 32 20.27	11.708	S. 8 16 44.2	71.57	23 17.1
27	11 18 53.97	11.529	5 57 21.2	71.34	22 58.0	27	13 37 1.62	11.739	8 45 16.4	71.10	23 17.9
28	11 23 30.49	11.513	5 28 43.8	71.78	22 58.6	28	13 41 43.73	11.771	9 13 37.1	70.60	23 18.7
29	11 28 6.65	11.499	4 59 56.2	72.19	22 59.3	29	13 46 26.63	11.805	9 41 45.5	70.07	23 19.5
30	11 32 42.47	11.486	4 30 59.1	72.57	22 59.9	30	13 51 10.35	11.840	10 9 40.7	69.51	23 20.3
31	11 37 18.00	11.475	N. 4 1 53.2	72.92	23 0.6	31	13 55 54.93	11.876	S. 10 37 22.0	68.91	23 21.1
						32	14 0 40.40	11.913	S. 11 4 48.5	68.28	23 21.9

Day.	1	6	11	16	21	26
Semidiameter.	5.43	5.36	5.30	5.25	5.19	5.15
Hor. Parallax.	5.69	5.62	5.55	5.49	5.44	5.39

Day.	1	6	11	16	21	26
Semidiameter.	5.11	5.07	5.04	5.01	4.98	4.96
Hor. Parallax.	5.35	5.31	5.28	5.25	5.22	5.20

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m
1	14 0 40.40	11.913	S. 11 4 48.5	68.28	23 21.9	1	16 31 57.02	13.331	S. 21 47 35.4	34.03	23 55.5
2	14 5 26.78	11.952	11 31 59.5	67.62	23 22.8	2	16 37 17.47	13.373	22 0 53.3	32.42	23 56.9
3	14 10 14.11	11.992	11 58 54.1	66.92	23 23.6	3	16 42 38.91	13.413	22 13 32.3	30.79	23 58.3
4	14 15 2.42	12.033	12 25 31.5	66.18	23 24.5	4	16 48 1.30	13.452	22 25 31.8	29.13	23 59.8
5	14 19 51.73	12.075	12 51 51.0	65.41	23 25.4	5	16 53 24.59	13.489	22 36 51.2	27.45	* *
6	14 24 42.06	12.119	S. 13 17 51.6	64.61	23 26.3	6	16 58 48.73	13.524	S. 22 47 30.1	25.75	0 1.3
7	14 29 33.44	12.164	13 43 32.6	63.78	23 27.2	7	17 4 13.69	13.556	22 57 27.9	24.03	0 2.7
8	14 34 25.89	12.210	14 8 53.1	62.91	23 28.2	8	17 9 39.41	13.587	23 6 44.2	22.29	0 4.2
9	14 39 19.43	12.257	14 33 52.4	62.01	23 29.2	9	17 15 5.85	13.615	23 15 18.5	20.53	0 5.7
10	14 44 14.09	12.304	14 58 29.6	61.07	23 30.1	10	17 20 32.94	13.641	23 23 10.4	18.76	0 7.2
11	14 49 9.88	12.351	S. 15 22 44.0	60.10	23 31.1	11	17 26 0.63	13.665	S. 23 30 19.5	16.97	0 8.7
12	14 54 6.83	12.399	15 46 34.7	59.10	23 32.2	12	17 31 28.87	13.687	23 36 45.6	15.17	0 10.3
13	14 59 4.95	12.447	16 10 1.0	58.07	23 33.2	13	17 36 57.60	13.707	23 42 28.2	13.36	0 11.8
14	15 4 4.25	12.496	16 33 2.0	57.00	23 34.3	14	17 42 26.77	13.724	23 47 27.2	11.53	0 13.4
15	15 9 4.75	12.546	16 55 37.0	55.90	23 35.4	15	17 47 56.31	13.738	23 51 42.2	9.69	0 14.9
16	15 14 6.45	12.596	S. 17 17 45.1	54.76	23 36.5	16	17 53 26.17	13.750	S. 23 55 13.1	7.85	0 16.5
17	15 19 9.37	12.647	17 39 25.7	53.59	23 37.6	17	17 58 56.29	13.759	23 57 59.6	6.00	0 18.0
18	15 24 13.50	12.698	18 0 37.9	52.39	23 38.8	18	18 4 26.60	13.766	24 0 1.7	4.14	0 19.6
19	15 29 18.87	12.749	18 21 21.0	51.16	23 39.9	19	18 9 57.05	13.770	24 1 19.1	2.28	0 21.2
20	15 34 25.47	12.801	18 41 34.2	49.90	23 41.1	20	18 15 27.56	13.772	24 1 51.9	0.42	0 22.7
21	15 39 33.31	12.852	S. 19 1 16.8	48.61	23 42.3	21	18 20 58.08	13.771	S. 24 1 39.9	1.44	0 24.3
22	15 44 42.37	12.904	19 20 27.9	47.29	23 43.6	22	18 26 28.55	13.767	24 0 43.1	3.31	0 25.9
23	15 49 52.65	12.955	19 39 6.9	45.93	23 44.8	23	18 31 58.89	13.760	23 59 1.6	5.18	0 27.4
24	15 55 4.14	13.005	19 57 13.0	44.55	23 46.1	24	18 37 29.05	13.751	23 56 35.5	7.04	0 29.0
25	16 0 16.83	13.054	20 14 45.5	43.14	23 47.4	25	18 42 58.95	13.739	23 53 24.7	8.90	0 30.5
26	16 5 30.70	13.103	S. 20 31 43.7	41.70	23 48.7	26	18 48 28.54	13.725	S. 23 49 29.5	10.75	0 32.1
27	16 10 45.74	13.151	20 48 6.9	40.23	23 50.0	27	18 53 57.75	13.708	23 44 49.9	12.59	0 33.6
28	16 16 1.91	13.198	21 3 54.3	38.72	23 51.3	28	18 59 26.51	13.688	23 39 26.2	14.42	0 35.2
29	16 21 19.20	13.244	21 19 5.3	37.18	23 52.7	29	19 4 54.77	13.666	23 33 18.5	16.24	0 36.7
30	16 26 37.58	13.288	21 33 39.2	35.62	23 54.0	30	19 10 22.46	13.641	23 26 27.2	18.06	0 38.2
31	16 31 57.02	13.331	S. 21 47 35.4	34.03	23 55.5	31	19 15 49.52	13.614	S. 23 18 52.5	19.87	0 39.7
						32	19 21 15.90	13.584	S. 23 10 34.8	21.66	0 41.2

Day.	1	6	11	16	21	26
Semidiameter.	4.94	4.93	4.92	4.91	4.91	4.91
Hor. Parallax.	5.18	5.16	5.15	5.15	5.14	5.14

Day.	1	6	11	16	21	26	31
Semidiameter.	4.91	4.91	4.92	4.93	4.95	4.96	4.98
Hor. Parallax.	5.14	5.15	5.16	5.17	5.18	5.20	5.22



GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.							
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.					
	h m s	s	° / ' / "	"	h m		h m s	s	° / ' / "	"	h m		
1	1 6 7.30	4.805	N. 7 32 59.5	33.03	6 24.6	1	2 11 15.31	5.643	N. 14 15 36.3	30.91	5 27.6		
2	1 8 3.02	4.838	7 46 12.5	33.05	6 22.6	2	2 13 30.98	5.665	14 27 56.1	30.75	5 25.9		
3	1 9 59.51	4.870	7 59 26.0	33.07	6 20.6	3	2 15 47.20	5.687	14 40 12.0	30.58	5 24.3		
4	1 11 56.78	4.902	8 12 39.8	33.08	6 18.6	4	2 18 3.95	5.709	14 52 23.8	30.40	5 22.6		
5	1 13 54.81	4.933	8 25 53.9	33.09	6 16.6	5	2 20 21.24	5.732	15 4 31.4	30.22	5 21.0		
6	1 15 53.59	4.964	N. 8 39 8.0	33.09	6 14.6	6	2 22 39.06	5.754	N. 15 16 34.8	30.04	5 19.3		
7	1 17 53.11	4.995	8 52 22.1	33.08	6 12.7	7	2 24 57.41	5.776	15 28 33.7	29.85	5 17.7		
8	1 19 53.37	5.026	9 5 35.9	33.07	6 10.8	8	2 27 16.29	5.798	15 40 28.1	29.66	5 16.1		
9	1 21 54.36	5.056	9 18 49.4	33.05	6 8.8	9	2 29 35.70	5.820	15 52 17.9	29.47	5 14.5		
10	1 23 56.06	5.086	9 32 2.4	33.03	6 6.9	10	2 31 55.63	5.842	16 4 2.9	29.27	5 12.9		
11	1 25 58.48	5.115	N. 9 45 14.8	33.00	6 5.0	11	2 34 16.08	5.863	N. 16 15 43.0	29.06	5 11.3		
12	1 28 1.59	5.144	9 58 26.5	32.96	6 3.1	12	2 36 37.05	5.884	16 27 18.1	28.85	5 9.7		
13	1 30 5.40	5.173	10 11 37.3	32.92	6 1.3	13	2 38 58.51	5.905	16 38 48.0	28.63	5 8.1		
14	1 32 9.88	5.201	10 24 47.0	32.88	5 59.4	14	2 41 20.47	5.926	16 50 12.6	28.41	5 6.5		
15	1 34 15.04	5.229	10 37 55.5	32.83	5 57.5	15	2 43 42.93	5.946	17 1 31.8	28.18	5 4.9		
16	1 36 20.85	5.256	N. 10 51 2.6	32.77	5 55.7	16	2 46 5.87	5.966	N. 17 12 45.4	27.94	5 3.4		
17	1 38 27.31	5.283	11 4 8.2	32.70	5 53.9	17	2 48 29.29	5.986	17 23 53.2	27.69	5 1.8		
18	1 40 34.40	5.309	11 17 12.0	32.62	5 52.1	18	2 50 53.17	6.005	17 34 55.2	27.44	5 0.3		
19	1 42 42.12	5.335	11 30 13.9	32.54	5 50.3	19	2 53 17.52	6.024	17 45 51.2	27.18	4 58.8		
20	1 44 50.45	5.360	11 43 13.8	32.45	5 48.5	20	2 55 42.32	6.043	17 56 41.0	26.92	4 57.2		
21	1 46 59.38	5.385	N. 11 56 11.5	32.36	5 46.7	21	2 58 7.58	6.062	N. 18 7 24.6	26.66	4 55.7		
22	1 49 8.91	5.409	12 9 6.8	32.26	5 44.9	22	3 0 33.28	6.081	18 18 1.8	26.40	4 54.2		
23	1 51 19.02	5.433	12 21 59.5	32.15	5 43.1	23	3 2 59.43	6.099	18 28 32.6	26.14	4 52.7		
24	1 53 29.71	5.457	12 34 49.5	32.02	5 41.4	24	3 5 26.02	6.117	18 38 56.7	25.87	4 51.2		
25	1 55 40.96	5.481	12 47 36.7	31.90	5 39.6	25	3 7 53.04	6.135	18 49 14.1	25.59	4 49.7		
26	1 57 52.78	5.505	N. 13 0 20.9	31.77	5 37.9	26	3 10 20.50	6.153	N. 18 59 24.7	25.30	4 48.2		
27	2 0 5.15	5.528	13 13 2.0	31.64	5 36.1	27	3 12 48.39	6.171	19 9 28.3	25.01	4 46.7		
28	2 2 18.08	5.551	13 25 39.8	31.50	5 34.4	28	3 15 16.71	6.189	19 19 24.9	24.71	4 45.3		
29	2 4 31.56	5.574	13 38 14.3	31.36	5 32.7	29	3 17 45.46	6.207	N. 19 29 14.5	24.41	4 43.8		
30	2 6 45.60	5.597	13 50 45.3	31.22	5 31.0								
31	2 9 0.18	5.620	N. 14 3 12.7	31.07	5 29.3								
32	2 11 15.31	5.643	N. 14 15 36.3	30.91	5 27.6								
Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	4.67	4.47	4.28	4.10	3.95	3.79	Semidiameter.	3.63	3.49	3.37	3.26	3.16	3.05
Hor. Parallax.	8.79	8.41	8.05	7.71	7.41	7.12	Hor. Parallax.	6.81	6.56	6.33	6.13	5.93	5.74

GREENWICH MEAN TIME.

MARCH.						APRIL.							
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.					
	h m s	s	° / ' / "	"	h m		h m s	s	° / ' / "	"	h m		
1	3 17 45.46	6.207	N. 19 29 14.5	24.41	4 43.8	1	4 37 45.81	6.656	N. 23 26 25.1	13.24	4 1.7		
2	3 20 14.63	6.225	19 38 56.9	24.11	4 42.4	2	4 40 25.69	6.667	23 31 38.0	12.83	4 0.4		
3	3 22 44.22	6.243	19 48 31.9	23.80	4 40.9	3	4 43 5.82	6.677	23 36 41.0	12.42	3 59.1		
4	3 25 14.23	6.260	19 57 59.5	23.49	4 39.5	4	4 45 46.20	6.687	23 41 34.1	12.00	3 57.9		
5	3 27 44.66	6.277	20 7 19.7	23.18	4 38.1	5	4 48 26.82	6.697	23 46 17.1	11.58	3 56.6		
6	3 30 15.51	6.294	N. 20 16 32.3	22.86	4 36.6	6	4 51 7.68	6.707	N. 23 50 50.1	11.16	3 55.4		
7	3 32 46.77	6.311	20 25 37.2	22.54	4 35.2	7	4 53 48.76	6.716	23 55 12.9	10.74	3 54.1		
8	3 35 18.45	6.328	20 34 34.3	22.21	4 33.8	8	4 56 30.07	6.725	23 59 25.6	10.32	3 52.8		
9	3 37 50.53	6.345	20 43 23.6	21.88	4 32.4	9	4 59 11.59	6.734	24 3 28.0	9.89	3 51.6		
10	3 40 23.02	6.362	20 52 4.9	21.55	4 31.0	10	5 1 53.32	6.743	24 7 20.2	9.46	3 50.3		
11	3 42 55.91	6.379	N. 21 0 38.2	21.21	4 29.6	11	5 4 35.24	6.751	N. 24 11 2.0	9.03	3 49.1		
12	3 45 29.19	6.395	21 9 3.3	20.87	4 28.2	12	5 7 17.35	6.759	24 14 33.5	8.60	3 47.9		
13	3 48 2.86	6.411	21 17 20.2	20.53	4 26.8	13	5 9 59.63	6.766	24 17 54.5	8.16	3 46.6		
14	3 50 36.91	6.427	21 25 28.7	20.18	4 25.5	14	5 12 42.08	6.772	24 21 5.1	7.72	3 45.4		
15	3 53 11.33	6.442	21 33 28.7	19.83	4 24.1	15	5 15 24.68	6.778	24 24 5.2	7.28	3 44.2		
16	3 55 46.11	6.456	N. 21 41 20.2	19.47	4 22.7	16	5 18 7.43	6.784	N. 24 26 54.7	6.84	3 42.9		
17	3 58 21.24	6.471	21 49 3.0	19.10	4 21.4	17	5 20 50.30	6.789	24 29 33.6	6.40	3 41.7		
18	4 0 56.72	6.485	21 56 37.0	18.73	4 20.0	18	5 23 33.30	6.794	24 32 1.9	5.96	3 40.5		
19	4 3 32.54	6.499	22 4 2.2	18.36	4 18.7	19	5 26 16.41	6.799	24 34 19.5	5.51	3 39.3		
20	4 6 8.68	6.512	22 11 18.4	17.98	4 17.4	20	5 28 59.63	6.803	24 36 26.4	5.06	3 38.1		
21	4 8 45.15	6.526	N. 22 18 25.5	17.60	4 16.0	21	5 31 42.95	6.807	N. 24 38 22.6	4.62	3 36.8		
22	4 11 21.94	6.539	22 25 23.5	17.22	4 14.7	22	5 34 26.35	6.810	24 40 8.0	4.18	3 35.6		
23	4 13 59.03	6.552	22 32 12.3	16.84	4 13.4	23	5 37 9.83	6.813	24 41 42.7	3.73	3 34.4		
24	4 16 36.42	6.564	22 38 51.8	16.45	4 12.1	24	5 39 53.39	6.816	24 43 6.7	3.28	3 33.2		
25	4 19 14.11	6.576	22 45 21.9	16.06	4 10.7	25	5 42 37.01	6.818	24 44 19.9	2.83	3 31.9		
26	4 21 52.09	6.588	N. 22 51 42.6	15.67	4 9.4	26	5 45 20.69	6.820	N. 24 45 22.3	2.38	3 30.7		
27	4 24 30.36	6.600	22 57 53.8	15.27	4 8.1	27	5 48 4.42	6.822	24 46 14.0	1.93	3 29.5		
28	4 27 8.91	6.612	23 3 55.4	14.87	4 6.8	28	5 50 48.19	6.824	24 46 54.8	1.48	3 28.3		
29	4 29 47.73	6.623	23 9 47.4	14.47	4 5.5	29	5 53 32.00	6.826	24 47 24.8	1.03	3 27.1		
30	4 32 26.82	6.634	23 15 29.7	14.06	4 4.2	30	5 56 15.85	6.827	24 47 44.0	0.58	3 25.9		
31	4 35 6.18	6.645	N. 23 21 2.3	13.65	4 3.0	31	5 58 59.73	6.828	N. 24 47 52.4	0.13	3 24.7		
32	4 37 45.81	6.656	N. 23 26 25.1	13.24	4 1.7								
Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	3.00	2.91	2.83	2.75	2.68	2.62	Semidiameter.	2.54	2.48	2.42	2.37	2.33	2.28
Hor. Parallax.	5.63	5.47	5.32	5.17	5.03	4.91	Hor. Parallax.	4.77	4.66	4.55	4.46	4.37	4.28



GREENWICH MEAN TIME.

MAY.							JUNE.						
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m		
1	5 58 59.73	6.828	N. 24 47 52.4	0.13	3 24.7	1	7 23 10.39	6.699	N. 23 24 1.7	13.46	2 46.7		
2	6 1 43.62	6.829	24 47 50.0	0.32	3 23.5	2	7 25 51.08	6.691	23 18 33.8	13.87	2 45.4		
3	6 4 27.53	6.829	24 47 36.8	0.78	3 22.3	3	7 28 31.58	6.683	23 12 56.1	14.28	2 44.1		
4	6 7 11.44	6.830	24 47 12.8	1.23	3 21.1	4	7 31 11.88	6.675	23 7 8.6	14.69	2 42.9		
5	6 9 55.36	6.830	24 46 38.0	1.68	3 19.8	5	7 33 51.98	6.666	23 1 11.3	15.09	2 41.6		
6	6 12 39.27	6.830	N. 24 45 52.5	2.13	3 18.6	6	7 36 31.87	6.657	N. 22 55 4.3	15.49	2 40.3		
7	6 15 23.17	6.829	24 44 56.1	2.58	3 17.4	7	7 39 11.55	6.648	22 48 47.6	15.89	2 39.0		
8	6 18 7.05	6.828	24 43 48.9	3.03	3 16.2	8	7 41 51.01	6.639	22 42 21.3	16.29	2 37.7		
9	6 20 50.89	6.827	24 42 31.0	3.48	3 15.0	9	7 44 30.24	6.630	22 35 45.5	16.69	2 36.5		
10	6 23 34.69	6.825	24 41 2.3	3.92	3 13.8	10	7 47 9.24	6.620	22 29 0.2	17.08	2 35.2		
11	6 26 18.44	6.822	N. 24 39 22.9	4.37	3 12.6	11	7 49 48.00	6.610	N. 22 22 5.5	17.47	2 33.9		
12	6 29 2.13	6.819	24 37 32.7	4.82	3 11.4	12	7 52 26.52	6.600	22 15 1.5	17.86	2 32.6		
13	6 31 45.75	6.816	24 35 31.8	5.27	3 10.1	13	7 55 4.79	6.590	22 7 48.2	18.25	2 31.3		
14	6 34 29.28	6.812	24 33 20.2	5.71	3 8.9	14	7 57 42.81	6.579	22 0 25.8	18.63	2 30.0		
15	6 37 12.72	6.808	24 30 58.0	6.15	3 7.7	15	8 0 20.57	6.568	21 52 54.2	19.01	2 28.6		
16	6 39 56.06	6.804	N. 24 28 25.1	6.59	3 6.5	16	8 2 58.07	6.557	N. 21 45 13.6	19.39	2 27.3		
17	6 42 39.30	6.799	24 25 41.6	7.03	3 5.3	17	8 5 35.30	6.546	21 37 24.0	19.76	2 26.0		
18	6 45 22.42	6.794	24 22 47.5	7.47	3 4.0	18	8 8 12.27	6.535	21 29 25.6	20.13	2 24.7		
19	6 48 5.42	6.789	24 19 42.9	7.91	3 2.8	19	8 10 48.97	6.524	21 21 18.3	20.49	2 23.3		
20	6 50 48.28	6.783	24 16 27.7	8.35	3 1.6	20	8 13 25.40	6.513	21 13 2.3	20.85	2 22.0		
21	6 53 31.01	6.777	N. 24 13 2.1	8.79	3 0.4	21	8 16 1.57	6.502	N. 21 4 37.6	21.21	2 20.7		
22	6 56 13.59	6.771	24 9 26.0	9.22	2 59.1	22	8 18 37.47	6.490	20 56 4.4	21.57	2 19.4		
23	6 58 56.02	6.765	24 5 39.6	9.65	2 57.9	23	8 21 13.10	6.479	20 47 22.6	21.92	2 18.0		
24	7 1 38.29	6.758	24 1 42.8	10.08	2 56.7	24	8 23 48.46	6.467	20 38 32.3	22.27	2 16.6		
25	7 4 20.40	6.751	23 57 35.8	10.50	2 55.4	25	8 26 23.54	6.456	20 29 33.7	22.62	2 15.3		
26	7 7 2.35	6.744	N. 23 53 18.5	10.93	2 54.2	26	8 28 58.35	6.445	N. 20 20 26.8	22.96	2 13.9		
27	7 9 44.13	6.737	23 48 51.0	11.36	2 52.9	27	8 31 32.90	6.434	20 11 11.7	23.30	2 12.6		
28	7 12 25.74	6.730	23 44 13.3	11.78	2 51.7	28	8 34 7.18	6.423	20 1 48.4	23.64	2 11.2		
29	7 15 7.17	6.723	23 39 25.5	12.20	2 50.4	29	8 36 41.19	6.412	19 52 17.1	23.97	2 9.8		
30	7 17 48.43	6.715	23 34 27.6	12.62	2 49.2	30	8 39 14.94	6.401	19 42 37.7	24.30	2 8.4		
31	7 20 29.50	6.707	N. 23 29 19.6	13.04	2 47.9	31	8 41 48.43	6.390	N. 19 32 50.4	24.63	2 7.0		
32	7 23 10.39	6.699	N. 23 24 1.7	13.46	2 46.7								

Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	2.23	2.19	2.16	2.12	2.09	2.06	Semidiameter.	2.02	2.00	1.97	1.95	1.92	1.90
Hor. Parallax.	4.20	4.12	4.05	3.98	3.93	3.87	Hor. Parallax.	3.80	3.75	3.71	3.66	3.62	3.59

GREENWICH MEAN TIME.

JULY.							AUGUST.						
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m		
1	8 41 48.43	6.390	N. 19 32 50.4	24.63	2 7.0	1	9 58 57.69	6.070	N. 13 31 25.0	33.09	1 22.0		
2	8 44 21.66	6.379	19 22 55.2	24.96	2 5.7	2	10 1 23.26	6.062	13 18 8.2	33.31	1 20.5		
3	8 46 54.62	6.368	19 12 52.3	25.28	2 4.3	3	10 3 48.64	6.053	13 4 46.1	33.52	1 19.0		
4	8 49 27.32	6.357	19 2 41.6	25.60	2 2.9	4	10 6 13.82	6.045	12 51 19.0	33.73	1 17.5		
5	8 51 59.76	6.346	18 52 23.3	25.92	2 1.5	5	10 8 38.81	6.037	12 37 46.9	33.94	1 15.9		
6	8 54 31.92	6.334	N. 18 41 57.4	26.24	2 0.1	6	10 11 3.62	6.029	N. 12 24 9.8	34.14	1 14.4		
7	8 57 3.82	6.323	18 31 24.1	26.55	1 58.7	7	10 13 28.24	6.021	12 10 27.9	34.34	1 12.9		
8	8 59 35.45	6.312	18 20 43.4	26.85	1 57.2	8	10 15 52.69	6.013	11 56 41.3	34.54	1 11.4		
9	9 2 6.82	6.301	18 9 55.5	27.15	1 55.8	9	10 18 16.96	6.006	11 42 50.1	34.73	1 9.8		
10	9 4 37.92	6.289	17 59 0.3	27.44	1 54.4	10	10 20 41.06	5.999	11 28 54.4	34.92	1 8.3		
11	9 7 8.75	6.278	N. 17 47 58.1	27.73	1 53.0	11	10 23 4.98	5.992	N. 11 14 54.3	35.10	1 6.7		
12	9 9 39.32	6.267	17 36 48.8	28.02	1 51.5	12	10 25 28.74	5.986	11 0 49.9	35.28	1 5.2		
13	9 12 9.62	6.256	17 25 32.7	28.31	1 50.1	13	10 27 52.33	5.980	10 46 41.2	35.45	1 3.6		
14	9 14 39.65	6.245	17 14 9.8	28.60	1 48.7	14	10 30 15.77	5.974	10 32 28.3	35.62	1 2.1		
15	9 17 9.41	6.234	17 2 40.1	28.88	1 47.2	15	10 32 39.05	5.968	10 18 11.3	35.79	1 0.5		
16	9 19 38.91	6.223	N. 16 51 3.6	29.16	1 45.8	16	10 35 2.19	5.962	N. 10 3 50.4	35.95	0 59.0		
17	9 22 8.14	6.212	16 39 20.6	29.43	1 44.3	17	10 37 25.18	5.956	9 49 25.5	36.11	0 57.4		
18	9 24 37.12	6.201	16 27 31.2	29.70	1 42.8	18	10 39 48.04	5.950	9 34 56.8	36.27	0 55.9		
19	9 27 5.84	6.191	16 15 35.4	29.96	1 41.4	19	10 42 10.77	5.945	9 20 24.4	36.42	0 54.3		
20	9 29 34.31	6.181	16 3 33.3	30.22	1 39.9	20	10 44 33.38	5.940	9 5 48.4	36.57	0 52.7		
21	9 32 2.52	6.171	N. 15 51 24.9	30.48	1 38.5	21	10 46 55.87	5.935	N. 8 51 8.8	36.72	0 51.2		
22	9 34 30.49	6.161	15 39 10.4	30.73	1 37.0	22	10 49 18.25	5.930	8 36 25.8	36.86	0 49.6		
23	9 36 58.21	6.151	15 26 49.9	30.98	1 35.5	23	10 51 40.53	5.926	8 21 39.4	37.01	0 48.0		
24	9 39 25.70	6.141	15 14 23.4	31.23	1 34.0	24	10 54 2.71	5.922	8 6 49.6	37.14	0 46.5		
25	9 41 52.96	6.131	15 1 51.0	31.47	1 32.5	25	10 56 24.81	5.919	7 51 56.5	37.27	0 44.9		
26	9 44 19.99	6.122	N. 14 49 12.7	31.71	1 31.0	26	10 58 46.82	5.916	N. 7 37 0.3	37.40	0 43.3		
27	9 46 46.80	6.113	14 36 28.7	31.95	1 29.5	27	11 1 8.76	5.913	7 22 0.9	37.53	0 41.7		
28	9 49 13.40	6.104	14 23 39.0	32.19	1 28.0	28	11 3 30.64	5.910	7 6 58.5	37.66	0 40.2		
29	9 51 39.78	6.095	14 10 43.7	32.42	1 26.5	29	11 5 52.45	5.908	6 51 53.2	37.78	0 38.6		
30	9 54 5.95	6.086	13 57 42.9	32.65	1 25.0	30	11 8 14.21	5.906	6 36 45.0	37.90	0 37.0		
31	9 56 31.92	6.078	N. 13 44 36.6	32.87	1 23.5	31	11 10 35.91	5.904	N. 6 21 34.0	38.01	0 35.4		
32	9 58 57.69	6.070	N. 13 31 25.0	33.09	1 22.0	32	11 12 57.57	5.902	N. 6 6 20.3	38.12	0 33.8		

Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	1.88	1.87	1.86	1.84	1.83	1.82	Semidiameter.	1.80	1.80	1.79	1.78	1.77	1.77
Hor. Parallax.	3.55	3.52	3.49	3.46	3.43	3.42	Hor. Parallax.	3.39	3.38	3.36	3.35	3.34	3.33



GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m
1	11 12 57.57	5.902	N. 6 6 20.3	38.12	0 33.8	1	12 23 53.60	5.964	S. 1 43 24.7	39.61	23 45.0
2	11 15 19.19	5.900	5 51 4.1	38.23	0 32.3	2	12 26 16.80	5.970	1 59 15.2	39.60	23 43.5
3	11 17 40.77	5.899	5 35 45.4	38.33	0 30.7	3	12 28 40.15	5.977	2 15 5.4	39.58	23 41.9
4	11 20 2.32	5.898	5 20 24.3	38.43	0 29.1	4	12 31 3.66	5.984	2 30 55.2	39.56	23 40.4
5	11 22 23.84	5.897	5 5 0.9	38.52	0 27.5	5	12 33 27.34	5.991	2 46 44.4	39.54	23 38.8
6	11 24 45.34	5.896	N. 4 49 35.3	38.61	0 25.9	6	12 35 51.19	5.998	S. 3 2 33.1	39.51	23 37.3
7	11 27 6.82	5.895	4 34 7.7	38.69	0 24.4	7	12 38 15.22	6.005	3 18 21.0	39.48	23 35.7
8	11 29 28.28	5.894	4 18 38.0	38.77	0 22.8	8	12 40 39.43	6.013	3 34 8.1	39.44	23 34.2
9	11 31 49.74	5.894	4 3 6.5	38.85	0 21.2	9	12 43 3.84	6.021	3 49 54.2	39.40	23 32.6
10	11 34 11.19	5.894	3 47 33.2	38.92	0 19.6	10	12 45 28.44	6.029	4 5 39.2	39.35	23 31.1
11	11 36 32.65	5.894	N. 3 31 58.2	38.99	0 18.0	11	12 47 53.25	6.038	S. 4 21 23.1	39.30	23 29.6
12	11 38 54.12	5.895	3 16 21.6	39.06	0 16.4	12	12 50 18.26	6.047	4 37 5.7	39.25	23 28.1
13	11 41 15.61	5.896	3 0 43.4	39.12	0 14.9	13	12 52 43.49	6.056	4 52 46.9	39.19	23 26.6
14	11 43 37.12	5.897	2 45 3.8	39.18	0 13.3	14	12 55 8.94	6.065	5 8 26.6	39.13	23 25.1
15	11 45 58.66	5.898	2 29 22.9	39.23	0 11.7	15	12 57 34.62	6.075	5 24 4.8	39.06	23 23.6
16	11 48 20.24	5.900	N. 2 13 40.8	39.28	0 10.1	16	13 0 0.54	6.085	S. 5 39 41.3	38.99	23 22.1
17	11 50 41.86	5.902	1 57 57.5	39.33	0 8.5	17	13 2 26.70	6.095	5 55 16.1	38.91	23 20.5
18	11 53 3.53	5.905	1 42 13.1	39.37	0 6.9	18	13 4 53.12	6.106	6 10 49.0	38.83	23 19.0
19	11 55 25.26	5.908	1 26 27.7	39.41	0 5.4	19	13 7 19.80	6.117	6 26 19.9	38.74	23 17.5
20	11 57 47.06	5.911	1 10 41.4	39.45	0 3.8	20	13 9 46.76	6.129	6 41 48.8	38.65	23 16.1
21	12 0 8.94	5.914	N. 0 54 54.2	39.48	0 2.2	21	13 12 13.99	6.141	S. 6 57 15.5	38.56	23 14.6
22	12 2 30.90	5.917	0 39 6.3	39.51	0 0.6	22	13 14 41.51	6.153	7 12 40.0	38.47	23 13.1
23	12 4 52.95	5.921	0 23 17.7	39.53	23 57.5	23	13 17 9.33	6.165	7 28 2.1	38.37	23 11.6
24	12 7 15.11	5.925	N. 0 7 28.5	39.55	23 55.9	24	13 19 37.44	6.178	7 43 21.7	38.27	23 10.1
25	12 9 37.37	5.930	S. 0 8 21.2	39.57	23 54.3	25	13 22 5.86	6.191	7 58 38.8	38.16	23 8.7
26	12 11 59.75	5.935	S. 0 24 11.3	39.59	23 52.8	26	13 24 34.60	6.204	S. 8 13 53.2	38.04	23 7.2
27	12 14 22.25	5.940	0 40 1.7	39.60	23 51.2	27	13 27 3.65	6.218	8 29 4.9	37.92	23 5.8
28	12 16 44.88	5.946	0 55 52.4	39.61	23 49.7	28	13 29 33.03	6.232	8 44 13.6	37.79	23 4.3
29	12 19 7.65	5.952	1 11 43.2	39.62	23 48.1	29	13 32 2.74	6.246	8 59 19.3	37.66	23 2.9
30	12 21 30.55	5.958	1 27 34.0	39.62	23 46.6	30	13 34 32.79	6.260	9 14 21.9	37.53	23 1.5
31	12 23 53.60	5.964	S. 1 43 24.7	39.61	23 45.0	31	13 37 3.18	6.274	S. 9 29 21.1	37.39	23 0.0
						32	13 39 33.92	6.288	S. 9 44 16.9	37.25	22 58.6

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m
1	13 39 33.92	6.288	S. 9 44 16.9	37.25	22 58.6	1	14 58 1.99	6.821	S. 16 35 23.5	30.47	22 19.0
2	13 42 5.01	6.303	9 59 9.1	37.10	22 57.2	2	15 0 45.94	6.841	16 47 31.4	30.16	22 17.8
3	13 44 36.45	6.318	10 13 57.7	36.95	22 55.8	3	15 3 30.37	6.861	16 59 31.7	29.84	22 16.6
4	13 47 8.25	6.333	10 28 42.4	36.79	22 54.4	4	15 6 15.29	6.881	17 11 24.4	29.52	22 15.5
5	13 49 40.41	6.348	10 43 23.2	36.62	22 53.0	5	15 9 0.70	6.902	17 23 9.3	29.20	22 14.3
6	13 52 12.94	6.363	S. 10 58 0.0	36.45	22 51.6	6	15 11 46.59	6.923	S. 17 34 46.2	28.87	22 13.1
7	13 54 45.84	6.379	11 12 32.7	36.27	22 50.2	7	15 14 32.97	6.943	17 46 15.0	28.53	22 12.0
8	13 57 19.12	6.395	11 27 1.0	36.09	22 48.8	8	15 17 19.84	6.964	17 57 35.6	28.18	22 10.8
9	13 59 52.79	6.411	11 41 24.9	35.90	22 47.4	9	15 20 7.20	6.984	18 8 47.8	27.83	22 9.7
10	14 2 26.84	6.427	11 55 44.2	35.71	22 46.1	10	15 22 55.04	7.004	18 19 51.5	27.47	22 8.5
11	14 5 1.29	6.444	S. 12 9 58.8	35.51	22 44.7	11	15 25 43.37	7.024	S. 18 30 46.5	27.11	22 7.4
12	14 7 36.14	6.461	12 24 8.6	35.31	22 43.3	12	15 28 32.20	7.044	18 41 32.8	26.74	22 6.2
13	14 10 11.40	6.478	12 38 13.5	35.10	22 42.0	13	15 31 21.52	7.065	18 52 10.2	26.37	22 5.1
14	14 12 47.07	6.495	12 52 13.4	34.89	22 40.7	14	15 34 11.34	7.085	19 2 38.6	25.99	22 4.0
15	14 15 23.15	6.512	13 6 8.1	34.67	22 39.3	15	15 37 1.66	7.106	19 12 57.9	25.61	22 3.0
16	14 17 59.66	6.530	S. 13 19 57.6	34.45	22 38.0	16	15 39 52.47	7.127	S. 19 23 7.9	25.22	22 1.9
17	14 20 36.60	6.548	13 33 41.7	34.22	22 36.7	17	15 42 43.79	7.148	19 33 8.5	24.82	22 0.8
18	14 23 13.98	6.567	13 47 20.2	33.99	22 35.4	18	15 45 35.61	7.169	19 42 59.6	24.42	21 59.7
19	14 25 51.80	6.586	14 0 53.2	33.75	22 34.1	19	15 48 27.93	7.190	19 52 41.1	24.02	21 58.7
20	14 28 30.08	6.605	14 14 20.4	33.51	22 32.8	20	15 51 20.75	7.211	20 2 12.8	23.61	21 57.6
21	14 31 8.82	6.624	S. 14 27 41.7	33.27	22 31.5	21	15 54 14.08	7.232	S. 20 11 34.7	23.20	21 56.6
22	14 33 48.01	6.643	14 40 57.1	33.02	22 30.2	22	15 57 7.90	7.253	20 20 46.5	22.78	21 55.5
23	14 36 27.67	6.662	14 54 6.4	32.76	22 29.0	23	16 0 2.22	7.273	20 29 48.1	22.35	21 54.5
24	14 39 7.79	6.682	15 7 9.4	32.49	22 27.7	24	16 2 57.03	7.294	20 38 39.4	21.92	21 53.4
25	14 41 48.39	6.702	15 20 6.0	32.22	22 26.4	25	16 5 52.32	7.314	20 47 20.2	21.48	21 52.4
26	14 44 29.46	6.722	S. 15 32 56.1	31.95	22 25.2	26	16 8 48.10	7.334	S. 20 55 50.5	21.04	21 51.4
27	14 47 11.01	6.741	15 45 39.5	31.67	22 23.9	27	16 11 44.36	7.354	21 4 10.0	20.59	21 50.4
28	14 49 53.03	6.761	15 58 16.1	31.37	22 22.7	28	16 14 41.09	7.373	21 12 18.7	20.14	21 49.5
29	14 52 35.53	6.781	16 10 45.7	31.09	22 21.4	29	16 17 38.30	7.393	21 20 16.4	19.68	21 48.5
30	14 55 18.52	6.801	16 23 8.2	30.78	22 20.2	30	16 20 35.97	7.412	21 28 3.0	19.21	21 47.5
31	14 58 1.99	6.821	S. 16 35 23.5	30.47	22 19.0	31	16 23 34.10	7.431	S. 21 35 38.4	18.74	21 46.5
						32	16 26 32.67	7.450	S. 21 43 2.5	18.26	21 45.6

Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	1.76	1.76	1.76	1.76	1.76	1.76	Semidiameter.	1.77	1.77	1.78	1.79	1.80	1.80
Hor. Parallax.	3.32	3.32	3.32	3.32	3.32	3.32	Hor. Parallax.	3.33	3.34	3.35	3.36	3.38	3.39

Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26	31
Semidiameter.	1.82	1.83	1.84	1.85	1.87	1.88	Semidiameter.	1.90	1.92	1.94	1.96	1.98	2.00	2.03
Hor. Parallax.	3.42	3.44	3.46	3.48	3.51	3.54	Hor. Parallax.	3.58	3.61	3.65	3.69	3.73	3.77	3.82



GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.							
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m		
1	12 51 31.11	0.801	S. 4 3 14.2	4.38	18 7.3	1	12 55 46.16	0.064	S. 4 24 7.5	1.11	16 9.8		
2	12 51 22.03	0.776	4 4 57.3	4.22	18 3.7	2	12 55 44.28	0.094	4 23 38.8	1.29	16 5.9		
3	12 51 40.35	0.751	4 6 36.6	4.06	18 0.1	3	12 55 41.69	0.123	4 23 5.7	1.47	16 1.9		
4	12 51 58.05	0.725	4 8 11.8	3.89	17 56.4	4	12 55 38.39	0.153	4 22 28.2	1.66	15 57.9		
5	12 52 15.14	0.699	4 9 43.0	3.72	17 52.7	5	12 55 34.38	0.183	4 21 46.3	1.84	15 53.9		
6	12 52 31.61	0.673	S. 4 11 10.2	3.55	17 49.1	6	12 55 29.67	0.212	S. 4 21 0.1	2.02	15 49.9		
7	12 52 47.46	0.647	4 12 33.4	3.38	17 45.4	7	12 55 24.25	0.241	4 20 9.5	2.20	15 45.8		
8	12 53 2.67	0.621	4 13 52.4	3.21	17 41.7	8	12 55 18.12	0.270	4 19 14.6	2.38	15 41.8		
9	12 53 17.24	0.594	4 15 7.3	3.03	17 38.0	9	12 55 11.30	0.299	4 18 15.5	2.56	15 37.7		
10	12 53 31.16	0.567	4 16 18.0	2.86	17 34.3	10	12 55 3.78	0.328	4 17 12.1	2.74	15 33.7		
11	12 53 44.43	0.540	S. 4 17 24.6	2.69	17 30.6	11	12 54 55.56	0.357	S. 4 16 4.4	2.91	15 29.6		
12	12 53 57.04	0.512	4 18 26.9	2.52	17 26.8	12	12 54 46.65	0.385	4 14 52.5	3.08	15 25.5		
13	12 54 8.99	0.484	4 19 25.0	2.34	17 23.1	13	12 54 37.07	0.413	4 13 36.5	3.25	15 21.4		
14	12 54 20.27	0.456	4 20 18.8	2.16	17 19.3	14	12 54 26.81	0.441	4 12 16.4	3.42	15 17.3		
15	12 54 30.89	0.428	4 21 8.4	1.98	17 15.6	15	12 54 15.88	0.469	4 10 52.3	3.59	15 13.2		
16	12 54 40.83	0.400	S. 4 21 53.6	1.80	17 11.8	16	12 54 4.29	0.497	S. 4 9 24.1	3.76	15 9.1		
17	12 54 50.10	0.372	4 22 34.5	1.62	17 8.0	17	12 53 52.04	0.524	4 7 52.0	3.92	15 4.9		
18	12 54 58.68	0.344	4 23 11.1	1.44	17 4.2	18	12 53 39.14	0.551	4 6 16.0	4.08	15 0.8		
19	12 55 6.58	0.315	4 23 43.4	1.26	17 0.4	19	12 53 25.60	0.577	4 4 36.1	4.24	14 56.6		
20	12 55 13.80	0.287	4 24 11.4	1.08	16 56.6	20	12 53 11.42	0.603	4 2 52.4	4.40	14 52.4		
21	12 55 20.33	0.258	S. 4 24 35.1	0.90	16 52.8	21	12 52 56.63	0.629	S. 4 1 5.0	4.56	14 48.2		
22	12 55 26.17	0.229	4 24 54.4	0.72	16 48.9	22	12 52 41.22	0.655	3 59 14.0	4.71	14 44.1		
23	12 55 31.32	0.200	4 25 9.4	0.54	16 45.1	23	12 52 25.20	0.680	3 57 19.3	4.86	14 39.9		
24	12 55 35.77	0.171	4 25 20.1	0.36	16 41.2	24	12 52 8.58	0.704	3 55 21.0	5.00	14 35.6		
25	12 55 39.53	0.142	4 25 26.4	0.18	16 37.3	25	12 51 51.37	0.728	3 53 19.3	5.14	14 31.4		
26	12 55 42.59	0.113	S. 4 25 28.3	0.00	16 33.4	26	12 51 33.58	0.752	S. 3 51 14.1	5.28	14 27.2		
27	12 55 44.95	0.084	4 25 25.8	0.18	16 29.5	27	12 51 15.23	0.776	3 49 5.6	5.42	14 22.9		
28	12 55 46.60	0.055	4 25 18.9	0.37	16 25.6	28	12 50 56.31	0.799	3 46 53.8	5.56	14 18.7		
29	12 55 47.55	0.025	4 25 7.6	0.56	16 21.7	29	12 50 36.85	0.822	S. 3 44 38.8	5.69	14 14.5		
30	12 55 47.80	0.004	4 24 51.9	0.75	16 17.7								
31	12 55 47.34	0.034	S. 4 24 31.9	0.93	16 13.8								
32	12 55 46.16	0.064	S. 4 24 7.5	1.11	16 9.8								
Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	16.83	17.08	17.35	17.61	17.89	18.15	Semidiameter.	18.48	18.75	19.01	19.26	19.49	19.71
Hor. Parallax.	1.63	1.65	1.68	1.70	1.73	1.75	Hor. Parallax.	1.79	1.81	1.84	1.86	1.88	1.90

GREENWICH MEAN TIME.

MARCH.						APRIL.							
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m		
1	12 50 36.85	0.822	S. 3 44 38.8	5.69	14 14.5	1	12 37 25.02	1.186	S. 2 17 26.4	7.58	11 59.4		
2	12 50 16.85	0.844	3 42 20.6	5.82	14 10.2	2	12 36 56.57	1.185	2 14 24.6	7.56	11 55.0		
3	12 49 56.33	0.866	3 39 59.4	5.94	14 5.9	3	12 36 28.14	1.183	2 11 23.3	7.54	11 50.6		
4	12 49 35.29	0.887	3 37 35.2	6.06	14 1.6	4	12 35 59.78	1.181	2 8 22.7	7.51	11 46.2		
5	12 49 13.76	0.908	3 35 8.1	6.18	13 57.3	5	12 35 31.48	1.178	2 5 22.9	7.47	11 41.8		
6	12 48 51.74	0.928	S. 3 32 38.2	6.29	13 53.0	6	12 35 3.26	1.174	S. 2 2 24.1	7.43	11 37.4		
7	12 48 29.25	0.947	3 30 5.6	6.40	13 48.7	7	12 34 35.16	1.169	1 59 26.3	7.38	11 33.0		
8	12 48 6.30	0.965	3 27 30.3	6.51	13 44.4	8	12 34 7.19	1.163	1 56 29.8	7.33	11 28.6		
9	12 47 42.92	0.983	3 24 52.6	6.62	13 40.1	9	12 33 39.37	1.156	1 53 34.6	7.27	11 24.2		
10	12 47 19.11	1.001	3 22 12.5	6.72	13 35.7	10	12 33 11.72	1.148	1 50 40.8	7.20	11 19.8		
11	12 46 54.89	1.018	S. 3 19 30.1	6.81	13 31.4	11	12 32 44.26	1.139	S. 1 47 48.6	7.13	11 15.4		
12	12 46 30.28	1.034	3 16 45.5	6.89	13 27.0	12	12 32 17.01	1.130	1 44 58.2	7.06	11 11.0		
13	12 46 5.30	1.049	3 13 58.9	6.97	13 22.7	13	12 31 49.99	1.120	1 42 9.6	6.98	11 6.6		
14	12 45 39.96	1.063	3 11 10.3	7.05	13 18.3	14	12 31 23.23	1.109	1 39 22.9	6.90	11 2.3		
15	12 45 14.29	1.076	3 8 19.9	7.13	13 14.0	15	12 30 56.74	1.097	1 36 38.3	6.81	10 57.9		
16	12 44 48.31	1.089	S. 3 5 27.8	7.20	13 9.6	16	12 30 30.53	1.085	S. 1 33 56.0	6.71	10 53.5		
17	12 44 22.03	1.101	3 2 34.2	7.26	13 5.3	17	12 30 4.62	1.072	1 31 15.9	6.61	10 49.2		
18	12 43 55.47	1.112	2 59 39.1	7.32	13 0.9	18	12 29 39.04	1.059	1 28 38.3	6.51	10 44.8		
19	12 43 28.65	1.122	2 56 42.7	7.37	12 56.5	19	12 29 13.79	1.045	1 26 3.1	6.41	10 40.5		
20	12 43 1.59	1.132	2 53 45.1	7.42	12 52.1	20	12 28 48.90	1.030	1 23 30.6	6.30	10 36.1		
21	12 42 34.31	1.141	S. 2 50 46.5	7.46	12 47.7	21	12 28 24.37	1.015	S. 1 21 0.7	6.18	10 31.8		
22	12 42 6.82	1.149	2 47 46.9	7.50	12 43.3	22	12 28 0.22	0.999	1 18 33.7	6.06	10 27.5		
23	12 41 39.16	1.156	2 44 46.5	7.53	12 38.9	23	12 27 36.47	0.982	1 16 9.5	5.94	10 23.1		
24	12 41 11.33	1.162	2 41 45.4	7.56	12 34.5	24	12 27 13.12	0.964	1 13 48.3	5.82	10 18.8		
25	12 40 43.35	1.168	2 38 43.7	7.58	12 30.1	25	12 26 50.20	0.946	1 11 30.1	5.69	10 14.5		
26	12 40 15.24	1.173	S. 2 35 41.6	7.59	12 25.7	26	12 26 27.72	0.927	S. 1 9 15.1	5.56	10 10.2		
27	12 39 47.03	1.177	2 32 39.2	7.60	12 21.4	27	12 26 5.68	0.908	1 7 3.2	5.43	10 5.9		
28	12 39 18.73	1.180	2 29 36.5	7.60	12 17.0	28	12 25 44.11	0.889	1 4 54.6	5.29	10 1.6		
29	12 38 50.36	1.183	2 26 33.8	7.61	12 12.6	29	12 25 23.01	0.869	1 2 49.3	5.15	9 57.3		
30	12 38 21.94	1.185	2 23 31.1	7.61	12 8.2	30	12 25 2.40	0.848	1 0 47.5	5.01	9 53.1		
31	12 37 53.49	1.186	S. 2 20 28.6	7.60	12 3.8	31	12 24 42.29	0.827	S. 0 58 49.2	4.86	9 48.8		
32	12 37 25.02	1.186	S. 2 17 26.4	7.58	11 59.4								
Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	19.83	20.01	20.16	20.28	20.38	20.43	Semidiameter.	20.45	20.43	20.38	20.29	20.17	20.02
Hor. Parallax.	1.92	1.93	1.95	1.96	1.97	1.97	Hor. Parallax.	1.98	1.97	1.97	1.96	1.95	1.93



GREENWICH MEAN TIME.

MAY.						JUNE.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° / ' "	"	h m	h m s	s	° / ' "	"	h m	
1	12 24 42.29	0.827	S. 0 58 49.2	4.86	9 48.8	1 12 19 13.08	0.026	S. 0 30 59.9	0.52	7 41.6	
2	12 24 22.69	0.805	0 56 54.4	4.71	9 44.6	2 12 19 12.75	0.001	0 31 14.5	0.70	7 37.7	
3	12 24 3.61	0.783	0 55 3.3	4.56	9 40.3	3 12 19 13.09	0.028	0 31 33.4	0.88	7 33.7	
4	12 23 45.07	0.761	0 53 15.8	4.40	9 36.1	4 12 19 14.09	0.056	0 31 56.6	1.06	7 29.8	
5	12 23 27.07	0.738	0 51 32.1	4.24	9 31.9	5 12 19 15.75	0.084	0 32 24.2	1.24	7 25.9	
6	12 23 9.62	0.715	S. 0 49 52.2	4.08	9 27.7	6 12 19 18.08	0.111	S. 0 32 56.1	1.42	7 22.0	
7	12 22 52.74	0.691	0 48 16.2	3.92	9 23.4	7 12 19 21.06	0.138	0 33 32.2	1.60	7 18.2	
8	12 22 36.43	0.667	0 46 44.1	3.76	9 19.2	8 12 19 24.71	0.165	0 34 12.6	1.77	7 14.3	
9	12 22 20.71	0.642	0 45 16.0	3.59	9 15.1	9 12 19 29.01	0.192	0 34 57.3	1.95	7 10.4	
10	12 22 5.58	0.617	0 43 52.0	3.42	9 10.9	10 12 19 33.96	0.219	0 35 46.2	2.13	7 6.6	
11	12 21 51.05	0.592	S. 0 42 32.1	3.25	9 6.7	11 12 19 39.57	0.246	S. 0 36 39.4	2.31	7 2.7	
12	12 21 37.13	0.567	0 41 16.3	3.08	9 2.5	12 12 19 45.83	0.273	0 37 36.7	2.48	6 58.9	
13	12 21 23.83	0.541	0 40 4.7	2.91	8 58.4	13 12 19 52.72	0.300	0 38 38.2	2.65	6 55.1	
14	12 21 11.15	0.515	0 38 57.3	2.73	8 54.3	14 12 20 0.26	0.327	0 39 43.8	2.82	6 51.3	
15	12 20 59.09	0.489	0 37 54.1	2.55	8 50.1	15 12 20 8.43	0.354	0 40 53.4	2.99	6 47.5	
16	12 20 47.67	0.463	S. 0 36 55.2	2.37	8 46.0	16 12 20 17.24	0.380	S. 0 42 7.1	3.16	6 43.7	
17	12 20 36.88	0.437	0 36 0.5	2.19	8 41.9	17 12 20 26.67	0.406	0 43 24.9	3.33	6 40.0	
18	12 20 26.74	0.410	0 35 10.2	2.01	8 37.8	18 12 20 36.72	0.432	0 44 46.6	3.49	6 36.2	
19	12 20 17.23	0.383	0 34 24.2	1.83	8 33.7	19 12 20 47.39	0.458	0 46 12.3	3.66	6 32.4	
20	12 20 8.37	0.355	0 33 42.5	1.65	8 29.7	20 12 20 58.68	0.483	0 47 41.9	3.82	6 28.7	
21	12 20 0.16	0.328	S. 0 33 5.1	1.47	8 25.6	21 12 21 10.57	0.508	S. 0 49 15.4	3.98	6 25.0	
22	12 19 52.60	0.301	0 32 32.0	1.29	8 21.6	22 12 21 23.07	0.533	0 50 52.8	4.14	6 21.2	
23	12 19 45.69	0.274	0 32 3.3	1.11	8 17.5	23 12 21 36.17	0.558	0 52 33.9	4.30	6 17.5	
24	12 19 39.43	0.247	0 31 38.9	0.92	8 13.5	24 12 21 49.87	0.583	0 54 18.8	4.46	6 13.8	
25	12 19 33.83	0.220	0 31 18.8	0.74	8 9.4	25 12 22 4.16	0.608	0 56 7.4	4.61	6 10.1	
26	12 19 28.89	0.193	S. 0 31 3.1	0.56	8 5.4	26 12 22 19.04	0.632	S. 0 57 59.8	4.76	6 6.4	
27	12 19 24.60	0.166	0 30 51.7	0.38	8 1.4	27 12 22 34.49	0.656	0 59 55.8	4.91	6 2.8	
28	12 19 20.98	0.138	0 30 44.7	0.20	7 57.4	28 12 22 50.53	0.680	1 1 55.4	5.06	5 59.1	
29	12 19 18.01	0.109	0 30 42.0	0.02	7 53.5	29 12 23 7.14	0.704	1 3 58.7	5.21	5 55.5	
30	12 19 15.71	0.082	0 30 43.6	0.16	7 49.5	30 12 23 24.32	0.728	1 6 5.6	5.36	5 51.8	
31	12 19 14.06	0.054	S. 0 30 49.6	0.34	7 45.5	31 12 23 42.06	0.752	S. 1 8 16.0	5.51	5 48.2	
32	12 19 13.08	0.026	S. 0 30 59.9	0.52	7 41.6						

Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	19.85	19.65	19.43	19.20	18.96	18.71	Semidiameter.	18.39	18.12	17.87	17.60	17.34	17.09
Hor. Parallax.	1.92	1.90	1.88	1.85	1.83	1.81	Hor. Parallax.	1.78	1.75	1.73	1.70	1.68	1.65

GREENWICH MEAN TIME.

JULY.						AUGUST.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° / ' "	"	h m	h m s	s	° / ' "	"	h m	
1	12 23 42.06	0.752	S. 1 8 16.0	5.51	5 48.2	1 12 37 4.23	1.368	S. 2 41 29.7	9.26	3 59.6	
2	12 24 0.37	0.775	1 10 30.0	5.66	5 44.6	2 12 37 37.27	1.384	2 45 13.0	9.35	3 56.3	
3	12 24 19.24	0.798	1 12 47.4	5.80	5 40.9	3 12 38 10.71	1.400	2 48 58.5	9.44	3 52.9	
4	12 24 38.66	0.821	1 15 8.3	5.95	5 37.3	4 12 38 44.52	1.416	2 52 46.3	9.53	3 49.5	
5	12 24 58.62	0.844	1 17 32.6	6.09	5 33.7	5 12 39 18.72	1.432	2 56 36.3	9.62	3 46.2	
6	12 25 19.13	0.866	S. 1 20 0.3	6.23	5 30.2	6 12 39 53.29	1.448	S. 3 0 28.4	9.71	3 42.8	
7	12 25 40.18	0.888	1 22 31.4	6.37	5 26.6	7 12 40 28.24	1.464	3 4 22.6	9.80	3 39.4	
8	12 26 1.76	0.910	1 25 5.7	6.50	5 23.0	8 12 41 3.54	1.479	3 8 18.9	9.89	3 36.1	
9	12 26 23.87	0.932	1 27 43.3	6.63	5 19.4	9 12 41 39.21	1.494	3 12 17.2	9.98	3 32.8	
10	12 26 46.50	0.954	1 30 24.1	6.76	5 15.9	10 12 42 15.23	1.508	3 16 17.5	10.06	3 29.4	
11	12 27 9.65	0.975	S. 1 33 8.1	6.90	5 12.3	11 12 42 51.60	1.522	S. 3 20 19.7	10.14	3 26.1	
12	12 27 33.31	0.996	1 35 55.3	7.03	5 8.8	12 12 43 28.30	1.536	3 24 23.8	10.21	3 22.8	
13	12 27 57.46	1.017	1 38 45.5	7.16	5 5.3	13 12 44 5.34	1.550	3 28 29.7	10.29	3 19.5	
14	12 28 22.11	1.037	1 41 38.8	7.29	5 1.7	14 12 44 42.72	1.564	3 32 37.4	10.36	3 16.2	
15	12 28 47.26	1.057	1 44 35.0	7.41	4 58.2	15 12 45 20.42	1.578	3 36 46.8	10.43	3 12.8	
16	12 29 12.89	1.077	S. 1 47 34.2	7.53	4 54.7	16 12 45 58.44	1.591	S. 3 40 58.0	10.50	3 9.5	
17	12 29 38.99	1.097	1 50 36.4	7.65	4 51.2	17 12 46 36.78	1.604	3 45 10.8	10.57	3 6.2	
18	12 30 5.57	1.117	1 53 41.4	7.77	4 47.7	18 12 47 15.41	1.617	3 49 25.3	10.64	3 3.0	
19	12 30 32.61	1.136	1 56 49.2	7.89	4 44.3	19 12 47 54.35	1.630	3 53 41.3	10.71	2 59.7	
20	12 31 0.11	1.155	1 59 59.8	8.00	4 40.8	20 12 48 33.59	1.642	3 57 58.9	10.77	2 56.4	
21	12 31 28.07	1.174	S. 2 3 13.2	8.11	4 37.3	21 12 49 13.13	1.654	S. 4 2 18.0	10.83	2 53.1	
22	12 31 56.49	1.193	2 6 29.2	8.22	4 33.9	22 12 49 52.96	1.666	4 6 38.7	10.89	2 49.8	
23	12 32 25.34	1.211	2 9 47.9	8.33	4 30.4	23 12 50 33.09	1.678	4 11 0.8	10.95	2 46.6	
24	12 32 54.63	1.229	2 13 9.2	8.44	4 27.0	24 12 51 13.49	1.690	4 15 24.4	11.01	2 43.3	
25	12 33 24.36	1.247	2 16 33.1	8.55	4 23.5	25 12 51 54.18	1.702	4 19 49.4	11.07	2 40.1	
26	12 33 54.52	1.265	S. 2 19 59.5	8.66	4 20.1	26 12 52 35.14	1.713	S. 4 24 15.7	11.13	2 36.8	
27	12 34 25.10	1.283	2 23 28.4	8.76	4 16.7	27 12 53 16.38	1.724	4 28 43.4	11.18	2 33.6	
28	12 34 56.10	1.300	2 26 59.8	8.86	4 13.2	28 12 53 57.89	1.735	4 33 12.3	11.23	2 30.3	
29	12 35 27.52	1.317	2 30 33.7	8.96	4 9.8	29 12 54 39.66	1.746	4 37 42.5	11.28	2 27.1	
30	12 35 59.36	1.334	2 34 10.0	9.06	4 6.4	30 12 55 21.68	1.757	4 42 14.0	11.33	2 23.9	
31	12 36 31.59	1.351	S. 2 37 48.7	9.16	4 3.0	31 12 56 3.96	1.767	S. 4 46 46.6	11.38	2 20.6	
32	12 37 4.23	1.368	S. 2 41 29.7	9.26	3 59.6	32 12 56 46.47	1.777	S. 4 51 20.3	11.43	2 17.4	

Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	16.84	16.61	16.38	16.16	15.95	15.75	Semidiameter.	15.53	15.35	15.19	15.04	14.90	14.78
Hor. Parallax.	1.63	1.60	1.58	1.56	1.54	1.52	Hor. Parallax.	1.50	1.48	1.47	1.45	1.44	1.43



GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.							
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.					
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m		
1	12 56 46.47	1.777	S. 4 51 20.3	11.43	2 17.4	1	13 19 34.53	1.996	S. 7 14 4.4	12.14	0 42.1		
2	12 57 29.23	1.787	4 55 55.2	11.48	2 14.2	2	13 20 22.51	2.001	7 18 55.9	12.14	0 39.0		
3	12 58 12.23	1.797	5 0 31.1	11.52	2 10.9	3	13 21 10.58	2.005	7 23 47.4	12.14	0 35.9		
4	12 58 55.47	1.807	5 5 8.1	11.56	2 7.7	4	13 21 58.76	2.009	7 28 38.9	12.14	0 32.7		
5	12 59 38.95	1.816	5 9 46.2	11.60	2 4.5	5	13 22 47.03	2.013	7 33 30.4	12.14	0 29.6		
6	13 0 22.65	1.825	S. 5 14 25.2	11.64	2 1.3	6	13 23 35.40	2.017	S. 7 38 21.8	12.14	0 26.5		
7	13 1 6.56	1.834	5 19 5.1	11.68	1 58.1	7	13 24 23.85	2.021	7 43 13.1	12.13	0 23.3		
8	13 1 50.69	1.843	5 23 45.9	11.72	1 54.9	8	13 25 12.38	2.024	7 48 4.3	12.12	0 20.2		
9	13 2 35.03	1.852	5 28 27.5	11.75	1 51.7	9	13 26 1.00	2.027	7 52 55.2	12.11	0 17.1		
10	13 3 19.57	1.861	5 33 9.9	11.78	1 48.5	10	13 26 49.69	2.030	7 57 45.9	12.10	0 14.0		
11	13 4 4.31	1.869	S. 5 37 53.1	11.81	1 45.3	11	13 27 38.44	2.033	S. 8 2 36.3	12.09	0 10.8		
12	13 4 49.25	1.877	5 42 37.0	11.84	1 42.2	12	13 28 27.26	2.035	8 7 26.5	12.08	0 7.7		
13	13 5 34.38	1.885	5 47 21.6	11.87	1 39.0	13	13 29 16.13	2.037	8 12 16.3	12.07	0 4.6		
14	13 6 19.70	1.892	5 52 6.8	11.90	1 35.8	14	13 30 5.06	2.039	8 17 5.7	12.06	0 1.5		
15	13 7 5.19	1.899	5 56 52.7	11.92	1 32.6	15	13 30 54.04	2.041	8 21 54.8	12.04	23 55.2		
16	13 7 50.86	1.906	S. 6 1 39.1	11.95	1 29.4	16	13 31 43.07	2.043	S. 8 26 43.5	12.02	23 52.1		
17	13 8 36.70	1.913	6 6 26.1	11.97	1 26.3	17	13 32 32.13	2.045	8 31 31.7	12.00	23 49.0		
18	13 9 22.72	1.920	6 11 13.6	11.99	1 23.1	18	13 33 21.23	2.047	8 36 19.4	11.98	23 45.9		
19	13 10 8.89	1.927	6 16 1.6	12.01	1 19.9	19	13 34 10.37	2.049	8 41 6.6	11.96	23 42.8		
20	13 10 55.23	1.934	6 20 50.0	12.03	1 16.8	20	13 34 59.54	2.050	8 45 53.3	11.94	23 39.7		
21	13 11 41.73	1.940	S. 6 25 38.9	12.04	1 13.6	21	13 35 48.73	2.051	S. 8 50 39.4	11.91	23 36.6		
22	13 12 28.38	1.946	6 30 28.2	12.06	1 10.4	22	13 36 37.95	2.051	8 55 25.0	11.89	23 33.4		
23	13 13 15.18	1.952	6 35 17.8	12.08	1 7.3	23	13 37 27.18	2.052	9 0 9.9	11.87	23 30.3		
24	13 14 2.13	1.958	6 40 7.8	12.09	1 4.1	24	13 38 16.43	2.052	9 4 54.2	11.84	23 27.2		
25	13 14 49.22	1.964	6 44 58.1	12.10	1 1.0	25	13 39 5.69	2.052	9 9 37.8	11.81	23 24.0		
26	13 15 36.45	1.970	S. 6 49 48.6	12.11	0 57.8	26	13 39 54.96	2.053	S. 9 14 20.7	11.78	23 20.9		
27	13 16 23.81	1.976	6 54 39.4	12.12	0 54.7	27	13 40 44.22	2.053	9 19 2.9	11.75	23 17.8		
28	13 17 11.31	1.981	6 59 30.4	12.12	0 51.6	28	13 41 33.48	2.052	9 23 44.4	11.72	23 14.7		
29	13 17 58.93	1.986	7 4 21.6	12.13	0 48.4	29	13 42 22.72	2.052	9 28 25.0	11.68	23 11.6		
30	13 18 46.67	1.991	7 9 13.0	12.13	0 45.3	30	13 43 11.95	2.051	9 33 4.8	11.64	23 8.5		
31	13 19 34.53	1.996	S. 7 14 4.4	12.14	0 42.1	31	13 44 1.16	2.050	S. 9 37 43.7	11.60	23 5.4		
						32	13 44 50.34	2.049	S. 9 42 21.7	11.56	23 2.3		
Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	14.64	14.54	14.44	14.37	14.30	14.24	Semidiameter.	14.20	14.17	14.15	14.14	14.14	14.16
Hor. Parallax.	1.41	1.40	1.40	1.39	1.38	1.38	Hor. Parallax.	1.37	1.37	1.37	1.37	1.37	1.37

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.								
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.			
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.						
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m			
1	13 44 50.34	2.049	S. 9 42 21.7	11.56	23 2.3	1	14 8 46.52	1.907	S. 11 51 49.2	9.85	21 28.1			
2	13 45 39.48	2.047	9 46 58.8	11.52	22 59.2	2	14 9 32.19	1.898	11 55 44.4	9.77	21 24.9			
3	13 46 28.59	2.045	9 51 34.9	11.48	22 56.0	3	14 10 17.66	1.889	11 59 37.8	9.69	21 21.7			
4	13 47 17.65	2.043	9 56 10.0	11.44	22 52.9	4	14 11 2.90	1.880	12 3 29.3	9.61	21 18.5			
5	13 48 6.67	2.040	10 0 44.0	11.40	22 49.8	5	14 11 47.92	1.871	12 7 18.9	9.53	21 15.3			
6	13 48 55.63	2.038	S. 10 5 17.0	11.35	22 46.7	6	14 12 32.72	1.861	S. 12 11 6.5	9.45	21 12.1			
7	13 49 44.53	2.036	10 9 48.9	11.30	22 43.5	7	14 13 17.28	1.851	12 14 52.2	9.37	21 8.9			
8	13 50 33.37	2.033	10 14 19.6	11.25	22 40.4	8	14 14 1.60	1.841	12 18 35.9	9.29	21 5.7			
9	13 51 22.14	2.030	10 18 49.2	11.20	22 37.3	9	14 14 45.68	1.831	12 22 17.7	9.20	21 2.5			
10	13 52 10.82	2.027	10 23 17.6	11.15	22 34.2	10	14 15 29.49	1.820	12 25 57.4	9.11	20 59.3			
11	13 52 59.42	2.024	S. 10 27 44.7	11.10	22 31.0	11	14 16 13.05	1.809	S. 12 29 35.0	9.03	20 56.1			
12	13 53 47.94	2.020	10 32 10.6	11.05	22 27.9	12	14 16 56.34	1.798	12 33 10.6	8.94	20 52.9			
13	13 54 36.36	2.016	10 36 35.2	11.00	22 24.8	13	14 17 39.36	1.787	12 36 44.1	8.85	20 49.7			
14	13 55 24.69	2.012	10 40 58.4	10.94	22 21.7	14	14 18 22.10	1.775	12 40 15.4	8.76	20 46.5			
15	13 56 12.92	2.007	10 45 20.3	10.88	22 18.5	15	14 19 4.56	1.763	12 43 44.6	8.67	20 43.2			
16	13 57 1.04	2.002	S. 10 49 40.9	10.82	22 15.4	16	14 19 46.73	1.751	S. 12 47 11.6	8.58	20 40.0			
17	13 57 49.06	1.997	10 54 0.1	10.76	22 12.3	17	14 20 28.61	1.739	12 50 36.5	8.49	20 36.8			
18	13 58 36.95	1.992	10 58 17.9	10.70	22 9.1	18	14 21 10.18	1.726	12 53 59.2	8.40	20 33.5			
19	13 59 24.73	1.987	11 2 34.3	10.64	22 6.0	19	14 21 51.45	1.713	12 57 19.7	8.31	20 30.2			
20	14 0 12.38	1.982	11 6 49.2	10.59	22 2.8	20	14 22 32.39	1.700	13 0 38.0	8.21	20 27.0			
21	14 0 59.90	1.976	S. 11 11 2.7	10.53	21 59.7	21	14 23 13.01	1.686	S. 13 3 54.0	8.12	20 23.7			
22	14 1 47.27	1.970	11 15 14.6	10.47	21 56.5	22	14 23 53.31	1.672	13 7 7.7	8.03	20 20.5			
23	14 2 34.51	1.964	11 19 25.0	10.41	21 53.3	23	14 24 33.27	1.658	13 10 19.1	7.93	20 17.2			
24	14 3 21.60	1.958	11 23 33.8	10.34	21 50.2	24	14 25 12.88	1.643	13 13 28.2	7.83	20 13.9			
25	14 4 8.53	1.952	11 27 41.0	10.27	21 47.0	25	14 25 52.14	1.628	13 16 34.9	7.73	20 10.6			
26	14 4 55.30	1.945	S. 11 31 46.6	10.20	21 43.9	26	14 26 31.03	1.613	S. 13 19 39.2	7.63	20 7.3			
27	14 5 41.91	1.938	11 35 50.5	10.13	21 40.7	27	14 27 9.56	1.597	13 22 41.1	7.53	20 4.0			
28	14 6 28.34	1.931	11 39 52.8	10.06	21 37.6	28	14 27 47.71	1.581	13 25 40.6	7.43	20 0.7			
29	14 7 14.59	1.923	11 43 53.4	9.99	21 34.4	29	14 28 25.48	1.565	13 28 37.6	7.33	19 57.4			
30	14 8 0.65	1.915	11 47 52.2	9.92	21 31.2	30	14 29 2.85	1.549	13 31 32.1	7.22	19 54.1			
31	14 8 46.52	1.907	S. 11 51 49.2	9.85	21 28.1	31	14 29 39.82	1.532	S. 13 34 24.1	7.11	19 50.8			
						32	14 30 16.39	1.515	S. 13 37 13.4	7.01	19 47.4			
Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26	31
Semidiameter.	14.19	14.23	14.29	14.36	14.43	14.53	Semidiameter.	14.63	14.74	14.87	15.01	15.17	15.33	15.51
Hor. Parallax.	1.37	1.37	1.38	1.39	1.39	1.40	Hor. Parallax.	1.41	1.42	1.44	1.45	1.47	1.48	1.50



GREENWICH MEAN TIME.

JANUARY.						FEBRUARY.							
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.					
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m		
1	4 47'26	0'196	N. 4 9 23'2	1'97	6 22'8	1	1 10 17'76	0'674	N. 4 52 3'7	4'77	4 26'3		
2	4 52'17	0'213	4 10 11'6	2'07	6 18'9	2	1 10 34'08	0'687	4 53 58'8	4'84	4 22'7		
3	4 57'49	0'230	4 11 2'5	2'17	6 15'0	3	1 10 50'72	0'700	4 55 55'6	4'91	4 19'0		
4	5 3'21	0'247	4 11 55'8	2'27	6 11'2	4	1 11 7'68	0'713	4 57 54'2	4'98	4 15'4		
5	5 9'33	0'263	4 12 51'6	2'37	6 7'3	5	1 11 24'95	0'726	4 59 54'5	5'05	4 11'7		
6	5 15'84	0'280	N. 4 13 49'8	2'47	6 3'5	6	1 11 42'52	0'739	N. 5 1 56'4	5'12	4 8'1		
7	5 22'76	0'297	4 14 50'4	2'57	5 59'7	7	1 12 0'40	0'752	5 3 59'9	5'19	4 4'5		
8	5 30'07	0'314	4 15 53'4	2'67	5 55'9	8	1 12 18'58	0'765	5 6 5'1	5'26	4 0'8		
9	5 37'78	0'330	4 16 58'8	2'77	5 52'1	9	1 12 37'06	0'777	5 8 11'9	5'32	3 57'2		
10	5 45'87	0'346	4 18 6'5	2'87	5 48'3	10	1 12 55'83	0'789	5 10 20'2	5'38	3 53'6		
11	5 54'36	0'362	N. 4 19 16'6	2'97	5 44'6	11	1 13 14'89	0'801	N. 5 12 30'1	5'44	3 50'0		
12	6 3'24	0'378	4 20 29'0	3'07	5 40'8	12	1 13 34'23	0'813	5 14 41'5	5'50	3 46'4		
13	6 12'51	0'394	4 21 43'7	3'16	5 37'0	13	1 13 53'85	0'824	5 16 54'3	5'56	3 42'8		
14	6 22'16	0'410	4 23 0'6	3'25	5 33'3	14	1 14 13'74	0'835	5 19 8'5	5'62	3 39'2		
15	6 32'19	0'425	4 24 19'8	3'35	5 29'5	15	1 14 33'91	0'846	5 21 24'1	5'68	3 35'6		
16	6 42'60	0'441	N. 4 25 41'2	3'44	5 25'7	16	1 14 54'34	0'857	N. 5 23 41'1	5'74	3 32'0		
17	6 53'38	0'457	4 27 4'8	3'53	5 22'0	17	1 15 15'03	0'868	5 25 59'4	5'80	3 28'4		
18	7 4'53	0'473	4 28 30'5	3'62	5 18'2	18	1 15 35'98	0'879	5 28 19'0	5'85	3 24'8		
19	7 16'05	0'488	4 29 58'4	3'71	5 14'4	19	1 15 57'19	0'889	5 30 39'8	5'90	3 21'2		
20	7 27'94	0'503	4 31 28'4	3'79	5 10'7	20	1 16 18'64	0'899	5 33 1'9	5'95	3 17'6		
21	7 40'18	0'518	N. 4 33 0'5	3'88	5 7'0	21	1 16 40'34	0'909	N. 5 35 25'2	6'00	3 14'1		
22	7 52'79	0'533	4 34 34'7	3'97	5 3'3	22	1 17 2'27	0'919	5 37 49'7	6'05	3 10'5		
23	8 5'75	0'548	4 36 10'9	4'05	4 59'6	23	1 17 24'45	0'929	5 40 15'3	6'10	3 7'0		
24	8 19'05	0'562	4 37 49'1	4'13	4 55'9	24	1 17 46'86	0'938	5 42 42'0	6'14	3 3'4		
25	8 32'70	0'576	4 39 29'2	4'21	4 52'2	25	1 18 9'49	0'948	5 45 9'8	6'19	2 59'9		
26	8 46'70	0'590	N. 4 41 11'3	4'29	4 48'5	26	1 18 32'34	0'957	N. 5 47 38'6	6'23	2 56'3		
27	9 1'05	0'604	4 42 55'4	4'37	4 44'8	27	1 18 55'42	0'966	5 50 8'5	6'27	2 52'8		
28	9 15'73	0'618	4 44 41'4	4'45	4 41'1	28	1 19 18'71	0'975	5 52 39'4	6'31	2 49'2		
29	9 30'74	0'632	4 46 29'2	4'53	4 37'4	29	1 19 42'21	0'984	N. 5 55 11'2	6'35	2 45'7		
30	9 46'09	0'646	4 48 18'9	4'61	4 33'7								
31	10 1'76	0'660	N. 4 50 10'4	4'69	4 30'0								
32	10 17'76	0'674	N. 4 52 3'7	4'77	4 26'3								
Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	8'39	8'31	8'24	8'17	8'09	8'03	Semidiameter.	7'95	7'89	7'83	7'78	7'73	7'68
Hor. Parallax.	0'96	0'95	0'94	0'93	0'93	0'92	Hor. Parallax.	0'91	0'90	0'90	0'89	0'88	0'88

GREENWICH MEAN TIME.

MARCH.						APRIL.							
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.					
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m		
1	1 19 42'21	0'984	N. 5 55 11'2	6'35	2 45'7	1	1 33 13'01	1'167	N. 7 19 2'2	6'98	0 57'3		
2	1 20 5'92	0'993	5 57 44'0	6'39	2 42'1	2	1 33 41'06	1'170	7 21 49'8	6'98	0 53'8		
3	1 20 29'83	1'001	6 0 17'7	6'43	2 38'6	3	1 34 9'18	1'173	7 24 37'5	6'99	0 50'3		
4	1 20 53'95	1'009	6 2 52'3	6'47	2 35'1	4	1 34 37'38	1'176	7 27 25'2	6'99	0 46'8		
5	1 21 18'26	1'017	6 5 27'7	6'50	2 31'5	5	1 35 5'65	1'179	7 30 12'9	6'99	0 43'3		
6	1 21 42'76	1'025	N. 6 8 4'0	6'53	2 28'0	6	1 35 33'98	1'182	N. 7 33 0'6	6'98	0 39'9		
7	1 22 7'45	1'033	6 10 41'1	6'56	2 24'5	7	1 36 2'36	1'184	7 35 48'2	6'98	0 36'4		
8	1 22 32'33	1'041	6 13 19'0	6'59	2 21'0	8	1 36 30'80	1'186	7 38 35'7	6'98	0 32'9		
9	1 22 57'38	1'048	6 15 57'6	6'62	2 17'4	9	1 36 59'29	1'188	7 41 23'1	6'97	0 29'5		
10	1 23 22'61	1'055	6 18 36'9	6'65	2 13'9	10	1 37 27'82	1'190	7 44 10'4	6'97	0 26'0		
11	1 23 48'01	1'062	N. 6 21 17'0	6'68	2 10'4	11	1 37 56'39	1'191	N. 7 46 57'5	6'96	0 22'6		
12	1 24 13'59	1'069	6 23 57'7	6'71	2 6'9	12	1 38 25'00	1'192	7 49 44'4	6'95	0 19'1		
13	1 24 39'33	1'076	6 26 39'0	6'74	2 3'4	13	1 38 53'64	1'193	7 52 31'1	6'94	0 15'6		
14	1 25 5'22	1'082	6 29 20'9	6'76	1 59'9	14	1 39 22'30	1'194	7 55 17'5	6'93	0 12'2		
15	1 25 31'26	1'088	6 32 3'5	6'78	1 56'4	15	1 39 50'98	1'195	7 58 3'6	6'92	0 8'7		
16	1 25 57'45	1'094	N. 6 34 46'5	6'80	1 52'9	16	1 40 19'69	1'195	N. 8 0 49'4	6'91	0 5'3		
17	1 26 23'78	1'100	6 37 30'0	6'82	1 49'4	17	1 40 48'41	1'196	8 3 34'9	6'90	0 1'8		
18	1 26 50'24	1'106	6 40 13'9	6'84	1 45'9	18	1 41 17'13	1'196	8 6 20'0	6'88	23 54'9		
19	1 27 16'84	1'112	6 42 58'3	6'86	1 42'4	19	1 41 45'86	1'197	8 9 4'7	6'86	23 51'4		
20	1 27 43'58	1'117	6 45 43'1	6'88	1 38'9	20	1 42 14'58	1'197	8 11 49'0	6'84	23 48'0		
21	1 28 10'44	1'122	N. 6 48 28'2	6'89	1 35'4	21	1 42 43'31	1'197	N. 8 14 32'9	6'82	23 44'5		
22	1 28 37'42	1'127	6 51 13'7	6'90	1 31'9	22	1 43 12'03	1'196	8 17 16'3	6'80	23 41'1		
23	1 29 4'51	1'132	6 53 59'5	6'91	1 28'4	23	1 43 40'74	1'196	8 19 59'3	6'78	23 37'6		
24	1 29 31'72	1'137	6 56 45'6	6'92	1 24'9	24	1 44 9'44	1'195	8 22 41'8	6'76	23 34'2		
25	1 29 59'04	1'141	6 59 32'0	6'93	1 21'5	25	1 44 38'12	1'195	8 25 23'8	6'74	23 30'7		
26	1 30 26'46	1'145	N. 7 2 18'6	6'94	1 18'0	26	1 45 6'78	1'194	N. 8 28 5'3	6'72	23 27'3		
27	1 30 53'99	1'149	7 5 5'5	6'95	1 14'5	27	1 45 35'41	1'193	8 30 46'2	6'70	23 23'8		
28	1 31 21'62	1'153	7 7 52'6	6'96	1 11'1	28	1 46 4'02	1'192	8 33 26'5	6'68	23 20'4		
29	1 31 49'34	1'157	7 10 39'8	6'97	1 7'6	29	1 46 32'60	1'190	8 36 6'3	6'65	23 16'9		
30	1 32 17'14	1'161	7 13 27'2	6'98	1 4'2	30	1 47 1'14	1'188	8 38 45'4	6'62	23 13'5		
31	1 32 45'03	1'164	N. 7 16 14'6	6'98	1 0'7	31	1 47 29'64	1'186	N. 8 41 23'9	6'59	23 10'0		
32	1 33 13'01	1'167	N. 7 19 2'2	6'98	0 57'3								
Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	7'66	7'62	7'59	7'56	7'54	7'52	Semidiameter.	7'49	7'48	7'47	7'47	7'47	7'48
Hor. Parallax.	0'88	0'87	0'87	0'86	0'86	0'86	Hor. Parallax.	0'86	0'86	0'86	0'86	0'86	0'86



GREENWICH MEAN TIME.

MAY.						JUNE.							
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m		
1	1 47 29.64	1.186	N. 8 41 23.9	6.59	23 10.0	1	2 1 30.34	1.046	N. 9 56 1.3	5.31	21 22.0		
2	1 47 58.09	1.184	8 44 1.7	6.56	23 6.6	2	2 1 55.37	1.039	9 58 8.2	5.26	21 18.5		
3	1 48 26.50	1.182	8 46 38.9	6.53	23 3.1	3	2 2 20.24	1.032	10 0 13.9	5.21	21 15.0		
4	1 48 54.85	1.180	8 49 15.3	6.50	22 59.7	4	2 2 44.93	1.025	10 2 18.2	5.16	21 11.4		
5	1 49 23.15	1.178	8 51 51.0	6.47	22 56.2	5	2 3 9.43	1.017	10 4 21.2	5.10	21 7.9		
6	1 49 51.38	1.175	N. 8 54 26.0	6.44	22 52.7	6	2 3 33.74	1.009	N. 10 6 22.8	5.04	21 4.4		
7	1 50 19.56	1.172	8 57 0.2	6.41	22 49.3	7	2 3 57.86	1.001	10 8 23.1	4.98	21 0.8		
8	1 50 47.66	1.169	8 59 33.6	6.38	22 45.8	8	2 4 21.78	0.993	10 10 22.0	4.92	20 57.3		
9	1 51 15.69	1.166	9 2 6.2	6.34	22 42.3	9	2 4 45.50	0.985	10 12 19.4	4.86	20 53.8		
10	1 51 43.64	1.163	9 4 38.0	6.30	22 38.9	10	2 5 9.01	0.976	10 14 15.4	4.80	20 50.2		
11	1 52 11.51	1.159	N. 9 7 8.9	6.27	22 35.4	11	2 5 32.32	0.967	N. 10 16 9.9	4.74	20 46.7		
12	1 52 39.29	1.155	9 9 38.9	6.23	22 31.9	12	2 5 55.42	0.958	10 18 3.0	4.68	20 43.1		
13	1 53 6.98	1.151	9 12 8.0	6.19	22 28.4	13	2 6 18.30	0.948	10 19 54.6	4.62	20 39.6		
14	1 53 34.57	1.147	9 14 36.1	6.15	22 25.0	14	2 6 40.95	0.939	10 21 44.7	4.56	20 36.0		
15	1 54 2.06	1.143	9 17 3.3	6.11	22 21.5	15	2 7 3.38	0.930	10 23 33.2	4.50	20 32.4		
16	1 54 29.44	1.139	N. 9 19 29.5	6.07	22 18.0	16	2 7 25.58	0.921	N. 10 25 20.3	4.43	20 28.9		
17	1 54 56.71	1.134	9 21 54.7	6.03	22 14.5	17	2 7 47.55	0.911	10 27 5.8	4.37	20 25.3		
18	1 55 23.88	1.129	9 24 18.8	5.99	22 11.1	18	2 8 9.28	0.901	10 28 49.7	4.31	20 21.7		
19	1 55 50.93	1.124	9 26 41.9	5.95	22 7.6	19	2 8 30.78	0.891	10 30 32.1	4.24	20 18.2		
20	1 56 17.85	1.119	9 29 4.0	5.90	22 4.1	20	2 8 52.03	0.881	10 32 12.9	4.17	20 14.6		
21	1 56 44.65	1.114	N. 9 31 25.0	5.86	22 0.6	21	2 9 13.03	0.870	N. 10 33 52.1	4.10	20 11.0		
22	1 57 11.33	1.109	9 33 44.9	5.82	21 57.1	22	2 9 33.78	0.860	10 35 29.7	4.04	20 7.4		
23	1 57 37.88	1.104	9 36 3.8	5.77	21 53.6	23	2 9 54.29	0.849	10 37 5.8	3.97	20 3.8		
24	1 58 4.29	1.098	9 38 21.6	5.72	21 50.1	24	2 10 14.54	0.838	10 38 40.2	3.90	20 0.2		
25	1 58 30.57	1.092	9 40 38.2	5.67	21 46.6	25	2 10 34.52	0.827	10 40 12.9	3.83	19 56.6		
26	1 58 56.71	1.086	N. 9 42 53.6	5.62	21 43.1	26	2 10 54.24	0.816	N. 10 41 44.0	3.76	19 53.0		
27	1 59 22.70	1.080	9 45 7.9	5.57	21 39.6	27	2 11 13.69	0.805	10 43 13.4	3.69	19 49.4		
28	1 59 48.54	1.074	9 47 21.0	5.52	21 36.1	28	2 11 32.87	0.794	10 44 41.2	3.62	19 45.7		
29	2 0 14.23	1.068	9 49 32.9	5.47	21 32.6	29	2 11 51.77	0.782	10 46 7.2	3.55	19 42.1		
30	2 0 39.76	1.061	9 51 43.6	5.42	21 29.1	30	2 12 10.39	0.770	10 47 31.5	3.48	19 38.5		
31	2 1 5.13	1.054	N. 9 53 53.1	5.37	21 25.5	31	2 12 28.72	0.758	N. 10 48 54.1	3.41	19 34.8		
32	2 1 30.34	1.046	N. 9 56 1.3	5.31	21 22.0								
Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	7.49	7.50	7.52	7.54	7.57	7.60	Semidiameter.	7.65	7.69	7.73	7.78	7.83	7.89
Hor. Parallax.	0.86	0.86	0.86	0.86	0.87	0.87	Hor. Parallax.	0.87	0.88	0.89	0.89	0.89	0.90

GREENWICH MEAN TIME.

JULY.						AUGUST.							
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.		
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.			
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m		
1	2 12 28.72	0.758	N. 10 48 54.1	3.41	19 34.8	1	2 19 15.69	0.316	N. 11 16 9.5	0.94	17 39.6		
2	2 12 46.77	0.746	10 50 15.0	3.34	19 31.2	2	2 19 23.07	0.300	11 16 30.8	0.85	17 35.8		
3	2 13 4.52	0.734	10 51 34.1	3.27	19 27.5	3	2 19 30.06	0.284	11 16 50.1	0.77	17 31.9		
4	2 13 21.97	0.721	10 52 51.4	3.19	19 23.9	4	2 19 36.65	0.267	11 17 7.4	0.68	17 28.1		
5	2 13 39.12	0.708	10 54 6.8	3.11	19 20.2	5	2 19 42.84	0.250	11 17 22.7	0.59	17 24.3		
6	2 13 55.97	0.695	N. 10 55 20.5	3.03	19 16.6	6	2 19 48.64	0.234	N. 11 17 35.8	0.51	17 20.4		
7	2 14 12.50	0.682	10 56 32.4	2.96	19 12.9	7	2 19 54.04	0.218	11 17 46.9	0.42	17 16.6		
8	2 14 28.72	0.669	10 57 42.4	2.88	19 9.3	8	2 19 59.04	0.201	11 17 56.0	0.34	17 12.8		
9	2 14 44.63	0.656	10 58 50.6	2.81	19 5.6	9	2 20 3.64	0.184	11 18 3.0	0.25	17 8.9		
10	2 15 0.21	0.643	10 59 57.0	2.73	19 1.9	10	2 20 7.85	0.167	11 18 7.9	0.16	17 5.1		
11	2 15 15.46	0.629	N. 11 1 1.5	2.65	18 58.3	11	2 20 11.65	0.150	N. 11 18 10.8	0.08	17 1.2		
12	2 15 30.39	0.615	11 2 4.1	2.57	18 54.6	12	2 20 15.05	0.133	11 18 11.6	0.01	16 57.3		
13	2 15 44.99	0.601	11 3 4.7	2.49	18 50.9	13	2 20 18.04	0.116	11 18 10.4	0.09	16 53.4		
14	2 15 59.26	0.587	11 4 3.5	2.41	18 47.2	14	2 20 20.62	0.099	11 18 7.2	0.18	16 49.5		
15	2 16 13.19	0.573	11 5 0.3	2.33	18 43.5	15	2 20 22.79	0.082	11 18 1.9	0.26	16 45.6		
16	2 16 26.78	0.559	N. 11 5 55.3	2.25	18 39.8	16	2 20 24.56	0.066	N. 11 17 54.5	0.35	16 41.7		
17	2 16 40.02	0.545	11 6 48.3	2.17	18 36.1	17	2 20 25.92	0.049	11 17 45.1	0.43	16 37.8		
18	2 16 52.92	0.530	11 7 39.5	2.09	18 32.3	18	2 20 26.88	0.032	11 17 33.7	0.52	16 33.9		
19	2 17 5.47	0.515	11 8 28.7	2.01	18 28.6	19	2 20 27.43	0.015	11 17 20.3	0.60	16 29.9		
20	2 17 17.67	0.500	11 9 16.0	1.93	18 24.9	20	2 20 27.58	0.002	11 17 4.9	0.68	16 26.0		
21	2 17 29.52	0.485	N. 11 10 1.3	1.85	18 21.1	21	2 20 27.32	0.019	N. 11 16 47.5	0.77	16 22.1		
22	2 17 41.01	0.470	11 10 44.7	1.77	18 17.4	22	2 20 26.66	0.036	11 16 28.1	0.85	16 18.1		
23	2 17 52.14	0.455	11 11 26.1	1.69	18 13.6	23	2 20 25.59	0.053	11 16 6.7	0.94	16 14.2		
24	2 18 2.91	0.440	11 12 5.6	1.61	18 9.9	24	2 20 24.11	0.070	11 15 43.3	1.02	16 10.2		
25	2 18 13.32	0.425	11 12 43.0	1.53	18 6.1	25	2 20 22.23	0.087	11 15 17.9	1.10	16 6.2		
26	2 18 23.36	0.410	N. 11 13 18.5	1.44	18 2.3	26	2 20 19.94	0.104	N. 11 14 50.6	1.19	16 2.3		
27	2 18 33.02	0.395	11 13 52.0	1.36	17 58.6	27	2 20 17.24	0.121	11 14 21.2	1.27	15 58.3		
28	2 18 42.31	0.380	11 14 23.5	1.28	17 54.8	28	2 20 14.14	0.138	11 13 49.9	1.35	15 54.3		
29	2 18 51.23	0.364	11 14 53.1	1.19	17 51.0	29	2 20 10.64	0.155	11 13 16.7	1.43	15 50.3		
30	2 18 59.77	0.348	11 15 20.6	1.11	17 47.2	30	2 20 6.74	0.171	11 12 41.5	1.51	15 46.3		
31	2 19 7.92	0.332	N. 11 15 46.1	1.02	17 43.4	31	2 20 2.43	0.188	N. 11 12 4.3	1.59	15 42.3		
32	2 19 15.69	0.316	N. 11 16 9.5	0.94	17 39.6	32	2 19 57.72	0.205	N. 11 11 25.2	1.67	15 38.2		
Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26
Semidiameter.	7.95	8.01	8.08	8.15	8.22	8.29	Semidiameter.	8.39	8.46	8.53	8.61	8.69	8.76
Hor. Parallax.	0.91	0.91	0.92	0.93	0.94	0.95	Hor. Parallax.	0.96	0.96	0.97	0.98	0.99	1.00



GREENWICH MEAN TIME.

SEPTEMBER.						OCTOBER.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m
1	2 19 57.72	0.205	N. 11 11 25.2	1.67	15 38.2	1	2 14 47.72	0.626	N. 10 38 50.3	3.59	13 35.1
2	2 19 52.61	0.221	11 10 44.2	1.75	15 34.2	2	2 14 32.57	0.636	10 37 23.7	3.63	13 30.9
3	2 19 47.10	0.237	11 10 1.4	1.83	15 30.2	3	2 14 17.18	0.646	10 35 56.1	3.67	13 26.7
4	2 19 41.20	0.254	11 9 16.7	1.90	15 26.1	4	2 14 1.56	0.656	10 34 27.6	3.71	13 22.5
5	2 19 34.91	0.270	11 8 30.1	1.98	15 22.1	5	2 13 45.71	0.665	10 32 58.1	3.75	13 18.3
6	2 19 28.24	0.286	N. 11 7 41.7	2.06	15 18.1	6	2 13 29.64	0.674	N. 10 31 27.8	3.78	13 14.1
7	2 19 21.18	0.302	11 6 51.5	2.14	15 14.0	7	2 13 13.37	0.682	10 29 56.7	3.81	13 9.9
8	2 19 13.73	0.318	11 5 59.4	2.21	15 10.0	8	2 12 56.90	0.690	10 28 24.8	3.84	13 5.7
9	2 19 5.91	0.334	11 5 5.6	2.28	15 5.9	9	2 12 40.23	0.698	10 26 52.2	3.87	13 1.5
10	2 18 57.71	0.349	11 4 10.0	2.35	15 1.8	10	2 12 23.38	0.705	10 25 18.9	3.90	12 57.2
11	2 18 49.15	0.364	N. 11 3 12.8	2.42	14 57.8	11	2 12 6.37	0.712	N. 10 23 45.0	3.92	12 53.0
12	2 18 40.22	0.379	11 2 13.8	2.49	14 53.7	12	2 11 49.20	0.718	10 22 10.6	3.94	12 48.8
13	2 18 30.93	0.394	11 1 13.2	2.55	14 49.6	13	2 11 31.88	0.724	10 20 35.7	3.96	12 44.6
14	2 18 21.29	0.409	11 0 11.0	2.61	14 45.5	14	2 11 14.41	0.730	10 19 0.3	3.98	12 40.3
15	2 18 11.29	0.424	10 59 7.1	2.68	14 41.4	15	2 10 56.81	0.735	10 17 24.5	4.00	12 36.1
16	2 18 0.95	0.439	N. 10 58 1.7	2.75	14 37.3	16	2 10 39.08	0.740	N. 10 15 48.4	4.01	12 31.9
17	2 17 50.27	0.453	10 56 54.7	2.82	14 33.2	17	2 10 21.23	0.745	10 14 11.9	4.02	12 27.7
18	2 17 39.25	0.467	10 55 46.2	2.88	14 29.1	18	2 10 3.28	0.749	10 12 35.2	4.03	12 23.4
19	2 17 27.89	0.481	10 54 36.2	2.94	14 24.9	19	2 9 45.25	0.753	10 10 58.3	4.04	12 19.2
20	2 17 16.20	0.494	10 53 24.7	3.00	14 20.8	20	2 9 27.13	0.756	10 9 21.2	4.04	12 15.0
21	2 17 4.20	0.507	N. 10 52 11.8	3.06	14 16.7	21	2 9 8.93	0.759	N. 10 7 44.0	4.04	12 10.8
22	2 16 51.88	0.520	10 50 57.5	3.12	14 12.5	22	2 8 50.66	0.762	10 6 6.7	4.05	12 6.5
23	2 16 39.24	0.533	10 49 41.7	3.18	14 8.4	23	2 8 32.34	0.764	10 4 29.4	4.05	12 2.3
24	2 16 26.30	0.545	10 48 24.6	3.24	14 4.2	24	2 8 13.97	0.766	10 2 52.2	4.05	11 58.1
25	2 16 13.07	0.557	10 47 6.2	3.29	14 0.1	25	2 7 55.55	0.767	10 1 15.1	4.04	11 53.8
26	2 15 59.55	0.569	N. 10 45 46.6	3.34	13 55.9	26	2 7 37.10	0.768	N. 9 59 38.1	4.03	11 49.6
27	2 15 45.73	0.581	10 44 25.7	3.39	13 51.7	27	2 7 18.65	0.768	9 58 1.3	4.02	11 45.4
28	2 15 31.63	0.593	10 43 3.5	3.44	13 47.6	28	2 7 0.19	0.769	9 56 24.8	4.00	11 41.1
29	2 15 17.26	0.604	10 41 40.2	3.49	13 43.4	29	2 6 41.72	0.769	9 54 48.6	3.98	11 36.9
30	2 15 2.62	0.615	10 40 15.8	3.54	13 39.2	30	2 6 23.27	0.768	9 53 12.7	3.97	11 32.7
31	2 14 47.72	0.626	N. 10 38 50.3	3.59	13 35.1	31	2 6 4.85	0.767	N. 9 51 37.4	3.95	11 28.4
						32	2 5 46.47	0.765	N. 9 50 2.6	3.93	11 24.2

GREENWICH MEAN TIME.

NOVEMBER.						DECEMBER.					
Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.	Day.	Apparent Right Ascension.	Var. in 1 hour.	Apparent Declination.	Var. in 1 hour.	Meridian Passage.
	Noon.	Noon.	Noon.	Noon.			Noon.	Noon.	Noon.	Noon.	
	h m s	s	° / ' "	"	h m		h m s	s	° / ' "	"	h m
1	2 5 46.47	0.765	N. 9 50 2.6	3.93	11 24.2	1	1 57 41.17	0.528	N. 9 10 48.0	2.31	9 18.2
2	2 5 28.13	0.763	9 48 28.2	3.91	11 20.0	2	1 57 28.67	0.515	9 9 53.6	2.23	9 14.1
3	2 5 9.84	0.760	9 46 54.4	3.89	11 15.7	3	1 57 16.49	0.501	9 9 1.1	2.15	9 10.0
4	2 4 51.63	0.757	9 45 21.4	3.86	11 11.5	4	1 57 4.64	0.487	9 8 10.6	2.07	9 5.8
5	2 4 33.50	0.753	9 43 49.1	3.83	11 7.2	5	1 56 53.12	0.473	9 7 22.2	1.98	9 1.7
6	2 4 15.46	0.749	N. 9 42 17.5	3.79	11 3.0	6	1 56 41.95	0.458	N. 9 6 35.9	1.89	8 57.6
7	2 3 57.52	0.745	9 40 46.8	3.75	10 58.8	7	1 56 31.12	0.443	9 5 51.7	1.80	8 53.5
8	2 3 39.69	0.740	9 39 17.0	3.71	10 54.5	8	1 56 20.64	0.428	9 5 9.7	1.71	8 49.4
9	2 3 21.98	0.734	9 37 48.2	3.67	10 50.3	9	1 56 10.52	0.414	9 4 29.8	1.62	8 45.3
10	2 3 4.40	0.728	9 36 20.3	3.63	10 46.1	10	1 56 0.77	0.399	9 3 52.1	1.53	8 41.2
11	2 2 46.96	0.722	N. 9 34 53.5	3.59	10 41.8	11	1 55 51.38	0.384	N. 9 3 16.6	1.44	8 37.1
12	2 2 29.68	0.716	9 33 27.8	3.54	10 37.6	12	1 55 42.36	0.368	9 2 43.3	1.35	8 33.0
13	2 2 12.55	0.710	9 32 3.3	3.49	10 33.4	13	1 55 33.71	0.352	9 2 12.3	1.25	8 28.9
14	2 1 55.58	0.703	9 30 39.9	3.44	10 29.2	14	1 55 25.45	0.336	9 1 43.5	1.16	8 24.9
15	2 1 38.79	0.695	9 29 17.8	3.39	10 25.0	15	1 55 17.57	0.320	9 1 17.0	1.07	8 20.8
16	2 1 22.20	0.687	N. 9 27 57.0	3.34	10 20.8	16	1 55 10.07	0.304	N. 9 0 52.7	0.97	8 16.7
17	2 1 5.80	0.679	9 26 37.5	3.29	10 16.6	17	1 55 2.96	0.288	9 0 30.7	0.87	8 12.7
18	2 0 49.59	0.671	9 25 19.3	3.23	10 12.4	18	1 54 56.24	0.272	9 0 11.0	0.77	8 8.6
19	2 0 33.59	0.662	9 24 2.5	3.17	10 8.2	19	1 54 49.92	0.256	8 59 53.6	0.68	8 4.6
20	2 0 17.82	0.653	9 22 47.2	3.11	10 4.0	20	1 54 44.00	0.239	8 59 38.6	0.58	8 0.6
21	2 0 2.28	0.643	N. 9 21 33.5	3.05	9 59.8	21	1 54 38.48	0.222	N. 8 59 25.9	0.48	7 56.6
22	1 59 46.97	0.633	9 20 21.3	2.98	9 55.6	22	1 54 33.36	0.205	8 59 15.6	0.38	7 52.6
23	1 59 31.90	0.622	9 19 10.7	2.91	9 51.4	23	1 54 28.65	0.188	8 59 7.6	0.28	7 48.6
24	1 59 17.09	0.611	9 18 1.7	2.84	9 47.3	24	1 54 24.35	0.171	8 59 2.0	0.19	7 44.6
25	1 59 2.54	0.600	9 16 54.4	2.77	9 43.1	25	1 54 20.46	0.154	8 58 58.8	0.09	7 40.6
26	1 58 48.26	0.589	N. 9 15 48.8	2.70	9 38.9	26	1 54 16.99	0.137	N. 8 58 58.0	0.01	7 36.6
27	1 58 34.25	0.578	9 14 44.9	2.63	9 34.8	27	1 54 13.93	0.119	8 58 59.5	0.11	7 32.6
28	1 58 20.54	0.566	9 13 42.9	2.55	9 30.6	28	1 54 11.29	0.101	8 59 3.4	0.21	7 28.7
29	1 58 7.12	0.554	9 12 42.7	2.47	9 26.5	29	1 54 9.08	0.084	8 59 9.8	0.31	7 24.7
30	1 57 53.99	0.541	9 11 44.4	2.39	9 22.4	30	1 54 7.29	0.067	8 59 18.6	0.41	7 20.8
31	1 57 41.17	0.528	N. 9 10 48.0	2.31	9 18.2	31	1 54 5.92	0.049	N. 8 59 29.8	0.51	7 16.8
						32	1 54 4.98	0.031	N. 8 59 43.3	0.61	7 12.8

Day.	1	6	11	16	21	26	Day.	1	6	11	16	21	26	31
Semidiameter.	9.31	9.30	9.28	9.25	9.22	9.17	Semidiameter.	9.11	9.06	9.00	8.93	8.85	8.78	8.70
Hor. Parallax.	1.07	1.07	1.06	1.06	1.06	1.05	Hor. Parallax.	1.04	1.04	1.03	1.03	1.02	1.01	1.00



MEAN PLACES OF STARS, 1910.

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FOR JANUARY <sup>d</sup> 0<sup>h</sup>7<sup>m</sup>35<sup>s</sup>

Star's Name.	Mag.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		h m s	s	° ' "	"
α Andromedæ	2.1	0 3 43.972	+ 3.0952	N. 28 35 36.83	+ 19.881
β Cassiopeie	2.4	0 4 22.138	3.1825	N. 58 39 12.25	19.862
γ Pegasi ( <i>Algenib</i> )	2.9	0 8 35.989	3.0860	N. 14 40 59.70	20.022
ι Ceti	3.8	0 14 50.560	3.0571	S. 9 19 21.99	19.974
β Hydri	2.9	0 21 2.223	3.2097	S. 77 45 40.03	20.281
α Phœnicis	2.4	0 21 50.307	+ 2.9735	S. 42 47 41.06	+ 19.552
δ Andromedæ	3.5	0 34 30.736	3.2012	N. 30 22 6.53	19.722
α Cassiopeie	var. 2.2-2.8	0 35 23.570	3.3843	N. 56 2 38.00	19.775
β Ceti	2.2	0 39 4.356	3.0127	S. 18 28 49.41	19.796
γ Cassiopeie	2.3	0 51 16.053	3.5947	N. 60 13 46.48	19.541
μ Andromedæ	3.9	0 51 45.215	+ 3.3197	N. 38 0 40.86	+ 19.567
β Phœnicis	3.4	1 2 4.046	2.6806	S. 47 12 3.06	19.290
β Andromedæ	2.4	1 4 41.310	3.3495	N. 35 8 36.94	19.135
θ Ceti	3.8	1 19 31.460	2.9977	S. 8 38 51.10	18.636
δ Cassiopeie	2.8	1 19 55.147	3.8971	N. 59 46 4.70	18.8c2
γ Phœnicis	3.3	1 24 27.459	+ 2.6082	S. 43 46 45.53	+ 18.475
η Piscium	3.7	1 26 39.896	3.2052	N. 14 52 55.72	18.626
α Ursæ Minoris ( <i>Polaris</i> )	2.1	1 26 55.852	27.4691	N. 88 49 33.57	18.617
α Eridani ( <i>Achernar</i> )	0.5	1 34 21.796	2.2370	S. 57 41 37.94	18.329
ζ Ceti	3.9	1 47 1.063	2.9600	S. 10 46 45.49	17.872
ε Cassiopeie	3.5	1 47 54.506	+ 4.2799	N. 63 13 38.32	+ 17.849
β Arietis	2.7	1 49 39.901	3.3075	N. 20 22 6.31	17.683
α Hydri	3.0	1 55 55.671	1.8820	S. 62 0 27.29	17.561
γ <sup>1</sup> Andromedæ	2.2	1 58 22.169	3.6695	N. 41 53 53.86	17.379
α Arietis	2.2	2 2 5.798	3.3752	N. 23 2 14.19	17.123
β Trianguli	3.1	2 4 11.038	+ 3.5601	N. 34 33 43.14	+ 17.129
φ Eridani	3.7	2 13 17.567	2.1414	S. 51 55 42.89	16.721
γ <sup>2</sup> Ceti	3.0	2 38 38.136	3.1055	N. 2 51 25.06	15.281
θ Eridani	3.0	2 54 51.027	2.2767	S. 40 39 53.88	14.512
α Ceti	2.8	2 57 34.391	3.1327	N. 3 44 13.66	14.245
γ Persei	3.1	2 58 16.246	+ 4.3254	N. 53 9 16.91	+ 14.275
β Persei ( <i>Algol</i> )	var. 2.2-3.7	3 2 18.474	3.8918	N. 40 36 34.32	14.027
α Persei	1.9	3 17 53.457	4.2668	N. 49 32 29.58	12.996
ο Tauri	3.8	3 19 58.087	3.2249	N. 8 42 45.72	12.812
ε Eridani	3.8	3 28 41.366	2.8249	S. 9 45 44.37	12.318
δ Persei	3.2	3 36 30.689	+ 4.2581	N. 47 30 1.83	+ 11.707
δ Eridani	3.7	3 38 56.184	2.8727	S. 10 4 3.61	12.303
17 Tauri	3.8	3 39 31.698	3.5570	N. 23 49 51.41	11.479
η Tauri	3.0	3 42 7.913	3.5608	N. 23 49 38.76	11.292
ζ Persei	3.0	3 48 28.280	+ 3.7645	N. 31 37 1.26	10.867
γ Hydri	3.1	3 48 37.282	- 0.9701	S. 74 30 53.89	+ 10.990
ε Persei	3.0	3 51 48.654	+ 4.0179	N. 39 45 2.08	10.607
γ <sup>1</sup> Eridani	3.3	3 53 49.801	2.7982	S. 13 45 50.47	10.375
α Horologii	3.8	4 11 1.160	1.9872	S. 42 30 58.26	8.945
α Reticuli	3.4	4 13 15.719	+ 0.7640	S. 62 41 56.30	+ 9.046

MEAN PLACES OF STARS, 1910.

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FOR JANUARY <sup>d</sup> 0<sup>h</sup>7<sup>m</sup>35<sup>s</sup>

Star's Name.	Mag.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		h m s	s	° ' "	"
ν <sup>4</sup> Eridani	3.8	4 14 29.197	+ 2.2669	S. 34 1 2.86	+ 8.905
γ Tauri	3.9	4 14 40.197	3.4111	N. 15 24 39.37	8.864
ε Tauri	3.7	4 23 21.582	3.5001	N. 18 58 53.35	8.168
α Tauri ( <i>Aldebaran</i> )	1.1	4 30 45.280	3.4395	N. 16 19 44.47	7.419
α Doradus	3.5	4 32 3.047	1.2942	S. 55 13 51.29	7.494
π <sup>1</sup> Orionis	3.3	4 44 57.197	+ 3.2548	N. 6 48 17.56	+ 6.469
ι Aurigæ	2.9	4 51 7.830	3.9032	N. 33 1 27.65	5.909
ε Aurigæ	var. 3.0-4.5	4 55 30.514	4.3003	N. 43 41 27.38	5.551
η Aurigæ	3.3	5 0 12.098	4.2034	N. 41 6 48.77	5.097
ε Leporis	3.4	5 1 39.043	2.5383	S. 22 29 29.04	4.983
β Eridani	2.9	5 3 25.504	+ 2.9490	S. 5 12 7.69	+ 4.822
μ Leporis	3.3	5 8 53.304	2.6938	S. 16 18 41.21	4.404
α Aurigæ ( <i>Capella</i> )	0.2	5 10 2.307	4.4280	N. 45 54 26.47	3.903
β Orionis ( <i>Rigel</i> )	0.3	5 10 12.716	2.8821	S. 8 18 17.99	4.318
η Orionis (mean)	3.4	5 19 57.081	3.0156	S. 2 28 45.50	3.480
γ Orionis ( <i>Bellatrix</i> )	1.7	5 20 18.193	+ 3.2167	N. 6 16 7.62	+ 3.435
β Tauri	1.8	5 20 36.097	3.7909	N. 28 31 55.89	3.250
β Leporis	3.0	5 24 23.348	2.5702	S. 20 49 50.19	3.012
δ Orionis	var. 2.2-2.7	5 27 24.488	3.0641	S. 0 21 54.45	2.836
α Leporis	2.7	5 28 45.637	2.6456	S. 17 53 10.22	2.722
ι Orionis	3.0	5 31 1.820	+ 2.9341	S. 5 58 6.24	+ 2.523
ε Orionis	1.7	5 31 38.771	3.0434	S. 1 15 31.42	2.473
ζ Tauri	3.0	5 32 15.926	3.5847	N. 21 5 17.81	2.385
β Doradus	3.7	5 32 50.678	0.5182	S. 62 32 55.88	2.343
ζ Orionis ( <i>Ist*</i> )	2.0	5 36 13.039	3.0268	S. 1 59 22.81	2.060
α Columbæ	2.7	5 36 23.402	+ 2.1724	S. 34 7 18.08	+ 2.022
κ Orionis	2.2	5 43 29.272	2.8448	S. 9 42 3.64	1.438
β Columbæ	3.1	5 47 47.146	2.1128	S. 35 48 6.52	1.455
α Orionis ( <i>Betelgeuse</i> )	var. 1.0-1.4	5 50 17.948	3.2477	N. 7 23 27.43	0.856
β Aurigæ	2.1	5 52 55.652	4.4016	N. 44 56 21.09	0.609
θ Aurigæ	2.7	5 53 35.044	+ 4.0915	N. 37 12 25.41	+ 0.468
η Geminorum	var. 3.2-4.2	6 0 26.740	3.6227	N. 22 32 0.94	- 0.845
ζ Canis Majoris	3.2	6 16 51.417	2.3017	S. 30 1 23.47	1.499
μ Geminorum	3.2	6 17 30.971	3.6308	N. 22 33 37.94	1.648
β Canis Majoris	2.0	6 18 44.164	2.6415	S. 17 54 38.15	1.635
α Argûs ( <i>Canopus</i> )	-1.0	6 21 57.242	+ 1.3318	S. 52 38 46.64	- 1.909
γ Geminorum	1.9	6 32 30.794	3.4671	N. 16 28 36.37	2.885
ν Argûs	3.2	6 35 0.526	1.8366	S. 43 7 0.02	3.071
ε Geminorum	3.2	6 38 23.739	3.6930	N. 25 13 15.61	3.364
ξ Geminorum	3.4	6 40 14.317	3.3685	N. 12 59 36.01	3.696
α Canis Majoris ( <i>Sirius</i> )	-1.4	6 41 10.723	+ 2.6435	S. 16 35 31.87	- 4.792
α Pictoris	3.3	6 47 16.152	0.6179	S. 61 50 40.81	3.868
τ Argûs	2.8	6 47 42.166	1.4884	S. 50 30 26.53	4.250
ε Canis Majoris	1.6	6 55 5.315	2.3574	S. 28 50 56.63	4.771
22 Canis Majoris	3.5	6 58 8.023	+ 2.3897	S. 27 48 19.31	- 5.031



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FOR JANUARY <sup>d</sup> 0<sup>h</sup>7<sup>m</sup>35<sup>s</sup>

Star's Name.	Mag.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		h m s	s	° ' "	"
ζ Geminorum ..... var.	3.7-4.5	6 58 46.323	+ 3.5609	N. 20 42 10.82	- 5.094
α <sup>2</sup> Canis Majoris .....	3.0	6 59 15.986	2.5048	S. 23 42 4.36	5.123
δ Canis Majoris .....	2.0	7 4 43.864	2.4381	S. 26 14 59.21	5.585
π Argūs .....	2.7	7 13 57.848	2.1189	S. 36 56 8.31	6.369
δ Geminorum .....	3.6	7 14 44.979	+ 3.5868	N. 22 8 55.53	6.440
δ Volantis .....	3.9	7 16 53.092	- 0.0182	S. 67 47 33.10	- 6.606
η Canis Majoris .....	2.4	7 20 32.154	+ 2.3737	S. 29 7 37.28	6.895
β Canis Minoris .....	3.1	7 22 16.261	3.2556	N. 8 28 16.66	7.091
σ Argūs .....	3.0	7 26 22.487	1.9018	S. 43 7 7.65	7.199
α <sup>2</sup> Geminorum (Castor) .....	2.0	7 28 51.569	3.8338	N. 32 5 12.82	7.664
α <sup>1</sup> Geminorum .....	2.8	Δα - 0.277	+ 3.8338	Δδ - 4.03	- 7.664
α Canis Minoris (Procyon) .....	0.5	7 34 35.434	3.1423	N. 5 27 21.22	9.080
β Geminorum (Pollux) .....	1.2	7 39 48.637	3.6763	N. 28 14 39.33	8.514
ξ Argūs .....	3.4	7 45 30.549	2.5232	S. 24 38 0.15	8.908
ζ Argūs .....	2.3	8 0 25.226	2.1066	S. 39 44 57.68	10.062
15 Argūs .....	2.9	8 3 42.654	+ 2.5546	S. 24 2 39.36	- 10.252
γ Argūs .....	1.9	8 6 45.598	1.8498	S. 47 4 15.92	10.543
β Cancri .....	3.7	8 11 38.125	3.2560	N. 9 27 48.63	10.945
ε Argūs .....	1.7	8 20 40.077	1.2342	S. 59 13 10.76	11.539
30 Monocerotis .....	3.9	8 21 9.870	2.9997	S. 3 36 44.13	11.603
ο Ursæ Majoris .....	3.5	8 22 47.837	+ 5.0157	N. 61 1 11.59	- 11.812
α Mali .....	3.7	8 39 58.507	2.4109	S. 32 51 41.51	12.874
ε Hydræ .....	3.5	8 42 0.682	3.1801	N. 6 44 58.51	13.070
δ Argūs .....	2.0	8 42 12.939	1.6518	S. 54 22 42.50	13.134
ζ Hydræ .....	3.3	8 50 38.281	3.1747	N. 6 17 18.93	13.579
ι Ursæ Majoris .....	3.1	8 53 3.095	+ 4.1247	N. 48 23 44.25	- 13.990
λ Argūs .....	2.3	9 4 41.107	2.2060	S. 43 4 8.47	14.469
β Argūs .....	1.7	9 12 12.971	0.6716	S. 69 20 47.10	14.816
ι Argūs .....	2.2	9 14 40.762	1.6042	S. 58 53 50.20	15.047
α Lyncis .....	3.4	9 15 34.558	3.6647	N. 34 46 25.13	15.094
κ Argūs .....	2.6	9 19 19.530	+ 1.8551	S. 54 37 34.48	- 15.337
α Hydræ .....	2.2	9 23 9.910	2.9487	S. 8 16 4.87	15.501
θ Ursæ Majoris .....	3.3	9 26 50.697	4.0329	N. 52 5 17.13	16.279
ψ Argūs .....	3.5	9 27 9.167	2.3591	S. 40 4 21.44	15.714
N Velorum .....	3.0	9 28 29.201	1.8208	S. 56 38 13.19	15.819
ο Leonis .....	3.8	9 36 20.934	+ 3.2054	N. 10 18 8.20	- 16.270
ε Leonis .....	3.1	9 40 44.714	3.4117	N. 24 11 20.45	16.481
α Leonis (Regulus) .....	1.3	10 3 34.833	3.1986	N. 12 24 26.66	17.518
γ Carinæ .....	3.4	10 14 4.546	1.9983	S. 60 52 56.40	17.943
γ <sup>1</sup> Leonis .....	2.5	10 15 0.756	3.3123	N. 20 17 49.68	18.132
γ <sup>2</sup> Leonis .....	3.7	Δα + 0.249	+ 3.3123	Δδ - 1.76	- 18.132
μ Ursæ Majoris .....	3.2	10 16 58.341	3.5875	N. 41 57 8.99	18.028
ρ Leonis .....	3.8	10 28 4.427	3.1620	N. 9 46 12.18	18.459
θ Argūs .....	3.0	10 39 44.564	2.1315	S. 63 55 23.68	18.857
η Argūs ..... var.	1-7½	10 41 33.991	+ 2.3198	S. 59 12 40.30	- 18.893

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Star's Name.	Mag.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		h m s	s	° ' "	"
μ Argūs .....	2.8	10 42 53.746	+ 2.5726	S. 48 56 40.88	- 19.004
ν Hydræ .....	3.3	10 45 10.984	2.9579	S. 15 43 20.20	18.777
β Ursæ Majoris .....	2.4	10 56 25.104	3.6434	N. 56 51 54.16	19.254
α Ursæ Majoris (Dubhe) .....	2.0	10 58 11.024	3.7322	N. 62 14 13.48	19.393
ψ Ursæ Majoris .....	3.2	11 4 36.538	3.3867	N. 44 59 13.31	- 19.496
δ Leonis .....	2.6	11 9 19.456	+ 3.1958	N. 21 1 0.92	- 19.699
θ Leonis .....	3.4	11 9 31.106	3.1509	N. 15 55 17.86	19.647
δ Crateris .....	3.8	11 14 50.395	2.9971	S. 14 17 28.93	19.463
ξ Hydræ .....	3.7	11 28 34.383	2.9455	S. 31 21 34.62	19.913
λ Centauri .....	3.3	11 31 37.396	2.7481	S. 62 31 18.43	19.919
β Leonis (Denebola) .....	2.2	11 44 28.215	+ 3.0627	N. 15 4 30.76	- 20.118
γ Virginis .....	3.8	11 46 0.435	3.1251	N. 2 16 19.15	20.283
γ Ursæ Majoris .....	2.5	11 49 6.159	3.1719	N. 54 11 42.61	20.019
δ Centauri .....	2.8	12 3 41.324	3.0935	S. 50 13 16.68	20.074
ε Corvi .....	3.2	12 5 29.640	3.0805	S. 22 7 9.34	20.038
δ Crucis .....	3.1	12 10 21.846	+ 3.1726	S. 58 14 54.88	- 20.064
δ Ursæ Majoris .....	3.4	12 10 58.719	2.9867	N. 57 31 57.62	20.018
γ Corvi .....	2.7	12 11 10.534	3.0811	S. 17 2 31.80	20.006
α <sup>1</sup> Crucis .....	1.0	12 21 35.004	3.3089	S. 62 36 1.46	19.996
α <sup>2</sup> Crucis .....	1½	Δα + 0.630	3.3089	Δδ - 3.05	19.996
δ <sup>2</sup> Corvi .....	3.1	12 25 12.358	+ 3.1006	S. 16 0 51.98	- 20.073
γ Crucis .....	1.6	12 26 9.910	3.3010	S. 56 36 33.02	20.176
β Corvi .....	3.0	12 29 39.389	3.1447	S. 22 53 56.84	19.940
α Muscæ .....	2.9	12 31 48.293	3.5369	S. 68 38 23.02	19.882
γ Centauri .....	2.4	12 36 32.895	3.2928	S. 48 27 56.42	19.811
γ <sup>1</sup> Virginis .....	3.5	12 37 5.898	+ 3.0396	S. 0 57 18.56	- 19.779
γ <sup>2</sup> Virginis .....	3.5	Δα + 0.228	3.0396	Δδ - 5.24	19.779
β Muscæ .....	3.3	12 40 44.928	3.6384	S. 67 36 55.68	19.756
β Crucis .....	1.5	12 42 27.277	3.4793	S. 59 11 49.01	19.736
ε Ursæ Majoris .....	1.8	12 50 4.396	2.6494	N. 56 26 53.51	19.582
δ Virginis .....	3.7	12 51 4.163	+ 3.0206	N. 3 53 11.04	- 19.610
α Canum Venaticorum .....	2.8	12 51 49.181	2.8113	N. 38 48 15.37	19.487
ε Virginis .....	3.0	12 57 41.808	2.9865	N. 11 26 33.73	19.399
γ Hydræ .....	3.3	13 14 1.552	3.2546	S. 22 41 48.81	19.061
ι Centauri .....	3.0	13 15 31.937	3.3603	S. 36 14 16.00	19.063
ζ <sup>1</sup> Ursæ Majoris .....	2.1	13 20 18.292	+ 2.4229	N. 55 23 42.65	- 18.857
α Virginis (Spica) .....	1.2	13 20 26.992	3.1565	S. 10 41 30.24	18.855
ζ Virginis .....	3.4	13 30 6.354	3.0542	S. 0 8 9.47	18.476
ε Centauri .....	2.6	13 34 10.673	3.7776	S. 53 0 33.05	18.415
η Ursæ Majoris .....	1.9	13 43 59.764	2.3684	N. 49 45 43.81	18.039
μ Centauri .....	3.3	13 44 11.357	+ 3.5985	S. 42 1 31.89	- 18.030
ζ Centauri .....	2.8	13 49 55.149	3.7235	S. 46 50 44.52	17.847
η Boötis .....	2.8	13 50 23.971	2.8567	N. 18 50 54.82	18.127
β Centauri .....	0.8	13 57 27.801	4.2020	S. 59 56 21.08	17.502
π Hydræ .....	3.5	14 1 14.580	+ 3.4084	S. 26 14 57.08	- 17.450



\* \* \* These Mean Places cannot be used for accurate determinations of Longitude or Latitude, but serve for ordinary sea observations. The Apparent Places of 133 stars are given on pages 105-139.

FOR JANUARY <sup>d</sup> 0<sup>h</sup>7<sup>m</sup>35<sup>s</sup>

Star's Name.	Mag.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		h m s	s	° / "	"
θ Centauri	2.1	14 1 22.884	+ 3.5182	S. 35 55 39.13	- 17.823
α Draconis	3.6	14 1 57.183	1.6242	N. 64 48 20.83	17.262
α Boötis ( <i>Arcturus</i> )	0.3	14 11 33.353	2.7354	N. 19 39 2.19	18.835
ρ Boötis	3.7	14 27 57.102	2.5866	N. 30 45 57.96	15.897
γ Boötis	3.0	14 28 27.280	2.4173	N. 38 42 5.74	15.839
η Centauri	2.7	14 29 47.250	+ 3.7951	S. 41 45 46.38	- 15.945
α <sup>2</sup> Centauri	1	14 33 29.403	4.0513	S. 60 27 43.98	14.990
α <sup>1</sup> Centauri	3.3	α - 1.532	4.0513	Δδ - 16.61	14.990
α Circini	3.4	14 35 13.171	4.8017	S. 64 35 1.48	15.858
α Lupi	2.5	14 35 56.238	3.9704	S. 47 0 8.63	15.616
ε <sup>2</sup> Boötis	2.6	14 41 3.393	+ 2.6203	N. 27 27 11.52	- 15.286
α Libræ	2.9	14 45 53.813	+ 3.3131	S. 15 40 5.61	15.094
β Urse Minoris	2.2	14 50 57.503	- 0.2091	N. 74 31 23.86	14.720
β Lupi	2.7	14 52 37.792	+ 3.9113	S. 42 46 19.35	14.683
κ Centauri	3.3	14 53 18.297	3.8914	S. 41 44 36.31	14.606
β Boötis	3.6	14 58 33.362	+ 2.2600	N. 40 44 42.52	- 14.303
20 Libræ	3.4	14 58 47.980	3.5039	S. 24 55 43.21	14.295
ζ Lupi	3.5	15 5 48.782	4.2892	S. 51 45 25.61	13.874
γ Trianguli Australis	3.0	15 10 29.507	5.5464	S. 68 20 52.45	13.550
δ Boötis	3.5	15 11 52.471	2.4192	N. 33 39 0.35	13.545
β Libræ	2.8	15 12 9.721	+ 3.2243	S. 9 3 4.83	- 13.425
γ Urse Minoris	3.1	15 20 51.877	- 0.1190	N. 72 9 15.19	12.814
ι Draconis	3.4	15 22 55.661	+ 1.3328	N. 59 16 51.69	12.678
γ Lupi	3.0	15 29 8.325	3.9853	S. 40 51 53.96	12.310
α Coronæ	2.3	15 30 52.616	2.5393	N. 27 1 1.43	12.241
α Serpentis	2.8	15 39 50.031	+ 2.9527	N. 6 42 29.68	- 11.466
μ Serpentis	3.6	15 44 55.308	3.1280	S. 3 9 19.28	11.168
ε Serpentis	3.8	15 46 19.707	2.9880	N. 4 44 53.56	10.968
β Trianguli Australis	3.1	15 47 12.215	5.2533	S. 63 9 13.39	11.381
π Scorpium	3.1	15 53 24.278	3.6230	S. 25 51 20.24	10.565
δ Scorpium	2.5	15 55 0.537	+ 3.5416	S. 22 21 58.27	- 10.431
β <sup>1</sup> Scorpium	2.7	16 0 12.057	3.4829	S. 19 33 34.86	10.033
δ Ophiuchi	3.0	16 9 37.667	3.1411	S. 3 27 47.31	9.428
ε Ophiuchi	3.3	16 13 33.468	3.1715	S. 4 28 25.34	8.940
σ Scorpium	3.1	16 15 42.932	3.6409	S. 25 22 39.00	8.846
γ Herculis	3.8	16 17 56.959	+ 2.6453	N. 19 21 49.97	- 8.596
α Draconis	2.9	16 22 46.237	0.8071	N. 61 43 3.79	8.193
α Scorpium ( <i>Antares</i> )	1.3	16 23 53.206	3.6735	S. 26 13 58.55	8.188
β Herculis	2.8	16 26 20.990	2.5773	N. 21 41 6.35	7.988
λ Ophiuchi	3.8	16 26 22.388	3.0236	N. 2 10 49.14	8.040
τ Scorpium	2.9	16 30 16.636	+ 3.7289	S. 28 1 47.98	- 7.681
ζ Ophiuchi	2.7	16 32 12.090	3.3004	S. 10 23 7.48	7.469
ζ Herculis	3.0	16 37 53.589	2.2612	N. 31 45 55.28	6.637
α Trianguli Australis	1.9	16 39 7.500	6.3196	S. 68 51 48.84	6.973
ε Scorpium	2.3	16 44 19.872	+ 3.8790	S. 34 7 50.51	- 6.759

\* \* \* These Mean Places cannot be used for accurate determinations of Longitude or Latitude, but serve for ordinary sea observations. The Apparent Places of 133 stars are given on pages 105-139.

FOR JANUARY <sup>d</sup> 0<sup>h</sup>7<sup>m</sup>35<sup>s</sup>

Star's Name.	Mag.	Right Ascension.	Annual Variation.	Declination.	Annual Variation.
		h m s	s	° / "	"
ζ Aræ	3.0	16 51 9.772	+ 4.9531	S. 55 50 56.19	- 5.976
κ Ophiuchi	3.4	16 53 24.448	2.8380	N. 9 30 51.58	5.752
ε Herculis	3.9	16 56 50.743	2.2945	N. 31 3 30.25	5.429
η Ophiuchi	2.6	17 5 12.889	3.4372	S. 15 36 50.78	4.653
ζ Draconis	3.2	17 8 31.463	0.1681	N. 65 49 31.40	4.447
α <sup>1</sup> Herculis	var. 3.1-3.9	17 10 32.589	+ 2.7343	N. 14 29 32.21	- 4.261
δ Herculis	3.2	17 11 20.054	2.4630	N. 24 56 41.20	4.381
π Herculis	3.3	17 11 54.697	2.0883	N. 36 54 36.30	4.174
θ Ophiuchi	3.4	17 16 28.849	3.6814	S. 24 54 37.53	3.817
β Aræ	2.7	17 17 48.960	4.9800	S. 55 26 44.09	3.693
υ Scorpium	2.8	17 24 38.499	+ 4.0734	S. 37 13 29.02	- 3.113
α Aræ	2.9	17 24 52.944	4.6322	S. 49 48 20.37	3.139
λ Scorpium	1.8	17 27 29.737	4.0706	S. 37 2 19.72	2.858
β Draconis	3.0	17 28 23.914	1.3540	N. 52 22 3.64	2.745
α Ophiuchi	2.1	17 30 45.371	2.7836	N. 12 37 29.54	2.784
θ Scorpium	2.0	17 30 50.953	+ 4.3054	S. 42 56 28.66	- 2.548
κ Scorpium	2.6	17 36 15.694	4.1488	S. 38 59 2.70	2.084
η Pavonis	3.5	17 36 53.752	5.8804	S. 64 40 54.59	2.093
β Ophiuchi	2.9	17 39 1.573	2.9628	N. 4 36 15.42	1.672
ι <sup>1</sup> Scorpium	3.1	17 41 17.390	4.1944	S. 40 5 34.38	1.639
μ Herculis	3.5	17 42 56.144	+ 2.3469	N. 27 46 22.02	- 2.239
ν Ophiuchi	3.7	17 54 4.281	3.3018	S. 9 45 47.58	0.636
γ Draconis	2.4	17 54 30.970	1.3924	N. 51 29 56.83	0.503
γ <sup>2</sup> Sagittarii	3.0	18 0 1.519	3.8518	S. 30 25 33.33	- 0.193
72 Ophiuchi	3.7	18 3 4.945	2.8432	N. 9 33 1.82	+ 0.359
η Sagittarii	3.1	18 11 32.278	+ 4.0598	S. 36 47 21.28	+ 0.859
δ Sagittarii	2.8	18 15 13.939	3.8406	S. 29 52 1.55	1.300
η Serpentis	3.4	18 16 39.128	3.1027	S. 2 55 21.91	0.766
ε Sagittarii	1.9	18 18 11.885	3.9816	S. 34 25 39.97	1.470
α Telescopium	3.7	18 20 18.015	4.4502	S. 46 1 7.77	1.708
λ Sagittarii	2.9	18 22 24.992	+ 3.7027	S. 25 28 20.08	+ 1.761
α Lyræ ( <i>Vega</i> )	0.1	18 33 53.475	2.0313	N. 38 41 57.90	3.235
φ Sagittarii	3.3	18 40 2.023	3.7489	S. 27 5 2.27	3.480
β <sup>1</sup> Lyræ	var. 3.4-4.5	18 46 45.416	2.2146	N. 33 15 27.64	4.058
σ Sagittarii	2.1	18 49 41.073	3.7204	S. 26 24 33.44	4.240
ε <sup>2</sup> Sagittarii	3.5	18 52 21.661	+ 3.5803	S. 21 13 32.21	+ 4.520
γ Lyræ	3.3	18 55 34.594	2.2434	N. 32 33 56.00	4.810
ζ Sagittarii	2.7	18 56 53.157	3.8183	S. 30 0 34.73	4.909
ζ Aquilæ	3.0	19 1 16.400	2.7568	N. 13 43 44.66	5.199
τ Sagittarii	3.5	19 1 19.340	3.7475	S. 27 48 9.60	5.049
λ Aquilæ	3.5	19 1 28.366	+ 3.1837	S. 5 1 4.92	+ 5.232
π Sagittarii	3.0	19 4 24.730	3.5692	S. 21 10 2.41	5.527
δ Draconis	3.2	19 12 32.256	0.0234	N. 67 30 11.56	6.327
δ Aquilæ	3.4	19 20 57.644	3.0250	N. 2 56 5.00	7.018
β Cygni	3.1	19 27 5.494	+ 2.4188	N. 27 46 12.35	+ 7.427



\* \* These Mean Places cannot be used for accurate determinations of Longitude or Latitude, but serve for ordinary sea observations. The Apparent Places of 133 stars are given on pages 105-139.

FOR JANUARY <sup>a</sup> 0°735

Star's Name.	Mag.	Right Ascension.			Declination.	Annual Variation.
		h	m	s		
γ Aquilæ	2·8	19	41	58·854	N. 10 23 36·02	+ 8·627
δ Cygni	3·0	19	42	9·765	N. 44 54 38·37	8·688
α Aquilæ ( <i>Altair</i> )	0·9	19	46	23·534	N. 8 37 48·02	9·356
β Aquilæ	3·9	19	50	53·547	N. 6 10 53·08	8·846
δ Pavonis	3·6	19	59	54·151	S. 66 24 43·55	8·888
θ Aquilæ	3·4	20	6	39·699	S. 1 5 20·27	+ 10·531
α <sup>2</sup> Capricorni	3·8	20	13	3·732	S. 12 49 27·67	11·005
β Capricorni	3·2	20	15	57·385	S. 15 3 58·08	11·215
α Pavonis	2·0	20	18	31·982	S. 57 1 27·11	11·303
γ Cygni	2·3	20	18	59·879	N. 39 58 5·42	11·428
α Indi	3·2	20	31	14·348	S. 47 36 21·75	+ 12·344
α Delphini	3·9	20	35	27·480	N. 15 35 39·37	12·597
β Pavonis	3·5	20	36	51·566	S. 66 31 38·74	12·674
α Cygni ( <i>Deneb</i> )	1·3	20	38	21·806	N. 44 57 29·93	12·774
ε Cygni	2·6	20	42	34·177	N. 33 37 57·74	13·384
ε Aquarii	3·9	20	42	48·308	S. 9 49 32·55	+ 13·044
ζ Cygni	3·5	21	9	6·312	N. 29 51 26·31	14·667
α Cephei	2·6	21	16	25·977	N. 62 12 14·48	15·204
ζ Capricorni	3·8	21	21	31·879	S. 22 48 5·71	15·463
β Aquarii	3·3	21	26	49·322	S. 5 58 3·24	15·724
β <sup>2</sup> Cephei	3·4	21	27	30·226	N. 70 9 55·78	+ 15·776
ε Pegasi	2·5	21	39	45·930	N. 9 27 43·07	16·410
δ Capricorni	3·0	21	42	4·498	S. 16 32 9·92	16·228
γ Gruis	3·2	21	48	28·923	S. 37 47 18·95	16·815
α Aquarii	3·2	22	1	9·721	S. 0 45 26·53	17·410
α Gruis	1·9	22	2	33·915	S. 47 23 50·57	+ 17·298
ι Pegasi	3·9	22	2	49·237	N. 24 54 18·63	17·504
ζ Cephei	3·6	22	7	43·820	N. 57 45 26·73	17·699
α Toucani	2·9	22	12	20·543	S. 60 42 29·99	17·841
γ Aquarii	3·9	22	17	0·491	S. 1 50 27·77	18·072
ζ Pegasi	3·6	22	36	58·386	N. 10 21 40·52	+ 18·732
β Gruis	2·1	22	37	17·863	S. 47 21 20·11	18·729
η Pegasi	3·1	22	38	46·903	N. 29 45 0·68	18·764
ε Gruis	3·7	22	43	7·363	S. 51 47 24·90	18·871
μ Pegasi	3·7	22	45	39·497	N. 24 7 34·09	18·959
λ Aquarii	3·9	22	47	55·196	S. 8 3 31·42	+ 19·098
δ Aquarii	3·5	22	49	52·502	S. 16 17 58·76	19·090
α Piscis Aust. ( <i>Fomalhaut</i> )	1·3	22	52	40·801	S. 30 5 58·13	19·017
β Pegasi	2·2-2·7	22	59	24·573	N. 27 35 39·81	19·485
α Pegasi ( <i>Markab</i> )	2·6	23	0	16·599	N. 14 43 15·08	19·330
α <sup>2</sup> Aquarii	3·8	23	4	38·961	S. 21 39 40·21	+ 19·506
γ Piscium	3·8	23	12	29·966	N. 2 47 25·46	19·638
γ Cephei	3·4	23	35	38·796	N. 77 7 48·19	+ 20·090

AT UPPER TRANSIT AT GREENWICH.

α Urse Minoris (*Polaris*). Mag. 2·1

Day.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /	h m	o /	h m	o /
	I 26	88 49	I 25	88 49	I 25	88 49	I 25	88 49	I 25	88 49	I 26	88 49
	s	"	s	"	s	"	s	"	s	"	s	"
1	51·41	49·24	78·47	50·09	52·97	45·82	38·94	37·33	43·13	28·28	3·34	21·68
2	50·30	49·35	77·52	49·98	52·34	45·57	38·83	37·05	43·43	28·04	4·19	21·50
3	49·24	49·44	76·61	49·89	51·75	45·34	38·70	36·78	43·73	27·77	5·12	21·32
4	48·22	49·51	75·71	49·80	51·18	45·11	38·51	36·51	44·07	27·49	6·15	21·15
5	47·24	49·59	74·81	49·72	50·59	44·89	38·29	36·23	44·50	27·20	7·23	21·01
6	46·30	49·67	73·87	49·65	49·96	44·69	38·06	35·93	45·02	26·90	8·31	20·90
7	45·38	49·76	72·88	49·59	49·28	44·49	37·85	35·62	45·64	26·61	9·36	20·81
8	44·45	49·86	71·83	49·52	48·56	44·28	37·71	35·29	46·32	26·35	10·35	20·74
9	43·50	49·96	70·73	49·44	47·80	44·04	37·66	34·94	47·05	26·11	11·27	20·68
10	42·49	50·07	69·61	49·34	47·05	43·79	37·71	34·60	47·78	25·89	12·13	20·62
11	41·42	50·18	68·48	49·21	46·33	43·52	37·86	34·28	48·47	25·69	12·96	20·55
12	40·27	50·29	67·41	49·05	45·69	43·23	38·07	33·96	49·10	25·50	13·78	20·46
13	39·07	50·38	66·40	48·88	45·15	42·91	{38·30}	{33·66}	49·67	25·32	14·61	20·36
14	37·85	50·44	65·49	48·68	44·70	42·60	38·68	33·13	50·20	25·13	15·50	20·25
15	36·62	50·48	64·67	48·50	44·33	42·30	38·80	32·88	50·71	24·92	16·44	20·14
16	35·46	50·48	63·91	48·32	44·01	42·02	38·87	32·62	51·24	24·69	17·43	20·03
17	34·36	50·46	63·17	48·15	43·69	41·77	38·91	32·35	51·80	24·45	18·47	19·93
18	33·34	50·45	62·41	48·01	43·34	41·52	38·95	32·06	52·41	24·20	19·56	19·84
19	32·40	50·44	61·60	47·88	42·94	41·28	39·02	31·74	53·09	23·96	20·68	19·77
20	31·50	50·44	60·73	47·74	42·49	41·03	39·13	31·42	53·84	23·71	21·82	19·73
21	30·56	50·47	59·81	47·60	42·00	40·77	39·31	31·09	54·64	23·48	22·94	19·69
22	29·60	50·50	58·86	47·44	41·49	40·50	39·56	30·76	55·48	23·26	24·03	19·68
23	28·58	50·54	57·89	47·25	41·00	40·20	39·88	30·43	56·36	23·06	25·06	19·69
24	27·49	50·57	56·94	47·04	40·54	39·89	40·26	30·11	57·25	22·88	26·04	19·69
25	26·34	50·57	56·03	46·82	40·14	39·56	40·68	29·81	58·13	22·72	26·95	19·70
26	25·15	50·57	55·18	46·58	39·81	39·23	41·14	29·52	58·97	22·58	27·84	19·71
27	23·96	50·53	54·38	46·33	39·53	38·89	41·60	29·25	59·75	22·45	28·73	19·69
28	22·78	50·47	53·64	46·08	39·33	38·56	42·04	28·99	60·49	22·32	29·65	19·66
29	21·62	50·39	52·97	45·82	39·19	38·23	42·45	28·75	61·19	22·17	30·63	19·62
30	20·51	50·29			39·08	37·92	42·82	28·52	61·87	22·02	31·72	19·58
31	19·47	50·20			39·01	37·62	43·13	28·28	62·57	21·85	32·88	19·56
32	18·47	50·09			38·94	37·33			63·34	21·68		

Mean R. A. 1<sup>h</sup> 26<sup>m</sup> 55<sup>s</sup>·852 Mean Dec. +88° 49' 33"·57 Sec δ 48·807 Tan δ +48·797



AT UPPER TRANSIT AT GREENWICH.

$\alpha$  Ursae Minoris (*Polaris*). Mag. 2.1

Day.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /	h m	o /	h m	o /
	1 26	88 49	1 27	88 49	1 27	88 49	1 27	88 49	1 27	88 49	1 27	88 50
	s	//	s	//	s	//	s	//	s	//	s	//
1	32.88	19.56	5.85	22.60	33.17	30.35	49.40	40.75	52.33	52.57	40.14	2.93
2	34.08	19.56	6.89	22.83	33.76	30.66	49.66	40.75	52.26	52.57	40.14	2.93
3	35.31	19.59	7.85	23.07	34.36	30.96	49.97	41.44	52.19	53.30	38.98	3.55
4	36.52	19.65	8.74	23.30	34.97	31.25	50.31	41.78	52.10	53.68	38.30	3.87
5	37.66	19.72	9.59	23.51	35.62	31.53	50.68	42.13	51.97	54.07	37.55	4.19
6	38.74	19.81	10.43	23.72	36.31	31.81	51.06	42.49	51.78	54.46	36.73	4.50
7	39.75	19.90	11.28	23.90	37.04	32.10	51.44	42.86	51.53	54.87	35.86	4.80
8	40.70	19.97	12.16	24.07	37.80	32.40	51.80	43.25	51.18	55.28	34.94	5.07
9	41.62	20.04	13.08	24.25	38.57	32.71	52.10	43.65	50.78	55.68	34.05	5.31
10	42.54	20.09	14.05	24.43	39.33	33.04	52.35	44.07	50.32	56.05	33.18	5.54
11	43.50	20.13	15.06	24.61	40.05	33.39	52.52	44.50	49.84	56.40	32.38	5.76
12	44.50	20.17	16.09	24.81	40.75	33.75	52.62	44.92	49.37	56.73	31.65	5.97
13	45.55	20.20	17.15	25.03	41.37	34.13	52.65	45.34	48.96	57.05	30.97	6.19
14	46.65	20.24	18.18	25.26	41.91	34.53	52.64	45.74	48.61	57.37	30.32	6.43
15	47.79	20.29	19.18	25.52	42.39	34.91	52.63	46.11	48.33	57.69	29.64	6.69
16	48.96	20.37	20.14	25.79	42.81	35.28	52.65	46.47	48.07	58.02	28.91	6.95
17	50.13	20.46	21.03	26.08	43.20	35.63	52.72	46.83	47.83	58.38	28.10	7.22
18	51.31	20.57	21.84	26.36	43.62	35.96	52.87	47.17	47.54	58.75	27.19	7.49
19	52.44	20.70	22.60	26.65	44.07	36.28	53.06	47.53	47.17	59.14	26.20	7.75
20	53.52	20.85	23.32	26.92	44.59	36.60	53.29	47.92	46.71	59.53	25.16	7.98
21	54.54	21.01	24.04	27.17	45.17	36.92	53.49	48.32	46.16	59.91	24.11	8.18
22	55.49	21.17	24.77	27.41	45.81	37.25	53.63	48.74	45.53	60.28	23.06	8.35
23	56.39	21.32	25.57	27.64	46.46	37.62	53.69	49.18	44.86	60.62	22.04	8.51
24	57.27	21.46	26.44	27.88	47.07	38.01	53.65	49.62	44.17	60.94	21.08	8.64
25	58.17	21.58	27.38	28.13	47.60	38.42	53.53	50.04	43.51	61.25	20.17	8.78
26	59.12	21.68	28.36	28.39	48.05	38.84	53.34	50.45	42.87	61.53	19.29	8.92
27	60.13	21.79	29.33	28.69	48.42	39.25	53.12	50.84	42.28	61.80	18.43	9.07
28	61.23	21.90	30.25	29.00	48.70	39.64	52.90	51.20	41.73	62.07	17.57	9.23
29	62.39	22.04	31.10	29.34	48.95	40.02	52.70	51.55	41.20	62.34	16.70	9.39
30	63.57	22.21	31.87	29.69	49.16	40.39	52.54	51.89	40.68	62.63	15.79	9.54
31	64.73	22.39	32.54	30.03	49.40	40.75	52.42	52.23	40.14	62.93	14.84	9.72
32	65.85	22.60	33.17	30.35			52.33	52.57			13.80	9.90

Mean R. A.  $1^h 26^m 55^s.852$  Mean Dec.  $+88^\circ 49' 33'' .57$  Sec  $\delta$   $48.807$  Tan  $\delta$   $+48.797$

AT UPPER TRANSIT AT GREENWICH.

Date.	$\alpha$ Andromedae. Mag. 2.1		$\beta$ Cassiopeiae. Mag. 2.4		$\gamma$ Pegasi. ( <i>Algenib</i> ) Mag. 2.9		$\beta$ Hydri. Mag. 2.9		
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.	
	h m	o /	h m	o /	h m	o /	h m	o /	
	0 3	28 35	0 4	58 38	0 8	14 40	0 20	77 45	
	s	//	s	//	s	//	s	//	
Jan. 1	42.70	39.28	20.47	82.83	34.83	57.57	62.00	65.88	
11	42.56	38.36	20.14	82.06	34.71	56.74	61.14	64.76	
21	42.43	37.18	19.84	80.78	34.61	55.81	60.33	63.05	
31	42.31	35.80	19.56	79.05	34.51	54.83	59.61	60.81	
Feb. 10	42.21	34.26	19.32	76.92	34.43	53.82	58.99	58.10	
20	42.14	32.67	19.13	74.52	34.37	52.83	58.49	54.98	
Mar. 2	42.10	31.07	19.00	71.89	34.33	51.91	58.12	51.56	
12	42.09	29.55	18.94	69.20	34.33	51.14	57.89	47.89	
22	{42.13}	{28.18}	{18.96}	{65.56}	23	34.37	50.57	57.82	44.07
Apr. 1	{42.14}	{28.06}	{18.97}	{66.30}		34.46	50.22	57.92	39.80
11	42.23	26.93	19.07	63.80		34.58	50.18	58.18	35.92
21	42.36	26.11	19.26	61.57		34.58	50.18	58.18	32.17
May 1	42.54	25.63	19.51	59.67		34.74	50.46	58.59	28.59
11	42.77	25.51	19.84	58.20		34.95	51.04	59.15	25.27
21	43.03	25.77	20.23	57.20		35.19	51.94	59.85	22.29
31	43.32	26.44	20.67	56.73		35.47	53.14	60.68	19.68
June 10	43.64	27.49	21.15	56.77		35.76	54.63	61.61	17.53
20	43.98	28.91	21.65	57.34		36.08	56.36	62.62	15.90
30	44.33	30.64	22.15	58.44		36.40	58.27	63.71	14.79
July 10	44.68	32.64	22.66	60.00		36.73	60.34	64.83	14.27
20	45.02	34.87	23.15	62.02		37.05	62.50	65.96	14.31
30	45.33	37.24	23.60	64.45		37.35	64.71	67.06	14.92
Aug. 9	45.62	39.75	24.02	67.18		37.64	66.90	68.11	17.78
19	45.89	42.30	24.40	70.20		37.89	69.03	69.08	19.91
29	46.12	44.84	24.71	73.44		38.11	71.05	69.93	22.39
Sept. 8	46.30	47.34	24.97	76.80		38.29	72.94	70.64	25.18
18	46.45	49.74	25.16	80.25		38.44	74.66	71.19	28.15
28	46.56	51.99	25.29	83.71		38.55	76.16	71.57	31.18
Oct. 8	46.62	54.07	25.36	87.11		38.62	77.47	71.76	34.16
18	46.65	55.93	25.37	90.35		38.66	78.56	71.76	36.94
28	46.64	57.57	25.32	93.41		38.66	79.40	71.57	39.44
Nov. 7	46.61	58.95	25.21	96.19		38.64	80.01	71.20	41.52
17	46.54	60.03	25.05	98.66		38.59	80.41	70.68	43.12
27	46.46	60.82	24.85	100.73		38.52	80.59	70.02	44.17
Dec. 7	46.35	61.30	24.61	102.38		38.44	80.57	69.26	44.61
17	46.23	61.48	24.34	103.53		38.34	80.35	68.41	
27	46.10	61.33	24.04	104.15		38.24	79.93	67.52	
37	45.97	60.86	23.73	104.21		38.13	79.35	66.61	
	45.83	60.10	23.41	103.73		38.02	78.60	65.72	
Mean R.A.	0 <sup>h</sup> 3 <sup>m</sup> 43 <sup>s</sup> .972		0 <sup>h</sup> 4 <sup>m</sup> 22 <sup>s</sup> .138		0 <sup>h</sup> 8 <sup>m</sup> 35 <sup>s</sup> .989		0 <sup>h</sup> 21 <sup>m</sup> 25 <sup>s</sup> .223		
Mean Dec.	+28° 35' 36".83		+58° 39' 12".25		+14° 40' 59".70		-77° 45' 40".03		
Sec $\delta$ , Tan $\delta$	1.139, +0.545		1.922, +1.642		1.034, +0.262		4.718, -4.610		



AT UPPER TRANSIT AT GREENWICH.

Date.	α Phoenicis. Mag. 2.4		α Cassiopeiæ. Mag. 2.2-2.8		β Ceti. Mag. 2.2		γ Cassiopeiæ. Mag. 2.3	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /
	0 21	42 47	0 35	56 2	0 39	18 28	0 51	60 13
	s	"	s	"	s	"	s	"
Jan. 1	49.49	61.61	22.20	48.72	3.54	62.61	14.75	58.36
11	49.32	61.44	21.01	48.31	3.42	63.03	14.42	58.22
21	49.15	60.82	21.63	47.40	3.30	63.21	14.08	57.55
31	49.00	59.76	21.35	46.03	3.19	63.14	13.75	56.37
Feb. 10	48.87	58.31	21.10	44.25	3.09	62.78	13.44	54.74
20	48.77	56.48	20.89	42.15	3.01	62.14	13.17	52.74
Mar. 2	48.70	54.30	20.73	39.78	2.96	61.25	12.96	50.44
12	48.67	51.83	20.63	37.30	2.93	60.10	12.81	47.95
Apr. 22	48.69	49.13	20.60	34.81	2.94	58.67	12.74	45.37
1	48.76	45.93	20.65	32.15	2.98	56.84	12.75	42.82
11	48.88	42.90	20.78	29.95	3.07	54.94	12.86	40.16
21	49.05	39.77	20.98	28.01	3.21	52.84	13.05	38.01
May 1	49.27	36.67	21.25	26.45	3.38	50.58	13.32	36.20
11	49.53	33.62	21.58	25.29	3.59	48.22	13.66	34.77
21	49.84	30.72	21.96	24.62	3.84	45.80	14.07	33.78
31	50.18	28.01	22.39	24.44	4.12	43.38	14.53	33.29
June 10	50.55	25.54	22.86	24.75	4.43	40.98	15.03	33.29
20	50.94	23.40	23.34	25.57	4.75	38.71	15.55	33.79
30	51.33	21.62	23.82	26.83	5.08	36.58	16.08	34.78
July 10	51.73	20.26	24.30	28.56	5.41	34.69	16.61	36.24
20	52.12	19.37	24.76	30.68	5.74	33.05	17.13	38.15
30	52.48	18.92	25.19	33.12	6.04	31.71	17.62	40.43
Aug. 9	52.81	18.06	25.59	35.88	6.32	30.71	18.07	43.04
19	53.11	19.48	25.93	38.87	6.58	30.06	18.48	45.91
Sept. 29	53.36	20.43	26.23	42.03	6.80	29.76	18.83	49.03
8	53.56	21.78	26.47	45.29	6.98	29.80	19.13	52.29
18	53.71	23.45	26.66	48.59	7.12	30.19	19.36	55.64
28	53.80	25.40	26.78	51.86	7.23	30.86	19.53	59.02
Oct. 8	53.85	27.53	26.85	55.05	7.30	31.78	19.64	62.33
18	53.84	29.77	26.87	58.09	7.33	32.89	19.68	65.55
28	53.79	32.00	26.83	60.92	7.33	34.12	19.66	68.59
Nov. 7	53.70	34.11	26.74	63.47	7.30	35.40	19.59	71.39
Dec. 17	53.58	36.03	26.61	65.67	7.24	36.69	19.45	73.87
27	53.43	37.69	26.43	67.49	7.17	37.93	19.27	75.99
7	53.27	39.02	26.22	68.89	7.08	39.06	19.04	77.68
17	53.09	39.95	25.98	69.78	6.97	40.02	18.77	78.90
27	52.91	40.44	25.71	70.17	6.86	40.79	18.47	79.57
37	52.73	40.49	25.42	70.03	6.74	41.33	18.14	79.71
Mean R.A.	0 <sup>h</sup> 21 <sup>m</sup> 50 <sup>s</sup> . 307		0 <sup>h</sup> 35 <sup>m</sup> 23 <sup>s</sup> . 570		0 <sup>h</sup> 39 <sup>m</sup> 4 <sup>s</sup> . 356		0 <sup>h</sup> 51 <sup>m</sup> 16 <sup>s</sup> . 053	
Mean Dec.	-42° 47' 41". 06		+56° 2' 38". 00		-18° 28' 49". 41		+60° 13' 46". 48	
Sec δ, Tan δ	1.363, - 0.926		1.790, + 1.485		1.054, - 0.334		2.014, + 1.748	

AT UPPER TRANSIT AT GREENWICH.

Date.	β Andromedæ. Mag. 2.4		δ Cassiopeiæ. Mag. 2.8		α Eridani. (Achernar) Mag. 0.5		β Arietis. Mag. 2.7	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /
	1 4	35 8	1 19	59 45	1 34	57 41	1 49	20 22
	s	"	s	"	s	"	s	"
Jan. 1	40.35	42.60	54.13	76.83	22.07	59.63	39.29	7.92
11	40.19	42.19	53.81	77.04	21.75	59.94	39.17	7.57
21	40.03	41.46	53.47	76.72	21.43	59.70	39.04	7.06
31	39.87	40.45	53.13	75.89	21.11	58.91	38.90	6.42
Feb. 10	39.71	39.20	52.81	74.60	20.81	57.57	38.75	5.68
20	39.57	37.74	52.52	72.88	20.53	55.75	38.62	4.87
Mar. 2	39.46	36.18	52.28	70.84	20.29	53.47	38.50	4.05
12	39.39	34.57	52.09	68.55	20.09	50.78	38.41	3.24
Apr. 22	39.35	32.99	51.97	66.12	19.94	47.75	38.34	2.51
1	39.37	31.53	51.93	63.65	19.86	44.47	38.32	1.87
11	39.44	30.12	{51.98}	{61.25}	19.84	40.97	38.33	1.42
21	39.57	29.10	{51.98}	{61.01}	19.89	36.98	38.41	1.15
May 1	39.74	28.41	52.34	56.85	20.01	33.31	38.52	1.17
11	39.97	28.06	52.64	55.23	20.21	29.67	38.69	1.46
21	40.24	28.06	53.01	54.03	20.47	26.16	38.89	2.01
31	40.55	28.45	53.44	53.27	20.79	22.82	39.14	2.85
June 10	40.88	29.23	53.92	52.96	21.17	19.76	39.42	3.95
20	41.24	30.35	54.42	53.15	21.60	17.06	39.73	5.27
30	41.61	31.82	54.95	53.81	22.05	14.75	40.05	6.80
July 10	41.98	33.57	55.49	54.95	22.53	12.88	40.38	8.50
20	42.34	35.58	56.02	56.52	23.02	11.56	40.71	10.30
30	42.68	37.76	56.53	58.47	23.51	10.79	41.04	12.20
Aug. 9	43.00	40.11	57.01	60.77	23.98	10.58	41.36	14.10
19	43.29	42.55	57.46	63.38	24.42	10.95	41.65	16.00
Sept. 29	43.56	45.04	57.85	66.24	24.82	11.88	41.92	17.83
8	43.78	47.51	58.20	69.28	25.17	13.32	42.16	19.57
18	43.96	49.96	58.49	72.45	25.46	15.23	42.38	21.19
28	44.11	52.30	58.72	75.70	25.69	17.52	42.56	22.66
Oct. 8	44.22	54.51	58.89	78.94	25.84	20.13	42.71	23.96
18	44.29	56.55	59.00	82.13	25.93	22.95	42.82	25.10
28	44.32	58.37	59.05	85.20	25.94	25.81	42.91	26.06
Nov. 7	44.32	59.97	59.03	88.07	25.89	28.67	42.96	26.84
Dec. 17	44.28	61.35	58.96	90.70	25.78	31.37	42.98	27.42
27	44.22	62.44	58.84	93.01	25.61	33.82	42.98	27.83
7	44.13	63.19	58.65	94.92	25.39	35.91	42.95	28.08
17	44.01	63.65	58.42	96.39	25.14	37.57	42.89	28.14
27	43.88	63.75	58.16	97.37	24.85	38.73	42.80	28.04
37	43.73	63.53	57.85	97.89	24.54	39.32	42.70	27.77
Mean R.A.	1 <sup>h</sup> 4 <sup>m</sup> 41 <sup>s</sup> . 310		1 <sup>h</sup> 19 <sup>m</sup> 55 <sup>s</sup> . 147		1 <sup>h</sup> 34 <sup>m</sup> 21 <sup>s</sup> . 796		1 <sup>h</sup> 49 <sup>m</sup> 39 <sup>s</sup> . 901	
Mean Dec.	+35° 8' 36". 94		+59° 46' 4". 70		-57° 41' 37". 94		+20° 22' 6". 31	
Sec δ, Tan δ	1.223, + 0.704		1.986, + 1.716		1.871, - 1.581		1.067, + 0.371	



AT UPPER TRANSIT AT GREENWICH.

Date.	γ <sup>1</sup> Andromedæ. Mag. 2.2		α Arietis. Mag. 2.2		γ <sup>2</sup> Ceti. Mag. 3.0		α Ceti. Mag. 2.8	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /
	1 58	41 53	2 2	23 2	2 38	2 51	2 57	3 44
	s	"	s	"	s	"	s	"
Jan. 1	21.53	62.02	5.24	16.83	37.88	21.98	34.22	11.34
11	21.36	62.21	5.12	16.59	37.79	21.33	34.14	10.69
21	21.17	62.04	4.99	16.17	37.67	20.74	34.03	10.12
31	20.97	61.49	4.85	15.60	37.54	20.24	33.90	9.63
Feb. 10	20.77	60.63	4.70	14.88	37.40	19.83	33.76	9.21
20	20.57	59.49	4.55	14.07	37.26	19.54	33.61	8.90
Mar. 2	20.40	58.10	4.42	13.21	37.12	19.37	33.47	8.70
12	20.25	56.55	4.31	12.34	37.00	19.37	33.33	8.66
Apr. 22	20.15	54.91	4.24	11.50	36.90	19.50	33.22	8.77
1	20.10	53.24	4.20	10.74	36.83	19.83	33.14	9.04
11	20.10	51.64	4.20	10.14	36.80	20.37	33.09	9.51
21	20.15	50.18	4.25	9.73	36.81	21.11	33.08	10.19
May 1	20.29	48.81	4.37	9.54	36.87	22.08	33.12	11.07
11	20.47	47.85	4.52	9.62	36.98	23.38	33.22	12.28
21	20.71	47.23	4.72	9.98	37.13	24.76	33.35	13.58
31	21.00	46.94	4.96	10.63	37.32	26.33	33.53	15.06
June 10	21.33	47.00	5.24	11.54	37.55	28.06	33.74	16.68
20	21.69	47.45	5.54	12.69	37.81	29.87	33.99	18.42
30	22.06	48.25	5.87	14.07	38.09	31.74	34.26	20.23
July 10	22.46	49.36	6.20	15.63	38.39	33.63	34.55	22.05
20	22.86	50.81	6.54	17.34	38.70	35.49	34.86	23.85
30	23.25	52.53	6.88	19.15	39.02	37.25	35.17	25.56
Aug. 9	23.63	54.47	7.20	21.02	39.32	38.89	35.48	27.16
19	23.99	56.60	7.50	22.90	39.62	40.36	35.78	28.61
Sept. 29	24.32	58.86	7.79	24.74	39.90	41.59	36.07	29.83
8	24.61	61.22	8.04	26.52	40.16	42.58	36.34	30.83
18	24.88	63.63	8.27	28.21	40.40	43.32	36.59	31.58
28	25.10	66.05	8.47	29.77	40.62	43.81	36.82	32.07
Oct. 8	25.29	68.42	8.63	31.18	40.80	44.04	37.02	32.32
18	25.44	70.72	8.76	32.45	40.95	44.04	37.20	32.34
28	25.55	72.92	8.86	33.54	41.08	43.84	37.34	32.15
Nov. 7	25.61	74.96	8.93	34.47	41.18	43.45	37.46	31.77
17	25.64	76.79	8.97	35.21	41.25	42.93	37.55	31.26
27	25.63	78.39	8.98	35.79	41.28	42.30	37.60	30.65
Dec. 7	25.58	79.75	8.95	36.18	41.29	41.63	37.63	29.99
17	25.50	80.80	8.90	36.38	41.27	40.93	37.62	29.31
27	25.38	81.52	8.82	36.41	41.22	40.22	37.58	28.62
37	25.23	81.92	8.72	36.25	41.14	39.55	37.51	27.96
Mean R.A.	1 <sup>h</sup> 58 <sup>m</sup> 22 <sup>s</sup> . 169		2 <sup>h</sup> 2 <sup>m</sup> 5 <sup>s</sup> . 798		2 <sup>h</sup> 38 <sup>m</sup> 38 <sup>s</sup> . 136		2 <sup>h</sup> 57 <sup>m</sup> 34 <sup>s</sup> . 391	
Mean Dec.	+41° 53' 53". 86		+23° 2' 14". 19		+2° 51' 25". 06		+3° 44' 13". 66	
Sec δ, Tan δ	1.343, + 0.397		1.087, + 0.425		1.001, + 0.050		1.002, + 0.065	

AT UPPER TRANSIT AT GREENWICH.

Date.	β Persei. (Algol) Mag. 2.2-3.7		α Persei. Mag. 1.9		α Tauri. (Aldebaran) Mag. 1.1		ι Aurigæ. Mag. 2.9	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /
	3 2	40 36	3 17	49 32	4 30	16 19	4 51	33 1
	s	"	s	"	s	"	s	"
Jan. 1	18.23	42.15	53.36	39.20	45.43	46.89	8.07	32.86
11	18.11	42.79	53.22	40.29	45.41	46.72	8.06	33.58
21	17.95	43.13	53.03	41.01	45.35	46.55	8.00	34.22
31	17.77	43.15	52.81	41.38	45.25	46.40	7.90	34.74
Feb. 10	17.56	42.87	52.56	41.37	45.12	46.22	7.76	35.10
20	17.35	42.31	52.30	40.95	44.96	46.03	7.58	35.31
Mar. 2	17.15	41.48	52.04	40.19	44.79	45.86	7.39	35.33
12	16.96	40.41	51.80	39.10	44.62	45.68	7.19	35.18
Apr. 22	16.80	39.20	51.59	37.76	44.46	45.49	7.00	34.85
1	16.68	37.87	51.43	36.21	44.31	45.35	6.82	34.38
11	16.61	36.50	51.32	34.56	44.20	45.27	6.67	33.81
21	16.59	35.16	51.27	32.85	44.11	45.26	6.55	33.15
May 1	16.63	33.92	51.29	31.17	44.07	45.34	6.49	32.45
11	16.74	32.71	51.38	29.59	44.07	45.54	6.47	31.78
21	16.91	31.86	51.55	28.04	44.12	45.88	6.50	31.14
31	17.13	31.26	51.78	26.88	{44.22}	{46.35}	6.59	30.58
June 10	17.40	30.94	52.06	26.02	44.38	47.03	6.74	30.13
20	17.71	30.90	52.40	25.42	44.56	47.81	6.94	29.83
30	18.06	31.16	52.78	25.17	44.78	48.67	7.17	29.70
July 10	18.43	31.73	53.19	25.24	45.04	49.63	7.44	29.71
20	18.81	32.57	53.62	25.66	45.32	50.66	7.74	29.87
30	19.20	33.64	54.06	26.34	45.61	51.71	8.06	30.16
Aug. 9	19.59	34.96	54.51	27.36	45.92	52.78	8.40	30.56
19	19.98	36.47	54.95	28.65	46.23	53.78	8.75	31.08
Sept. 29	20.35	38.14	55.38	30.15	46.55	54.72	9.11	31.69
8	20.69	39.92	55.79	31.88	46.86	55.56	9.47	32.36
18	21.02	41.80	56.18	33.77	47.17	56.28	9.82	33.06
28	21.32	43.71	56.53	35.82	47.46	56.86	10.16	33.80
Oct. 8	21.58	45.67	56.86	37.98	47.74	57.30	10.50	34.57
18	21.81	47.59	57.14	40.18	48.01	57.59	10.81	35.35
28	22.01	49.49	57.39	42.44	48.25	57.75	11.11	36.16
Nov. 7	22.17	51.34	57.59	44.69	48.47	57.82	11.38	36.97
17	22.28	53.07	57.74	46.89	48.66	57.79	11.62	37.80
27	22.36	54.69	57.84	48.98	48.82	57.69	11.82	38.65
Dec. 7	22.39	56.14	57.89	50.95	48.94	57.55	11.99	39.50
17	22.38	57.41	57.89	52.71	49.03	57.40	12.11	40.33
27	22.32	58.45	57.83	54.25	49.07	57.22	12.18	41.15
37	22.22	59.22	57.71	55.51	49.07	57.05	12.20	41.92
Mean R.A.	3 <sup>h</sup> 2 <sup>m</sup> 18 <sup>s</sup> . 474		3 <sup>h</sup> 17 <sup>m</sup> 53 <sup>s</sup> . 457		4 <sup>h</sup> 30 <sup>m</sup> 45 <sup>s</sup> . 280		4 <sup>h</sup> 51 <sup>m</sup> 7 <sup>s</sup> . 830	
Mean Dec.	+40° 36' 34". 32		+49° 32' 29". 58		+16° 19' 44". 47		+33° 1' 27". 65	
Sec δ, Tan δ	1.317, + 0.857		1.541, + 1.173		1.042, + 0.293		1.193, + 0.650	



AT UPPER TRANSIT AT GREENWICH.								
Date.	β Eridani. Mag. 2·9		α Aurigæ. (Capella) Mag. 0·2		β Orionis. (Rigel) Mag. 0·3		γ Orionis. (Bellatrix) Mag. 1·7	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	h m	° /	h m	° /	h m	° /	h m	° /
	5 3	5 11	5 10	45 54	5 10	8 17	5 20	6 16
	s	"	s	"	s	"	s	"
Jan. 1	25·88	68·17	2·75	32·94	13·14	78·63	18·52	9·13
11	25·87	69·46	2·75	34·40	13·13	80·09	18·54	8·38
21	25·82	70·57	2·69	35·70	13·08	81·37	18·51	7·73
31	25·73	71·52	2·57	36·82	13·00	82·44	18·44	7·19
Feb. 10	25·61	72·26	2·41	37·70	12·88	83·28	18·33	6·76
20	25·46	72·78	2·20	38·33	12·73	83·87	18·19	6·45
Mar. 2	25·30	73·08	1·96	38·66	12·56	84·22	18·04	6·25
12	25·12	73·15	1·71	38·67	12·38	84·29	17·87	6·17
Apr. 22	24·95	72·99	1·47	38·37	12·20	84·13	17·70	6·19
1	24·79	72·61	1·24	37·79	12·04	83·70	17·53	6·34
11	24·65	71·99	1·04	36·97	11·89	83·03	17·39	6·61
21	24·54	71·16	0·88	35·94	11·77	82·11	17·28	7·01
May 1	24·46	70·11	0·77	34·77	11·69	80·96	17·20	7·54
11	24·43	68·86	0·72	33·50	11·65	79·59	17·16	8·20
21	24·43	67·43	0·73	32·20	11·65	78·02	17·16	9·01
31	24·48	65·82	0·80	30·90	11·69	76·28	17·20	9·94
June 10	24·59	63·89	0·95	29·56	11·78	74·21	17·29	11·00
20	24·72	62·06	1·14	28·45	11·91	72·24	17·43	12·29
30	24·90	60·18	1·39	27·49	12·08	70·23	17·60	13·52
July 10	25·11	58·32	1·68	26·69	12·28	68·22	17·80	14·77
20	25·34	56·50	2·02	26·09	12·50	66·29	18·03	16·04
30	25·60	54·79	2·38	25·67	12·76	64·49	18·29	17·26
Aug. 9	25·87	53·25	2·77	25·45	13·03	62·86	18·56	18·40
19	26·16	51·94	3·18	25·44	13·31	61·47	18·85	19·42
Sept. 29	26·45	50·90	3·60	25·60	13·60	60·40	19·14	20·25
8	26·74	50·14	4·02	25·95	13·89	59·63	19·44	20·90
18	27·03	49·72	4·44	26·47	14·19	59·24	19·74	21·33
28	27·32	49·65	4·86	27·17	14·48	59·20	20·04	21·53
Oct. 8	27·60	49·92	5·26	28·00	14·76	59·54	20·33	21·50
18	27·86	50·51	5·65	28·98	15·03	60·22	20·60	21·21
28	28·11	51·39	6·02	30·10	15·28	61·23	20·87	20·73
Nov. 7	28·34	52·53	6·36	31·35	15·51	62·52	21·12	20·08
17	28·54	53·87	6·66	32·72	15·71	64·00	21·34	19·29
27	28·71	55·33	6·93	34·17	15·89	65·65	21·54	18·41
Dec. 7	28·85	56·85	7·14	35·69	16·03	67·36	21·70	17·48
17	28·95	58·38	7·30	37·25	16·13	69·08	21·83	16·57
27	29·01	59·85	7·40	38·78	16·19	70·75	21·91	15·69
37	29·02	61·24	7·44	40·28	16·21	72·31	21·96	14·88
Mean R.A.	5 <sup>h</sup> 3 <sup>m</sup> 25 <sup>s</sup> . 504		5 <sup>h</sup> 10 <sup>m</sup> 2 <sup>s</sup> . 307		5 <sup>h</sup> 10 <sup>m</sup> 12 <sup>s</sup> . 716		5 <sup>h</sup> 20 <sup>m</sup> 18 <sup>s</sup> . 193	
Mean Dec.	- 5° 12' 7". 69		+ 45° 54' 26". 47		- 8° 18' 17". 99		+ 6° 16' 7". 62	
Sec δ, Tan δ	1·004, - 0·091		1·437, + 1·032		1·011, - 0·146		1·006, + 0·110	

AT UPPER TRANSIT AT GREENWICH.								
Date.	β Tauri. Mag. 1·8		δ Orionis. Mag. 2·2—2·7		α Leporis. Mag. 2·7		ε Orionis. Mag. 1·7	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	h m	° /	h m	° /	h m	° /	h m	° /
	5 20	28 31	5 27	0 21	5 28	17 52	5 31	1 15
	s	"	s	"	s	"	s	"
Jan. 1	36·41	60·10	24·87	53·54	46·22	71·07	39·17	30·48
11	36·43	60·61	24·89	54·67	46·22	73·04	39·19	31·68
21	36·40	61·09	24·86	55·66	46·18	74·79	39·16	32·73
31	36·33	61·51	24·79	56·48	46·09	76·28	39·10	33·60
Feb. 10	36·21	61·86	24·69	57·15	45·96	77·47	38·99	34·30
20	36·06	62·12	24·55	57·63	45·80	78·35	38·86	34·81
Mar. 2	35·88	62·26	24·39	57·93	45·62	78·88	38·70	35·14
12	35·69	62·27	24·22	58·04	45·43	79·07	38·53	35·26
Apr. 22	35·50	62·15	24·05	57·96	45·24	78·92	38·36	35·19
1	35·32	61·94	23·88	57·73	45·06	78·44	38·19	34·95
11	35·17	61·63	23·73	57·31	44·89	77·63	38·04	34·51
21	35·04	61·26	23·61	56·71	44·75	76·53	37·92	33·89
May 1	34·95	60·84	23·53	55·92	44·64	75·11	37·82	33·07
11	34·91	60·42	23·48	54·96	44·57	73·44	37·77	32·08
21	34·91	60·04	23·47	53·83	44·53	71·52	37·76	30·93
31	34·97	59·72	23·50	52·55	44·55	69·40	37·79	29·62
June 10	35·07	59·47	23·57	51·15	44·61	67·14	37·86	28·18
20	35·24	59·30	23·70	49·50	44·72	64·53	37·98	26·50
30	35·44	59·25	23·86	47·94	44·86	62·12	38·13	24·90
July 10	35·67	59·31	24·05	46·36	45·04	59·74	38·32	23·28
20	35·94	59·47	24·27	44·80	45·25	57·43	38·54	21·70
30	36·23	59·71	24·52	43·33	45·49	55·32	38·78	20·21
Aug. 9	36·54	60·03	24·78	41·99	45·75	53·42	39·04	18·83
19	36·87	60·40	25·06	40·81	46·03	51·81	39·31	17·65
Sept. 29	37·20	60·80	25·35	39·86	46·31	50·58	39·60	16·69
8	37·54	61·22	25·64	39·17	46·61	49·74	39·89	16·00
18	37·88	61·64	25·93	38·76	46·91	49·33	40·19	15·60
28	38·22	62·05	26·22	38·64	47·20	49·35	40·48	15·49
Oct. 8	38·55	62·45	26·51	38·83	47·49	49·85	40·77	15·71
18	38·87	62·83	26·79	39·32	47·77	50·79	41·05	16·22
28	39·18	63·22	27·06	40·06	48·04	52·11	41·31	17·01
Nov. 7	39·46	63·60	27·30	41·04	48·28	53·76	41·56	18·02
17	39·72	63·99	27·53	42·18	48·50	55·70	41·79	19·23
27	39·95	64·40	27·72	43·45	48·69	57·83	41·99	20·54
Dec. 7	40·14	64·84	27·89	44·76	48·84	60·07	42·16	21·93
17	40·29	65·31	28·02	46·11	48·96	62·35	42·29	23·34
27	40·39	65·79	28·10	47·40	49·03	64·56	42·38	24·69
37	40·45	66·29	28·15	48·60	49·05	66·64	42·43	25·95
Mean R.A.	5 <sup>h</sup> 20 <sup>m</sup> 36 <sup>s</sup> . 097		5 <sup>h</sup> 27 <sup>m</sup> 24 <sup>s</sup> . 488		5 <sup>h</sup> 28 <sup>m</sup> 45 <sup>s</sup> . 637		5 <sup>h</sup> 31 <sup>m</sup> 38 <sup>s</sup> . 771	
Mean Dec.	+ 28° 31' 55". 89		- 0° 21' 54". 45		- 17° 53' 10". 22		- 1° 15' 31". 42	
Sec δ, Tan δ	1·138, + 0·544		1·000, - 0·006		1·051, - 0·323		1·000, - 0·022	



AT UPPER TRANSIT AT GREENWICH.								
Date.	ζ Orionis. (1st Star) Mag. 2.0		α Columbae. Mag. 2.7		κ Orionis. Mag. 2.2		α Orionis. (Betelgeuse) Mag. 1.0-1.4	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /
	5 36	1 59	5 36	34 6	5 43	9 41	5 50	7 23
	s	"	s	"	s	"	s	"
Jan. 1	13.45	21.82	24.35	79.74	29.77	63.06	18.32	29.56
11	13.47	23.06	24.33	82.36	29.79	64.74	18.36	28.80
21	13.45	24.15	24.25	84.71	29.77	66.21	18.36	28.16
31	13.39	25.08	24.13	86.73	29.70	67.47	18.31	27.62
Feb. 10	13.29	25.81	23.97	88.35	29.60	68.49	18.23	27.21
20	13.15	26.35	23.77	89.55	29.46	69.26	18.10	26.91
Mar. 2	13.00	26.69	23.55	90.31	29.30	69.77	17.95	26.73
12	12.83	26.83	23.31	90.61	29.12	69.99	17.79	26.67
Apr. 22	12.65	26.79	23.07	90.46	28.94	69.95	17.62	26.70
1	12.48	26.54	22.84	89.87	28.76	69.65	17.45	26.83
11	12.33	26.09	22.62	88.85	28.60	69.08	17.29	27.06
21	12.20	25.46	22.43	87.43	28.46	68.24	17.17	27.41
May 1	12.11	24.62	22.28	85.62	28.36	67.18	17.07	27.87
11	12.05	23.62	22.16	83.47	28.29	65.89	17.00	28.45
21	12.03	22.46	22.09	81.04	28.26	64.38	16.98	29.14
31	12.06	21.12	22.07	78.37	28.27	62.70	17.00	29.96
June 10	12.12	19.66	22.10	75.51	28.32	60.87	17.06	30.86
20	12.24	17.95	22.18	72.22	28.42	58.72	17.18	31.96
30	12.39	16.32	22.31	69.22	28.56	56.73	17.32	33.02
July 10	12.57	14.68	22.48	66.28	28.73	54.74	17.50	34.11
20	12.79	13.06	22.68	63.46	28.93	52.80	17.71	35.22
30	13.02	11.55	22.92	60.86	29.16	50.97	17.94	36.28
Aug. 9	13.28	10.17	23.19	58.56	29.41	49.34	18.20	37.26
19	13.55	8.97	23.48	56.63	29.67	47.93	18.47	38.13
Sept. 29	13.83	8.02	23.79	55.15	29.95	46.80	18.76	38.85
8	14.12	7.31	24.11	54.15	30.24	46.01	19.05	39.37
18	14.42	6.92	24.43	53.72	30.53	45.60	19.35	39.69
28	14.71	6.81	24.75	53.83	30.83	45.57	19.65	39.78
Oct. 8	15.00	7.06	25.07	54.50	31.12	45.91	19.95	39.66
18	15.28	7.60	25.38	55.72	31.40	46.63	20.24	39.31
28	15.55	8.41	25.66	57.43	31.67	47.69	20.53	38.75
Nov. 7	15.81	9.47	25.93	59.57	31.93	49.07	20.80	38.03
17	16.04	10.72	26.16	62.07	32.16	50.67	21.05	37.18
27	16.24	12.11	26.36	64.82	32.37	52.45	21.27	36.24
Dec. 7	16.41	13.54	26.51	67.75	32.54	54.32	21.46	35.29
17	16.55	14.99	26.61	70.71	32.67	56.23	21.62	34.33
27	16.64	16.42	26.67	73.62	32.77	58.09	21.74	33.42
37	16.69	17.73	26.67	76.38	32.82	59.85	21.81	32.60
Mean R.A.	5 <sup>h</sup> 36 <sup>m</sup> 13 <sup>s</sup> . 039		5 <sup>h</sup> 36 <sup>m</sup> 23 <sup>s</sup> . 402		5 <sup>h</sup> 43 <sup>m</sup> 29 <sup>s</sup> . 272		5 <sup>h</sup> 50 <sup>m</sup> 17 <sup>s</sup> . 948	
Mean Dec.	- 1° 59' 22". 81		- 34° 7' 18". 08		- 9° 42' 3". 64		+ 7° 23' 27". 43	
Sec δ, Tan δ	1.001, - 0.035		1.208, - 0.678		1.015, - 0.171		1.008, + 0.130	

AT UPPER TRANSIT AT GREENWICH.								
Date.	β Aurigæ. Mag. 2.1		θ Aurigæ. Mag. 2.7		β Canis Majoris. Mag. 2.0		α Argûs. (Canopus) Mag. - 1.0	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	h m	o /	h m	o /	h m	o /	h m	o /
	5 52	44 56	5 53	37 12	6 18	17 54	6 21	52 38
	s	"	s	"	s	"	s	"
Jan. 1	56.22	26.07	35.50	29.82	44.80	36.35	59.05	44.92
11	56.28	27.52	35.56	30.83	44.84	38.55	59.03	48.26
21	56.27	28.93	35.56	31.81	44.84	40.57	58.93	51.36
31	56.20	30.22	35.50	32.75	44.79	42.34	58.76	54.15
Feb. 10	56.08	31.37	35.40	33.58	44.69	43.83	58.54	56.53
20	55.90	32.31	35.25	34.27	44.56	45.01	58.26	58.49
Mar. 2	55.69	33.00	35.07	34.79	44.40	45.87	57.94	59.97
12	55.45	33.41	34.86	35.10	44.22	46.37	57.60	60.92
Apr. 22	55.21	33.52	34.65	35.20	44.03	46.56	57.25	61.36
1	54.97	33.35	34.44	35.09	43.84	46.40	56.89	61.27
11	54.75	32.90	34.25	34.79	43.65	45.92	56.54	60.66
21	54.57	32.22	34.09	34.31	43.49	45.11	56.21	59.53
May 1	54.42	31.34	33.96	33.69	43.35	44.00	55.92	57.97
11	54.33	30.30	33.88	32.97	43.25	42.60	55.67	55.95
21	54.29	29.16	33.85	32.19	43.18	40.96	55.47	53.54
31	54.31	27.94	33.87	31.38	43.15	39.07	55.33	50.81
June 10	54.38	26.73	33.95	30.58	43.16	37.01	55.24	47.80
20	{54.52}	{25.53}	{34.07}	{29.83}	43.21	34.83	55.21	44.60
30	{54.53}	{25.41}	{34.09}	{29.75}	43.32	32.33	55.26	40.95
July 10	54.73	24.31	34.26	29.07	43.32	30.04	55.36	37.61
20	54.97	23.29	34.48	28.47	43.45	27.82	55.52	34.36
30	55.25	22.39	34.74	27.95	43.61	25.69	55.73	31.30
Aug. 9	55.57	21.63	35.03	27.55	43.81	23.78	55.99	28.48
19	55.92	21.02	35.35	27.24	44.03	22.12	56.30	26.03
29	56.30	20.55	35.69	27.04	44.28	20.77	56.64	24.03
Sept. 8	56.69	20.26	36.04	26.93	44.55	19.80	57.02	22.56
18	57.10	20.10	36.41	26.90	44.83	19.24	57.41	21.66
28	57.52	20.10	36.78	26.95	45.12	19.15	57.82	21.40
Oct. 8	57.94	20.26	37.16	27.09	45.42	19.50	58.23	21.78
18	58.35	20.57	37.53	27.30	45.72	20.31	58.64	22.80
28	58.76	21.04	37.90	27.60	46.02	21.55	59.03	24.42
Nov. 7	59.16	21.66	38.26	27.99	46.31	23.16	59.39	26.59
17	59.54	22.44	38.60	28.46	46.58	25.07	59.71	29.26
27	59.88	23.38	38.91	29.03	46.84	27.25	59.98	32.32
Dec. 7	60.19	24.47	39.20	29.71	47.07	29.57	60.20	35.63
17	60.46	25.70	39.44	30.49	47.28	31.98	60.35	39.11
27	60.68	27.04	39.64	31.36	47.44	34.38	60.44	42.62
37	60.84	28.46	39.79	32.32	47.56	36.68	60.45	46.07
Mean R.A.	5 <sup>h</sup> 52 <sup>m</sup> 55 <sup>s</sup> . 652		5 <sup>h</sup> 53 <sup>m</sup> 35 <sup>s</sup> . 044		6 <sup>h</sup> 18 <sup>m</sup> 44 <sup>s</sup> . 164		6 <sup>h</sup> 21 <sup>m</sup> 57 <sup>s</sup> . 242	
Mean Dec.	+ 44° 56' 21". 09		+ 37° 12' 25". 41		- 17° 54' 38". 15		- 52° 38' 46". 64	
Sec δ, Tan δ	1.413, + 0.998		1.256, + 0.759		1.051, - 0.323		1.648, - 1.310	



AT UPPER TRANSIT AT GREENWICH.								
Date.	γ Geminorum. Mag. 1·9		α Canis Majoris. (Sirius) Mag. - 1·4		τ Argūs. Mag. 2·8		ε Canis Majoris. Mag. 1·6	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	h m	o /	h m	o /	h m	o /	h m	o /
	6 32	16 28	6 41	16 35	6 47	50 30	6 55	28 50
	s	"	s	"	s	"	s	"
Jan. 1	31·19	39·22	11·33	29·17	43·81	22·44	6·13	52·64
11	31·28	38·90	11·40	31·43	43·82	25·87	6·20	55·46
21	31·32	38·70	11·41	33·51	43·77	29·13	6·22	58·13
31	31·31	38·60	11·38	35·36	43·66	32·12	6·18	60·54
Feb. 10	31·26	38·57	11·30	36·93	43·48	34·74	6·10	62·65
20	31·16	38·61	11·18	38·20	43·24	36·95	5·97	64·43
Mar. 2	31·03	38·72	11·03	39·16	42·97	38·73	5·80	65·82
12	30·87	38·85	10·86	39·80	42·66	40·01	5·61	66·81
Apr. 22	30·70	39·00	10·67	40·10	42·33	40·77	5·40	67·40
1	30·53	39·16	10·48	40·07	41·99	41·03	5·18	67·57
11	30·36	39·31	10·29	39·72	41·66	40·78	4·97	67·34
21	30·21	39·49	10·13	39·08	41·34	40·02	4·77	66·70
May 1	30·09	39·68	9·98	38·14	41·05	38·78	4·59	65·68
11	30·00	39·88	9·86	36·92	40·80	37·09	4·44	64·30
21	29·95	40·13	9·78	35·45	40·60	34·97	4·32	62·59
31	29·94	40·41	9·74	33·75	40·43	32·51	4·24	60·60
June 10	29·97	40·71	9·74	31·88	40·32	29·74	4·20	58·35
20	30·04	41·08	9·78	29·88	40·27	26·73	4·20	55·91
30	30·16	41·52	9·85	27·77	40·28	23·55	4·24	53·34
July 10	30·31	41·94	9·97	25·45	40·35	19·99	4·34	50·43
20	30·49	42·37	10·12	23·36	40·47	16·78	4·46	47·83
30	30·70	42·79	10·31	21·37	40·64	13·69	4·62	45·31
Aug. 9	30·94	43·16	10·51	19·56	40·87	10·81	4·82	42·98
19	31·20	43·49	10·74	18·00	41·14	8·25	5·04	40·91
Sept. 29	31·48	43·72	11·00	16·73	41·45	6·10	5·29	39·20
8	31·77	43·84	11·27	15·83	41·79	4·44	5·57	37·88
18	32·08	43·83	11·55	15·33	42·16	3·33	5·86	37·03
28	32·39	43·69	11·85	15·24	42·55	2·84	6·17	36·69
Oct. 8	32·70	43·40	12·15	15·60	42·94	2·95	6·48	36·87
18	33·02	43·01	12·45	16·44	43·34	3·71	6·80	37·60
28	33·34	42·49	12·74	17·68	43·73	5·10	7·12	38·84
Nov. 7	33·64	41·88	13·03	19·29	44·10	7·06	7·43	40·55
17	33·93	41·24	13·30	21·23	44·44	9·54	7·72	42·69
27	34·20	40·58	13·54	23·40	44·74	12·44	7·98	45·18
Dec. 7	34·45	39·95	13·76	25·74	44·99	15·68	8·22	47·91
17	34·65	39·36	13·94	28·20	45·18	19·12	8·41	50·80
27	34·82	38·86	14·08	30·63	45·31	22·65	8·56	53·76
37	34·94	38·47	14·17	33·00	45·37	26·17	8·66	56·65
Mean R.A.	6 <sup>h</sup> 32 <sup>m</sup> 30 <sup>s</sup> . 794		6 <sup>h</sup> 41 <sup>m</sup> 10 <sup>s</sup> . 723		6 <sup>h</sup> 47 <sup>m</sup> 42 <sup>s</sup> . 166		6 <sup>h</sup> 55 <sup>m</sup> 5 <sup>s</sup> . 315	
Mean Dec.	+16° 28' 36". 37		-16° 35' 31". 87		-50° 30' 26". 53		-28° 50' 56". 63	
Sec δ, Tan δ	1·043, + 0·296		1·043, - 0·298		1·572, - 1·213		1·142, - 0·551	

AT UPPER TRANSIT AT GREENWICH.								
Date.	δ Canis Majoris. Mag. 2·0		π Argūs. Mag. 2·7		η Canis Majoris. Mag. 2·4		α <sup>2</sup> Geminorum. (Castor) Mag. 2·0	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /
	7 4	26 14	7 13	36 55	7 20	29 7	7 28	32 5
	s	"	s	"	s	"	s	"
Jan. 1	44·61	54·72	58·85	62·63	32·94	31·67	52·05	14·54
11	44·70	57·49	58·93	65·82	33·04	34·58	52·21	15·03
21	44·73	60·09	58·95	68·87	33·08	37·37	52·32	15·68
31	44·71	62·45	58·92	71·68	33·07	39·94	52·37	16·44
Feb. 10	44·64	64·53	58·83	74·20	33·01	42·24	52·37	17·27
20	44·52	66·29	58·69	76·37	32·90	44·21	52·31	18·14
Mar. 2	44·37	67·68	58·51	78·14	32·75	45·81	52·20	18·98
12	44·19	68·70	58·30	79·49	32·57	47·04	52·05	19·76
Apr. 22	43·99	69·33	58·07	80·39	32·37	47·84	51·88	20·43
1	43·78	69·56	57·82	80·84	32·15	48·25	51·69	20·95
11	43·57	69·40	57·58	80·83	31·94	48·26	51·50	21·34
21	43·38	68·85	57·35	80·37	31·74	47·85	51·32	21·56
May 1	43·21	67·94	57·13	79·48	31·55	47·05	51·16	21·59
11	43·06	66·69	56·95	78·18	31·39	45·88	51·03	21·47
21	42·94	65·11	56·79	76·48	31·26	44·37	50·92	21·21
31	42·86	63·25	56·67	74·45	31·16	42·56	50·86	20·83
June 10	42·82	61·14	56·59	72·12	31·10	40·45	50·84	20·35
20	42·82	58·82	56·56	69·57	31·08	38·15	50·86	19·78
30	42·85	56·40	56·56	66·83	31·09	35·69	50·93	19·17
July 10	42·94	53·63	56·63	63·72	31·15	33·15	51·03	18·49
20	43·06	51·14	56·73	60·86	31·26	30·32	51·19	17·71
30	43·21	48·74	56·86	58·08	31·39	27·80	51·37	17·00
Aug. 9	43·39	46·52	57·04	55·49	31·56	25·47	51·59	16·25
19	43·61	44·52	57·26	53·14	31·76	23·35	51·83	15·49
Sept. 29	43·85	42·84	57·50	51·11	31·99	21·55	52·10	14·71
8	44·11	41·55	57·78	49·52	32·25	20·13	52·40	13·91
18	44·40	40·70	58·08	48·41	32·53	19·16	52·71	13·13
28	44·70	40·35	58·40	47·84	32·83	18·66	53·05	12·32
Oct. 8	45·01	40·50	58·73	47·85	33·14	18·71	53·40	11·53
18	45·32	41·18	59·07	48·42	33·47	19·28	53·76	10·77
28	45·64	42·35	59·41	49·59	33·79	20·39	54·13	10·07
Nov. 7	45·95	44·00	59·74	51·28	34·11	22·01	54·49	9·45
17	46·24	46·07	60·06	53·46	34·42	24·06	54·85	8·94
27	46·51	48·45	60·35	56·06	34·70	26·47	55·20	8·58
Dec. 7	46·76	51·10	60·61	58·97	34·96	29·19	55·52	8·38
17	46·96	53·89	60·83	62·10	35·18	32·08	55·81	8·36
27	47·12	56·78	61·00	65·33	35·36	35·07	56·06	8·55
37	47·24	59·60	61·11	68·58	35·49	38·07	56·25	8·92
Mean R.A.	7 <sup>h</sup> 4 <sup>m</sup> 43 <sup>s</sup> . 864		7 <sup>h</sup> 13 <sup>m</sup> 57 <sup>s</sup> . 848		7 <sup>h</sup> 20 <sup>m</sup> 32 <sup>s</sup> . 154		7 <sup>h</sup> 28 <sup>m</sup> 51 <sup>s</sup> . 569	
Mean Dec.	-26° 14' 59". 21		-36° 56' 8". 31		-29° 7' 37". 28		+32° 5' 12". 82	
Sec δ, Tan δ	1·115, - 0·493		1·251, - 0·752		1·145, - 0·557		1·180, + 0·627	



AT UPPER TRANSIT AT GREENWICH.									
Date.	α Canis Minoris. (Procyon) Mag. 0.5		β Geminorum. (Pollux) Mag. 1.2		ζ Argūs. Mag. 2.3		15 Argūs. Mag. 2.9		
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.	
	h m	o /	h m	o /	h m	o /	h m	o /	
	7 34	5 27	7 39	28 14	8 0	39 44	8 3	24 2	
	s	"	s	"	s	"	s	"	
Jan. 1	35.82	24.68	49.07	41.00	26.17	48.47	43.23	31.85	
11	35.96	23.47	49.24	41.20	26.30	51.85	43.38	34.67	
21	36.06	22.39	49.36	41.58	26.38	55.15	43.48	37.40	
31	36.10	21.52	49.42	42.11	26.40	58.30	43.52	39.94	
Feb. 10	36.09	20.82	49.43	42.74	26.35	61.21	43.51	42.23	
20	36.03	20.31	49.38	43.42	26.25	63.85	43.46	44.26	
Mar. 2	35.94	19.98	49.28	44.13	26.11	66.11	43.36	45.99	
12	35.82	19.81	49.15	44.83	25.92	67.97	43.22	47.36	
Apr. 22	35.67	19.75	48.99	45.46	25.71	69.41	43.06	48.39	
1	35.51	19.84	48.81	46.00	25.47	70.40	42.88	49.06	
11	35.35	20.05	48.63	46.41	25.22	70.93	42.69	49.33	
21	35.19	20.37	48.46	46.70	24.98	71.00	42.50	49.26	
May 1	35.05	20.78	48.30	46.87	24.75	70.61	42.32	48.83	
11	34.93	21.30	48.17	46.90	24.53	69.79	42.16	48.04	
21	34.84	21.89	48.06	46.81	24.34	68.54	42.03	46.95	
31	34.78	22.56	48.00	46.63	24.18	66.91	41.91	45.55	
June 10	34.75	23.30	47.97	46.35	24.06	64.91	41.83	43.90	
20	34.76	24.09	47.98	46.00	23.97	62.63	41.79	42.02	
30	34.80	24.91	48.03	45.58	23.92	60.11	41.78	39.94	
July 10	34.88	25.76	48.12	45.11	23.92	57.40	41.80	37.76	
20	35.01	26.65	48.26	44.56	23.96	54.62	41.85	35.55	
30	35.15	27.43	48.42	44.00	24.05	51.53	41.95	33.10	
Aug. 9	35.32	28.10	48.62	43.40	24.18	48.83	42.08	30.98	
19	35.52	28.64	48.84	42.77	24.35	46.32	42.24	29.04	
Sept. 29	35.74	29.01	49.09	42.09	24.55	44.07	42.43	27.35	
8	35.98	29.22	49.37	41.35	24.79	42.17	42.66	25.98	
18	36.24	29.17	49.66	40.57	25.06	40.71	42.90	24.98	
28	36.52	28.90	49.98	39.76	25.37	39.78	43.17	24.44	
Oct. 8	36.81	28.37	50.31	38.92	25.70	39.40	43.47	24.35	
18	37.12	27.61	50.66	38.07	26.04	39.59	43.77	24.77	
28	37.43	26.61	51.01	37.21	26.40	40.38	44.09	25.67	
Nov. 7	37.74	25.41	51.37	36.41	26.76	41.76	44.42	27.07	
17	38.05	24.06	51.72	35.69	27.11	43.69	44.74	28.89	
27	38.35	22.61	52.06	35.08	27.44	46.07	45.05	31.10	
Dec. 7	38.62	21.12	52.38	34.61	27.75	48.87	45.33	33.58	
17	38.87	19.64	52.67	34.32	28.02	51.97	45.59	36.30	
27	39.08	18.20	52.91	34.21	28.24	55.25	45.81	39.12	
37	39.24	16.91	53.11	34.28	28.41	58.63	45.99	41.98	
Mean R.A.	7 <sup>h</sup> 34 <sup>m</sup> 35 <sup>s</sup> . 434		7 <sup>h</sup> 39 <sup>m</sup> 48 <sup>s</sup> . 637		8 <sup>h</sup> 0 <sup>m</sup> 25 <sup>s</sup> . 226		8 <sup>h</sup> 3 <sup>m</sup> 42 <sup>s</sup> . 654		
Mean Dec.	+ 5° 27' 21". 22		+ 28° 14' 39". 33		- 39° 44' 57". 68		- 24° 2' 39". 36		
Sec δ, Tan δ	1.005, + 0.096		1.135, + 0.537		1.301, - 0.832		1.095, - 0.446		

AT UPPER TRANSIT AT GREENWICH.									
Date.	γ Argūs. Mag. 1.9		ε Argūs. Mag. 1.7		δ Argūs. Mag. 2.0		λ Argūs. Mag. 2.3		
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.	
	h m	o /	h m	o /	h m	o /	h m	o /	
	8 6	47 3	8 20	59 12	8 42	54 22	9 4	43 3	
	s	"	s	"	s	"	s	"	
Jan. 1	46.78	65.45	41.90	57.91	14.25	28.53	41.80	54.74	
11	46.92	69.00	42.07	61.64	14.46	32.19	42.02	58.18	
21	47.00	72.53	42.15	65.40	14.58	35.91	42.18	61.65	
31	47.00	75.92	42.14	69.08	14.63	39.59	42.28	65.11	
Feb. 10	46.95	79.09	42.06	72.58	14.61	43.12	42.32	68.42	
20	46.83	81.98	41.89	75.84	14.51	46.44	42.30	71.52	
Mar. 2	46.66	84.50	41.65	78.77	14.35	49.46	42.22	74.37	
12	46.44	86.62	41.36	81.30	14.13	52.10	42.09	76.87	
Apr. 22	46.19	88.30	41.02	83.39	13.86	54.33	41.92	79.00	
1	45.92	89.51	40.64	85.01	13.56	56.13	41.72	80.72	
11	45.64	90.25	40.24	86.12	13.24	57.45	41.50	82.00	
21	45.35	90.48	39.84	86.72	12.91	58.25	41.26	82.82	
May 1	45.07	90.22	39.44	86.80	12.58	58.55	41.02	83.20	
11	44.81	89.51	39.06	86.35	12.25	58.34	40.79	83.12	
21	44.58	88.31	38.70	85.38	11.95	57.62	40.57	82.58	
31	44.38	86.69	38.38	83.95	11.67	56.43	40.37	81.62	
June 10	44.21	84.68	38.10	82.06	11.43	54.80	40.19	80.22	
20	44.09	82.35	37.87	79.78	11.22	52.77	40.04	78.47	
30	44.01	79.74	37.69	77.17	11.06	50.38	39.93	76.38	
July 10	43.97	76.93	37.58	74.31	10.95	47.69	39.85	74.04	
20	43.99	73.98	37.53	71.24	10.89	44.80	39.81	71.51	
30	44.06	70.70	37.55	67.76	10.89	41.80	39.81	68.84	
Aug. 9	44.18	67.79	37.64	64.61	10.95	38.47	39.85	65.86	
19	44.34	65.05	37.80	61.60	11.07	35.53	39.94	63.22	
Sept. 29	44.55	62.58	38.02	58.82	11.25	32.78	40.08	60.74	
8	44.80	60.46	38.31	56.38	11.48	30.32	40.26	58.54	
18	45.10	58.79	38.65	54.35	11.77	28.24	40.48	56.68	
28	45.42	57.65	39.05	52.83	12.11	26.64	40.75	55.25	
Oct. 8	45.78	57.05	39.48	51.89	12.48	25.60	41.05	54.29	
18	46.16	57.09	39.95	51.58	12.89	25.16	41.39	53.91	
28	46.55	57.76	40.44	51.94	13.33	25.38	41.75	54.12	
Nov. 7	46.94	59.02	40.93	52.96	13.78	26.22	42.13	54.92	
17	47.32	60.89	41.41	54.61	14.23	27.70	42.51	56.32	
27	47.69	63.29	41.86	56.84	14.66	29.76	42.89	58.27	
Dec. 7	48.02	66.10	42.28	59.59	15.06	32.35	43.26	60.70	
17	48.31	69.27	42.64	62.74	15.42	35.38	43.60	63.53	
27	48.55	72.69	42.93	66.22	15.73	38.76	43.90	66.68	
37	48.73	76.24	43.14	69.91	15.97	42.35	44.15	70.06	
Mean R.A.	8 <sup>h</sup> 6 <sup>m</sup> 45 <sup>s</sup> . 598		8 <sup>h</sup> 20 <sup>m</sup> 40 <sup>s</sup> . 077		8 <sup>h</sup> 42 <sup>m</sup> 12 <sup>s</sup> . 939		9 <sup>h</sup> 4 <sup>m</sup> 41 <sup>s</sup> . 107		
Mean Dec.	- 47° 4' 15". 92		- 59° 13' 10". 76		- 54° 22' 42". 50		- 43° 4' 8". 47		
Sec δ, Tan δ	1.468, - 1.075		1.954, - 1.679		1.717, - 1.396		1.369, - 0.935		



AT UPPER TRANSIT AT GREENWICH.

Date.	β Argūs. Mag. 1·7		ι Argūs. Mag. 2·2		κ Argūs. Mag. 2·6		α Hydræ. Mag. 2·2	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	h m	° /	h m	° /	h m	° /	h m	° /
	9 12	69 20	9 14	58 53	9 19	54 37	9 23	8 15
	s	"	s	"	s	"	s	"
Jan. 1	15·36	29·20	42·06	33·39	20·54	18·00	10·05	57·76
11	15·68	32·81	42·33	36·99	20·80	21·55	10·28	59·99
21	15·90	36·60	42·52	40·74	21·00	25·25	10·47	62·11
31	15·99	40·46	42·62	44·53	21·11	28·97	10·61	64·07
Feb. 10	15·96	44·30	42·65	48·28	21·15	32·63	10·70	65·82
20	15·83	48·02	42·59	51·85	21·12	36·14	10·74	67·34
Mar. 2	15·58	51·51	42·46	55·20	21·02	39·42	10·73	68·59
12	15·24	54·72	42·26	58·23	20·86	42·38	10·69	69·59
Apr. 22	14·83	57·57	42·00	60·90	20·64	44·99	10·61	70·36
1	14·35	60·02	41·70	63·16	20·39	47·21	10·50	70·86
11	13·82	62·00	41·36	64·96	20·10	48·96	10·37	71·13
21	13·25	63·50	41·00	66·29	19·80	50·25	10·24	71·17
May 1	12·66	64·46	40·63	67·09	19·48	51·02	10·10	71·00
11	12·07	64·91	40·27	67·38	19·16	51·29	9·97	70·61
21	11·50	64·80	39·91	67·16	18·86	51·07	9·84	70·05
31	10·95	64·18	39·57	66·42	18·57	50·35	9·73	69·30
June 10	10·43	63·04	39·26	65·20	18·30	49·16	9·64	68·40
20	9·97	61·41	38·98	63·53	18·07	47·52	9·57	67·37
30	9·57	59·35	38·75	61·46	17·87	45·50	9·52	66·24
July 10	9·24	56·89	38·56	59·01	17·71	43·14	9·50	65·06
20	9·00	54·13	38·43	56·31	17·60	40·50	9·51	63·82
30	8·84	51·16	38·36	53·41	17·54	37·67	9·54	62·60
Aug. 9	8·78	47·72	{38·35}	{50·39}	17·54	34·74	9·60	61·44
19	8·84	44·58	{38·35}	{50·09}	17·61	31·52	9·69	60·28
Sept. 29	8·99	41·50	38·55	44·16	17·73	28·70	9·81	59·40
8	9·25	38·66	38·75	41·46	17·91	26·10	9·96	58·73
18	9·61	36·11	39·01	39·10	18·15	23·80	10·14	58·35
28	10·06	33·97	39·34	37·15	18·44	21·93	10·35	58·25
Oct. 8	10·59	32·32	39·73	35·71	18·79	20·55	10·59	58·48
18	11·19	31·27	40·16	34·84	19·18	19·73	10·86	59·09
28	11·83	30·84	40·62	34·59	19·60	19·54	11·15	60·06
Nov. 7	12·51	31·07	41·12	35·00	20·05	19·99	11·46	61·36
17	13·19	31·98	41·62	36·05	20·51	21·08	11·78	62·98
27	13·86	33·55	42·11	37·74	20·97	22·78	12·11	64·85
Dec. 7	14·48	35·69	42·58	40·00	21·41	25·04	12·43	66·96
17	15·05	38·38	43·01	42·77	21·81	27·79	12·74	69·19
27	15·53	41·53	43·39	45·95	22·17	30·93	13·03	71·48
37	15·91	44·99	43·70	49·45	22·47	34·39	13·29	73·76
Mean R.A.	9 <sup>h</sup> 12 <sup>m</sup> 12 <sup>s</sup> ·971		9 <sup>h</sup> 14 <sup>m</sup> 40 <sup>s</sup> ·762		9 <sup>h</sup> 19 <sup>m</sup> 19 <sup>s</sup> ·530		9 <sup>h</sup> 23 <sup>m</sup> 9 <sup>s</sup> ·910	
Mean Dec.	-69° 20' 47"·10		-58° 53' 50"·20		-54° 37' 34"·48		-8° 16' 4"·87	
Sec δ, Tan δ	2·835, -2·653		1·935, -1·657		1·727, -1·408		1·011, -0·145	

AT UPPER TRANSIT AT GREENWICH.

Date.	α Leonis. (Regulus) Mag. 1·3		γ <sup>1</sup> Leonis. Mag. 2·5		η Argūs. Mag. 1-7½		μ Argūs. Mag. 2·8	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	h m	° /	h m	° /	h m	° /	h m	° /
	10 3	12 24	10 15	20 17	10 41	59 12	10 42	48 56
	s	"	s	"	s	"	s	"
Jan. 1	34·80	28·56	0·71	49·33	34·26	19·12	53·76	21·76
11	35·08	27·18	1·01	48·25	34·68	22·21	54·11	24·82
21	35·32	26·02	1·27	47·46	35·03	25·59	54·41	28·11
31	35·51	25·16	1·48	46·99	35·31	29·20	54·66	31·59
Feb. 10	35·65	24·54	1·65	46·83	35·51	32·93	54·85	35·12
20	35·75	24·20	1·76	46·95	35·64	36·67	54·97	38·62
Mar. 2	35·79	24·10	1·82	47·31	35·69	40·36	55·03	42·02
12	35·79	24·21	1·83	47·88	35·66	43·88	55·03	45·24
Apr. 22	35·75	24·51	1·80	48·60	35·57	47·20	54·97	48·22
1	35·68	24·93	1·74	49·42	35·42	50·24	54·87	50·90
11	35·58	25·45	1·65	50·29	35·21	52·90	54·73	53·23
21	35·47	26·03	1·54	51·16	34·97	55·20	54·56	55·18
May 1	35·35	26·65	1·42	51·98	34·69	57·05	54·36	56·73
11	35·23	27·26	1·29	52·73	34·39	58·45	54·15	57·84
21	35·11	27·84	1·17	53·38	34·07	59·36	53·93	58·50
31	35·00	28·39	1·05	53·91	33·74	59·77	53·70	58·70
June 10	34·90	28·91	0·95	54·30	33·42	59·66	53·47	58·45
20	34·82	29·34	0·86	54·57	33·10	59·05	53·25	57·74
30	34·76	29·68	0·79	54·67	32·80	57·98	53·05	56·60
July 10	34·72	29·96	0·74	54·61	32·53	56·46	52·86	55·09
20	34·71	30·13	0·72	54·41	32·29	54·53	52·70	53·22
30	34·72	30·18	0·72	54·03	32·10	52·28	52·58	51·07
Aug. 9	34·75	30·12	0·74	53·50	31·95	49·73	52·49	48·69
19	34·81	29·90	0·79	52·79	31·86	47·01	52·44	46·19
Sept. 29	34·91	29·46	0·88	51·81	31·84	44·20	52·44	43·63
8	35·03	28·86	1·00	50·73	31·89	41·10	52·50	40·88
18	35·18	28·06	1·15	49·46	32·01	38·43	52·61	38·53
28	35·36	27·07	1·33	48·03	32·21	36·00	52·78	36·43
Oct. 8	35·58	25·87	1·54	46·42	32·48	33·91	53·00	34·69
18	35·83	24·47	1·79	44·66	32·82	32·25	53·28	33·38
28	36·11	22·88	2·07	42·79	33·22	31·10	53·61	32·58
Nov. 7	36·41	21·14	2·38	40·84	33·68	30·54	53·99	32·33
17	36·74	19·29	2·72	38·88	34·17	30·60	54·40	32·68
27	37·08	17·38	3·07	36·92	34·69	31·29	54·83	33·61
Dec. 7	37·42	15·49	3·43	35·10	35·22	32·61	55·26	35·13
17	37·76	13·66	3·78	33·34	35·74	34·51	55·69	37·17
27	38·08	11·96	4·12	31·84	36·23	36·97	56·11	39·68
37	38·38	10·44	4·44	30·59	36·68	39·84	56·49	42·58
Mean R.A.	10 <sup>h</sup> 3 <sup>m</sup> 34 <sup>s</sup> ·833		10 <sup>h</sup> 15 <sup>m</sup> 0 <sup>s</sup> ·756		10 <sup>h</sup> 41 <sup>m</sup> 33 <sup>s</sup> ·991		10 <sup>h</sup> 42 <sup>m</sup> 53 <sup>s</sup> ·746	
Mean Dec.	+12° 24' 26"·66		+20° 17' 49"·68		-59° 12' 40"·30		-48° 56' 40"·88	
Sec δ, Tan δ	1·024, +0·220		1·066, +0·370		1·954, -1·678		1·523, -1·148	



AT UPPER TRANSIT AT GREENWICH.								
Date.	β Ursæ Majoris. Mag. 2.4		α Ursæ Majoris. (Dubhe) Mag. 2.0		δ Leonis. Mag. 2.6		β Leonis. (Denebola) Mag. 2.2	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /
	10 56	56 51	10 58	62 13	11 9	21 0	11 44	15 4
	s	"	s	"	s	"	s	"
Jan. 1	25.44	44.56	11.57	63.07	19.15	59.26	27.69	30.27
11	25.93	44.69	12.14	63.38	19.48	57.88	28.02	28.52
21	26.38	45.34	12.64	64.23	19.78	56.84	28.33	27.05
31	26.76	46.50	13.08	65.59	20.04	56.15	28.61	25.92
Feb. 10	27.07	48.11	13.44	67.41	20.26	55.81	28.85	25.12
20	27.30	50.09	13.70	69.60	20.43	55.81	29.04	24.68
Mar. 2	27.45	52.33	13.87	72.05	20.55	56.14	29.19	24.56
12	27.52	54.77	13.94	74.67	20.62	56.71	29.29	24.74
Apr. 22	27.51	57.24	13.92	77.31	20.64	57.51	29.35	25.18
1	27.43	59.68	13.82	79.90	20.63	58.44	29.38	25.82
11	27.29	61.97	13.64	82.31	20.58	59.49	29.36	26.60
21	27.10	64.02	13.41	84.45	20.51	60.56	29.32	27.50
May 1	26.87	65.76	13.13	86.25	20.42	61.59	29.26	28.44
11	26.62	67.13	12.82	87.64	20.31	62.58	29.18	29.38
21	26.36	68.10	12.50	88.60	20.20	63.47	29.09	30.27
31	26.09	68.63	12.17	89.08	20.09	64.22	28.99	31.10
June 10	25.84	68.71	11.85	89.07	19.98	64.83	28.89	31.85
20	25.60	68.34	11.55	88.57	19.87	65.25	28.79	32.46
30	25.38	67.52	11.28	87.63	19.78	65.50	28.69	32.92
July 10	25.19	66.30	11.04	86.23	19.70	65.55	28.59	33.22
20	25.02	64.68	10.84	84.41	19.63	65.41	28.51	33.37
30	24.93	62.70	10.69	82.23	19.58	65.07	28.44	33.33
Aug. 9	24.87	60.41	10.59	79.72	19.56	64.51	28.38	33.11
19	24.85	57.82	10.55	76.94	19.55	63.75	28.35	32.68
Sept. 29	24.87	55.01	10.57	73.91	19.57	62.77	28.34	32.05
8	24.97	51.71	10.66	70.40	19.63	61.58	28.35	31.20
18	25.11	48.59	10.82	67.08	19.73	60.02	28.39	30.12
28	25.31	45.39	11.04	63.73	19.85	58.40	28.48	28.67
Oct. 8	25.57	42.20	11.33	60.39	20.01	56.59	28.60	27.11
18	25.89	39.08	11.69	57.13	20.21	54.60	28.76	25.35
28	26.27	36.08	12.11	54.07	20.45	52.47	28.96	23.38
Nov. 7	26.69	33.30	12.59	51.23	20.73	50.25	29.21	21.25
17	27.17	30.78	13.13	48.72	21.04	47.98	29.49	19.01
27	27.68	28.61	13.71	46.59	21.37	45.72	29.80	16.69
Dec. 7	28.21	26.89	14.32	44.92	21.72	43.54	30.13	14.39
17	28.75	25.63	14.93	43.76	22.08	41.50	30.47	12.16
27	29.29	24.92	15.54	43.17	22.44	39.68	30.82	10.04
37	29.81	24.73	16.13	43.14	22.78	38.13	31.16	8.14
Mean R.A.	10 <sup>h</sup> 56 <sup>m</sup> 25 <sup>s</sup> .104		10 <sup>h</sup> 58 <sup>m</sup> 11 <sup>s</sup> .024		11 <sup>h</sup> 9 <sup>m</sup> 19 <sup>s</sup> .456		11 <sup>h</sup> 44 <sup>m</sup> 28 <sup>s</sup> .215	
Mean Dec.	+56° 51' 54".16		+62° 14' 13".48		+21° 1' 0".92		+15° 4' 30".76	
Sec δ, Tan δ	1.829, + 1.532		2.147, + 1.900		1.071, + 0.384		1.036, + 0.269	

AT UPPER TRANSIT AT GREENWICH.								
Date.	γ Ursæ Majoris. Mag. 2.5		δ Centauri. Mag. 2.8		γ Corvi. Mag. 2.7		α <sup>1</sup> Crucis. Mag. 1.0	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	h m	o /	h m	o /	h m	o /	h m	o /
	11 49	54 11	12 3	50 12	12 11	17 2	12 21	62 35
	s	"	s	"	s	"	s	"
Jan. 1	6.04	31.67	40.47	56.30	9.73	21.57	33.83	38.50
11	6.53	31.06	40.91	58.66	10.06	23.90	34.41	40.53
21	6.99	31.02	41.31	61.37	10.38	26.26	34.94	43.00
31	7.41	31.56	41.67	64.36	10.67	28.62	35.43	45.86
Feb. 10	7.77	32.62	41.98	67.56	10.92	30.88	35.85	49.02
20	8.07	34.16	42.23	70.85	11.12	33.00	36.21	52.44
Mar. 2	8.29	36.09	42.42	74.19	11.29	34.94	36.49	55.96
12	8.44	38.31	42.56	77.48	11.42	36.70	36.69	59.54
Apr. 22	8.52	40.74	42.65	80.66	11.50	38.22	36.83	63.11
1	8.53	43.23	42.68	83.66	11.55	39.51	36.89	66.57
11	8.47	45.71	42.66	86.45	11.57	40.57	36.88	69.86
21	8.36	48.07	42.59	88.95	11.56	41.39	36.81	72.93
May 1	8.21	50.21	42.49	91.13	11.52	41.99	36.68	75.69
11	8.02	52.08	42.36	92.97	11.46	42.37	36.50	78.14
21	7.81	53.58	42.20	94.43	11.39	42.54	36.27	80.20
31	7.58	54.69	42.02	95.48	11.30	42.50	36.00	81.85
June 10	7.34	55.37	41.82	96.11	11.21	42.29	35.70	83.03
20	7.11	55.61	41.61	96.31	11.11	41.88	35.38	83.73
30	6.88	55.39	41.39	96.07	11.00	41.33	35.03	83.95
July 10	6.67	54.74	41.17	95.43	10.89	40.61	34.68	83.66
20	6.47	53.63	40.96	94.36	10.79	39.78	34.34	82.88
30	6.31	52.11	40.77	92.93	10.70	38.85	34.01	81.66
Aug. 9	6.17	50.21	40.59	91.18	10.61	37.87	33.71	80.02
19	6.06	47.95	40.44	89.16	10.54	36.85	33.45	78.00
Sept. 29	6.00	45.38	40.34	86.96	10.50	35.85	33.24	75.70
8	5.99	42.54	40.27	84.64	10.48	34.94	33.09	73.18
18	6.02	39.49	40.26	82.30	10.49	34.14	33.01	70.54
28	6.12	35.92	40.32	79.80	10.54	33.49	33.03	67.86
Oct. 8	6.27	32.58	40.44	77.73	10.64	33.14	33.14	65.04
18	6.48	29.20	40.63	75.95	10.78	33.06	33.34	62.70
28	6.76	25.85	40.88	74.53	10.96	33.33	33.63	60.67
Nov. 7	7.09	22.62	41.19	73.55	11.19	33.92	34.00	59.06
17	7.47	19.58	41.56	73.09	11.45	34.88	34.45	57.93
27	7.91	16.82	41.97	73.14	11.75	36.17	34.97	57.37
Dec. 7	8.38	14.42	42.41	73.78	12.08	37.80	35.53	57.39
17	8.88	12.47	42.87	74.95	12.43	39.70	36.13	57.99
27	9.39	10.99	43.33	76.64	12.78	41.82	36.73	59.19
37	9.89	10.08	43.78	78.81	13.12	44.11	37.32	60.95
Mean R.A.	11 <sup>h</sup> 49 <sup>m</sup> 6 <sup>s</sup> .159		12 <sup>h</sup> 3 <sup>m</sup> 41 <sup>s</sup> .324		12 <sup>h</sup> 11 <sup>m</sup> 10 <sup>s</sup> .534		12 <sup>h</sup> 21 <sup>m</sup> 35 <sup>s</sup> .004	
Mean Dec.	+54° 11' 42".61		-50° 13' 16".68		-17° 2' 31".80		-62° 36' 1".46	
Sec δ, Tan δ	1.709, + 1.386		1.563, - 1.201		1.046, - 0.307		2.173, - 1.929	



AT UPPER TRANSIT AT GREENWICH.

Date.	γ Crucis. Mag. 1.6		α Muscæ. Mag. 2.9		γ Centauri. Mag. 2.4		β Crucis. Mag. 1.5	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	h m	° /	h m	° /	h m	° /	h m	° /
	12 26	56 36	12 31	68 37	12 36	48 27	12 42	59 11
	s	"	s	"	s	"	s	"
Jan. 1	8.75	11.34	46.82	59.16	31.70	36.84	25.85	27.05
11	9.25	13.40	47.52	60.92	32.14	38.88	26.39	28.87
21	9.72	15.87	48.19	63.21	32.56	41.29	26.91	31.13
31	10.15	18.71	48.79	65.93	32.94	44.00	27.38	33.78
Feb. 10	10.53	21.81	49.33	69.02	33.28	46.91	27.81	36.75
20	10.85	25.11	49.78	72.38	33.58	49.97	28.17	39.93
Mar. 2	11.10	28.49	50.14	75.93	33.82	53.12	28.47	43.29
12	11.29	31.92	50.42	79.59	34.01	56.25	28.71	46.72
22	11.42	35.30	50.60	83.27	34.14	59.30	28.88	50.13
Apr. 1	11.49	38.56	50.69	86.91	34.22	62.24	28.98	53.47
11	11.51	41.65	50.69	90.40	34.26	64.99	29.03	56.66
21	11.47	44.52	50.61	93.71	34.26	67.54	29.01	59.67
May 1	11.38	47.10	50.46	96.74	34.21	69.80	28.94	62.42
11	11.25	49.36	50.23	99.47	34.13	71.76	28.83	64.87
21	11.08	51.25	49.94	101.83	34.02	73.38	28.67	66.96
31	10.88	52.73	49.60	103.75	33.88	74.64	28.47	68.67
June 10	10.65	53.77	49.20	105.21	33.71	75.52	28.23	69.96
20	10.40	54.36	48.77	106.21	33.53	76.01	27.97	70.81
30	10.13	54.51	48.32	106.68	33.33	76.08	27.68	71.19
July 10	9.86	54.21	47.85	106.65	33.13	75.74	27.38	71.09
20	9.59	53.42	47.39	106.08	32.92	75.02	27.08	70.53
30	9.33	52.24	46.94	105.02	32.72	73.92	26.79	69.52
Aug. 9	9.09	50.66	46.52	103.51	32.53	72.48	26.51	68.11
19	8.88	48.74	46.15	101.57	32.36	70.77	26.26	66.32
29	8.71	46.58	45.84	99.28	32.22	68.83	26.05	64.22
Sept. 8	8.60	44.21	45.62	96.73	32.13	66.72	25.90	61.90
18	8.54	41.74	45.48	94.01	32.08	64.53	25.80	59.42
28	8.55	39.27	45.45	91.21	32.08	62.38	25.78	56.90
Oct. 8	8.65	36.67	45.55	88.18	32.16	60.15	25.85	54.19
18	8.82	34.55	45.76	85.62	32.30	58.33	26.00	51.91
28	9.06	32.73	46.08	83.32	32.50	56.84	26.23	49.90
Nov. 7	9.38	31.33	46.51	81.40	32.77	55.70	26.55	48.27
17	9.77	30.41	47.05	79.99	33.09	55.03	26.94	47.09
27	10.22	30.02	47.66	79.08	33.47	54.86	27.39	46.41
Dec. 7	10.70	30.18	48.33	78.77	33.89	55.20	27.90	46.29
17	11.21	30.91	49.05	79.06	34.33	56.06	28.44	46.75
27	11.74	32.21	49.78	79.97	34.78	57.44	28.99	47.77
37	12.25	34.00	50.50	81.47	35.23	59.26	29.54	49.32
Mean R.A.	12 <sup>h</sup> 26 <sup>m</sup> 9 <sup>s</sup> .910		12 <sup>h</sup> 31 <sup>m</sup> 48 <sup>s</sup> .293		12 <sup>h</sup> 36 <sup>m</sup> 32 <sup>s</sup> .895		12 <sup>h</sup> 42 <sup>m</sup> 27 <sup>s</sup> .277	
Mean Dec.	-56° 36' 33".02		-68° 38' 23".02		-48° 27' 56".42		-59° 11' 49".01	
Sec δ, Tan δ	1.817, - 1.517		2.745, - 2.557		1.508, - 1.129		1.953, - 1.677	

AT UPPER TRANSIT AT GREENWICH.

Date.	ε Ursæ Majoris. Mag. 1.8		α Canum Venat. Mag. 2.8		ζ <sup>1</sup> Ursæ Majoris. Mag. 2.1		α Virginis. (Spica) Mag. 1.2	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.
	h m	° /	h m	° /	h m	° /	h m	° /
	12 50	56 26	12 51	38 47	13 20	55 23	13 20	10 41
	s	"	s	"	s	"	s	"
Jan. 1	3.84	40.72	48.43	66.42	17.46	29.65	25.78	23.61
11	4.35	39.44	48.82	64.74	17.96	27.97	26.11	25.70
21	4.86	38.76	49.21	63.59	18.46	26.90	26.45	27.80
31	5.34	38.70	49.58	62.92	18.94	26.47	26.77	29.82
Feb. 10	5.78	39.26	49.92	62.82	19.39	26.67	27.06	31.72
20	6.16	40.39	50.21	63.23	19.80	27.44	27.32	33.48
Mar. 2	6.48	42.02	50.46	64.11	20.15	28.78	27.55	35.03
12	6.73	44.07	50.65	65.42	20.44	30.60	27.74	36.36
22	6.91	46.44	50.80	67.07	20.66	32.82	27.90	37.46
Apr. 1	7.02	49.03	50.90	68.97	20.81	35.31	28.03	38.33
11	7.06	51.74	50.94	71.04	20.90	38.00	28.11	39.00
21	7.03	54.40	50.95	73.16	20.92	40.74	28.17	39.45
May 1	6.94	56.98	50.92	75.29	20.88	43.43	28.21	39.72
11	6.81	59.35	50.85	77.30	20.79	45.98	28.21	39.83
21	6.63	61.42	50.76	79.15	20.65	48.30	28.19	39.79
31	6.42	63.15	50.64	80.74	20.48	50.32	28.15	39.64
June 10	6.18	64.48	50.51	82.05	20.27	51.96	28.10	39.38
20	5.92	65.36	50.36	83.04	20.03	53.18	28.02	39.03
30	5.66	65.78	50.21	83.67	19.78	53.96	27.94	38.59
July 10	5.39	65.70	50.05	83.93	19.51	54.24	27.84	38.10
20	5.13	65.14	49.89	83.81	19.24	54.04	27.73	37.54
30	4.88	64.12	49.74	83.30	18.98	53.36	27.62	36.94
Aug. 9	4.65	62.64	49.60	82.39	18.72	52.21	27.51	36.34
19	4.44	60.72	49.47	81.14	18.48	50.62	27.40	35.76
29	4.26	58.40	49.36	79.54	18.27	48.60	27.31	35.23
Sept. 8	4.13	55.73	49.28	77.59	18.10	46.17	27.23	34.76
18	4.04	52.76	49.24	75.33	17.96	43.36	27.18	34.40
28	4.01	49.52	49.23	72.80	17.87	40.27	27.17	34.20
Oct. 8	4.05	45.70	49.27	69.74	17.84	36.93	27.19	34.18
18	4.15	42.11	49.36	66.75	17.88	33.01	27.26	34.44
28	4.32	38.45	49.51	63.62	17.99	29.35	27.37	34.94
Nov. 7	4.56	34.84	49.70	60.43	18.17	25.62	27.53	35.72
17	4.86	31.30	49.95	57.23	18.42	21.97	27.74	36.78
27	5.23	28.01	50.25	54.12	18.74	18.47	27.99	38.11
Dec. 7	5.66	25.00	50.58	51.19	19.12	15.21	28.28	39.70
17	6.13	22.38	50.95	48.51	19.55	12.29	28.59	41.50
27	6.63	20.26	51.34	46.18	20.01	9.81	28.93	43.46
37	7.15	18.66	51.74	44.24	20.51	7.84	29.27	45.53
Mean R.A.	12 <sup>h</sup> 50 <sup>m</sup> 4 <sup>s</sup> .396		12 <sup>h</sup> 51 <sup>m</sup> 49 <sup>s</sup> .181		13 <sup>h</sup> 20 <sup>m</sup> 18 <sup>s</sup> .292		13 <sup>h</sup> 20 <sup>m</sup> 26 <sup>s</sup> .992	
Mean Dec.	+56° 26' 53".51		+38° 48' 15".37		+55° 23' 42".65		-10° 41' 30".24	
Sec δ, Tan δ	1.809, + 1.508		1.283, + 0.804		1.761, + 1.449		1.018, - 0.189	



AT UPPER TRANSIT AT GREENWICH.								
Date.	ε Centauri. Mag. 2·6		η Ursæ Majoris. Mag. 1·9		ζ Centauri. Mag. 2·8		η Boötis. Mag. 2·8	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /
	13 34	53 0	13 43	49 45	13 49	46 50	13 50	18 50
	s	"	s	"	s	"	s	"
Jan. 1	8·76	14·02	58·72	31·70	53·23	27·65	22·76	50·78
11	9·25	15·32	59·16	29·67	53·68	28·90	23·10	48·52
21	9·73	17·05	59·61	28·20	54·12	30·55	23·44	46·58
31	10·20	19·15	60·04	27·35	54·55	32·51	23·77	44·99
Feb. 10	10·63	21·57	60·46	27·12	54·96	34·75	24·09	43·83
20	11·02	24·24	60·84	27·49	55·33	37·20	24·37	43·09
Mar. 2	11·37	27·07	61·18	28·45	55·66	39·78	24·63	42·79
12	11·67	30·02	61·47	29·91	55·95	42·44	24·86	42·90
Apr. 22	11·91	33·00	61·70	31·80	56·20	45·12	25·05	43·38
1	12·11	35·97	61·88	34·04	56·40	47·77	25·20	44·20
11	12·25	38·86	61·99	36·52	56·55	50·37	25·31	45·29
21	12·34	41·64	62·05	39·13	56·66	52·83	25·39	46·59
May 1	12·38	44·24	62·06	41·77	56·73	55·13	25·44	48·01
11	12·38	46·63	62·03	44·34	56·76	57·26	25·46	49·48
21	12·33	48·76	61·94	46·75	56·75	59·14	25·45	50·96
31	12·24	50·60	61·82	48·91	56·70	60·79	25·42	52·37
June 10	12·11	52·10	61·67	50·76	56·62	62·12	25·36	53·70
20	11·95	53·23	61·49	52·24	56·50	63·15	25·28	54·86
30	11·76	53·98	61·28	53·31	56·35	63·85	25·19	55·84
July 10	11·54	54·33	61·06	53·94	56·18	64·20	25·08	56·62
20	11·30	54·26	60·83	54·12	55·99	64·19	24·96	57·14
30	11·06	53·80	60·60	53·83	55·79	63·80	24·83	57·42
Aug. 9	10·81	52·92	60·37	53·09	55·58	63·08	24·70	57·44
19	10·58	51·69	60·15	51·89	55·37	62·03	24·58	57·18
Sept. 29	10·36	50·13	59·94	50·24	55·18	60·69	24·46	56·64
8	10·18	48·31	59·76	48·19	55·01	59·13	24·35	55·81
18	10·04	46·29	59·61	45·75	54·88	57·39	24·27	54·70
28	9·96	44·14	59·51	42·96	54·80	55·54	24·21	53·31
Oct. 8	9·94	41·96	59·45	39·89	54·77	53·66	24·20	51·64
18	9·99	39·85	59·45	36·56	54·80	51·83	24·22	49·71
28	10·13	37·73	59·52	32·69	54·91	50·00	24·29	47·27
Nov. 7	10·34	36·08	59·65	29·08	55·08	48·60	24·41	44·87
17	10·63	34·79	59·84	25·45	55·32	47·53	24·58	42·30
27	10·98	33·90	60·10	21·89	55·62	46·83	24·80	39·62
Dec. 7	11·38	33·49	60·42	18·50	55·98	46·52	25·06	36·89
17	11·83	33·57	60·79	15·39	56·38	46·69	25·35	34·19
27	12·31	34·14	61·19	12·65	56·81	47·31	25·67	31·61
37	12·81	35·19	61·63	10·36	57·26	48·36	26·01	29·21
Mean R.A.	13 <sup>h</sup> 34 <sup>m</sup> 10 <sup>s</sup> ·673		13 <sup>h</sup> 43 <sup>m</sup> 59 <sup>s</sup> ·764		13 <sup>h</sup> 49 <sup>m</sup> 55 <sup>s</sup> ·149		13 <sup>h</sup> 50 <sup>m</sup> 23 <sup>s</sup> ·971	
Mean Dec.	-53° 0' 33"·05		+49° 45' 43"·81		-46° 50' 44"·52		+18° 50' 54"·82	
Sec δ, Tan δ	1·662, - 1·327		1·548, + 1·182		1·462, - 1·067		1·057, + 0·341	

AT UPPER TRANSIT AT GREENWICH.								
Date.	β Centauri. Mag. 0·8		θ Centauri. Mag. 2·1		α Boötis. (Arcturus) Mag. 0·3		η Centauri. Mag. 2·7	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.
	h m	o /	h m	o /	h m	o /	h m	o /
	13 57	59 56	14 1	35 55	14 11	19 38	14 29	41 45
	s	"	s	"	s	"	s	"
Jan. 1	25·32	1·65	21·11	25·71	32·03	57·56	45·13	32·77
11	25·90	2·47	21·50	27·14	32·36	55·18	45·54	33·75
21	26·47	3·79	21·89	28·84	32·70	53·12	45·96	35·05
31	27·03	5·53	22·27	30·77	33·03	51·42	46·37	36·63
Feb. 10	27·55	7·67	22·63	32·86	33·35	50·12	46·77	38·44
20	28·04	10·12	22·96	35·06	33·65	49·28	47·15	40·45
Mar. 2	28·48	12·84	23·26	37·33	33·92	48·80	47·50	42·58
12	28·87	15·74	23·53	39·58	34·16	48·92	47·81	44·79
Apr. 22	29·20	18·76	23·75	41·80	34·36	49·35	48·09	47·01
1	29·47	21·86	23·94	43·93	34·53	50·15	48·33	49·24
11	29·67	24·94	24·10	45·95	34·66	51·22	48·53	51·42
21	29·82	27·97	24·21	47·85	34·76	52·52	48·70	53·50
May 1	29·91	30·87	24·29	49·57	34·83	53·97	48·82	55·50
11	29·94	33·62	24·34	51·14	34·87	55·51	48·91	57·35
21	29·91	36·14	24·36	52·49	34·87	57·05	48·95	59·03
31	29·83	38·38	24·34	53·65	34·85	58·54	48·96	60·55
June 10	29·69	40·32	24·29	54·58	34·81	59·93	48·94	61·83
20	29·50	41·89	24·21	55·25	34·74	61·19	48·88	62·88
30	29·27	43·07	24·11	55·69	34·65	62·25	48·78	63·68
July 10	29·01	43·83	23·98	55·85	34·54	63·08	48·65	64·19
20	28·72	44·16	23·84	55·75	34·42	63·68	48·50	64·40
30	28·41	44·04	23·68	55·38	34·29	64·02	48·33	64·32
Aug. 9	28·09	43·45	23·51	54·76	34·15	64·07	48·14	63·94
19	27·77	42·45	23·35	53·92	34·01	63·85	47·94	63·27
Sept. 29	27·48	41·05	23·19	52·85	33·87	63·34	47·75	62·35
8	27·22	39·31	23·05	51·66	33·75	62·51	47·58	61·19
18	27·01	37·29	22·94	50·34	33·64	61·41	47·43	59·85
28	26·86	35·04	22·86	48·98	33·56	60·00	47·32	58·38
Oct. 8	26·79	32·71	22·83	47·64	33·52	58·30	47·24	56·84
18	26·79	30·35	22·85	46·38	33·52	56·31	47·23	55·33
28	26·90	27·85	22·94	45·21	33·56	54·07	47·27	53·90
Nov. 7	27·10	25·79	23·08	44·37	33·66	51·35	47·39	52·52
17	27·39	24·03	23·28	43·86	33·81	48·71	47·57	51·53
27	27·76	22·63	23·53	43·65	34·00	45·94	47·81	50·83
Dec. 7	28·20	21·68	23·83	43·84	34·24	43·13	48·11	50·49
17	28·70	21·23	24·18	44·39	34·52	40·32	48·46	50·51
27	29·25	21·28	24·55	45·32	34·82	37·62	48·84	50·93
37	29·82	21·84	24·94	46·58	35·15	35·10	49·25	51·71
Mean R.A.	13 <sup>h</sup> 57 <sup>m</sup> 27 <sup>s</sup> ·801		14 <sup>h</sup> 1 <sup>m</sup> 22 <sup>s</sup> ·884		14 <sup>h</sup> 11 <sup>m</sup> 33 <sup>s</sup> ·353		14 <sup>h</sup> 29 <sup>m</sup> 47 <sup>s</sup> ·250	
Mean Dec.	-59° 56' 21"·08		-35° 55' 39"·13		+19° 39' 2"·19		-41° 45' 46"·38	
Sec δ, Tan δ	1·996, - 1·728		1·235, - 0·725		1·062, + 0·357		1·341, - 0·893	



AT UPPER TRANSIT AT GREENWICH.									
Date.	α <sup>2</sup> Centauri. Mag. 1		α Lupi. Mag. 2.5		ε <sup>2</sup> Boötis. Mag. 2.6		α Libræ. Mag. 2.9		
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.	
	h m	o /	h m	o /	h m	o /	h m	o /	
	14 33	60 27	14 35	46 59	14 41	27 26	14 45	15 40	
	s	"	s	"	s	"	s	"	
Jan. I	26.53	26.40	53.91	54.10	1.93	64.36	52.05	0.17	
II	27.09	26.82	54.35	54.84	2.27	61.85	52.38	1.81	
21	27.67	27.70	54.80	55.94	2.61	59.70	52.72	3.52	
31	28.24	29.05	55.25	57.38	2.96	57.99	53.05	5.24	
Feb. 10	28.79	30.78	55.68	59.12	3.30	56.75	53.38	6.93	
20	29.31	32.86	56.09	61.09	3.62	56.00	53.70	8.52	
Mar. 2	29.79	35.24	56.47	63.24	3.92	55.78	53.99	9.97	
12	30.22	37.82	56.81	65.51	4.19	56.07	54.25	11.29	
Apr. 22	30.59	40.57	57.12	67.85	4.43	56.81	54.49	12.42	
I	30.91	43.43	57.39	70.24	4.63	57.96	54.70	13.37	
II	31.17	46.33	57.61	72.61	4.80	59.45	54.88	14.13	
21	31.37	49.25	57.80	74.94	4.93	61.19	55.03	14.73	
May I	31.50	52.08	57.94	77.19	5.03	63.12	55.15	15.19	
II	31.58	54.80	58.04	79.32	5.09	65.13	55.24	15.51	
21	31.59	57.35	58.09	81.29	5.12	67.16	55.30	15.70	
31	31.55	59.69	58.11	83.06	5.11	69.12	55.34	15.78	
June 10	31.44	61.76	58.08	84.63	5.08	70.97	55.34	15.78	
20	31.28	63.53	58.01	85.95	5.01	72.64	55.32	15.69	
30	31.07	64.93	57.90	86.99	4.92	74.08	55.27	15.52	
July 10	30.81	65.95	57.76	87.71	4.81	75.24	55.19	15.28	
20	30.52	66.56	57.58	88.09	4.68	76.09	55.10	14.97	
30	30.20	66.73	57.39	88.15	4.53	76.62	54.98	14.61	
Aug. 9	29.86	66.49	57.18	87.88	4.37	76.83	54.85	14.22	
19	29.52	65.81	56.96	87.26	4.21	76.68	54.71	13.78	
Sept. 29	29.19	64.69	56.74	86.34	4.04	76.16	54.57	13.32	
8	28.88	63.21	56.54	85.15	3.89	75.28	54.44	12.87	
18	28.62	61.42	56.36	83.73	3.75	74.06	54.32	12.45	
28	28.41	59.36	56.23	82.10	3.64	72.49	54.23	12.10	
Oct. 8	28.27	57.14	56.14	80.37	3.55	70.59	54.17	11.84	
18	28.22	54.82	56.11	78.62	3.51	68.38	54.15	11.73	
28	28.25	52.50	56.14	76.93	3.51	65.88	54.17	11.79	
Nov. 7	28.40	50.12	56.26	75.22	3.58	62.85	54.26	12.10	
17	28.63	48.18	56.44	73.92	3.69	59.93	54.39	12.64	
27	28.95	46.55	56.69	72.90	3.85	56.89	54.57	13.42	
Dec. 7	29.35	45.29	57.01	72.24	4.07	53.81	54.80	14.43	
17	29.82	44.50	57.37	71.95	4.33	50.79	55.07	15.65	
27	30.35	44.16	57.78	72.08	4.62	47.88	55.37	17.10	
37	30.91	44.31	58.21	72.62	4.95	45.22	55.70	18.68	
Mean R.A.	14 <sup>h</sup> 33 <sup>m</sup> 29 <sup>s</sup> .403		14 <sup>h</sup> 35 <sup>m</sup> 56 <sup>s</sup> .238		14 <sup>h</sup> 41 <sup>m</sup> 3 <sup>s</sup> .393		14 <sup>h</sup> 45 <sup>m</sup> 53 <sup>s</sup> .813		
Mean Dec.	-60° 27' 43".98		-47° 0' 8".63		+27° 27' 11".52		-15° 40' 5".61		
Sec δ, Tan δ	2.028, - 1.765		1.466, - 1.072		1.127, + 0.520		1.039, - 0.281		

AT UPPER TRANSIT AT GREENWICH.									
Date.	β Ursæ Minoris. Mag. 2.2		β Lupi. Mag. 2.7		β Libræ. Mag. 2.8		α Coronæ. Mag. 2.3		
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.	
	h m	o /	h m	o /	h m	o /	h m	o /	
	14 50	74 30	14 52	42 46	15 12	9 3	15 30	27 0	
	s	"	s	"	s	"	s	"	
Jan. I	55.41	68.95	35.47	6.84	7.89	2.35	50.90	54.14	
II	56.19	66.56	35.88	7.52	8.21	4.08	51.20	51.44	
21	57.04	64.72	36.30	8.54	8.53	5.82	51.52	49.03	
31	57.93	63.54	36.72	9.88	8.86	7.49	51.86	47.04	
Feb. 10	58.84	63.05	37.14	11.45	9.18	9.07	52.20	45.51	
20	59.72	63.23	37.53	13.21	9.50	10.47	52.53	44.47	
Mar. 2	60.55	64.06	37.90	15.12	9.79	11.69	52.85	43.95	
12	61.29	65.53	38.24	17.15	10.07	12.67	53.15	43.96	
Apr. 22	61.94	67.53	38.55	19.24	10.32	13.46	53.42	44.46	
I	62.47	69.97	38.82	21.34	10.54	14.01	53.66	45.43	
II	62.86	72.73	39.06	23.43	10.74	14.35	53.87	46.79	
21	63.11	75.73	39.25	25.48	10.91	14.50	54.05	48.46	
May I	63.22	78.82	39.41	27.46	11.05	14.49	54.20	50.40	
II	63.19	81.92	39.53	29.33	11.17	14.35	54.31	52.47	
21	63.03	84.90	39.61	31.07	11.25	14.11	54.39	54.63	
31	62.74	87.64	39.65	32.67	11.30	13.79	54.43	56.79	
June 10	62.33	90.11	39.65	34.08	11.33	13.41	54.44	58.88	
20	61.82	92.19	39.61	35.27	11.33	13.00	54.42	60.80	
30	61.22	93.84	39.53	36.22	11.29	12.57	54.36	62.56	
July 10	60.56	94.99	39.41	36.91	11.23	12.13	54.27	64.07	
20	59.84	95.67	39.27	37.33	11.15	11.70	54.15	65.28	
30	59.08	95.80	39.10	37.46	11.04	11.30	54.01	66.18	
Aug. 9	58.30	95.40	38.91	37.29	10.92	10.91	53.85	66.77	
19	57.52	94.47	38.71	36.84	10.78	10.56	53.68	66.99	
Sept. 29	56.77	93.03	38.50	36.09	10.64	10.26	53.50	66.83	
8	56.05	91.10	38.31	35.09	10.50	10.03	53.32	66.33	
18	55.39	88.72	38.14	33.87	10.37	9.88	53.15	65.43	
28	54.80	85.91	38.00	32.50	10.26	9.84	52.99	64.19	
Oct. 8	54.31	82.76	37.90	31.01	10.18	9.92	52.86	62.58	
18	53.93	79.27	37.86	29.52	10.13	10.17	52.77	60.62	
28	53.67	75.56	37.87	28.05	10.13	10.59	52.72	58.35	
Nov. 7	{53.56}	{71.68}	37.95	26.68	10.18	11.22	52.72	55.80	
	{53.55}	{71.30}							
17	53.60	67.35	38.12	25.44	10.28	12.18	{52.77}	{53.02}	
27	53.79	63.46	38.33	24.56	10.43	13.26	{52.78}	{52.74}	
Dec. 7	54.14	59.70	38.61	24.00	10.63	14.56	52.89	49.77	
17	54.64	56.19	38.95	23.80	10.87	16.02	53.05	46.71	
27	55.26	53.05	39.32	23.95	11.15	17.63	53.26	43.60	
37	55.99	50.37	39.72	24.45	11.46	19.33	53.80	37.80	
Mean R.A.	14 <sup>h</sup> 50 <sup>m</sup> 57 <sup>s</sup> .503		14 <sup>h</sup> 52 <sup>m</sup> 37 <sup>s</sup> .792		15 <sup>h</sup> 12 <sup>m</sup> 9 <sup>s</sup> .721		15 <sup>h</sup> 30 <sup>m</sup> 52 <sup>s</sup> .616		
Mean Dec.	+74° 31' 23".86		-42° 46' 19".35		-9° 3' 4".83		+27° 1' 1".43		
Sec δ, Tan δ	3.748, + 3.612		1.362, - 0.925		1.013, - 0.159		1.122, + 0.510		



AT UPPER TRANSIT AT GREENWICH.								
Date.	α Serpentis. Mag. 2.8		δ Scorpii. Mag. 2.5		β <sup>1</sup> Scorpii. Mag. 2.7		η Draconis. Mag. 2.9	
	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	h m	° /	h m	° /	h m	° /	h m	° /
	15 39	6 42	15 54	22 21	16 0	19 33	16 22	61 42
	s	"	s	"	s	"	s	"
Jan. 1	48.21	27.10	58.34	54.36	9.88	31.85	43.80	52.25
11	48.50	24.03	58.65	55.32	10.18	32.93	44.15	48.94
21	48.80	22.88	58.98	56.43	10.50	34.09	44.57	46.02
31	49.12	21.04	59.32	57.62	10.84	35.32	45.04	43.61
Feb. 10	49.43	19.45	59.66	58.83	11.17	36.56	45.55	41.80
20	49.74	18.21	60.00	60.04	11.51	37.75	46.07	40.62
Mar. 2	50.05	17.32	60.33	61.21	11.83	38.86	46.60	40.13
12	50.33	16.80	60.64	62.31	12.14	39.88	47.11	40.32
Apr. 22	50.59	16.62	60.94	63.32	12.44	40.78	47.59	41.16
1	50.83	16.78	61.21	64.23	12.71	41.55	48.04	42.60
11	51.04	17.26	61.46	65.01	12.96	42.19	48.43	44.59
21	51.22	18.00	61.69	65.70	13.18	42.71	48.76	47.02
May 1	51.38	18.96	61.88	66.30	13.38	43.14	49.03	49.79
11	51.52	20.08	62.05	66.81	13.55	43.47	49.23	52.81
21	51.62	21.28	62.19	67.25	13.69	43.71	49.35	55.94
31	51.69	22.55	62.30	67.62	13.80	43.92	49.40	59.11
June 10	51.73	23.80	62.37	67.93	13.87	44.05	49.37	62.21
20	51.74	25.00	62.40	68.18	13.91	44.14	49.26	65.12
30	51.72	26.12	62.40	68.37	13.92	44.19	49.09	67.80
July 10	51.67	27.14	62.37	68.49	13.89	44.19	48.86	70.15
20	51.59	28.00	62.30	68.54	13.82	44.15	48.56	72.10
30	51.48	28.71	62.20	68.51	13.73	44.06	48.22	73.65
Aug. 9	51.35	29.26	62.07	68.42	13.61	43.92	47.83	74.74
19	51.21	29.61	61.93	68.23	13.47	43.72	47.40	75.31
Sept. 29	51.06	29.75	61.77	67.95	13.31	43.47	46.96	75.39
8	50.91	29.70	61.61	67.63	13.15	43.18	46.51	74.93
18	50.77	29.40	61.45	67.25	13.00	42.87	46.07	73.94
28	50.64	28.88	61.31	66.83	12.85	42.55	45.64	72.48
Oct. 8	50.53	28.14	61.19	66.41	12.73	42.24	45.24	70.51
18	50.45	27.15	61.10	66.03	12.65	42.00	44.89	68.08
28	50.42	25.88	61.06	65.71	12.60	41.82	44.60	65.25
Nov. 7	50.43	24.39	61.07	65.50	12.60	41.78	44.39	62.04
17	50.49	22.67	61.13	65.44	12.66	41.89	44.25	58.55
27	50.61	20.56	61.26	65.58	12.78	42.21	44.20	54.84
Dec. 7	50.77	18.45	61.44	65.90	12.95	42.70	44.25	50.63
17	50.98	16.25	61.66	66.43	13.16	43.37	44.40	46.81
27	51.22	14.00	61.92	67.14	13.41	44.22	44.63	43.09
37	51.50	11.77	62.22	68.04	13.70	45.17	44.95	39.60
Mean R.A.	15 <sup>h</sup> 39 <sup>m</sup> 50 <sup>s</sup> .031		15 <sup>h</sup> 55 <sup>m</sup> 0 <sup>s</sup> .537		16 <sup>h</sup> 0 <sup>m</sup> 12 <sup>s</sup> .057		16 <sup>h</sup> 22 <sup>m</sup> 46 <sup>s</sup> .237	
Mean Dec.	+ 6° 42' 29".68		- 22° 21' 58".27		- 19° 33' 34".86		+ 61° 43' 3".79	
Sec δ, Tan δ	1.007, + 0.117		1.081, - 0.411		1.061, - 0.355		2.110, + 1.859	

AT UPPER TRANSIT AT GREENWICH.								
Date.	α Scorpii. (Antares) Mag. 1.3		β Herculis. Mag. 2.8		τ Scorpii. Mag. 2.9		ζ Ophiuchi. Mag. 2.7	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	h m	° /	h m	° /	h m	° /	h m	° /
	16 23	26 13	16 26	21 40	16 30	28 1	16 32	10 23
	s	"	s	"	s	"	s	"
Jan. 1	50.82	55.52	19.04	60.01	14.19	45.02	9.93	7.94
11	51.12	56.12	19.29	57.32	14.49	45.48	10.19	9.29
21	51.44	56.86	19.58	54.87	14.81	46.09	10.48	10.64
31	51.78	57.70	19.88	52.70	15.15	46.82	10.79	11.96
Feb. 10	52.13	58.63	20.20	50.93	15.50	47.64	11.10	13.19
20	52.48	59.58	20.51	49.60	15.86	48.53	11.42	14.28
Mar. 2	52.82	60.52	20.82	48.75	16.20	49.42	11.73	15.21
12	53.15	61.46	21.13	48.39	16.54	50.31	12.04	15.95
Apr. 22	53.47	62.36	21.42	48.51	16.87	51.18	12.33	16.48
1	53.77	63.18	21.69	49.11	17.18	52.01	12.61	16.78
11	54.05	63.94	21.94	50.13	17.47	52.80	12.87	16.90
21	54.31	64.65	22.17	51.51	17.74	53.54	13.11	16.86
May 1	54.54	65.29	22.37	53.19	17.98	54.24	13.33	16.66
11	54.75	65.90	22.53	55.09	18.19	54.91	13.52	16.36
21	54.92	66.46	22.67	57.13	18.37	55.55	13.68	15.97
31	55.06	66.98	22.77	59.25	18.52	56.15	13.81	15.51
June 10	55.16	67.47	22.84	61.34	18.63	56.73	13.91	15.04
20	55.22	67.90	22.87	63.37	18.70	57.27	13.97	14.57
30	55.25	68.30	22.86	65.27	18.73	57.77	14.00	14.11
July 10	55.24	68.63	22.82	66.99	18.72	58.20	13.99	13.67
20	55.19	68.91	22.74	68.49	18.68	58.56	13.95	13.28
30	55.10	69.11	22.64	69.72	18.59	58.82	13.88	12.93
Aug. 9	54.98	69.20	22.50	70.65	18.48	58.99	13.78	12.63
19	54.84	69.19	22.34	71.30	18.33	59.05	13.65	12.37
Sept. 29	54.67	69.06	22.16	71.61	18.16	58.98	13.50	12.14
8	54.50	68.85	21.98	71.56	17.99	58.80	13.34	11.97
18	54.33	68.52	21.80	71.18	17.81	58.49	13.18	11.88
28	54.17	68.12	21.62	70.46	17.64	58.09	13.03	11.86
Oct. 8	54.03	67.68	21.46	69.38	17.49	57.61	12.90	11.93
18	53.92	67.20	21.33	67.97	17.38	57.08	12.79	12.10
28	53.85	66.73	21.24	66.22	17.31	56.54	12.72	12.41
Nov. 7	53.83	66.32	21.19	64.17	17.28	56.04	12.69	12.85
17	53.86	66.00	21.18	61.86	17.30	55.61	12.71	13.44
27	53.95	65.81	21.23	59.31	17.39	55.30	12.78	14.21
Dec. 7	54.11	65.78	21.34	56.31	17.54	55.12	12.92	15.24
17	54.31	65.93	21.49	53.50	17.74	55.13	13.09	16.34
27	54.55	66.27	21.69	50.67	17.98	55.33	13.30	17.56
37	54.84	66.79	21.93	47.89	18.26	55.70	13.55	18.86
Mean R.A.	16 <sup>h</sup> 23 <sup>m</sup> 53 <sup>s</sup> .206		16 <sup>h</sup> 26 <sup>m</sup> 20 <sup>s</sup> .990		16 <sup>h</sup> 30 <sup>m</sup> 16 <sup>s</sup> .636		16 <sup>h</sup> 32 <sup>m</sup> 12 <sup>s</sup> .090	
Mean Dec.	- 26° 13' 58".55		+ 21° 41' 6".35		- 28° 1' 47".98		- 10° 23' 7".48	
Sec δ, Tan δ	1.115, - 0.493		1.076, + 0.398		1.134, - 0.532		1.017, - 0.183	



AT UPPER TRANSIT AT GREENWICH.

Date.	α Triang. Aust. Mag. 1·9		ε Scorpil. Mag. 2·3		η Ophiuchi. Mag. 2·6		β Arae. Mag. 2·7	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.
	h m	o /	h m	o /	h m	o /	h m	o /
	16 39	68 51	16 44	34 7	17 5	15 36	17 17	55 26
	s	"	s	"	s	"	s	"
Jan. 1	2·18	40·83	17·22	47·47	10·57	51·90	45·18	41·21
11	2·78	39·29	17·53	47·52	10·81	52·82	45·55	39·88
21	3·45	38·12	17·86	47·74	11·08	53·78	45·97	38·79
31	4·18	37·38	18·21	48·14	11·38	54·73	46·42	37·99
Feb. 10	4·94	37·06	18·57	48·69	11·69	55·65	46·91	37·48
20	5·73	37·12	18·95	49·32	12·01	56·50	47·42	37·26
Mar. 2	6·51	37·60	19·32	50·06	12·33	57·22	47·94	37·31
12	7·28	38·49	19·68	50·86	12·65	57·79	48·46	37·65
Apr. 22	8·03	39·72	20·03	51·70	12·96	58·23	48·97	38·26
1	8·75	41·28	20·36	52·56	13·26	58·52	49·47	39·09
11	9·41	43·14	20·68	53·45	13·54	58·66	49·95	40·16
21	10·01	45·26	20·97	54·35	13·81	58·66	50·39	41·47
May 1	10·55	47·59	21·24	55·26	14·06	58·57	50·81	42·91
11	11·02	50·08	21·48	56·17	14·28	58·42	51·19	44·54
21	11·40	52·70	21·69	57·10	14·48	58·20	51·52	46·31
31	11·69	55·38	21·86	58·02	14·65	57·93	51·80	48·18
June 10	11·88	58·07	21·99	58·92	14·79	57·66	52·02	50·14
20	11·97	60·70	22·08	59·78	14·89	57·41	52·17	52·10
30	11·96	63·21	22·12	60·61	14·95	57·18	52·26	54·04
July 10	11·85	65·55	22·12	61·38	14·97	56·96	52·29	55·92
20	11·65	67·62	22·08	62·06	14·95	56·78	52·24	57·67
30	11·36	69·38	21·99	62·62	14·90	56·63	52·13	59·25
Aug. 9	10·99	70·76	21·87	63·04	14·81	56·49	51·96	60·57
19	10·56	71·74	21·72	63·31	14·69	56·37	51·75	61·62
Sept. 29	10·09	72·26	21·54	63·40	14·54	56·27	51·49	62·34
8	9·59	72·30	21·35	63·32	14·38	56·18	51·19	62·71
18	9·09	71·86	21·16	63·06	14·22	56·10	50·89	62·71
28	8·61	70·96	20·97	62·63	14·05	56·03	50·59	62·32
Oct. 8	8·18	69·62	20·80	62·06	13·90	55·99	50·31	61·57
18	7·81	67·88	20·67	61·37	13·78	56·00	50·06	60·51
28	7·54	65·83	20·57	60·61	13·68	56·08	49·86	59·13
Nov. 7	7·38	63·50	20·53	59·82	13·62	56·23	49·73	57·52
17	7·34	61·07	20·54	59·05	13·62	56·49	49·67	55·76
27	7·43	58·57	20·60	58·37	13·66	56·88	49·69	53·91
Dec. 7	7·67	55·90	20·75	57·74	13·75	57·39	49·80	52·04
17	8·02	53·62	20·94	57·32	13·91	58·10	50·01	50·07
27	8·48	51·57	21·18	57·08	14·10	58·87	50·27	48·40
37	9·04	49·84	21·46	57·02	14·33	59·73	50·61	46·94
Mean R.A.	16 <sup>h</sup> 39 <sup>m</sup> 7 <sup>s</sup> ·500		16 <sup>h</sup> 44 <sup>m</sup> 19 <sup>s</sup> ·872		17 <sup>h</sup> 5 <sup>m</sup> 12 <sup>s</sup> ·889		17 <sup>h</sup> 17 <sup>m</sup> 48 <sup>s</sup> ·960	
Mean Dec.	-68° 51' 48"·84		-34° 7' 50"·51		-15° 36' 50"·78		-55° 26' 44"·09	
Sec δ, Tan δ	2·774, - 2·587		1·208, - 0·678		1·038, - 0·279		1·763, - 1·452	

AT UPPER TRANSIT AT GREENWICH.

Date.	ν Scorpil. Mag. 2·8		α Arae. Mag. 2·9		λ Scorpil. Mag. 1·8		α Ophiuchi. Mag. 2·1	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /
	17 24	37 13	17 24	49 48	17 27	37 2	17 30	12 37
	s	"	s	"	s	"	s	"
Jan. 1	35·65	28·62	49·54	18·69	26·89	19·57	43·23	24·10
11	35·92	28·19	49·86	17·57	27·16	19·13	43·42	21·80
21	36·23	27·94	50·23	16·69	27·47	18·85	43·65	19·61
31	36·57	27·82	50·63	16·05	27·80	18·71	43·91	17·62
Feb. 10	36·93	27·84	51·07	15·64	28·16	18·72	44·19	15·89
20	37·31	27·99	51·52	15·44	28·53	18·85	44·48	14·51
Mar. 2	37·69	28·25	51·98	15·49	28·91	19·08	44·78	13·49
12	38·07	28·62	52·44	15·76	29·29	19·41	45·08	12·89
Apr. 22	38·45	29·06	52·89	16·25	29·67	19·83	45·38	12·71
1	38·81	29·56	53·34	16·93	30·04	20·30	45·67	12·97
11	39·17	30·14	53·77	17·79	30·39	20·84	45·95	13·62
21	39·50	30·80	54·18	18·83	30·73	21·45	46·21	14·61
May 1	39·82	31·50	54·55	20·02	31·05	22·14	46·46	15·91
11	40·11	32·28	54·90	21·35	31·34	22·87	46·68	17·46
21	40·37	33·10	55·21	22·80	31·60	23·67	46·88	19·17
31	40·59	34·00	55·47	24·36	31·83	24·54	47·05	21·00
June 10	40·77	34·95	55·68	26·00	32·01	25·46	47·19	22·88
20	40·91	35·92	55·84	27·65	32·15	26·40	47·29	24·75
30	41·00	36·89	55·94	29·30	32·24	27·36	47·35	26·52
July 10	41·05	37·84	55·98	30·93	32·29	28·30	47·37	28·20
20	41·04	38·75	55·96	32·46	32·29	29·20	47·35	29·73
30	40·99	39·58	55·88	33·82	32·24	30·03	47·30	31·05
Aug. 9	40·89	40·29	55·74	35·00	32·14	30·75	47·21	32·17
19	40·75	40·86	55·56	35·96	32·01	31·35	47·09	33·04
Sept. 29	40·58	41·26	55·34	36·62	31·85	31·76	46·94	33·66
8	40·39	41·49	55·10	37·01	31·65	31·99	46·77	34·01
18	40·19	41·50	54·84	37·07	31·45	32·01	46·59	34·06
28	39·98	41·32	54·57	36·79	31·24	31·85	46·41	33·85
Oct. 8	39·79	40·94	54·33	36·19	31·05	31·47	46·24	33·35
18	39·62	40·37	54·11	35·31	30·88	30·94	46·09	32·56
28	39·49	39·67	53·94	34·18	30·75	30·25	45·97	31·49
Nov. 7	39·40	38·85	53·82	32·83	30·66	29·45	45·87	30·15
17	39·37	37·97	53·77	31·35	30·62	28·60	45·82	28·52
27	39·39	37·08	53·79	29·81	30·64	27·71	45·82	26·65
Dec. 7	39·48	36·23	53·88	28·23	30·72	26·87	45·86	24·60
17	39·64	35·38	54·06	26·57	30·88	26·04	45·96	22·16
27	39·84	34·73	54·29	25·18	31·08	25·39	46·10	19·86
37	40·10	34·23	54·59	23·94	31·33	24·87	46·29	17·56
Mean R.A.	17 <sup>h</sup> 24 <sup>m</sup> 38 <sup>s</sup> ·499		17 <sup>h</sup> 24 <sup>m</sup> 52 <sup>s</sup> ·944		17 <sup>h</sup> 27 <sup>m</sup> 29 <sup>s</sup> ·737		17 <sup>h</sup> 30 <sup>m</sup> 45 <sup>s</sup> ·371	
Mean Dec.	-37° 13' 29"·02		-49° 48' 20"·37		-37° 2' 19"·72		+12° 37' 29"·54	
Sec δ, Tan δ	1·256, - 0·760		1·550, - 1·184		1·253, - 0·755		1·025, + 0·224	



AT UPPER TRANSIT AT GREENWICH.

Date.	θ Scorp.ii. Mag. 2.0		κ Scorp.ii. Mag. 2.6		β Ophiuchi. Mag. 2.9		γ Draconis. Mag. 2.4	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	h m	° /	h m	° /	h m	° /	h m	° /
	17 30	42 56	17 36	38 59	17 38	4 36	17 54	51 29
	s	"	s	"	s	"	s	"
Jan. 1	47.88	28.18	12.77	3.05	59.38	10.63	28.42	49.41
11	48.16	27.39	13.03	2.44	59.58	8.76	28.59	45.87
21	48.49	26.78	13.34	1.99	59.80	6.96	28.82	42.53
31	48.85	26.35	13.67	1.70	60.06	5.29	29.10	39.49
Feb. 10	49.23	26.11	14.04	1.55	60.33	3.82	29.43	36.85
20	49.63	26.05	14.41	1.52	60.62	2.62	29.79	34.76
Mar. 2	50.04	26.13	14.80	1.62	60.91	1.74	30.18	33.25
12	50.45	26.37	15.19	1.82	61.21	1.19	30.58	32.36
Apr. 22	50.86	26.77	15.57	2.14	61.51	1.00	30.99	32.11
1	51.26	27.28	15.95	2.55	61.80	1.15	31.39	32.53
11	51.65	27.92	16.32	3.04	62.08	1.64	31.78	33.58
21	52.02	28.68	16.68	3.61	62.35	2.43	32.14	35.19
May 1	52.36	29.55	17.01	4.29	62.60	3.46	32.47	37.29
11	52.68	30.53	17.31	5.06	62.84	4.69	32.76	39.82
21	52.96	31.61	17.59	5.90	63.04	6.08	33.01	42.66
31	53.21	32.78	17.83	6.82	63.22	7.55	33.21	45.73
June 10	53.41	34.01	18.03	7.81	63.37	9.06	33.35	48.91
20	53.56	35.27	18.18	8.83	63.48	10.56	33.43	52.12
30	53.67	36.55	18.29	9.89	63.56	11.98	33.45	55.28
July 10	53.72	37.80	18.35	10.93	63.60	13.32	33.41	58.29
20	53.71	39.01	18.35	11.94	63.60	14.55	33.31	61.09
30	53.66	40.11	18.30	12.88	63.56	15.61	33.15	63.60
Aug. 9	53.55	41.09	18.21	13.72	63.48	16.49	32.95	65.74
19	53.40	41.87	18.08	14.41	63.37	17.19	32.70	67.50
Sept. 29	53.22	42.43	17.91	14.93	63.23	17.69	32.41	68.85
8	53.01	42.77	17.72	15.25	63.08	18.00	32.09	69.71
18	52.78	42.85	17.51	15.35	62.91	18.09	31.75	70.07
28	52.56	42.67	17.30	15.23	62.74	17.98	31.41	69.94
Oct. 8	52.34	42.24	17.09	14.91	62.57	17.64	31.07	69.31
18	52.15	41.57	16.91	14.37	62.43	17.08	30.75	68.16
28	52.00	40.69	16.77	13.66	62.31	16.29	30.45	66.51
Nov. 7	51.89	39.67	16.67	12.81	62.22	15.29	30.20	64.39
17	51.85	38.52	16.62	11.89	62.17	14.08	30.00	61.84
27	51.86	37.31	16.63	10.91	62.17	12.66	29.86	58.90
Dec. 7	51.94	36.13	16.71	9.96	62.21	11.07	29.79	55.66
17	52.10	34.89	16.85	8.95	{ 62.30 } { 62.31 }	{ 9.33 } { 9.15 }	29.78	52.21
27	52.31	33.87	17.05	8.14	62.45	7.31	29.85	48.26
37	52.58	32.99	17.29	7.46	62.63	5.44	29.98	44.67
Mean R.A.	17 <sup>h</sup> 30 <sup>m</sup> 50 <sup>s</sup> . 953		17 <sup>h</sup> 36 <sup>m</sup> 15 <sup>s</sup> . 694		17 <sup>h</sup> 39 <sup>m</sup> 1 <sup>s</sup> . 573		17 <sup>h</sup> 54 <sup>m</sup> 30 <sup>s</sup> . 970	
Mean Dec.	-42° 56' 28". 66		-38° 59' 2". 70		+ 4° 36' 15". 42		+51° 29' 56". 83	
Sec δ, Tan δ	1.366, - 0.931		1.287, - 0.809		1.003, + 0.081		1.606, + 1.257	

AT UPPER TRANSIT AT GREENWICH.

Date.	δ Sagittarii. Mag. 2.8		ε Sagittarii. Mag. 1.9		λ Sagittarii. Mag. 2.9		α Lyrae. (Vega) Mag. 0.1	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.
	h m	° /	h m	° /	h m	° /	h m	° /
	18 15	29 52	18 18	34 25	18 22	25 28	18 33	38 41
	s	"	s	"	s	"	s	"
Jan. 1	11.25	5.51	9.08	43.91	22.40	24.69	51.11	52.09
11	11.45	5.21	9.28	43.33	22.59	24.65	51.23	48.87
21	11.70	4.99	9.53	42.84	22.82	24.64	51.40	45.76
31	11.97	4.82	9.82	42.40	23.07	24.66	51.61	42.86
Feb. 10	12.27	4.69	10.13	42.04	23.36	24.69	51.85	40.26
20	12.59	4.59	10.46	41.75	23.66	24.70	52.13	38.09
Mar. 2	12.92	4.51	10.81	41.52	23.98	24.68	52.44	36.43
12	13.27	4.44	11.17	41.34	24.30	24.63	52.77	35.31
Apr. 22	13.62	4.36	11.53	41.21	24.64	24.54	53.11	34.78
1	13.97	4.29	11.90	41.13	24.98	24.40	53.45	34.86
11	14.31	4.22	12.26	41.10	25.31	24.22	53.79	35.52
21	14.65	4.19	12.62	41.14	25.64	24.03	54.11	36.73
May 1	14.97	4.19	12.96	41.25	25.95	23.83	54.43	38.46
11	15.28	4.23	13.28	41.46	26.25	23.65	54.72	40.61
21	15.57	4.34	13.58	41.76	26.53	23.51	54.98	43.10
31	15.82	4.51	13.85	42.16	26.79	23.42	55.21	45.86
June 10	16.04	4.77	14.09	42.67	27.01	23.40	55.40	48.79
20	16.23	5.13	14.28	43.28	27.19	23.46	55.54	51.80
30	16.37	5.57	14.43	43.97	27.33	23.61	55.64	54.82
July 10	16.48	6.06	14.53	44.71	27.43	23.84	55.68	57.76
20	16.51	6.60	14.58	45.49	27.48	24.13	55.68	60.55
30	16.51	7.17	14.58	46.31	27.49	24.47	55.62	63.11
Aug. 9	16.46	7.73	14.53	47.09	27.45	24.86	55.52	65.42
19	16.37	8.25	14.44	47.81	27.37	25.24	55.37	67.40
Sept. 29	16.25	8.73	14.31	48.44	27.25	25.59	55.18	69.01
8	16.09	9.11	14.15	48.97	27.11	25.90	54.97	70.22
18	15.91	9.40	13.96	49.33	26.94	26.16	54.73	70.99
28	15.73	9.55	13.76	49.52	26.76	26.33	54.48	71.33
Oct. 8	15.54	9.57	13.56	49.53	26.58	26.42	54.22	71.19
18	15.36	9.46	13.38	49.37	26.41	26.42	53.97	70.59
28	15.22	9.24	13.22	49.05	26.27	26.34	53.74	69.55
Nov. 7	15.10	8.91	13.09	48.59	26.15	26.20	53.54	68.03
17	15.03	8.52	13.01	48.01	26.08	26.04	53.38	66.08
27	15.00	8.09	12.98	47.33	26.05	25.85	53.26	63.73
Dec. 7	15.03	7.65	13.01	46.63	26.07	25.67	53.19	61.07
17	15.11	7.22	13.09	45.93	26.14	25.50	53.17	58.15
27	15.26	6.79	13.23	45.19	{ 26.26 } { 26.27 }	{ 25.37 } { 25.36 }	53.20	55.02
37	15.44	6.46	13.42	44.55	26.44	25.27	53.30	51.48
Mean R.A.	18 <sup>h</sup> 15 <sup>m</sup> 13 <sup>s</sup> . 939		18 <sup>h</sup> 18 <sup>m</sup> 11 <sup>s</sup> . 885		18 <sup>h</sup> 22 <sup>m</sup> 24 <sup>s</sup> . 992		18 <sup>h</sup> 33 <sup>m</sup> 53 <sup>s</sup> . 475	
Mean Dec.	-29° 52' 1". 55		-34° 25' 39". 97		-25° 28' 20". 08		+38° 41' 57". 90	
Sec δ, Tan δ	1.153, - 0.574		1.212, - 0.685		1.108, - 0.476		1.281, + 0.801	



AT UPPER TRANSIT AT GREENWICH.

Date.	σ Sagittarii. Mag. 2.1		ζ Sagittarii. Mag. 2.7		γ Aquilæ. Mag. 2.8		α Aquilæ. (Altair) Mag. 0.9	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /
	18 49	26 24	18 56	30 0	19 41	10 23	19 46	8 37
	s	//	s	//	s	//	s	//
Jan. 1	38.47	39.76	50.48	41.53	56.65	30.04	21.34	41.83
11	38.64	39.50	50.65	41.01	56.72	28.23	21.40	40.22
21	38.84	39.29	50.84	40.53	56.84	26.24	21.52	38.38
31	39.07	39.09	51.08	40.08	56.98	24.55	21.66	36.80
Feb. 10	39.33	38.88	51.35	39.64	57.16	23.02	21.83	35.38
20	39.62	38.64	51.64	39.19	57.36	21.72	22.04	34.18
Mar. 2	39.93	38.37	51.94	38.73	57.59	20.71	22.26	33.26
12	40.24	38.08	52.27	38.28	57.84	20.04	22.51	32.68
Apr. 22	40.57	37.74	52.61	37.81	58.11	19.75	22.77	32.43
1	40.91	37.36	52.96	37.35	58.39	19.86	23.06	32.58
11	41.25	36.96	53.31	36.90	58.68	20.35	23.35	33.10
21	41.59	36.55	53.66	36.48	58.98	21.22	23.65	33.99
May 1	41.92	36.15	54.00	36.12	59.28	22.42	23.95	35.19
11	42.24	35.80	54.33	35.82	59.58	23.91	24.25	36.67
21	42.54	35.50	54.65	35.62	59.87	25.66	24.54	38.38
31	42.81	35.28	54.94	35.52	60.13	27.58	24.81	40.27
June 10	43.06	35.16	55.20	35.54	60.38	29.60	25.06	42.25
20	43.27	35.15	55.42	35.69	60.60	31.70	25.29	44.28
30	43.44	35.24	55.61	35.97	60.78	33.76	25.47	46.29
July 10	43.57	35.45	55.75	36.35	60.92	35.79	25.62	48.25
20	43.65	35.76	55.84	36.84	61.02	37.71	25.73	50.11
30	43.69	36.14	55.88	37.42	61.08	39.47	25.79	51.82
Aug. 9	43.67	36.57	55.87	38.05	61.09	41.06	25.81	53.34
19	43.61	37.04	55.81	38.70	61.06	42.44	25.79	54.65
Sept. 29	43.51	37.49	55.71	39.32	60.99	43.60	25.73	55.78
8	43.38	37.94	55.58	39.89	60.89	44.51	25.63	56.63
18	43.22	38.33	55.42	40.39	60.76	45.16	25.50	57.24
28	43.04	38.64	55.24	40.78	60.60	45.55	25.35	57.63
Oct. 8	42.86	38.86	55.05	41.05	60.43	45.69	25.19	57.75
18	42.68	38.98	54.87	41.17	60.26	45.56	25.02	57.62
28	42.53	39.00	54.70	41.16	60.10	45.16	24.86	57.25
Nov. 7	42.40	38.92	54.56	41.01	59.95	44.50	24.72	56.64
17	42.30	38.78	54.46	40.76	59.83	43.60	24.59	55.80
27	42.25	38.57	54.40	40.39	59.73	42.46	24.50	54.74
Dec. 7	42.25	38.32	54.38	39.96	59.67	41.11	24.44	53.47
17	42.29	38.06	54.42	39.50	59.64	39.57	24.41	52.03
27	42.38	37.81	54.50	39.01	59.65	37.87	24.42	50.46
37	42.53	37.55	54.65	38.47	59.71	36.10	24.47	48.82
Mean R.A.	18 <sup>h</sup> 49 <sup>m</sup> 41 <sup>s</sup> . 073		18 <sup>h</sup> 56 <sup>m</sup> 53 <sup>s</sup> . 157		19 <sup>h</sup> 41 <sup>m</sup> 58 <sup>s</sup> . 854		19 <sup>h</sup> 46 <sup>m</sup> 23 <sup>s</sup> . 534	
Mean Dec.	-26° 24' 33". 44		-30° 0' 34". 73		+10° 23' 36". 02		+ 8° 37' 48". 02	
Sec δ, Tan δ	1.117, - 0.497		1.155, - 0.578		1.017, + 0.183		1.011, + 0.151	

AT UPPER TRANSIT AT GREENWICH.

Date.	α Pavonis. Mag. 2.0		γ Cygni. Mag. 2.3		α Cygni. (Deneb) Mag. 1.3		ε Cygni. Mag. 2.6	
	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. N.
	h m	o /	h m	o /	h m	o /	h m	o /
	20 18	57 1	20 18	39 57	20 38	44 57	20 42	33 37
	s	//	s	//	s	//	s	//
Jan. 1	28.49	41.34	57.52	63.78	19.39	29.77	31.96	55.96
11	28.55	39.15	57.51	60.94	19.33	26.93	31.94	53.47
21	28.67	36.84	57.54	57.98	19.33	23.95	31.95	50.84
31	28.89	34.22	57.62	54.75	19.38	20.60	32.02	47.94
Feb. 10	29.15	31.84	57.75	51.96	19.48	17.63	32.12	45.40
20	29.46	29.51	57.92	49.38	19.63	14.89	32.27	43.05
Mar. 2	29.82	27.27	58.14	47.15	19.83	12.44	32.45	41.01
12	30.23	25.18	58.39	45.36	20.08	10.39	32.67	39.36
Apr. 22	30.68	23.26	58.67	44.07	20.36	8.85	32.92	38.14
1	31.15	21.55	58.98	43.34	20.68	7.85	33.20	37.43
11	31.66	20.10	59.32	43.17	21.02	7.41	33.51	37.27
21	32.18	18.92	59.67	43.59	21.38	7.58	33.83	37.64
May 1	32.71	18.05	60.02	44.56	21.76	8.33	34.16	38.52
11	33.24	17.51	60.37	46.04	22.13	9.62	34.50	39.91
21	33.77	17.33	60.71	48.01	22.50	11.44	34.83	41.70
31	34.27	17.49	61.03	50.36	22.85	13.70	35.15	43.90
June 10	34.74	18.00	61.32	53.04	23.17	16.33	35.45	46.43
20	35.17	18.85	61.57	55.98	23.45	19.25	35.72	49.19
30	35.54	20.04	61.79	59.06	23.69	22.39	35.96	52.10
July 10	35.85	21.50	61.96	62.24	23.89	25.65	36.15	55.12
20	36.10	23.19	62.07	65.43	24.03	28.98	36.30	58.14
30	36.27	25.07	62.14	68.55	24.11	32.28	36.40	61.10
Aug. 9	36.36	27.08	62.15	71.52	24.14	35.49	36.45	63.97
19	36.37	29.14	62.10	74.30	24.11	38.51	36.45	66.65
Sept. 29	36.30	31.16	62.01	76.82	24.02	41.32	36.40	69.08
8	36.16	33.09	61.87	79.02	23.89	43.84	36.31	71.24
18	35.97	34.84	61.70	80.87	23.71	46.00	36.18	73.09
28	35.72	36.32	61.49	82.34	23.50	47.80	36.01	74.59
Oct. 8	35.43	37.47	61.26	83.38	23.26	49.16	35.83	75.69
18	35.13	38.27	61.02	83.97	23.00	50.07	35.63	76.39
28	34.82	38.66	60.78	84.09	22.73	50.50	35.42	76.67
Nov. 7	34.52	38.60	60.55	83.76	22.47	50.42	35.21	76.52
17	34.25	38.11	60.33	82.91	22.22	49.83	35.02	75.91
27	34.03	37.22	60.13	81.61	21.99	48.74	34.85	74.87
Dec. 7	33.86	35.94	59.97	79.86	21.79	47.18	34.70	73.42
17	33.75	34.33	59.84	77.73	21.62	45.20	34.58	71.62
27	33.70	32.45	59.76	75.27	21.50	42.81	34.50	69.49
37	33.73	30.32	59.72	72.55	21.42	40.11	34.46	67.12
Mean R.A.	20 <sup>h</sup> 18 <sup>m</sup> 31 <sup>s</sup> . 982		20 <sup>h</sup> 18 <sup>m</sup> 59 <sup>s</sup> . 879		20 <sup>h</sup> 38 <sup>m</sup> 21 <sup>s</sup> . 806		20 <sup>h</sup> 42 <sup>m</sup> 34 <sup>s</sup> . 177	
Mean Dec.	-57° 1' 27". 11		+39° 58' 5". 42		+44° 57' 29". 93		+33° 37' 57". 74	
Sec δ, Tan δ	1.837, - 1.541		1.305, + 0.838		1.413, + 0.999		1.201, + 0.665	



AT UPPER TRANSIT AT GREENWICH.

Date.	α Cephei. Mag. 2.6		ε Pegasi. Mag. 2.5		α Gruis. Mag. 1.9		α Toucani. Mag. 2.9	
	R. A.	Dec. N.	R. A.	Dec. N.	R. A.	Dec. S.	R. A.	Dec. S.
	h m	° /	h m	° /	h m	° /	h m	° /
	21 16	62 11	21 39	9 27	22 2	47 23	22 12	60 42
	s	"	s	"	s	"	s	"
Jan. 1	22.99	78.61	44.05	37.22	31.73	70.11	18.00	51.87
11	22.76	75.90	44.02	35.90	31.65	68.72	17.84	49.96
21	22.60	72.89	44.01	34.56	31.62	67.02	17.74	47.67
31	22.54	69.69	44.04	33.25	31.63	65.06	17.71	45.08
Feb. 10	22.56	66.12	44.09	32.03	31.68	62.89	17.73	42.27
20	22.66	62.90	44.19	30.83	31.79	60.29	17.83	39.27
Mar. 2	22.84	59.90	44.31	29.97	31.94	57.80	18.00	35.87
12	23.10	57.23	44.46	29.37	32.13	55.22	18.23	32.73
Apr. 22	23.43	54.98	44.65	29.09	32.37	52.65	18.52	29.63
1	23.82	53.25	44.87	29.13	32.65	50.10	18.87	26.62
11	24.27	52.08	45.11	29.55	32.98	47.63	19.28	23.79
21	24.76	51.52	45.38	30.31	33.33	45.27	19.73	21.17
May 1	25.27	51.58	45.68	31.40	33.72	43.10	20.23	18.82
11	25.79	52.25	45.98	32.79	34.13	41.16	20.76	16.80
21	26.31	53.51	46.29	34.46	34.56	39.48	21.32	15.16
31	26.81	55.31	46.61	36.34	35.00	38.13	21.88	13.92
June 10	27.26	57.63	46.92	38.39	35.44	37.12	22.45	13.11
20	27.68	60.36	47.21	40.55	35.87	36.48	23.01	12.77
30	28.05	63.43	47.48	42.75	36.27	36.24	23.53	12.90
July 10	28.34	66.77	47.72	44.94	36.64	36.39	24.02	13.47
20	28.56	70.27	47.93	47.08	36.96	36.93	24.45	14.48
30	28.70	73.88	48.10	49.10	37.24	37.82	24.82	15.91
Aug. 9	28.76	77.51	48.22	50.95	37.46	39.04	25.11	17.69
19	28.74	81.08	48.30	52.65	37.61	40.53	25.32	19.74
Sept. 27	28.64	84.51	48.34	54.13	37.71	42.25	25.44	22.01
8	28.46	87.75	48.34	55.38	37.74	44.11	25.48	24.41
18	28.22	90.69	48.30	56.40	37.71	46.03	25.44	26.84
28	27.92	93.30	48.22	57.17	37.62	47.95	25.32	29.23
Oct. 8	27.56	95.50	48.12	57.70	37.49	49.76	25.13	31.44
18	27.17	97.26	48.00	58.00	37.32	51.38	24.88	33.38
28	26.76	98.52	47.87	58.04	37.12	52.77	24.58	35.00
Nov. 7	26.32	99.24	47.73	57.86	36.91	53.87	24.26	36.21
17	25.89	99.38	47.59	57.45	36.69	54.59	23.93	36.94
27	25.47	98.99	47.46	56.82	36.48	54.91	23.61	37.17
Dec. 7	25.08	98.01	47.35	56.01	36.29	54.85	23.30	36.91
17	24.72	96.47	47.26	55.03	36.12	54.37	23.02	36.12
27	24.41	94.42	47.19	53.88	35.99	53.52	22.78	34.85
37	24.16	91.93	47.15	52.64	35.89	52.27	22.59	33.13
Mean R.A.	21 <sup>h</sup> 16 <sup>m</sup> 25 <sup>s</sup> .977		21 <sup>h</sup> 39 <sup>m</sup> 45 <sup>s</sup> .930		22 <sup>h</sup> 2 <sup>m</sup> 33 <sup>s</sup> .915		22 <sup>h</sup> 12 <sup>m</sup> 20 <sup>s</sup> .543	
Mean Dec.	+62° 12' 14".48		+ 9° 27' 43".07		-47° 23' 50".57		-60° 42' 29".99	
Sec δ, Tan δ	2.144, + 1.897		1.014, + 0.167		1.477, - 1.087		2.044, - 1.783	

AT UPPER TRANSIT AT GREENWICH.

Date.	β Gruis. Mag. 2.1		α Piscis Australis. (Fomalhaut) Mag. 1.3		β Pegasi. Mag. 2.2-2.7		α Pegasi. (Markab) Mag. 2.6	
	R. A.	Dec. S.	R. A.	Dec. S.	R. A.	Dec. N.	R. A.	Dec. N.
	h m	° /	h m	° /	h m	° /	h m	° /
	22 37	47 21	22 52	30 5	22 59	27 35	23 0	14 43
	s	"	s	"	s	"	s	"
Jan. 1	16.00	40.85	39.24	75.26	22.96	40.46	15.07	11.74
11	15.89	39.67	39.15	74.88	22.84	39.06	14.98	10.63
21	15.81	38.13	39.09	74.22	22.75	37.46	14.91	9.39
31	15.77	36.25	39.05	73.29	22.68	35.71	14.85	8.12
Feb. 10	15.76	34.10	39.05	72.12	22.64	33.89	14.83	6.85
20	15.81	31.74	39.07	70.71	22.63	32.06	14.83	5.65
Mar. 2	15.91	28.91	39.13	69.06	22.65	30.32	14.87	4.58
12	16.05	26.20	39.14	68.88	22.73	28.61	14.94	3.65
Apr. 22	16.23	23.42	39.38	65.03	22.84	27.30	15.05	3.08
1	16.46	20.64	39.56	62.87	23.00	26.32	15.20	2.80
11	16.74	17.89	39.77	60.62	23.19	25.73	15.39	2.84
21	17.06	15.23	40.02	58.33	23.43	25.54	15.61	3.25
May 1	17.42	12.71	40.30	56.04	23.70	25.79	15.87	4.02
11	17.81	10.40	40.61	53.78	24.00	26.46	16.15	5.11
21	18.22	8.35	40.95	51.62	24.32	27.55	16.45	6.52
31	18.65	6.59	41.30	49.61	24.66	29.01	16.77	8.24
June 10	19.09	5.19	41.66	47.79	25.00	30.83	17.09	10.17
20	19.52	4.17	42.02	46.22	25.34	32.95	17.42	12.29
30	19.94	3.55	42.37	44.94	25.66	35.31	17.73	14.54
July 10	20.33	3.36	42.70	43.98	25.97	37.84	18.02	16.86
20	20.68	3.59	43.01	43.33	26.24	40.50	18.29	19.17
30	20.99	4.24	43.28	43.05	26.48	43.21	18.52	21.47
Aug. 9	21.25	5.25	43.50	43.11	26.69	45.92	18.72	23.67
19	21.45	6.59	43.69	43.50	26.85	48.57	18.88	25.75
Sept. 29	21.59	8.22	43.82	44.19	26.96	51.10	19.00	27.64
8	21.67	10.09	43.91	45.14	27.03	53.48	19.08	29.33
18	21.69	12.06	43.95	46.29	27.06	55.68	19.11	30.81
28	21.65	14.08	43.94	47.58	27.05	57.62	19.11	32.06
Oct. 8	21.55	16.09	43.89	48.97	27.01	59.29	19.08	33.05
18	21.41	17.97	43.81	50.36	26.93	60.69	19.01	33.78
28	21.24	19.64	43.71	51.71	26.83	61.78	18.93	34.28
Nov. 7	21.05	21.03	43.58	52.95	26.71	62.52	18.83	34.52
17	20.84	22.09	43.44	54.00	26.58	62.94	18.71	34.50
27	20.63	22.76	43.30	54.85	26.44	63.00	18.60	34.26
Dec. 7	20.43	23.02	43.16	55.44	26.30	62.72	18.48	33.79
17	20.24	22.85	43.03	55.77	26.16	62.10	18.36	33.10
27	20.08	22.26	42.92	55.81	26.03	61.16	18.26	32.22
37	19.95	21.27	42.83	55.57	25.91	59.93	18.16	31.18
Mean R.A.	22 <sup>h</sup> 37 <sup>m</sup> 17 <sup>s</sup> .863		22 <sup>h</sup> 52 <sup>m</sup> 40 <sup>s</sup> .801		22 <sup>h</sup> 59 <sup>m</sup> 24 <sup>s</sup> .573		23 <sup>h</sup> 0 <sup>m</sup> 16 <sup>s</sup> .599	
Mean Dec.	-47° 21' 20".11		-30° 5' 58".13		+27° 35' 39".81		+14° 43' 15".08	
Sec δ, Tan δ	1.476, - 1.086		1.156, - 0.580		1.128, + 0.523		1.034, + 0.263	



USED IN DETERMINING THE LATITUDE BY OBSERVATIONS  
OF THE POLE STAR OUT OF THE MERIDIAN.

TABLE I.

Containing the *First* Correction.

Argument:—Local Sidereal Time of Observation.

Local Sidereal Time.	Correction.	Local Sidereal Time.	Local Sidereal Time.	Correction.	Local Sidereal Time.
h m	° / "	h m	h m	° / "	h m
0 0	- 1 5 1 +	12 0	6 0	- 0 25 56 +	18 0
10	1 6 5	10	10	0 23 5	10
20	1 7 2	20	20	0 20 10	20
30	1 7 51	30	30	0 17 14	30
40	1 8 32	40	40	0 14 15	40
50	1 9 5	50	50	0 11 15	50
1 0	1 9 31	13 0	7 0	0 8 14	19 0
10	1 9 48	10	10	0 5 11	10
20	1 9 58	20	20	- 0 2 8 +	20
30	1 10 0	30	30	+ 0 0 55 -	30
40	1 9 53	40	40	0 3 58	40
50	1 9 39	50	50	0 7 1	50
2 0	1 9 17	14 0	8 0	0 10 3	20 0
10	1 8 46	10	10	0 13 3	10
20	1 8 8	20	20	0 16 2	20
30	1 7 22	30	30	0 18 59	30
40	1 6 29	40	40	0 21 55	40
50	1 5 28	50	50	0 24 48	50
3 0	1 4 19	15 0	9 0	0 27 38	21 0
10	1 3 3	10	10	0 30 25	10
20	1 1 40	20	20	0 33 8	20
30	1 0 10	30	30	0 35 47	30
40	0 58 33	40	40	0 38 23	40
50	0 56 49	50	50	0 40 54	50
4 0	0 54 58	16 0	10 0	0 43 20	22 0
10	0 53 2	10	10	0 45 42	10
20	0 50 59	20	20	0 47 58	20
30	0 48 51	30	30	0 50 9	30
40	0 46 37	40	40	0 52 13	40
50	0 44 17	50	50	0 54 12	50
5 0	0 41 53	17 0	11 0	0 56 5	23 0
10	0 39 24	10	10	0 57 52	10
20	0 36 50	20	20	0 59 31	20
30	0 34 12	30	30	1 1 4	30
40	0 31 30	40	40	1 2 30	40
50	0 28 45	50	50	1 3 49	50
6 0	- 0 25 56 +	18 0	12 0	+ 1 5 1 -	24 0

TABLE II.

Containing the *Second* Correction. (always to be added.)

Arguments:—Local Sidereal Time and Altitude.

Local Sidereal Time.	Altitude.								Local Sidereal Time.
	0°	5	10	15	20	25	30	35	
h m	' "	' "	' "	' "	' "	' "	' "	' "	h m
0 0	0 0	0 1	0 1	0 2	0 2	0 3	0 3	0 4	12 0
30	0 0	0 0	0 0	0 1	0 1	0 1	0 1	0 2	30
1 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	13 0
30	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	30
2 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 1	14 0
30	0 0	0 0	0 1	0 1	0 1	0 1	0 2	0 2	30
3 0	0 0	0 1	0 1	0 2	0 2	0 3	0 4	0 5	15 0
30	0 0	0 1	0 2	0 3	0 4	0 5	0 6	0 8	30
4 0	0 0	0 1	0 3	0 4	0 6	0 8	0 9	0 11	16 0
30	0 0	0 2	0 4	0 6	0 8	0 10	0 13	0 15	30
5 0	0 0	0 2	0 5	0 7	0 10	0 13	0 16	0 19	17 0
30	0 0	0 3	0 6	0 9	0 12	0 15	0 19	0 23	30
6 0	0 0	0 3	0 6	0 10	0 13	0 17	0 21	0 26	18 0
30	0 0	0 3	0 7	0 11	0 15	0 19	0 23	0 28	30
7 0	0 0	0 4	0 7	0 11	0 15	0 20	0 25	0 30	19 0
30	0 0	0 4	0 8	0 11	0 16	0 20	0 25	0 30	30
8 0	0 0	0 4	0 7	0 11	0 15	0 20	0 24	0 29	20 0
30	0 0	0 3	0 7	0 11	0 14	0 19	0 23	0 28	30
9 0	0 0	0 3	0 6	0 10	0 13	0 17	0 21	0 25	21 0
30	0 0	0 3	0 6	0 9	0 12	0 15	0 18	0 22	30
10 0	0 0	0 2	0 5	0 7	0 10	0 12	0 15	0 18	22 0
30	0 0	0 2	0 4	0 6	0 8	0 10	0 12	0 15	30
11 0	0 0	0 1	0 3	0 4	0 6	0 7	0 9	0 11	23 0
30	0 0	0 1	0 2	0 3	0 4	0 5	0 6	0 7	30
12 0	0 0	0 1	0 1	0 2	0 2	0 3	0 3	0 4	24 0

TABLE III. (for 1910.)

Containing the *Third* Correction. (always to be added.)

Arguments:—Local Sidereal Time and Date.

Local Sidereal Time.	Jan. 1.	Feb. 1.	March 1.	April 1.	May 1.	June 1.	July 1.
h	' "	' "	' "	' "	' "	' "	' "
0	0 49	0 46	0 39	0 30	0 22	0 18	0 19
2	0 50	0 52	0 49	0 41	0 32	0 25	0 21
4	0 53	1 0	1 2	0 57	0 50	0 41	0 33
6	0 59	1 8	1 14	1 15	1 10	1 2	0 53
8	1 4	1 14	1 22	1 28	1 28	1 23	1 14
10	1 9	1 16	1 25	1 34	1 38	1 38	1 32
12	1 11	1 14	1 21	1 30	1 38	1 42	1 41
14	1 10	1 8	1 11	1 19	1 28	1 35	1 39
16	1 7	1 0	0 58	1 3	1 10	1 19	1 27
18	1 1	0 52	0 46	0 45	0 50	0 58	1 7
20	0 56	0 46	0 38	0 32	0 32	0 37	0 46
22	0 51	0 44	0 35	0 26	0 22	0 22	0 28
24	0 49	0 46	0 39	0 30	0 22	0 18	0 19



TABLE II.

Containing the *Second Correction.* (always to be added.)  
*Arguments:—Local Sidereal Time and Altitude.*

Local Sidereal Time.		Altitude.							Local Sidereal Time.	
		35°	40°	45°	50°	55°	60°	65°		
h	m	/ "	/ "	/ "	/ "	/ "	/ "	/ "	h	m
0	0	0 4	0 5	0 6	0 7	0 8	0 10	0 13	12	0
	30	0 2	0 2	0 3	0 3	0 4	0 4	0 6		30
1	0	0 0	0 0	0 1	0 1	0 1	0 1	0 1	13	0
	30	0 0	0 0	0 0	0 0	0 0	0 0	0 0		30
2	0	0 1	0 1	0 1	0 1	0 1	0 2	0 2	14	0
	30	0 2	0 3	0 3	0 4	0 5	0 6	0 7		30
3	0	0 5	0 6	0 7	0 8	0 10	0 12	0 15	15	0
	30	0 8	0 9	0 11	0 13	0 16	0 19	0 24		30
4	0	0 11	0 14	0 16	0 19	0 23	0 28	0 35	16	0
	30	0 15	0 18	0 22	0 26	0 31	0 38	0 47		30
5	0	0 19	0 23	0 27	0 33	0 39	0 47	0 59	17	0
	30	0 23	0 27	0 33	0 39	0 47	0 56	1 10		30
6	0	0 26	0 31	0 37	0 44	0 53	1 4	1 10	18	0
	30	0 28	0 34	0 40	0 48	0 57	1 9	1 26		30
7	0	0 30	0 35	0 42	0 50	1 0	1 13	1 30	19	0
	30	0 30	0 36	0 43	0 51	1 1	1 14	1 31		30
8	0	0 29	0 35	0 42	0 50	1 0	1 12	1 30	20	0
	30	0 28	0 33	0 40	0 47	0 57	1 9	1 25		30
9	0	0 25	0 30	0 36	0 43	0 52	1 2	1 17	21	0
	30	0 22	0 27	0 32	0 38	0 45	0 55	1 8		30
10	0	0 18	0 22	0 26	0 31	0 38	0 46	0 56	22	0
	30	0 15	0 17	0 21	0 25	0 30	0 36	0 45		30
11	0	0 11	0 13	0 15	0 18	0 22	0 26	0 33	23	0
	30	0 7	0 9	0 10	0 12	0 15	0 18	0 22		30
12	0	0 4	0 5	0 6	0 7	0 8	0 10	0 13	24	0

TABLE III. (for 1910.)

Containing the *Third Correction.* (always to be added.)  
*Arguments:—Local Sidereal Time and Date.*

Local Sidereal Time.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.	Dec. 31.
h	/ "	/ "	/ "	/ "	/ "	/ "	/ "
0	0 19	0 26	0 36	0 48	0 59	1 7	1 11
2	0 21	0 23	0 29	0 39	0 50	1 1	1 9
4	0 33	0 29	0 31	0 36	0 44	0 55	1 5
6	0 53	0 45	0 40	0 39	0 43	0 50	1 0
8	1 14	1 4	0 54	0 48	0 45	0 48	0 54
10	1 32	1 22	1 11	1 0	0 52	0 49	0 51
12	1 41	1 34	1 24	1 12	1 1	0 53	0 49
14	1 39	1 37	1 31	1 21	1 10	0 59	0 51
16	1 27	1 31	1 29	1 24	1 16	1 5	0 55
18	1 7	1 15	1 20	1 21	1 17	1 10	1 0
20	0 46	0 56	1 6	1 12	1 15	1 12	1 6
22	0 28	0 38	0 49	1 0	1 8	1 11	1 9
24	0 19	0 26	0 36	0 48	0 59	1 7	1 11

For converting INTERVALS of MEAN SOLAR Time into Equivalent INTERVALS of SIDEREAL Time.

HOURS.		MINUTES.			SECONDS.		
Hours of Mean Time.	Equivalents in Sidereal Time.	Minutes of Mean Time.	Equivalents in Sidereal Time.	Minutes of Mean Time.	Equivalents in Sidereal Time.	Seconds of Mean Time.	Equivalents in Sidereal Time.
	h m s		m s		m s		s
1	1 0 9.8565	1	1 0.1643	31	31 5.0925	1	1.0027
2	2 0 19.7130	2	2 0.3286	32	32 5.2568	2	2.0055
3	3 0 29.5694	3	3 0.4928	33	33 5.4211	3	3.0082
4	4 0 39.4259	4	4 0.6571	34	34 5.5853	4	4.0110
5	5 0 49.2824	5	5 0.8214	35	35 5.7496	5	5.0137
6	6 0 59.1388	6	6 0.9857	36	36 5.9139	6	6.0164
7	7 1 8.9953	7	7 1.1499	37	37 6.0782	7	7.0192
8	8 1 18.8518	8	8 1.3142	38	38 6.2424	8	8.0219
9	9 1 28.7083	9	9 1.4785	39	39 6.4067	9	9.0246
10	10 1 38.5647	10	10 1.6428	40	40 6.5710	10	10.0274
11	11 1 48.4212	11	11 1.8070	41	41 6.7353	11	11.0301
12	12 1 58.2777	12	12 1.9713	42	42 6.8995	12	12.0329
13	13 2 8.1342	13	13 2.1356	43	43 7.0638	13	13.0356
14	14 2 17.9906	14	14 2.2998	44	44 7.2281	14	14.0383
15	15 2 27.8471	15	15 2.4641	45	45 7.3924	15	15.0411
16	16 2 37.7036	16	16 2.6284	46	46 7.5566	16	16.0438
17	17 2 47.5600	17	17 2.7927	47	47 7.7209	17	17.0465
18	18 2 57.4165	18	18 2.9569	48	48 7.8852	18	18.0493
19	19 3 7.2730	19	19 3.1212	49	49 8.0495	19	19.0520
20	20 3 17.1295	20	20 3.2855	50	50 8.2137	20	20.0548
21	21 3 26.9859	21	21 3.4498	51	51 8.3780	21	21.0575
22	22 3 36.8424	22	22 3.6140	52	52 8.5423	22	22.0602
23	23 3 46.6989	23	23 3.7783	53	53 8.7066	23	23.0630
24	24 3 56.5554	24	24 3.9426	54	54 8.8708	24	24.0657
		25	25 4.1069	55	55 9.0351	25	25.0685
		26	26 4.2711	56	56 9.1994	26	26.0712
		27	27 4.4354	57	57 9.3637	27	27.0739
		28	28 4.5997	58	58 9.5279	28	28.0767
		29	29 4.7640	59	59 9.6922	29	29.0794
		30	30 4.9282	60	60 9.8565	30	30.0821
						60	60.1643



For converting INTERVALS of MEAN SOLAR Time into Equivalent INTERVALS of SIDEREAL Time.

FRACTIONS OF A SECOND.

Seconds of Mean Time.	Equivalents in Sidereal Time.	Seconds of Mean Time.	Equivalents in Sidereal Time.	Seconds of Mean Time.	Equivalents in Sidereal Time.	Seconds of Mean Time.	Equivalents in Sidereal Time.	Seconds of Mean Time.	Equivalents in Sidereal Time.
0'01	0'01003	0'21	0'21057	0'41	0'41112	0'61	0'61167	0'81	0'81222
0'02	0'02006	0'22	0'22060	0'42	0'42115	0'62	0'62170	0'82	0'82225
0'03	0'03008	0'23	0'23063	0'43	0'43118	0'63	0'63173	0'83	0'83227
0'04	0'04011	0'24	0'24066	0'44	0'44120	0'64	0'64175	0'84	0'84230
0'05	0'05014	0'25	0'25068	0'45	0'45123	0'65	0'65178	0'85	0'85233
0'06	0'06016	0'26	0'26071	0'46	0'46126	0'66	0'66181	0'86	0'86235
0'07	0'07019	0'27	0'27074	0'47	0'47129	0'67	0'67183	0'87	0'87238
0'08	0'08022	0'28	0'28077	0'48	0'48131	0'68	0'68186	0'88	0'88241
0'09	0'09025	0'29	0'29079	0'49	0'49134	0'69	0'69189	0'89	0'89244
0'10	0'10027	0'30	0'30082	0'50	0'50137	0'70	0'70192	0'90	0'90246
0'11	0'11030	0'31	0'31085	0'51	0'51140	0'71	0'71194	0'91	0'91249
0'12	0'12033	0'32	0'32088	0'52	0'52142	0'72	0'72197	0'92	0'92252
0'13	0'13036	0'33	0'33090	0'53	0'53145	0'73	0'73200	0'93	0'93255
0'14	0'14038	0'34	0'34093	0'54	0'54148	0'74	0'74203	0'94	0'94257
0'15	0'15041	0'35	0'35096	0'55	0'55151	0'75	0'75205	0'95	0'95260
0'16	0'16044	0'36	0'36099	0'56	0'56153	0'76	0'76208	0'96	0'96263
0'17	0'17047	0'37	0'37101	0'57	0'57156	0'77	0'77211	0'97	0'97266
0'18	0'18049	0'38	0'38104	0'58	0'58159	0'78	0'78214	0'98	0'98268
0'19	0'19052	0'39	0'39107	0'59	0'59162	0'79	0'79216	0'99	0'99271
0'20	0'20055	0'40	0'40110	0'60	0'60164	0'80	0'80219	1'00	1'00274

Sidereal Time required = Sidereal Time at the preceding Mean Noon + the Equivalent to the given Mean Time.

EXAMPLE.—To convert 2<sup>h</sup> 23<sup>m</sup> 24<sup>s</sup>.92 Mean Time at Greenwich, Jan. 20, 1910, into Sidereal Time.

Sidereal Time at the preceding Mean Noon, viz., January 20.....		h	m	s	
		19	55	56.25	
For Mean Intervals	{	2 <sup>h</sup> 0 <sup>m</sup> 0 <sup>s</sup>	2	0	19.713
		23	0	23	3.778
		24		24	0.066
		0.92			0.923

The Sum is the Sidereal Time required.....22 19 44.73

For converting INTERVALS of SIDEREAL Time into Equivalent INTERVALS of MEAN SOLAR Time.

HOURS.			MINUTES.			SECONDS.			
Hours of Sidereal Time.	Equivalents in Mean Time.	Minutes of Sidereal Time.	Equivalents in Mean Time.	Minutes of Sidereal Time.	Equivalents in Mean Time.	Seconds of Sidereal Time.	Equivalents in Mean Time.	Seconds of Sidereal Time.	Equivalents in Mean Time.
	h m s		m s		m s		s		s
1	0 59 50.1704	1	0 59.8362	31	30 54.9214	1	0.9973	31	30.9154
2	1 59 40.3409	2	1 59.6723	32	31 54.7576	2	1.9945	32	31.9126
3	2 59 30.5113	3	2 59.5085	33	32 54.5937	3	2.9918	33	32.9099
4	3 59 20.6818	4	3 59.3447	34	33 54.4299	4	3.9891	34	33.9072
5	4 59 10.8522	5	4 59.1809	35	34 54.2661	5	4.9864	35	34.9045
6	5 59 1.0226	6	5 59.0170	36	35 54.1023	6	5.9836	36	35.9017
7	6 58 51.1931	7	6 58.8532	37	36 53.9384	7	6.9809	37	36.8990
8	7 58 41.3635	8	7 58.6894	38	37 53.7746	8	7.9782	38	37.8963
9	8 58 31.5340	9	8 58.5256	39	38 53.6108	9	8.9754	39	38.8935
10	9 58 21.7044	10	9 58.3617	40	39 53.4470	10	9.9727	40	39.8908
11	10 58 11.8748	11	10 58.1979	41	40 53.2831	11	10.9700	41	40.8881
12	11 58 2.0453	12	11 58.0341	42	41 53.1193	12	11.9672	42	41.8853
13	12 57 52.2157	13	12 57.8703	43	42 52.9555	13	12.9645	43	42.8826
14	13 57 42.3862	14	13 57.7064	44	43 52.7917	14	13.9618	44	43.8799
15	14 57 32.5566	15	14 57.5426	45	44 52.6278	15	14.9591	45	44.8772
16	15 57 22.7270	16	15 57.3788	46	45 52.4640	16	15.9563	46	45.8744
17	16 57 12.8975	17	16 57.2150	47	46 52.3002	17	16.9536	47	46.8717
18	17 57 3.0679	18	17 57.0511	48	47 52.1364	18	17.9509	48	47.8690
19	18 56 53.2384	19	18 56.8873	49	48 51.9725	19	18.9481	49	48.8662
20	19 56 43.4088	20	19 56.7235	50	49 51.8087	20	19.9454	50	49.8635
21	20 56 33.5792	21	20 56.5597	51	50 51.6449	21	20.9427	51	50.8608
22	21 56 23.7497	22	21 56.3958	52	51 51.4810	22	21.9399	52	51.8580
23	22 56 13.9201	23	22 56.2320	53	52 51.3172	23	22.9372	53	52.8553
24	23 56 4.0906	24	23 56.0682	54	53 51.1534	24	23.9345	54	53.8526
		25	24 55.9044	55	54 50.9896	25	24.9318	55	54.8499
		26	25 55.7405	56	55 50.8257	26	25.9290	56	55.8471
		27	26 55.5767	57	56 50.6619	27	26.9263	57	56.8444
		28	27 55.4129	58	57 50.4981	28	27.9236	58	57.8417
		29	28 55.2490	59	58 50.3343	29	28.9208	59	58.8389
		30	29 55.0852	60	59 50.1704	30	29.9181	60	59.8362







高潮時表

明治四十三年一月

地名	横須賀		下田		清水		鳥羽		(紀伊) 串本		(淡路) 由良		神戶	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	8 28	8 47	8 47	9 6	9 7	9 26	9 20	9 39	9 25	9 45	10 13	10 33	10 46	11 6
2	9 8	9 28	9 27	9 47	9 48	10 7	10 1	10 20	10 6	10 25	10 54	11 13	11 27	11 46
3	9 48	10 11	10 7	10 30	10 27	10 50	10 40	11 3	10 46	11 9	11 34	11 57	* *	0 7
4	10 36	11 3	10 55	11 22	11 15	11 42	11 28	11 55	11 34	* *	* *	0 22	0 30	0 55
5	11 31	* *	11 50	* *	* *	0 11	* *	0 24	0 1	0 29	0 49	1 17	1 22	1 50
6	0 4	0 36	0 23	0 55	0 43	1 15	0 56	1 28	1 2	1 34	1 50	2 22	2 23	2 55
7	1 9	1 41	1 28	2 0	1 48	2 20	2 1	2 33	2 7	2 38	2 55	3 26	3 28	3 59
8	2 12	2 41	2 31	3 0	2 52	3 21	3 5	3 34	3 10	3 39	3 58	4 27	4 31	5 0
9	3 8	3 34	3 27	3 53	3 48	4 13	4 1	4 26	4 6	4 32	4 54	5 20	5 27	5 53
10	4 0	4 24	4 19	4 43	4 40	5 3	4 53	5 16	4 58	5 22	5 46	6 10	6 19	6 43
11	4 48	5 9	5 7	5 28	5 27	5 49	5 40	6 2	5 45	6 7	6 33	6 55	7 6	7 28
12	5 32	5 53	5 51	6 12	6 11	6 32	6 24	6 45	6 29	6 50	7 17	7 38	7 50	8 11
13	6 13	6 31	6 32	6 50	6 52	7 10	7 5	7 23	7 10	7 28	7 58	8 16	8 31	8 49
14	6 50	7 9	7 9	7 28	7 30	7 48	7 43	8 1	7 48	8 7	8 36	8 55	9 9	9 28
15	7 27	7 45	7 46	8 4	8 6	8 24	8 19	8 37	8 24	8 42	9 12	9 30	9 45	10 3
16	8 3	8 23	8 22	8 42	8 43	9 2	8 56	9 15	9 1	9 21	9 49	10 9	10 22	10 42
17	8 45	9 7	9 4	9 26	9 24	9 46	9 37	9 59	9 42	10 5	10 30	10 53	11 3	11 26
18	9 30	9 59	9 49	10 18	10 9	10 38	10 22	10 51	10 28	10 56	11 16	11 44	11 49	* *
19	10 31	11 8	10 50	11 27	11 11	11 48	11 24	* *	11 29	* *	* *	0 17	0 17	0 50
20	11 52	* *	* *	0 11	* *	0 32	0 1	0 45	0 6	0 50	0 54	1 38	1 27	2 11
21	0 37	1 22	0 56	1 41	1 16	2 2	1 29	2 15	1 35	2 21	2 23	3 9	2 56	3 42
22	2 4	2 41	2 23	3 0	2 44	3 20	2 57	3 33	3 2	3 39	3 50	4 27	4 23	5 0
23	3 15	3 42	3 34	4 1	3 54	4 21	4 7	4 34	4 13	4 40	5 1	5 28	5 34	6 1
24	4 9	4 33	4 28	4 52	4 48	5 12	5 1	5 25	5 7	5 31	5 55	6 19	6 28	6 52
25	4 55	5 16	5 14	5 35	5 34	5 55	5 47	6 8	5 52	6 13	6 40	7 1	7 13	7 34
26	5 38	5 56	5 57	6 15	6 16	6 35	6 29	6 48	6 34	6 53	7 22	7 41	7 55	8 14
27	6 14	6 31	6 33	6 50	6 53	7 11	7 6	7 24	7 11	7 29	7 59	8 17	8 32	8 50
28	6 49	7 6	7 8	7 25	7 28	7 45	7 41	7 58	7 46	8 3	8 34	8 51	9 7	9 24
29	7 22	7 39	7 41	7 58	8 2	8 18	8 15	8 31	8 20	8 36	9 8	9 24	9 41	9 57
30	7 55	8 12	8 14	8 31	8 35	8 51	8 48	9 4	8 53	9 9	9 41	9 57	10 14	10 30
31	8 29	8 46	8 48	9 5	9 8	9 26	9 21	9 39	9 26	9 44	10 14	10 32	10 47	11 5

高潮時表

明治四十三年一月

地名	明石		粟島		(三原瀬戸) 瀬戸田		來島		三津ヶ濱		佐賀ノ關		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	11 46	* *	2 37	2 58	1 55	2 16	1 20	1 41	0 40	1 1	11 22	11 41	20		
2	0 6	0 27	3 17	3 38	2 35	2 56	2 0	2 21	1 20	1 41	* *	0 2	21		
3	0 46	1 7	3 58	4 18	3 16	3 36	2 41	3 1	2 1	2 21	0 22	0 42	22	(	E.
4	1 30	1 55	4 41	5 6	3 59	4 24	3 24	3 49	2 44	3 9	1 5	1 30	23		A.
5	2 22	2 50	5 33	6 1	4 51	5 19	4 16	4 44	3 36	4 4	1 57	2 25	24		
6	3 23	3 55	6 34	7 7	5 52	6 24	5 17	5 49	4 37	5 9	2 58	3 30	25		
7	4 28	4 59	7 40	8 11	6 57	7 29	6 22	6 54	5 42	6 14	4 3	4 35	26		
8	5 31	6 0	8 43	9 12	8 1	8 29	7 26	7 54	6 46	7 14	5 7	5 35	27		
9	6 27	6 53	9 39	10 4	8 57	9 22	8 22	8 47	7 42	8 7	6 3	6 28	28		
10	7 19	7 43	10 31	10 54	9 48	10 12	9 13	9 37	8 33	8 57	6 54	7 18	29		
11	8 6	8 28	11 18	11 40	10 35	10 57	10 0	10 22	9 20	9 42	7 41	8 3	1	●	S.
12	8 50	9 11	* *	0 2	11 20	11 41	10 45	11 6	10 5	10 26	8 26	8 47	2		
13	9 31	9 49	0 23	0 43	* *	0 0	11 25	11 43	10 45	11 3	9 6	9 24	3		
14	10 9	10 28	1 1	1 21	0 18	0 38	* *	0 3	11 23	11 42	9 44	10 3	4		
15	10 45	11 3	1 39	1 57	0 57	1 15	0 22	0 40	* *	0 0	10 21	10 38	5		
16	11 22	11 42	2 15	2 34	1 32	1 51	0 57	1 16	0 17	0 36	10 57	11 17	6		
17	* *	0 3	2 53	3 15	2 11	2 33	1 36	1 58	0 56	1 18	11 39	* *	7		E.,P.
18	0 26	0 49	3 37	4 1	2 55	3 18	2 20	2 43	1 40	2 3	0 1	0 24	8	)	
19	1 17	1 50	4 29	5 2	3 47	4 20	3 12	3 45	2 32	3 5	0 53	1 26	9		
20	2 27	3 11	5 39	6 23	4 57	5 41	4 22	5 6	3 42	4 26	2 3	2 47	10		
21	3 56	4 42	7 9	7 54	6 26	7 11	5 51	6 36	5 11	5 56	3 32	4 17	11		
22	5 23	6 0	8 36	9 12	7 53	8 29	7 18	7 54	6 38	7 14	4 59	5 35	12		
23	6 34	7 1	9 46	10 13	9 3	9 30	8 28	8 55	7 48	8 15	6 9	6 36	13		
24	7 28	7 52	10 39	11 3	9 57	10 21	9 22	9 46	8 42	9 6	7 3	7 27	14		N.
25	8 13	8 34	11 25	11 46	10 43	11 4	10 8	10 29	9 28	9 49	7 49	8 10	15	○	
26	8 55	9 14	* *	0 7	11 24	11 44	10 49	11 9	10 9	10 29	8 30	8 50	16		
27	9 32	9 50	0 26	0 43	* *	0 1	11 26	11 44	10 46	11 4	9 7	9 25	17		
28	10 7	10 24	1 2	1 19	0 19	0 37	* *	0 2	11 22	11 39	9 43	10 0	18		
29	10 41	10 57	1 37	1 53	0 54	1 10	0 19	0 35	11 55	* *	10 16	10 32	19		
30	11 14	11 30	2 9	2 26	1 26	1 43	0 51	1 8	0 11	0 28	10 49	11 5	20		
31	11 47	* *	2 42	2 59	1 59	2 16	1 24	1 41	0 44	1 1	11 22	11 40	21		E.







明治四十三年一月

地名	打狗		(隱岐) 西郷		境		舞鶴		敦賀		七尾		函館	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	11 33	11 52	5 25	5 44	5 38	5 57	5 44	6 3	5 37	5 56	6 16	6 35	7 0	7 19
2	* *	0 13	6 5	6 25	6 18	6 38	6 24	6 44	6 17	6 37	6 57	7 16	7 40	8 0
3	0 33	0 54	6 45	7 8	6 58	7 21	7 4	7 27	6 57	7 20	7 36	7 59	8 20	8 43
4	1 17	1 42	7 33	8 0	7 46	8 13	7 52	8 19	7 45	8 12	8 24	8 51	9 8	9 35
5	2 9	2 36	8 28	9 1	8 41	9 14	8 47	9 20	8 40	9 13	9 20	9 52	10 3	10 36
6	3 10	3 43	9 33	10 6	9 46	10 19	9 52	10 25	9 45	10 18	10 24	10 57	11 8	11 41
7	4 16	4 47	10 38	11 10	10 51	11 23	10 57	11 29	10 50	11 22	11 29	* *	* *	0 13
8	5 19	5 47	11 38	* *	11 51	* *	11 57	* *	11 50	* *	0 1	0 30	0 44	1 13
9	6 14	6 40	0 6	0 31	0 19	0 44	0 25	0 50	0 18	0 43	0 57	1 22	1 40	2 6
10	7 6	7 30	0 57	1 21	1 10	1 34	1 16	1 40	1 9	1 33	1 49	2 12	2 32	2 56
11	7 53	8 15	1 44	2 6	1 57	2 19	2 3	2 25	1 56	2 18	2 36	2 58	3 20	3 41
12	8 37	8 58	2 29	2 50	2 42	3 3	2 48	3 9	2 41	3 2	3 20	3 41	4 4	4 25
13	9 18	9 35	3 9	3 27	3 22	3 40	3 28	3 46	3 21	3 39	4 1	4 19	4 45	5 3
14	9 55	10 14	3 47	4 6	4 0	4 19	4 6	4 25	3 59	4 18	4 39	4 57	5 22	5 41
15	10 32	10 50	4 24	4 41	4 37	4 54	4 43	5 0	4 36	4 53	5 15	5 33	5 59	6 17
16	11 9	11 28	5 0	5 20	5 13	5 33	5 19	5 39	5 12	5 32	5 52	6 11	6 35	6 55
17	11 50	* *	5 42	6 4	5 55	6 17	6 1	6 23	5 54	6 16	6 33	6 55	7 17	7 39
18	0 12	0 36	6 27	6 56	6 40	7 9	6 46	7 15	6 39	7 8	7 18	7 47	8 2	8 31
19	1 5	1 38	7 29	8 6	7 42	8 19	7 48	8 25	7 41	8 18	8 20	8 57	9 3	9 40
20	2 15	3 0	8 50	9 35	9 3	9 48	9 9	9 54	9 2	9 47	9 41	10 25	10 24	11 9
21	3 45	4 30	10 20	11 2	10 33	11 15	10 39	11 21	10 32	11 14	11 11	11 53	11 54	* *
22	5 11	5 47	11 38	* *	11 51	* *	11 57	* *	11 50	* *	* *	0 29	0 36	1 13
23	6 21	6 48	0 12	0 39	0 25	0 52	0 31	0 58	0 24	0 51	1 3	1 30	1 47	2 14
24	7 15	7 39	1 6	1 30	1 19	1 43	1 25	1 49	1 18	1 42	1 57	2 21	2 41	3 5
25	8 0	8 21	1 52	2 13	2 5	2 26	2 11	2 32	2 4	2 25	2 43	3 4	3 27	3 48
26	8 42	9 1	2 33	2 53	2 46	3 6	2 52	3 12	2 45	3 5	3 25	3 44	4 10	4 28
27	9 19	9 36	3 10	3 28	3 23	3 41	3 29	3 47	3 22	3 40	4 2	4 20	4 46	5 3
28	9 54	10 11	3 46	4 3	3 59	4 16	4 5	4 22	3 58	4 15	4 37	4 54	5 21	5 38
29	10 27	10 43	4 19	4 35	4 32	4 48	4 38	4 54	4 31	4 47	5 11	5 27	5 54	6 11
30	11 0	11 16	4 52	5 8	5 5	5 21	5 11	5 27	5 4	5 20	5 44	6 0	6 27	6 44
31	11 33	11 51	5 25	5 43	5 38	5 56	5 44	6 2	5 37	5 55	6 17	6 35	7 1	7 18

明治四十三年一月

地名	大湊		(陸中) 山田		根室		小樽		稚内		(樺太) 大泊		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	6 51	7 10	6 58	7 18	6 39	6 59	7 1	7 20	6 49	7 9	6 35	6 55	20		
2	7 31	7 51	7 39	7 59	7 20	7 39	7 41	8 1	7 30	7 50	7 16	7 36	21	(	E.
3	8 11	8 34	8 19	8 42	7 59	8 22	8 21	8 44	8 10	8 33	7 56	8 19	22		
4	8 59	9 26	9 7	9 33	8 47	9 14	9 9	9 36	8 58	9 24	8 44	9 10	23		A.
5	9 54	10 27	10 2	10 34	9 43	10 15	10 4	10 37	9 53	10 25	9 39	10 11	24		
6	10 59	11 32	11 6	11 39	10 47	11 20	11 9	11 42	10 57	11 30	10 43	11 16	25		
7	* *	0 4	* *	0 11	11 52	* *	* *	0 14	* *	0 2	11 48	* *	26		
8	0 35	1 4	0 43	1 12	0 23	0 53	0 45	1 14	0 34	1 3	0 20	0 49	27		
9	1 31	1 57	1 39	2 5	1 20	1 45	1 41	2 7	1 30	1 56	1 16	1 42	28		
10	2 23	2 47	2 31	2 55	2 12	2 36	2 33	2 57	2 22	2 46	2 8	2 32	29		S.
11	3 11	3 32	3 18	3 40	2 59	3 21	3 21	3 42	3 9	3 31	2 55	3 17	1		
12	3 55	4 16	4 3	4 23	3 43	4 4	4 5	4 26	3 54	4 14	3 40	4 0	2		
13	4 36	4 54	4 43	5 1	4 24	4 42	4 46	5 4	4 34	4 52	4 20	4 38	3		
14	5 13	5 32	5 21	5 40	5 2	5 20	5 23	5 42	5 12	5 31	4 58	5 17	4		
15	5 50	6 8	5 58	6 15	5 38	5 56	6 0	6 18	5 49	6 6	5 35	5 52	5		
16	6 26	6 46	6 34	6 54	6 15	6 35	6 36	6 56	6 25	6 45	6 11	6 31	6		
17	7 8	7 30	7 16	7 38	6 56	7 18	7 18	7 40	7 7	7 29	6 53	7 15	7		E., P.
18	7 53	8 22	8 1	8 29	7 41	8 10	8 3	8 32	7 52	8 20	7 38	8 6	8	)	
19	8 54	9 31	9 2	9 39	8 42	9 19	9 4	9 41	8 53	9 30	8 39	9 16	9		
20	10 15	11 0	10 23	11 7	10 3	10 47	10 25	11 10	10 14	10 58	10 0	10 44	10		
21	11 45	* *	11 53	* *	11 33	* *	11 55	* *	11 44	* *	11 30	* *	11		
22	0 27	1 4	0 35	1 11	0 15	0 52	0 37	1 14	0 26	1 2	0 12	0 48	12		
23	1 38	2 5	1 45	2 13	1 26	1 53	1 48	2 15	1 36	2 4	1 22	1 50	13		
24	2 32	2 56	2 40	3 4	2 20	2 44	2 42	3 6	2 31	2 55	2 17	2 41	14		N.
25	3 18	3 39	3 26	3 46	3 6	3 27	3 28	3 49	3 17	3 37	3 3	3 23	15		
26	4 1	4 19	4 7	4 27	3 48	4 7	4 11	4 29	3 58	4 18	3 44	4 4	16		
27	4 37	4 54	4 44	5 2	4 25	4 43	4 47	5 4	4 35	4 53	4 21	4 39	17		
28	5 12	5 29	5 20	5 37	5 1	5 18	5 22	5 39	5 11	5 28	4 57	5 14	18		
29	5 45	6 2	5 53	6 9	5 34	5 50	5 55	6 12	5 44	6 0	5 30	5 46	19		
30	6 18	6 35	6 26	6 42	6 7	6 23	6 28	6 45	6 17	6 33	6 3	6 19	20		
31	6 52	7 9	6 59	7 17	6 40	6 58	7 2	7 19	6 50	7 8	6 36	6 54	21		E.



高潮時表

明治四十三年一月

地名	元山		釜山		蛇梁海峡		長直路		長竹水道		木浦		八口浦	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	6 31	6 50	11 25	11 44	0 0	0 20	0 53	1 14	3 10	3 30	5 31	5 50	4 0	4 20
2	7 12	7 31	* *	0 5	0 39	1 1	1 33	1 55	3 50	4 11	6 12	6 31	4 41	4 20
3	7 52	8 15	0 25	0 45	1 20	1 41	2 14	2 35	4 30	4 51	6 52	7 15	5 21	5 34
4	8 40	9 7	1 8	1 33	2 4	2 29	2 58	3 23	5 14	5 39	7 40	8 7	6 9	6 36
5	9 35	10 8	2 0	2 28	2 56	3 24	3 50	4 18	6 6	6 34	8 35	9 8	7 4	7 37
6	10 40	11 13	3 1	3 33	3 57	4 29	4 51	5 23	7 7	7 39	9 40	10 13	8 9	8 42
7	11 45	* *	4 6	4 38	5 2	5 34	5 56	6 28	8 12	8 44	10 45	11 16	9 14	9 45
8	0 16	0 45	5 10	5 38	6 5	6 34	6 59	7 28	9 15	9 44	11 45	* *	10 14	10 41
9	1 12	1 38	6 6	6 31	7 1	7 27	7 55	8 21	10 11	10 37	0 12	0 38	11 7	11 33
10	2 4	2 28	6 57	7 21	7 53	8 17	8 47	9 11	11 3	11 27	1 4	1 28	11 57	* *
11	2 51	3 13	7 44	8 6	8 40	9 2	9 34	9 56	11 50	* *	1 51	2 13	0 20	0 42
12	3 35	3 56	8 29	8 50	9 24	9 45	10 18	10 39	0 12	0 34	2 35	2 56	1 4	1 25
13	4 16	4 34	9 9	9 27	10 5	10 23	10 59	11 17	0 55	1 15	3 16	3 34	1 45	2 3
14	4 54	5 13	9 47	10 6	10 43	11 2	11 37	11 56	1 33	1 53	3 54	4 13	2 23	2 42
15	5 30	5 48	10 24	10 41	11 19	11 37	* *	0 13	2 12	2 29	4 30	4 48	2 59	3 17
16	6 7	6 27	11 0	11 20	11 56	* *	0 31	0 50	2 47	3 6	5 7	5 27	3 36	3 56
17	6 48	7 11	11 42	* *	0 16	0 37	1 10	1 31	3 26	3 47	5 48	6 11	4 17	4 40
18	7 34	8 3	0 4	0 27	1 0	1 23	1 54	2 17	4 10	4 33	6 34	7 3	5 3	5 32
19	8 36	9 13	0 56	1 29	1 52	2 25	2 46	3 19	5 2	5 35	7 36	8 13	6 5	6 42
20	9 57	10 42	2 6	2 50	3 2	3 40	3 56	4 40	6 12	6 56	8 57	9 42	7 26	8 11
21	11 28	* *	3 35	4 20	4 31	5 17	5 25	6 11	7 41	8 27	10 28	11 9	8 57	9 38
22	0 9	0 45	5 2	5 38	5 58	6 34	6 52	7 28	9 8	9 44	11 45	* *	10 14	10 48
23	1 19	1 46	6 12	6 39	7 8	7 35	8 2	8 29	10 18	10 45	0 19	0 46	11 15	11 42
24	2 13	2 37	7 6	7 30	8 2	8 26	8 56	9 20	11 12	11 36	1 13	1 37	* *	0 6
25	2 58	3 19	7 52	8 13	8 47	9 8	9 41	10 2	11 57	* *	1 58	2 19	0 27	0 48
26	3 40	3 59	8 33	8 53	9 29	9 48	10 23	10 42	0 18	0 39	2 40	2 59	1 9	1 28
27	4 17	4 35	9 10	9 28	10 6	10 24	11 0	11 18	0 58	1 16	3 17	3 35	1 46	2 4
28	4 52	5 9	9 46	10 3	10 41	10 58	11 35	11 52	1 34	1 51	3 52	4 9	2 21	2 38
29	5 25	5 42	10 19	10 35	11 14	11 31	* *	0 8	2 8	2 24	4 25	4 42	2 54	3 11
30	5 58	6 15	10 52	11 8	11 47	* *	0 25	0 41	2 41	2 57	4 58	5 15	3 27	3 44
31	6 32	6 50	11 25	11 43	0 4	0 21	0 58	1 15	3 14	3 31	5 32	5 50	4 1	4 19

高潮時表

明治四十三年一月

地名	古群山群島		濟物浦		(大同江) 漁隱洞		(鴨綠江口) 圓島		大連		旅順		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	6 14	6 33	8 21	8 40	* *	0 6	0 16	0 36	1 25	1 46	1 56	2 17	20		
2	6 55	7 14	9 2	9 21	0 26	0 47	0 56	1 17	2 5	2 26	2 36	2 57	21	(	E.
3	7 35	7 58	9 42	10 5	1 6	1 27	1 36	1 57	2 46	3 7	3 17	3 38	22		
4	8 23	8 50	10 30	10 57	1 50	2 15	2 20	2 45	3 30	3 55	4 1	4 26	23		A.
5	9 18	9 51	11 25	11 58	2 42	3 10	3 12	3 40	4 22	4 49	4 53	5 20	24		
6	10 23	10 56	* *	0 30	3 43	4 16	4 13	4 46	5 23	5 56	5 54	6 27	25		
7	11 28	11 59	1 3	1 35	4 49	5 20	5 19	5 50	6 29	7 0	7 0	7 31	26		
8	* *	0 28	2 6	2 35	5 52	6 20	6 22	6 50	7 32	8 0	8 3	8 31	27		
9	0 55	1 21	3 2	3 28	6 48	7 13	7 18	7 43	8 27	8 53	8 58	9 24	28		
10	1 47	2 11	3 54	4 18	7 39	8 3	8 9	8 33	9 19	9 43	9 50	10 14	29		
11	2 34	2 56	4 41	5 3	8 26	8 48	8 56	9 18	10 6	10 28	10 37	10 59	1	●	S.
12	3 18	3 39	5 25	5 46	9 11	9 31	9 41	10 1	10 50	11 11	11 21	11 42	2		
13	3 59	4 17	6 6	6 24	9 51	10 9	10 21	10 39	11 31	11 48	* *	0 2	3		
14	4 37	4 56	6 44	7 3	10 29	10 48	10 59	11 18	* *	0 8	0 19	0 39	4		
15	5 13	5 31	7 20	7 38	11 5	11 23	11 35	11 53	0 27	0 45	0 58	1 16	5		
16	5 50	6 10	7 57	8 17	11 42	* *	* *	0 12	1 3	1 22	1 34	1 53	6		
17	6 31	6 54	8 38	9 1	0 2	0 23	0 32	0 53	1 41	2 3	2 12	2 34	7		E.,P.
18	7 17	7 46	9 24	9 53	0 46	1 9	1 16	1 39	2 25	2 49	2 56	3 20	8	)	
19	8 19	8 56	10 26	11 3	1 38	2 11	2 8	2 41	3 18	3 51	3 49	4 22	9		
20	9 40	10 25	11 47	* *	2 48	3 33	3 18	4 3	4 28	5 13	4 59	5 44	10		
21	11 11	11 52	0 32	1 18	4 18	5 3	4 48	5 33	5 58	6 43	6 29	7 14	11		
22	* *	0 28	1 59	2 35	5 44	6 20	6 14	6 50	7 24	8 0	7 55	8 31	12		
23	1 2	1 29	3 9	3 36	6 54	7 21	7 24	7 51	8 34	9 1	9 5	9 32	13		
24	1 56	2 20	4 3	4 27	7 48	8 12	8 18	8 42	9 28	9 52	9 59	10 23	14		N.
25	2 41	3 2	4 48	5 9	8 33	8 54	9 3	9 24	10 13	10 34	10 44	11 5	15	○	
26	3 23	3 42	5 30	5 49	9 15	9 34	9 45	10 4	10 55	11 14	11 26	11 45	16		
27	4 0	4 18	6 7	6 25	9 52	10 10	10 22	10 40	11 32	11 49	* *	0 3	17		
28	4 35	4 52	6 42	6 59	10 27	10 44	10 57	11 14	* *	0 7	0 20	0 38	18		
29	5 8	5 25	7 15	7 32	11 1	11 17	11 31	11 47	0 24	0 40	0 55	1 11	19		
30	5 41	5 58	7 48	8 5	11 34	11 50	* *	0 4	0 56	1 13	1 27	1 44	20		
31	6 15	6 33	8 22	8 40	* *	0 7	0 20	0 37	1 29	1 46	2 0	2 17	21		E.



明治四十三年 二月

地名	横須賀		下田		清水		鳥羽		(紀伊) 串本		(淡路) 由良		神戸	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
日	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
1	9 5	9 24	9 24	9 43	9 44	10 3	9 57	10 16	10 2	10 21	10 50	11 9	11 23	11 42
2	9 44	10 6	10 3	10 25	10 23	10 45	10 36	10 58	10 41	11 3	11 29	11 51	* *	0 2
3	10 31	10 59	10 50	11 18	11 10	11 38	11 24	11 52	11 29	11 57	* *	0 17	0 24	0 50
4	11 31	* *	11 50	* *	* *	0 10	* *	0 24	* *	0 29	0 45	1 17	1 18	1 50
5	0 8	0 47	0 27	1 6	0 47	1 26	1 1	1 40	1 6	1 45	1 54	2 33	2 27	3 6
6	1 28	2 4	1 47	2 23	2 7	2 43	2 21	2 57	2 26	3 2	3 14	3 50	3 47	4 23
7	2 41	3 15	3 0	3 34	3 20	3 54	3 34	4 8	3 39	4 13	4 27	5 1	5 0	5 34
8	3 42	4 10	4 1	4 29	4 21	4 49	4 35	5 3	4 40	5 8	5 28	5 56	6 1	6 29
9	4 36	4 59	4 55	5 18	5 15	5 38	5 28	5 51	5 33	5 56	6 21	6 44	6 54	7 17
10	5 21	5 42	5 40	6 1	6 0	6 21	6 13	6 34	6 18	6 39	7 6	7 27	7 39	8 0
11	6 0	6 18	6 19	6 37	6 39	6 57	6 53	7 11	6 58	7 16	7 46	8 4	8 19	8 37
12	6 35	6 52	6 54	7 11	7 14	7 31	7 27	7 45	7 32	7 50	8 20	8 38	8 53	9 11
13	7 9	7 27	7 28	7 46	7 48	8 6	8 2	8 19	8 7	8 24	8 55	9 12	9 28	9 45
14	7 44	8 2	8 3	8 21	8 23	8 41	8 36	8 54	8 41	8 59	9 29	9 47	10 2	10 20
15	8 22	8 46	8 41	9 5	9 1	9 25	9 15	9 38	9 20	9 43	10 8	10 31	10 41	11 4
16	9 9	9 35	9 28	9 54	9 48	10 14	10 2	10 28	10 7	10 33	10 55	11 21	11 28	11 54
17	10 7	10 44	10 26	11 3	10 46	11 23	11 0	11 37	11 5	11 42	11 53	* *	* *	0 26
18	11 26	* *	11 45	* *	* *	0 5	* *	0 19	* *	0 24	0 30	1 12	1 3	1 45
19	0 13	1 1	0 32	1 20	0 52	1 40	1 7	1 54	1 12	1 59	2 0	2 47	2 33	3 20
20	1 46	2 25	2 5	2 44	2 25	3 4	2 39	3 18	2 44	3 23	3 32	4 11	4 5	4 44
21	2 59	3 28	3 18	3 47	3 38	4 7	3 52	4 21	3 57	4 26	4 45	5 14	5 18	5 47
22	3 52	4 17	4 11	4 36	4 31	4 56	4 45	5 9	4 50	5 14	5 38	6 2	6 11	6 35
23	4 36	4 55	4 55	5 14	5 15	5 34	5 29	5 48	5 34	5 53	6 22	6 41	6 55	7 14
24	5 15	5 32	5 34	5 51	5 54	6 11	6 7	6 24	6 12	6 29	7 0	7 17	7 33	7 50
25	5 48	6 5	6 7	6 24	6 27	6 44	6 41	6 57	6 46	7 2	7 34	7 50	8 7	8 23
26	6 21	6 35	6 40	6 54	7 0	7 14	7 13	7 28	7 18	7 33	8 6	8 21	8 39	8 54
27	6 51	7 6	7 10	7 25	7 30	7 45	7 43	7 58	7 48	8 3	8 36	8 51	9 9	9 24
28	7 22	7 38	7 41	7 57	8 1	8 17	8 14	8 30	8 19	8 35	9 7	9 23	9 40	9 56

明治四十三年 二月

地名	明石		粟島		(三原瀬戸) 瀬戸田		來島		三津ヶ濱		佐賀ノ關		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
日	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	d		
1	0 5	0 23	3 16	3 34	2 34	2 52	1 59	2 17	1 19	1 37	11 59	* *	22		A.
2	0 42	1 2	3 53	4 14	3 11	3 32	2 36	2 57	1 56	2 17	0 18	0 38	23	(	
3	1 24	1 50	4 35	5 1	3 53	4 19	3 18	3 44	2 38	3 4	1 0	1 26	24		
4	2 18	2 50	5 30	6 2	4 48	5 20	4 13	4 45	3 33	4 5	1 55	2 27	25		
5	3 27	4 6	6 39	7 18	5 57	6 36	5 22	6 1	4 42	5 21	3 4	3 43	26		
6	4 47	5 23	7 59	8 34	7 17	7 52	6 42	7 17	6 2	6 37	4 24	4 59	27		
7	6 0	6 34	9 12	9 45	8 30	9 3	7 55	8 28	7 15	7 48	5 37	6 10	28		S.
8	7 1	7 29	10 13	10 41	9 31	9 59	8 56	9 24	8 16	8 44	6 38	7 6	29		
9	7 54	8 17	11 6	11 28	10 24	10 46	9 49	10 11	9 9	9 31	7 31	7 53	30		
10	8 39	9 0	11 51	* *	11 9	11 30	10 34	10 55	9 54	10 15	8 16	8 37	1	●	
11	9 19	9 37	0 12	0 30	11 48	* *	11 13	11 31	10 33	10 51	8 55	9 13	2		
12	9 53	10 11	0 48	1 5	0 6	0 23	11 48	* *	11 8	11 25	9 30	9 47	3		
13	10 28	10 45	1 22	1 39	0 40	0 57	0 5	0 22	11 42	11 59	10 4	10 21	4		E.P.
14	11 2	11 20	1 56	2 13	1 14	1 31	0 39	0 56	* *	0 16	10 38	10 56	5		
15	11 41	* *	2 31	2 52	1 49	2 10	1 14	1 35	0 34	0 55	11 17	11 41	6		
16	0 4	0 28	3 16	3 39	2 34	2 57	1 59	2 22	1 19	1 42	* *	0 4	7		
17	0 54	1 26	4 5	4 37	3 23	3 55	2 48	3 20	2 8	2 40	0 30	1 2	8	D	
18	2 3	2 45	5 15	5 57	4 33	5 15	3 58	4 40	3 18	4 0	1 40	2 22	9		
19	3 33	4 20	6 44	7 32	6 2	6 50	5 27	6 15	4 47	5 35	3 9	3 57	10		
20	5 5	5 44	8 17	8 56	7 35	8 14	7 0	7 39	6 20	6 59	4 42	5 21	11		N.
21	6 18	6 47	9 29	9 58	8 47	9 16	8 12	8 41	7 32	8 1	5 54	6 23	12		
22	7 11	7 35	10 22	10 47	9 40	10 5	9 5	9 30	8 25	8 50	6 47	7 12	13		
23	7 55	8 14	11 6	11 25	10 24	10 43	9 49	10 8	9 9	9 28	7 31	7 50	14		
24	8 33	8 50	11 44	* *	11 2	11 19	10 27	10 44	9 47	10 4	8 9	8 26	15	○	
25	9 7	9 23	0 1	0 18	11 36	11 52	11 1	11 17	10 21	10 37	8 43	8 59	16		
26	9 39	9 54	0 34	0 50	* *	0 8	11 33	11 48	10 53	11 8	9 15	9 30	17		
27	10 9	10 24	1 5	1 21	0 23	0 39	* *	0 4	11 24	11 39	9 46	10 1	18		E.
28	10 40	10 56	1 36	1 51	0 54	1 9	0 19	0 34	11 54	* *	10 16	10 32	19		



明治四十三年 二月

地名	吳		門		司竹		敷平		戶佐世保		長崎		三角	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
日	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
1	1 33	1 51	1 7	1 26	1 12	1 31	0 46	1 5	0 34	0 53	0 4	0 23	1 1	1 20
2	2 10	2 31	1 45	2 5	1 50	2 10	1 24	1 44	1 12	1 32	0 42	1 2	1 39	1 59
3	2 52	3 18	2 27	2 52	2 32	2 57	2 6	2 31	1 54	2 19	1 24	1 49	2 21	2 46
4	3 47	4 19	3 21	3 53	3 26	3 58	3 0	3 32	2 48	3 20	2 18	2 50	3 15	3 47
5	4 56	5 35	4 30	5 9	4 35	5 14	4 9	4 48	3 57	4 36	3 27	4 6	4 24	5 3
6	6 16	6 51	5 50	6 26	5 55	6 31	5 29	6 5	5 17	5 53	4 47	5 23	5 44	6 20
7	7 29	8 2	7 3	7 37	7 8	7 42	6 42	7 16	6 30	7 4	6 0	6 34	6 57	7 31
8	8 30	8 58	8 4	8 32	8 9	8 37	7 43	8 11	7 31	7 59	7 1	7 29	7 58	8 26
9	9 23	9 45	8 57	9 20	9 2	9 25	8 36	8 59	8 24	8 47	7 54	8 17	8 51	9 14
10	10 8	10 29	9 42	10 3	9 47	10 8	9 21	9 42	9 9	9 30	8 39	9 0	9 36	9 57
11	10 47	11 5	10 21	10 39	10 26	10 44	10 0	10 18	9 48	10 6	9 18	9 36	10 15	10 33
12	11 22	11 39	10 56	11 13	11 1	11 18	10 35	10 52	10 23	10 40	9 53	10 10	10 50	11 7
13	11 56	* *	11 30	11 48	11 35	11 53	11 9	11 25	10 57	11 15	10 27	10 45	11 24	11 42
14	0 13	0 30	* *	0 5	* *	0 10	11 44	* *	11 32	11 50	11 2	11 20	11 59	* *
15	0 48	1 9	0 23	0 43	0 28	0 48	0 2	0 22	* *	0 10	11 40	* *	0 17	0 37
16	1 33	1 56	1 7	1 30	1 12	1 35	0 46	1 9	0 34	0 57	0 4	0 27	1 1	1 24
17	2 22	2 54	1 57	2 29	2 2	2 34	1 36	2 8	1 24	1 56	0 54	1 26	1 51	2 23
18	3 32	4 14	3 6	3 49	3 11	3 54	2 45	3 28	2 33	3 16	2 3	2 46	3 0	3 43
19	5 1	5 49	4 36	5 23	4 41	5 28	4 15	5 2	4 3	4 50	3 33	4 20	4 30	5 17
20	6 34	7 13	6 8	6 47	6 13	6 52	5 47	6 26	5 35	6 14	5 5	5 44	6 2	6 41
21	7 46	8 15	7 21	7 49	7 26	7 54	7 0	7 28	6 48	7 16	6 18	6 46	7 15	7 43
22	8 39	9 4	8 14	8 38	8 19	8 43	7 53	8 17	7 41	8 5	7 11	7 35	8 8	8 32
23	9 23	9 42	8 58	9 16	9 3	9 21	8 37	8 55	8 25	8 43	7 55	8 13	8 52	9 10
24	10 1	10 18	9 36	9 53	9 41	9 58	9 15	9 32	9 3	9 20	8 33	8 50	9 30	9 47
25	10 35	10 51	10 9	10 25	10 14	10 30	9 48	10 4	9 36	9 52	9 6	9 22	10 3	10 19
26	11 7	11 22	10 41	10 57	10 46	11 2	10 20	10 36	10 8	10 24	9 38	9 54	10 35	10 51
27	11 38	11 53	11 12	11 27	11 17	11 32	10 51	11 6	10 39	10 54	10 9	10 24	11 6	11 21
28	* *	0 8	11 43	11 59	11 48	* *	11 22	11 38	11 10	11 26	10 40	10 56	11 37	11 53

明治四十三年 二月

地名	(五島) 福江		鹿兒島		油津		那霸		基隆		馬公		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
日	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	d		
1	0 26	0 45	11 31	11 50	10 18	10 37	11 24	11 43	1 12	1 31	3 27	3 46	22		A.
2	1 4	1 24	* *	0 10	10 58	11 19	* *	0 3	1 50	2 10	4 5	4 25	23	○	
3	1 46	2 11	0 32	0 57	11 45	* *	0 25	0 51	2 32	2 57	4 47	5 12	24		
4	2 40	3 12	1 26	1 58	0 14	0 46	1 19	1 52	3 27	4 0	5 42	6 15	25		
5	3 49	4 28	2 35	3 14	1 23	2 2	2 29	3 8	4 37	5 15	6 52	7 30	26		
6	5 9	5 45	3 55	4 31	2 43	3 18	3 48	4 24	5 56	6 32	8 11	8 47	27		
7	6 22	6 56	5 8	5 42	3 56	4 29	5 2	5 35	7 9	7 42	9 24	9 57	28		S.
8	7 23	7 51	6 9	6 37	4 57	5 25	6 2	6 30	8 10	8 38	10 25	10 53	29		
9	8 16	8 39	7 2	7 25	5 50	6 12	6 55	7 18	9 2	9 25	11 17	11 40	30		
10	9 1	9 22	7 47	8 8	6 35	6 56	7 40	8 1	9 47	10 8	* *	0 2	1	●	
11	9 40	9 58	8 26	8 44	7 14	7 32	8 20	8 37	10 26	10 44	0 23	0 41	2		
12	10 15	10 32	9 1	9 18	7 49	8 6	8 54	9 11	11 0	11 18	0 59	1 15	3		
13	10 49	11 5	9 35	9 53	8 23	8 40	9 29	9 46	11 35	11 53	1 33	1 50	4		E.,P.
14	11 24	11 42	10 10	10 28	8 57	9 15	10 3	10 21	* *	0 10	2 8	2 25	5		
15	* *	0 2	10 48	11 12	9 36	10 0	10 42	11 5	0 28	0 49	2 43	3 4	6		
16	0 26	0 49	11 35	* *	10 23	10 49	11 28	11 55	1 12	1 35	3 27	3 50	7		
17	1 16	1 48	0 2	0 34	11 21	11 59	* *	0 27	2 3	2 35	4 18	4 50	8	○	
18	2 25	3 8	1 11	1 54	* *	0 41	1 5	1 37	3 12	3 55	5 27	6 10	9		
19	3 55	4 42	2 41	3 28	1 28	2 16	2 35	3 22	4 43	5 30	6 58	7 45	10		N.
20	5 27	6 6	4 13	4 52	3 1	3 40	4 7	4 46	6 15	6 53	8 30	9 8	11		
21	6 40	7 8	5 26	5 54	4 13	4 42	5 19	5 48	7 26	7 55	9 41	10 10	12		
22	7 33	7 57	6 19	6 43	5 6	5 31	6 12	6 36	8 19	8 44	10 34	10 59	13		
23	8 17	8 35	7 3	7 21	5 50	6 9	6 56	7 15	9 3	9 22	11 18	11 37	14		
24	8 55	9 12	7 41	7 58	6 28	6 45	7 34	7 51	9 40	9 57	11 55	* *	15	○	
25	9 28	9 44	8 14	8 30	7 2	7 18	8 8	8 24	10 15	10 30	0 12	0 30	16		
26	10 0	10 16	8 46	9 2	7 34	7 49	8 40	8 55	10 46	11 2	0 45	1 1	17		
27	10 31	10 46	9 17	9 32	8 5	8 20	9 10	9 25	11 17	11 32	1 17	1 32	18		E.
28	11 2	11 18	9 48	10 4	8 35	8 51	9 41	9 57	11 47	* *	1 47	2 2	19		







高潮時表

明治四十三年 二月

地名	元山		釜山		蛇梁海峡		長直路		長竹水道		木浦		八口浦	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	7 8	7 27	* *	0 2	0 39	0 57	1 33	1 51	3 49	4 7	6 8	6 27	4 36	4 55
2	7 47	8 9	0 21	0 41	1 16	1 36	2 10	2 30	4 26	4 46	6 47	7 9	5 15	5 37
3	8 35	9 3	1 3	1 28	1 58	2 24	2 52	3 18	5 8	5 34	7 35	8 3	6 3	6 31
4	9 36	10 13	1 57	2 29	2 52	3 25	3 46	4 19	6 2	6 35	8 36	9 13	7 4	7 41
5	10 52	11 32	3 6	3 45	4 2	4 41	4 56	5 35	7 12	7 51	9 52	10 32	8 20	9 0
6	* *	0 9	4 26	5 2	5 21	5 57	6 15	6 51	8 31	9 7	11 9	11 46	9 36	10 14
7	0 46	1 19	5 39	6 13	6 35	7 8	7 29	8 2	9 45	10 18	* *	0 19	10 47	11 14
8	1 46	2 14	6 40	7 8	7 35	8 3	8 29	8 57	10 45	11 13	0 46	1 14	11 42	* *
9	2 39	3 2	7 33	7 56	8 28	8 51	9 22	9 45	11 38	* *	1 39	2 2	0 7	0 30
10	3 24	3 45	8 18	8 39	9 13	9 34	10 7	10 28	0 1	0 23	2 24	2 45	0 52	1 13
11	4 4	4 21	8 57	9 15	9 53	10 10	10 47	11 4	0 44	1 3	3 4	3 21	1 32	1 49
12	4 38	4 55	9 32	9 49	10 27	10 44	11 21	11 38	1 20	1 37	3 38	3 55	2 6	2 23
13	5 13	5 30	10 6	10 24	11 2	11 19	11 56	* *	1 54	2 12	4 13	4 30	2 41	2 58
14	5 47	6 5	10 41	10 59	11 36	11 54	0 13	0 30	2 29	2 46	4 47	5 5	3 15	3 33
15	6 26	6 49	11 19	11 43	* *	0 15	0 48	1 9	3 4	3 25	5 26	5 49	3 54	4 17
16	7 12	7 39	* *	0 6	0 38	1 1	1 32	1 55	3 48	4 11	6 12	6 39	4 40	5 7
17	8 11	8 49	0 33	1 5	1 28	2 0	2 22	2 54	4 38	5 10	7 11	7 49	5 39	6 17
18	9 31	10 19	1 42	2 25	2 38	3 20	3 32	4 14	5 48	6 30	8 31	9 19	6 59	7 47
19	11 6	11 51	3 12	3 59	4 8	4 55	5 2	5 49	7 18	8 5	10 6	10 51	8 34	9 19
20	* *	0 30	4 44	5 23	5 40	6 19	6 34	7 13	8 50	9 29	11 30	* *	9 58	10 31
21	1 3	1 32	5 57	6 25	6 52	7 21	7 46	8 15	10 2	10 31	0 3	0 32	11 0	11 24
22	1 56	2 20	6 50	7 14	7 45	8 9	8 39	9 3	10 55	11 19	0 56	1 20	11 48	* *
23	2 40	2 59	7 34	7 52	8 29	8 48	9 23	9 42	11 39	11 58	1 40	1 59	0 8	0 27
24	3 18	3 35	8 12	8 29	9 7	9 24	10 1	10 18	* *	0 17	2 18	2 35	0 46	1 3
25	3 52	4 8	8 45	9 1	9 41	9 57	10 35	10 51	0 34	0 51	2 52	3 8	1 20	1 36
26	4 24	4 39	9 17	9 33	10 13	10 28	11 7	11 22	1 7	1 23	3 24	3 39	1 52	2 7
27	4 54	5 9	9 48	10 3	10 43	10 58	11 37	11 52	1 38	1 53	3 54	4 9	2 22	2 37
28	5 25	5 41	10 19	10 35	11 14	11 30	* *	0 8	2 8	2 24	4 25	4 41	2 53	3 9

高潮時表

明治四十三年 二月

地名	古群山群島		濟物浦		(大同江) 漁隱洞		(鴨綠江口) 圓島		大連		旅順		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	6 51	7 10	8 58	9 17	0 25	0 43	0 55	1 13	2 4	2 23	2 35	2 54	22		A.
2	7 30	7 52	9 37	9 59	1 2	1 22	1 32	1 52	2 42	3 2	3 13	3 33	23	☾	
3	8 18	8 46	10 25	10 53	1 44	2 10	2 14	2 40	3 24	3 49	3 55	4 20	24		
4	9 19	9 56	11 26	* *	2 39	3 11	3 9	3 41	4 19	4 52	4 50	5 23	25		
5	10 35	11 15	0 3	0 42	3 49	4 27	4 19	4 57	5 29	6 7	6 0	6 38	26		
6	11 51	* *	1 22	1 58	5 8	5 44	5 38	6 14	6 48	7 24	7 19	7 55	27		
7	0 29	1 2	2 36	3 9	6 21	6 54	6 51	7 24	8 1	8 34	8 32	9 5	28		S.
8	1 29	1 57	3 36	4 4	7 22	7 50	7 52	8 20	9 2	9 30	9 33	10 1	29		
9	2 22	2 45	4 29	4 52	8 15	8 37	8 45	9 7	9 54	10 17	10 25	10 48	30		
10	3 7	3 28	5 14	5 35	9 0	9 21	9 30	9 51	10 39	11 0	11 10	11 31	1	●	
11	3 47	4 4	5 54	6 11	9 39	9 57	10 9	10 27	11 18	11 36	11 49	* *	2		
12	4 21	4 38	6 28	6 45	10 13	10 31	10 43	11 1	11 52	* *	0 7	0 23	3		
13	4 56	5 13	7 3	7 20	10 48	11 5	11 18	11 35	0 10	0 27	0 41	0 58	4		E.,P.
14	5 30	5 48	7 37	7 55	11 22	11 40	11 52	* *	0 45	1 2	1 16	1 33	5		
15	6 9	6 32	8 16	8 39	* *	0 1	0 10	0 31	1 20	1 41	1 51	2 12	6		
16	6 55	7 22	9 2	9 29	0 25	0 48	0 55	1 18	2 4	2 27	2 35	2 58	7		
17	7 54	8 32	10 1	10 39	1 15	1 47	1 45	2 17	2 55	3 27	3 26	3 58	8	D	
18	9 14	10 2	11 21	* *	2 24	3 7	2 54	3 37	4 4	4 47	4 35	5 18	9		
19	10 49	11 34	0 9	0 56	3 54	4 41	4 24	5 11	5 35	6 22	6 6	6 53	10		
20	* *	0 13	1 41	2 20	5 26	6 5	5 56	6 35	7 7	7 45	7 38	8 16	11		N.
21	0 46	1 15	2 53	3 22	6 38	7 7	7 8	7 37	8 18	8 47	8 49	9 18	12		
22	1 39	2 3	3 46	4 10	7 31	7 56	8 1	8 26	9 11	9 36	9 42	10 7	13		
23	2 23	2 42	4 30	4 49	8 15	8 34	8 45	9 4	9 55	10 14	10 26	10 45	14		
24	3 1	3 18	5 8	5 25	8 53	9 10	9 23	9 40	10 32	10 49	11 3	11 20	15	○	
25	3 35	3 51	5 42	5 58	9 27	9 43	9 57	10 13	11 7	11 22	11 38	11 53	16		
26	4 7	4 22	6 14	6 29	9 59	10 14	10 29	10 44	11 38	11 54	* *	0 9	17		
27	4 37	4 52	6 44	6 59	10 29	10 45	10 59	11 15	* *	0 9	0 25	0 40	18		E.
28	5 8	5 24	7 15	7 31	11 0	11 16	11 30	11 46	0 24	0 39	0 55	1 10	19		



明治四十三年 三月

地名	横須賀		下田		清水		鳥羽		(紀伊) 串本		(淡路) 由良		神戸	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	7 53	8 9	8 12	8 28	8 32	8 48	8 46	9 2	8 51	9 7	9 39	9 55	10 12	10 28
2	8 26	8 46	8 45	9 5	9 5	9 25	9 19	9 38	9 24	9 43	10 12	10 31	10 45	11 4
3	9 6	9 25	9 25	9 44	9 45	10 4	9 58	10 18	10 3	10 23	10 51	11 11	11 24	11 44
4	9 49	10 16	10 8	10 35	10 28	10 55	10 42	11 9	10 47	11 14	11 35	* *	* *	0 8
5	10 49	11 24	11 8	11 43	11 28	* *	11 42	* *	11 47	* *	0 2	0 35	0 35	1 8
6	* *	0 6	* *	0 25	0 3	0 45	0 17	0 59	0 22	1 4	1 10	1 52	1 43	2 25
7	0 51	1 36	1 10	1 55	1 30	2 15	1 44	2 29	1 49	2 34	2 37	3 22	3 10	3 55
8	2 16	2 52	2 35	3 11	2 55	3 31	3 9	3 45	3 14	3 50	4 2	4 38	4 35	5 11
9	3 25	3 53	3 44	4 12	4 4	4 32	4 18	4 46	4 23	4 51	5 11	5 39	5 44	6 12
10	4 19	4 42	4 38	5 1	4 58	5 21	5 12	5 34	5 17	5 39	6 5	6 27	6 38	7 0
11	5 3	5 23	5 22	5 42	5 42	6 2	5 55	6 15	6 0	6 20	6 48	7 8	7 21	7 41
12	5 40	5 58	5 59	6 17	6 19	6 37	6 33	6 50	6 38	6 55	7 26	7 43	7 59	8 16
13	6 14	6 31	6 33	6 50	6 53	7 10	7 7	7 24	7 12	7 29	8 0	8 17	8 33	8 50
14	6 48	7 5	7 7	7 24	7 27	7 44	7 40	7 57	7 45	8 2	8 33	8 50	9 6	9 23
15	7 24	7 43	7 43	8 2	8 3	8 22	8 16	8 35	8 21	8 40	9 9	9 28	9 42	10 1
16	8 4	8 28	8 23	8 47	8 43	9 7	8 56	9 20	9 1	9 25	9 49	10 13	10 22	10 46
17	8 53	9 22	9 12	9 41	9 32	10 1	9 46	10 15	9 51	10 20	10 39	11 8	11 12	11 41
18	9 54	10 34	10 13	10 53	10 33	11 13	10 47	11 27	10 52	11 32	11 40	* *	* *	0 13
19	11 15	* *	11 34	* *	11 54	* *	* *	0 9	* *	0 14	0 20	1 2	0 53	1 35
20	0 2	0 50	0 21	1 9	0 41	1 29	0 56	1 43	1 1	1 48	1 49	2 36	2 22	3 9
21	1 32	2 6	1 51	2 25	2 11	2 45	2 25	2 59	2 30	3 4	3 18	3 52	3 51	4 25
22	2 39	3 6	2 58	3 25	3 18	3 45	3 32	3 59	3 37	4 4	4 25	4 52	4 58	5 25
23	3 29	3 51	3 48	4 10	4 8	4 30	4 21	4 43	4 26	4 48	5 14	5 36	5 47	6 9
24	4 10	4 27	4 29	4 46	4 49	5 6	5 2	5 20	5 7	5 25	5 55	6 13	6 28	6 46
25	4 43	5 0	5 2	5 19	5 22	5 39	5 36	5 52	5 41	5 57	6 29	6 45	7 2	7 18
26	5 17	5 33	5 36	5 52	5 56	6 12	6 10	6 25	6 15	6 30	7 3	7 18	7 36	7 51
27	5 48	6 2	6 7	6 21	6 27	6 41	6 40	6 55	6 45	7 0	7 33	7 48	8 6	8 21
28	6 18	6 32	6 37	6 51	6 57	7 11	7 10	7 25	7 15	7 30	8 3	8 18	8 36	8 51
29	6 48	7 4	7 7	7 23	7 27	7 43	7 41	7 57	7 46	8 2	8 34	8 50	9 7	9 23
30	7 21	7 38	7 40	7 57	8 0	8 17	8 14	8 30	8 19	8 35	9 7	9 23	9 40	9 56
31	7 56	8 15	8 15	8 34	8 35	8 54	8 48	9 7	8 53	9 12	9 41	10 0	10 14	10 33

明治四十三年 三月

地名	明石		粟島		(三原瀬戸) 瀬戸田		來島		三津ヶ濱		佐賀ノ關		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	11 12	11 28	2 7	2 23	1 25	1 41	0 50	1 6	0 10	0 26	10 48	11 4	20		A.
2	11 45	* *	2 39	2 50	1 57	2 14	1 22	1 39	0 42	0 59	11 21	11 41	21		
3	0 4	0 24	3 16	3 36	2 34	2 54	1 59	2 19	1 19	1 39	* *	0 1	22		
4	0 44	1 8	3 55	4 19	3 13	3 37	2 38	3 2	1 58	2 22	0 20	0 44	23		
5	1 35	2 8	4 46	5 20	4 4	4 38	3 29	4 3	2 49	3 23	1 11	1 45	24		S.
6	2 43	3 25	5 55	6 37	5 13	5 55	4 38	5 20	3 58	4 40	2 20	3 2	25		
7	4 10	4 55	7 22	8 7	6 40	7 25	6 5	6 50	5 25	6 10	3 47	4 32	26		
8	5 35	6 11	8 47	9 23	8 5	8 41	7 30	8 6	6 50	7 26	5 12	5 48	27		
9	6 44	7 12	9 55	10 23	9 13	9 41	8 38	9 6	7 58	8 26	6 20	6 48	28		
10	7 38	8 0	10 49	11 12	10 7	10 30	9 32	9 55	8 52	9 15	7 14	7 37	29		
11	8 21	8 41	11 33	11 53	10 51	11 11	10 16	10 36	9 36	9 56	7 58	8 18	1		
12	8 59	9 16	* *	0 10	11 28	11 46	10 53	11 11	10 13	10 31	8 35	8 53	2		
13	9 33	9 50	0 28	0 44	* *	0 2	11 27	11 44	10 47	11 4	9 9	9 26	3		E.,P.
14	10 6	10 23	1 1	1 18	0 19	0 36	* *	0 1	11 21	11 38	9 43	10 0	4		
15	10 42	11 1	1 35	1 54	0 53	1 12	0 18	0 37	11 57	* *	10 19	10 38	5		
16	11 22	11 46	2 13	2 34	1 31	1 52	0 56	1 17	0 16	0 37	10 59	11 23	6		
17	* *	0 12	2 58	3 24	2 16	2 42	1 41	2 7	1 1	1 27	11 49	* *	7		
18	0 41	1 13	3 52	4 25	3 10	3 43	2 35	3 8	1 55	2 28	0 17	0 50	8		
19	1 53	2 35	5 5	5 47	4 23	5 5	3 48	4 30	3 8	3 50	1 30	2 12	9		N.
20	3 22	4 9	6 34	7 20	5 52	6 38	5 17	6 3	4 37	5 23	2 59	3 45	10		
21	4 51	5 25	8 3	8 37	7 21	7 55	6 46	7 20	6 6	6 40	4 28	5 2	11		
22	5 58	6 25	9 9	9 36	8 27	8 54	7 52	8 19	7 12	7 39	5 34	6 1	12		
23	6 47	7 9	9 59	10 21	9 17	9 39	8 42	9 4	8 2	8 24	6 24	6 46	13		
24	7 28	7 46	10 40	10 57	9 58	10 15	9 23	9 40	8 43	9 0	7 5	7 22	14		
25	8 2	8 18	11 13	11 30	10 31	10 48	9 56	10 13	9 16	9 33	7 38	7 55	15		
26	8 36	8 51	11 47	* *	11 5	11 21	10 30	10 46	9 50	10 6	8 12	8 28	16		E.
27	9 6	9 21	0 3	0 18	11 36	11 50	11 1	11 15	10 21	10 35	8 43	8 57	17		
28	9 36	9 51	0 32	0 48	* *	0 6	11 31	11 45	10 51	11 5	9 13	9 27	18		A.
29	10 7	10 23	1 2	1 18	0 20	0 36	* *	0 1	11 21	11 37	9 43	9 59	19		
30	10 40	10 56	1 34	1 51	0 52	1 9	0 17	0 34	11 54	* *	10 16	10 33	20		
31	11 14	11 33	2 8	2 26	1 26	1 44	0 51	1 9	0 11	0 29	10 51	11 10	21		



明治四十三年 三月

地名	吳		門		司竹		敷平		戶佐		世保		長崎		三角	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	0 24	0 40	* *	0 14	0 3	0 19	11 53	* *	11 41	11 57	11 11	11 27	* *	0 8		
2	0 56	1 13	0 30	0 47	0 35	0 52	0 9	0 26	* *	0 14	11 44	* *	0 24	0 41		
3	1 33	1 53	1 7	1 27	1 12	1 32	0 46	1 6	0 34	0 54	0 4	0 24	1 1	1 21		
4	2 12	2 36	1 46	2 10	1 51	2 15	1 25	1 49	1 13	1 37	0 43	1 7	1 40	2 4		
5	3 3	3 37	2 37	3 11	2 42	3 16	2 16	2 50	2 4	2 38	1 34	2 8	2 31	3 5		
6	4 12	4 54	3 47	4 29	3 52	4 34	3 26	4 8	3 14	3 56	2 44	3 26	3 41	4 23		
7	5 39	6 24	5 14	5 59	5 19	6 4	4 53	5 38	4 41	5 26	4 11	4 56	5 8	5 53		
8	7 4	7 40	6 38	7 14	6 43	7 19	6 17	6 53	6 5	6 41	5 35	6 11	6 32	7 8		
9	8 12	8 40	7 46	8 14	7 51	8 19	7 25	7 53	7 13	7 41	6 43	7 11	7 40	8 8		
10	9 6	9 29	8 40	9 3	8 45	9 8	8 19	8 42	8 7	8 30	7 37	8 0	8 34	8 57		
11	9 50	10 10	9 24	9 44	9 29	9 49	9 3	9 23	8 51	9 11	8 18	8 41	9 15	9 38		
12	10 27	10 45	10 1	10 19	10 6	10 24	9 40	9 58	9 28	9 46	8 58	9 16	9 55	10 13		
13	11 1	11 18	10 35	10 52	10 40	10 57	10 14	10 31	10 2	10 19	9 32	9 49	10 29	10 46		
14	11 35	11 52	11 9	11 26	11 14	11 31	10 48	11 5	10 36	10 53	10 6	10 23	11 3	11 20		
15	* *	0 11	11 45	* *	11 50	* *	11 24	11 43	11 12	11 31	10 42	11 1	11 39	11 58		
16	0 30	0 51	0 4	0 25	0 9	0 30	* *	0 4	11 52	* *	11 22	11 46	* *	0 19		
17	1 15	1 41	0 49	1 15	0 54	1 20	0 28	0 54	0 16	0 42	* *	0 12	0 43	1 9		
18	2 9	2 42	1 43	2 16	1 48	2 21	1 22	1 55	1 10	1 43	0 40	1 13	1 37	2 10		
19	3 22	4 4	2 56	3 38	3 1	3 43	2 35	3 17	2 23	3 5	1 53	2 35	2 50	3 32		
20	4 51	5 37	4 25	5 12	4 30	5 17	4 4	4 51	3 52	4 39	3 22	4 9	4 19	5 6		
21	6 20	6 54	5 54	6 29	5 59	6 34	5 33	6 8	5 21	5 56	4 51	5 26	5 48	6 23		
22	7 26	7 53	7 0	7 27	7 5	7 32	6 39	7 6	6 27	6 54	5 57	6 24	6 54	7 21		
23	8 16	8 38	7 50	8 12	7 55	8 17	7 29	7 51	7 17	7 39	6 47	7 9	7 44	8 6		
24	8 57	9 14	8 31	8 48	8 36	8 53	8 10	8 27	7 58	8 15	7 28	7 45	8 25	8 42		
25	9 30	9 47	9 4	9 21	9 9	9 26	8 43	9 0	8 31	8 48	8 1	8 18	8 58	9 15		
26	10 4	10 20	9 38	9 54	9 43	9 59	9 17	9 33	9 5	9 21	8 35	8 51	9 32	9 48		
27	10 35	10 49	10 9	10 23	10 14	10 28	9 48	10 2	9 36	9 50	9 6	9 20	10 3	10 17		
28	11 5	11 19	10 39	10 53	10 44	10 58	10 18	10 32	10 6	10 20	9 36	9 50	10 33	10 47		
29	11 35	11 51	11 9	11 25	11 14	11 30	10 48	11 4	10 36	10 52	10 6	10 22	11 3	11 19		
30	* *	0 8	11 42	11 59	11 47	* *	11 21	11 38	11 9	11 26	10 39	10 56	11 36	11 53		
31	0 25	0 43	* *	0 17	0 4	0 22	11 56	* *	11 44	* *	11 14	11 33	* *	0 11		

明治四十三年 三月

地名	(五島)		鹿兒島		油津		那霸		基隆		馬公		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	11 33	11 49	10 19	10 35	9 7	9 23	10 12	10 28	0 3	0 19	2 18	2 34	20		A.
2	* *	0 6	10 52	11 12	9 40	10 0	10 46	11 5	0 35	0 52	2 50	3 7	21		
3	0 26	0 46	11 32	11 51	10 20	10 39	11 25	11 45	1 12	1 32	3 27	3 47	22		
4	1 5	1 29	* *	0 15	11 3	11 30	* *	0 9	1 52	2 16	4 7	4 31	23		(
5	1 56	2 30	0 42	1 16	* *	0 4	0 36	1 10	2 43	3 17	4 58	5 32	24		S.
6	3 6	3 48	1 52	2 34	0 39	1 21	1 45	2 27	3 53	4 35	6 8	6 50	25		
7	4 33	5 18	3 19	4 4	2 6	2 51	3 12	3 57	5 20	6 5	7 35	8 20	26		
8	5 57	6 33	4 43	5 19	3 31	4 7	4 37	5 13	6 44	7 20	8 59	9 35	27		
9	7 5	7 33	5 51	6 19	4 39	5 7	5 45	6 13	7 52	8 20	10 7	10 35	28		
10	7 59	8 22	6 45	7 8	5 33	5 56	6 39	7 1	8 46	9 8	11 1	11 23	29		
11	8 43	9 3	7 29	7 49	6 17	6 37	7 22	7 42	9 29	9 49	11 44	* *	1		
12	9 20	9 38	8 6	8 24	6 54	7 12	7 59	8 17	10 6	10 24	0 4	0 21	2		
13	9 54	10 11	8 40	8 57	7 28	7 45	8 33	8 50	10 40	10 57	0 39	0 55	3		E.P.
14	10 28	10 45	9 14	9 31	8 2	8 19	9 7	9 24	11 14	11 31	1 12	1 29	4		
15	11 4	11 23	9 50	10 9	8 38	8 57	9 43	10 2	11 50	* *	1 46	2 5	5		
16	11 44	* *	10 30	10 54	9 18	9 42	10 23	10 47	0 9	0 30	2 24	2 45	6		
17	0 8	0 34	11 20	11 48	10 8	10 36	11 14	11 42	0 54	1 21	3 9	3 36	7		)
18	1 2	1 35	* *	0 21	11 9	11 49	* *	0 15	1 49	2 22	4 4	4 37	8		
19	2 15	2 57	1 1	1 43	* *	0 31	0 55	1 37	3 2	3 45	5 17	6 0	9		N.
20	3 44	4 31	2 30	3 17	1 18	2 4	2 24	3 10	4 32	5 18	6 47	7 33	10		
21	5 13	5 48	3 59	4 34	2 47	3 21	3 53	4 27	6 0	6 35	8 15	8 50	11		
22	6 19	6 46	5 5	5 32	3 53	4 20	4 59	5 26	7 6	7 33	9 21	9 48	12		
23	7 9	7 31	5 55	6 17	4 43	5 5	5 48	6 10	7 55	8 17	10 10	10 32	13		
24	7 50	8 7	6 36	6 53	5 24	5 41	6 29	6 46	8 36	8 53	10 51	11 8	14		
25	8 23	8 40	7 9	7 26	5 57	6 14	7 2	7 19	9 9	9 26	11 24	11 41	15		
26	8 57	9 13	7 43	7 59	6 31	6 47	7 36	7 52	9 43	9 58	11 58	* *	16		
27	9 28	9 42	8 14	8 28	7 2	7 16	8 7	8 21	10 14	10 28	0 13	0 29	17		○ E.
28	9 58	10 12	8 44	8 58	7 32	7 46	8 37	8 51	10 43	10 58	0 43	0 58	18		A.
29	10 28	10 44	9 14	9 30	8 2	8 18	9 7	9 23	11 14	11 30	1 13	1 29	19		
30	11 1	11 18	9 47	10 4	8 35	8 52	9 40	9 57	11 47	* *	1 45	2 2	20		
31	11 36	11 55	10 22	10 41	9 10	9 29	10 15	10 34	0 4	0 22	2 19	2 37	21		



明治四十三年 三月

地名	打		(隱岐) 西 鄉		境		舞 鶴		敦 賀		七 尾		函 館	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
日	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
1	10 58	11 14	4 50	5 6	5 3	5 19	5 9	5 25	5 3	5 19	5 42	5 58	6 25	6 41
2	11 31	11 51	5 23	5 43	5 36	5 56	5 42	6 1	5 30	5 55	6 15	6 34	6 58	7 18
3	* *	0 11	6 3	6 22	6 16	6 35	6 21	6 41	6 15	6 35	6 54	7 14	7 38	7 57
4	0 31	0 55	6 46	7 13	6 59	7 26	7 5	7 32	6 59	7 26	7 38	8 5	8 21	8 48
5	1 22	1 56	7 47	8 22	8 0	8 35	8 5	8 40	7 59	8 34	8 38	9 13	9 21	9 56
6	2 32	3 14	9 4	9 49	9 17	10 2	9 21	10 7	9 16	10 1	9 55	10 40	10 38	11 23
7	3 59	4 44	10 34	11 14	10 47	11 27	10 51	11 32	10 46	11 26	11 25	* *	* *	0 8
8	5 23	5 59	11 50	* *	* *	0 3	* *	0 8	* *	0 2	0 5	0 41	0 48	1 24
9	6 31	6 59	0 22	0 50	0 35	1 3	0 41	1 9	0 35	1 3	1 14	1 42	1 57	2 25
10	7 25	7 47	1 16	1 39	1 29	1 52	1 35	1 57	1 29	1 51	2 8	2 30	2 51	3 14
11	8 8	8 28	2 0	2 20	2 13	2 33	2 18	2 38	2 12	2 32	2 51	3 11	3 35	3 55
12	8 45	9 3	2 37	2 55	2 50	3 8	2 56	3 13	2 50	3 7	3 29	3 46	4 12	4 30
13	9 19	9 36	3 11	3 28	3 24	3 41	3 30	3 47	3 24	3 41	4 3	4 20	4 46	5 3
14	9 53	10 10	3 45	4 2	3 58	4 15	4 3	4 20	3 57	4 14	4 36	4 53	5 20	5 37
15	10 29	10 48	4 21	4 40	4 34	4 53	4 39	4 58	4 33	4 52	5 12	5 31	5 56	6 15
16	11 9	11 33	5 1	5 25	5 14	5 38	5 19	5 43	5 13	5 37	5 52	6 16	6 36	7 0
17	* *	0 0	5 51	6 19	6 4	6 32	6 9	6 38	6 3	6 32	6 42	7 11	7 25	7 54
18	0 28	1 1	6 52	7 32	7 5	7 45	7 10	7 50	7 4	7 44	7 43	8 23	8 26	9 6
19	1 41	2 24	8 14	9 1	8 27	9 14	8 32	9 19	8 26	9 13	9 5	9 52	9 47	10 34
20	3 11	3 57	9 47	10 30	10 0	10 43	10 6	10 48	10 0	10 42	10 39	11 21	11 22	* *
21	4 39	5 14	11 4	11 36	11 17	11 49	11 22	11 55	11 16	11 49	11 55	* *	0 4	0 38
22	5 45	6 12	* *	0 3	* *	0 16	* *	0 22	* *	0 16	0 28	0 55	1 11	1 38
23	6 34	6 56	0 26	0 48	0 39	1 1	0 44	1 6	0 38	1 0	1 17	1 39	2 1	2 23
24	7 15	7 32	1 7	1 24	1 20	1 37	1 25	1 43	1 19	1 37	1 58	2 16	2 42	2 59
25	7 48	8 5	1 40	1 57	1 53	2 10	1 59	2 15	1 53	2 9	2 32	2 48	3 15	3 32
26	8 22	8 37	2 14	2 30	2 27	2 43	2 33	2 48	2 27	2 42	3 6	3 21	3 49	4 5
27	8 53	9 7	2 45	2 59	2 58	3 12	3 3	3 18	2 57	3 12	3 36	3 51	4 20	4 34
28	9 22	9 37	3 15	3 29	3 28	3 42	3 33	3 48	3 27	3 42	4 6	4 21	4 50	5 4
29	9 53	10 9	3 45	4 1	3 58	4 14	4 4	4 20	3 58	4 14	4 37	4 53	5 20	5 36
30	10 26	10 43	4 18	4 35	4 31	4 48	4 37	4 53	4 31	4 47	5 10	5 26	5 53	6 10
31	11 1	11 20	4 53	5 12	5 6	5 25	5 11	5 30	5 5	5 24	5 44	6 3	6 28	6 47

明治四十三年 三月

地名	大 湊		(陸中) 山 田		根 室		小 樽		稚 内		(樺太) 大 泊		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
日	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	d		
1	6 16	6 32	6 24	6 40	6 5	6 21	6 26	6 42	6 15	6 31	6 1	6 17	20		A.
2	6 49	7 9	6 57	7 17	6 38	6 57	6 59	7 19	6 48	7 8	6 34	6 53	21		
3	7 29	7 48	7 37	7 56	7 17	7 36	7 39	7 58	7 28	7 47	7 13	7 32	22		
4	8 12	8 39	8 20	8 47	8 0	8 27	8 22	8 49	8 11	8 38	7 56	8 23	23		
5	9 12	9 47	9 20	9 55	9 0	9 35	9 22	9 57	9 11	9 46	8 56	9 31	24		
6	10 29	11 14	10 37	11 22	10 17	11 2	10 39	11 24	10 28	11 13	10 13	10 58	25		
7	11 59	* *	* *	0 7	11 47	* *	* *	0 9	11 58	* *	11 43	* *	26		
8	0 39	1 15	0 47	1 23	0 27	1 3	0 49	1 25	0 38	1 14	0 23	0 59	27		
9	1 48	2 16	1 56	2 24	1 36	2 4	1 58	2 26	1 47	2 15	1 32	2 0	28		
10	2 42	3 5	2 50	3 13	2 30	2 53	2 52	3 15	2 41	3 4	2 26	2 49	29		
11	3 26	3 46	3 34	3 54	3 14	3 34	3 36	3 56	3 25	3 45	3 10	3 30	1		
12	4 3	4 21	4 11	4 29	3 52	4 9	4 13	4 31	4 2	4 20	3 48	4 5	2		
13	4 37	4 54	4 45	5 2	4 26	4 43	4 47	5 4	4 36	4 53	4 22	4 39	3		E.P.
14	5 11	5 28	5 19	5 36	4 59	5 16	5 21	5 38	5 10	5 27	4 55	5 12	4		
15	5 47	6 6	5 55	6 14	5 35	5 54	5 57	6 16	5 46	6 5	5 31	5 50	5		
16	6 27	6 51	6 35	6 59	6 15	6 39	6 37	7 1	6 26	6 50	6 11	6 35	6		
17	7 16	7 45	7 24	7 53	7 4	7 33	7 26	7 55	7 15	7 44	7 0	7 29	7		
18	8 17	8 57	8 25	9 5	8 5	8 45	8 27	9 7	8 16	8 56	8 1	8 41	8		
19	9 38	10 25	9 46	10 33	9 26	10 13	9 48	10 35	9 37	10 24	9 22	10 9	9		N.
20	11 13	11 55	11 21	* *	11 0	11 43	11 23	* *	11 12	11 54	10 56	11 39	10		
21	* *	0 29	0 3	0 37	* *	0 17	0 5	0 39	* *	0 28	* *	0 13	11		
22	1 2	1 29	1 10	1 37	0 50	1 17	1 12	1 39	1 1	1 28	0 46	1 13	12		
23	1 52	2 14	2 0	2 22	1 40	2 2	2 2	2 24	1 51	2 13	1 36	1 58	13		
24	2 33	2 50	2 41	2 58	2 21	2 39	2 43	3 0	2 32	2 49	2 17	2 35	14		
25	3 6	3 23	3 14	3 31	2 55	3 11	3 16	3 33	3 5	3 22	2 51	3 7	15		
26	3 40	3 56	3 48	4 4	3 29	3 45	3 50	4 6	3 39	3 55	3 25	3 41	16		
27	4 11	4 25	4 19	4 33	3 59	4 14	4 21	4 35	4 10	4 24	3 55	4 10	17		
28	4 41	4 55	4 49	5 3	4 30	4 44	4 51	5 5	4 40	4 54	4 26	4 40	18		
29	5 11	5 27	5 19	5 35	5 0	5 16	5 21	5 37	5 10	5 26	4 56	5 12	19		
30	5 44	6 1	5 52	6 9	5 33	5 49	5 54	6 11	5 43	6 0	5 29	5 45	20		
31	6 19	6 38	6 27	6 46	6 7	6 26	6 29	6 48	6 18	6 37	6 3	6 22	21		



明治四十三年 三月

地名	元山		釜山		蛇梁海峡		長直路		長竹水道		木浦		八口浦	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	5 56	6 12	10 50	11 6	11 45	* *	0 24	0 39	2 40	2 55	4 56	5 12	3 24	3 40
2	6 30	6 47	11 23	11 43	0 1	0 19	0 55	1 13	3 11	3 29	5 30	5 47	3 58	4 17
3	7 9	7 29	* *	0 3	0 36	0 58	1 32	1 52	3 46	4 8	6 9	6 29	4 37	4 57
4	7 53	8 20	0 22	0 46	1 18	1 42	2 12	2 36	4 28	4 52	6 53	7 20	5 21	5 48
5	8 54	9 29	1 13	1 47	2 9	2 43	3 3	3 37	5 19	5 53	7 54	8 29	6 22	6 57
6	10 11	10 56	2 23	3 5	3 18	4 0	4 12	4 54	6 28	7 10	9 11	9 56	7 39	8 24
7	11 41	* *	3 50	4 35	4 45	5 30	5 39	6 24	7 55	8 40	10 41	11 21	9 9	9 49
8	0 21	0 57	5 14	5 50	6 10	6 46	7 4	7 40	9 20	9 56	11 57	* *	10 25	10 57
9	1 29	1 57	6 22	6 50	7 18	7 46	8 12	8 40	10 28	10 56	0 29	0 57	11 25	11 51
10	2 23	2 45	7 16	7 39	8 12	8 34	9 6	9 28	11 22	11 44	1 23	1 45	* *	0 13
11	3 6	3 26	8 0	8 20	8 55	9 15	9 49	10 9	* *	0 5	2 6	2 26	0 34	0 54
12	3 43	4 1	8 37	8 55	9 32	9 50	10 26	10 44	0 25	0 42	2 43	3 1	1 11	1 29
13	4 17	4 34	9 11	9 28	10 6	10 23	11 0	11 17	1 0	1 16	3 17	3 34	1 45	2 2
14	4 51	5 8	9 45	10 2	10 40	10 57	11 34	11 51	1 33	1 50	3 51	4 8	2 19	2 36
15	5 27	5 46	10 21	10 40	11 16	11 35	* *	0 10	2 7	2 26	4 27	4 46	2 55	3 14
16	6 7	6 31	11 1	11 25	11 56	* *	0 29	0 50	2 45	3 6	5 7	5 31	3 35	3 59
17	6 58	7 26	11 51	* *	0 20	0 47	1 14	1 41	3 30	3 57	5 58	6 26	4 26	4 54
18	7 59	8 39	0 19	0 52	1 15	1 48	2 9	2 42	4 25	4 58	6 59	7 39	5 27	6 7
19	9 21	10 8	1 32	2 14	2 28	3 10	3 22	4 4	5 38	6 20	8 21	9 8	6 49	7 36
20	10 54	11 37	3 1	3 48	3 57	4 43	4 51	5 37	7 7	7 53	9 54	10 37	8 22	9 5
21	* *	0 11	4 30	5 5	5 26	6 0	6 20	6 54	8 36	9 10	11 11	11 43	9 39	10 11
22	0 43	1 10	5 36	6 3	6 32	6 59	7 26	7 53	9 42	10 9	* *	0 10	10 38	11 0
23	1 32	1 54	6 26	6 48	7 21	7 43	8 15	8 37	10 31	10 53	0 32	0 54	11 22	11 41
24	2 13	2 30	7 7	7 24	8 2	8 19	8 56	9 13	11 12	11 29	1 13	1 30	11 58	* *
25	2 46	3 3	7 40	7 57	8 35	8 52	9 29	9 46	11 45	* *	1 46	2 3	0 14	0 31
26	3 20	3 36	8 14	8 30	9 9	9 25	10 3	10 19	0 2	0 19	2 20	2 36	0 48	1 4
27	3 51	4 5	8 45	8 59	9 40	9 54	10 34	10 48	0 35	0 50	2 51	3 5	1 19	1 33
28	4 21	4 35	9 15	9 29	10 10	10 24	11 4	11 18	1 4	1 20	3 21	3 35	1 49	2 3
29	4 51	5 7	9 45	10 1	10 40	10 56	11 34	11 50	1 34	1 50	3 51	4 7	2 19	2 35
30	5 24	5 41	10 18	10 35	11 13	11 30	* *	0 7	2 6	2 23	4 24	4 41	2 52	3 9
31	5 59	6 18	10 53	11 12	11 48	* *	0 24	0 42	2 40	2 58	4 59	5 18	3 27	3 46

明治四十三年 三月

地名	古群山群島		濟物浦		(大同江) 漁隱洞		(鴨綠江口) 圓島		大連		旅順		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	5 39	5 55	7 46	8 2	11 32	11 48	* *	0 2	0 55	1 11	1 26	1 42	20		A.
2	6 13	6 32	8 20	8 37	* *	0 5	0 18	0 35	1 27	1 44	1 58	2 15	21		
3	6 52	7 12	8 59	9 19	0 24	0 44	0 54	1 14	2 4	2 24	2 35	2 55	22		
4	7 36	8 3	9 43	10 10	1 4	1 28	1 34	1 58	2 44	3 8	3 15	3 39	23	C	
5	8 37	9 12	10 44	11 19	1 55	2 29	2 25	2 59	3 35	4 9	4 6	4 40	24		S.
6	9 54	10 39	* *	0 1	3 5	3 47	3 35	4 17	4 45	5 27	5 16	5 58	25		
7	11 24	* *	0 46	1 31	4 32	5 17	5 2	5 47	6 12	6 57	6 43	7 28	26		
8	0 4	0 40	2 11	2 47	5 56	6 32	6 26	7 2	7 36	8 12	8 7	8 43	27		
9	1 12	1 40	3 19	3 47	7 4	7 32	7 34	8 2	8 44	9 12	9 15	9 43	28		
10	2 6	2 28	4 13	4 35	7 58	8 20	8 28	8 50	9 38	10 0	10 9	10 31	29		
11	2 49	3 9	4 56	5 16	8 41	9 1	9 11	9 31	10 21	10 41	10 52	11 12	1		
12	3 26	3 44	5 33	5 51	9 19	9 36	9 49	10 6	10 58	11 16	11 29	11 47	2		
13	4 0	4 17	6 7	6 24	9 53	10 10	10 23	10 40	11 32	11 49	* *	0 3	3		E.P.
14	4 34	4 51	6 41	6 58	10 26	10 43	10 56	11 13	* *	0 6	0 20	0 37	4		
15	5 10	5 29	7 17	7 36	11 2	11 21	11 32	11 51	0 23	0 42	0 54	1 13	5		
16	5 50	6 14	7 57	8 21	11 42	* *	* *	0 12	1 1	1 22	1 32	1 53	6		
17	6 41	7 9	8 48	9 16	0 6	0 33	0 36	1 3	1 46	2 13	2 17	2 44	7		
18	7 42	8 22	9 49	10 29	1 1	1 34	1 31	2 4	2 41	3 14	3 12	3 45	8	D	
19	9 4	9 51	11 11	11 58	2 14	2 57	2 44	3 27	3 54	4 37	4 25	5 8	9		N.
20	10 37	11 20	* *	0 44	3 44	4 30	4 14	5 0	5 24	6 10	5 55	6 41	10		
21	11 54	* *	1 27	2 1	5 12	5 47	5 42	6 17	6 52	7 27	7 23	7 58	11		
22	0 26	0 53	2 33	3 0	6 18	6 45	6 48	7 15	7 58	8 25	8 29	8 56	12		
23	1 15	1 37	3 22	3 44	7 7	7 29	7 37	7 59	8 47	9 9	9 18	9 40	13		
24	1 56	2 13	4 3	4 20	7 48	8 6	8 18	8 36	9 28	9 45	9 59	10 16	14		
25	2 29	2 46	4 36	4 53	8 22	8 38	8 52	9 8	10 1	10 18	10 32	10 49	15		
26	3 3	3 19	5 10	5 26	8 56	9 11	9 26	9 41	10 35	10 50	11 6	11 21	16		
27	3 34	3 48	5 41	5 55	9 26	9 41	9 56	10 11	11 6	11 20	11 37	11 51	17		E.
28	4 4	4 18	6 11	6 25	9 56	10 11	10 26	10 41	11 35	11 50	* *	0 6	18		A.
29	4 34	4 50	6 41	6 57	10 27	10 43	10 57	11 13	* *	0 6	0 21	0 37	19		
30	5 7	5 24	7 14	7 31	11 0	11 16	11 30	11 46	0 22	0 39	0 53	1 10	20		
31	5 42	6 1	7 49	8 8	11 34	11 53	* *	0 4	0 56	1 14	1 27	1 45	21		



明治四十三年 四月

地名	横須賀		下田		清水		鳥羽		(紀伊) 串本		(淡路) 由良		神戸	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	8 36	8 58	8 55	9 17	9 15	9 37	9 28	9 50	9 33	9 55	10 21	10 43	10 54	11 16
2	9 22	9 48	9 41	10 7	10 1	10 27	10 15	10 41	10 20	10 46	11 8	11 34	11 41	* *
3	10 20	10 57	10 39	11 16	10 59	11 36	11 13	11 50	11 18	11 55	* *	0 6	0 7	0 39
4	11 38	* *	11 57	* *	* *	0 17	* *	0 31	* *	0 36	0 43	1 24	1 16	1 57
5	0 22	1 8	0 41	1 27	1 1	1 47	1 16	2 1	1 21	2 6	2 9	2 54	2 42	3 27
6	1 50	2 27	2 9	2 46	2 29	3 6	2 43	3 20	2 48	3 25	3 36	4 13	4 9	4 46
7	3 1	3 30	3 20	3 49	3 40	4 9	3 54	4 22	3 59	4 27	4 47	5 15	5 20	5 48
8	3 55	4 19	4 14	4 38	4 34	4 58	4 47	5 11	4 52	5 16	5 40	6 4	6 13	6 37
9	4 40	4 58	4 59	5 17	5 19	5 37	5 32	5 50	5 37	5 55	6 25	6 43	6 58	7 16
10	5 17	5 35	5 36	5 54	5 56	6 14	6 10	6 27	6 15	6 32	7 3	7 20	7 36	7 53
11	5 52	6 9	6 11	6 28	6 31	6 48	6 45	7 2	6 50	7 7	7 38	7 55	8 11	8 28
12	6 26	6 46	6 45	7 5	7 5	7 25	7 18	7 38	7 23	7 43	8 11	8 31	8 44	9 4
13	7 5	7 27	7 24	7 46	7 44	8 6	7 57	8 19	8 2	8 24	8 50	9 12	9 23	9 45
14	7 49	8 14	8 8	8 33	8 28	8 53	8 42	9 7	8 47	9 12	9 35	10 0	10 8	10 33
15	8 42	9 12	9 1	9 31	9 21	9 51	9 35	10 5	9 40	10 10	10 28	10 58	11 1	11 31
16	9 43	10 22	10 2	10 41	10 22	11 1	10 36	11 15	10 41	11 20	11 29	* *	* *	0 2
17	11 1	11 43	11 20	* *	11 40	* *	11 54	* *	11 59	* *	0 8	0 47	0 41	1 20
18	* *	0 26	0 2	0 45	0 22	1 5	0 37	1 19	0 42	1 24	1 30	2 12	2 3	2 45
19	1 4	1 38	1 23	1 57	1 43	2 17	1 57	2 31	2 2	2 36	2 50	3 24	3 23	3 57
20	2 8	2 34	2 27	2 53	2 47	3 13	3 1	3 26	3 6	3 31	3 54	4 19	4 27	4 52
21	2 57	3 17	3 16	3 36	3 36	3 56	3 49	4 9	3 54	4 14	4 42	5 2	5 15	5 35
22	3 36	3 54	3 55	4 13	4 15	4 33	4 28	4 46	4 33	4 51	5 21	5 39	5 54	6 12
23	4 10	4 26	4 29	4 45	4 49	5 5	5 3	5 18	5 8	5 23	5 56	6 11	6 29	6 44
24	4 42	4 58	5 1	5 17	5 21	5 37	5 34	5 51	5 39	5 56	6 27	6 44	7 0	7 17
25	5 15	5 30	5 34	5 49	5 54	6 9	6 7	6 23	6 12	6 28	7 0	7 16	7 33	7 49
26	5 47	6 3	6 6	6 22	6 26	6 42	6 40	6 56	6 45	7 1	7 33	7 49	8 6	8 22
27	6 20	6 37	6 39	6 56	6 59	7 16	7 13	7 30	7 18	7 35	8 6	8 23	8 39	8 56
28	6 55	7 15	7 14	7 34	7 34	7 54	7 48	8 7	7 53	8 12	8 41	9 0	9 14	9 33
29	7 34	7 54	7 53	8 13	8 13	8 33	8 26	8 46	8 31	8 51	9 19	9 39	9 52	10 12
30	8 15	8 39	8 34	8 58	8 54	9 18	9 7	9 31	9 12	9 36	10 0	10 24	10 33	10 57

明治四十三年 四月

地名	明石		粟島		(三原瀬戸) 瀬戸田		來島		三津ヶ濱		佐賀ノ關		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	11 54	* *	2 45	3 6	2 3	2 24	1 28	1 49	0 48	1 9	11 31	11 53	22		
2	0 16	0 41	3 28	3 52	2 46	3 10	2 11	2 35	1 31	1 55	* *	0 17	23		
3	1 7	1 39	4 19	4 51	3 37	4 9	3 2	3 34	2 22	2 54	0 44	1 16	24	(	S.
4	2 16	2 57	5 27	6 9	4 45	5 27	4 10	4 52	3 30	4 12	1 52	2 34	25		
5	3 42	4 27	6 54	7 39	6 12	6 57	5 37	6 22	4 57	5 42	3 19	4 4	26		
6	5 9	5 46	8 21	8 58	7 39	8 16	7 4	7 41	6 24	7 1	4 46	5 23	27		
7	6 20	6 48	9 32	10 0	8 50	9 18	8 15	8 43	7 35	8 3	5 57	6 25	28		
8	7 13	7 37	10 25	10 49	9 43	10 7	9 8	9 32	8 28	8 52	6 50	7 14	29		
9	7 58	8 16	11 10	11 28	10 28	10 46	9 53	10 11	9 13	9 31	7 35	7 53	30		E.
10	8 36	8 53	11 47	* *	11 5	11 23	10 30	10 48	9 50	10 8	8 12	8 30	1	●	P.
11	9 11	9 28	0 5	0 22	11 40	11 57	11 5	11 22	10 25	10 42	8 47	9 4	2		
12	9 44	10 4	0 39	0 56	* *	0 14	11 39	11 59	10 59	11 19	9 21	9 41	3		
13	10 23	10 45	1 16	1 35	0 34	0 53	* *	0 18	11 38	* *	10 0	10 22	4		
14	11 8	11 33	1 57	2 19	1 15	1 37	0 40	1 2	0 0	0 22	10 44	11 9	5		
15	* *	0 1	2 44	3 12	2 2	2 30	1 27	1 55	0 47	1 15	11 37	* *	6		N.
16	0 31	1 2	3 42	4 14	3 0	3 32	2 25	2 57	1 45	2 17	0 7	0 39	7	∩	
17	1 41	2 20	4 53	5 32	4 11	4 50	3 36	4 15	2 56	3 35	1 18	1 57	8		
18	3 3	3 45	6 15	6 57	5 33	6 15	4 58	5 40	4 18	5 0	2 40	3 22	9		
19	4 23	4 57	7 35	8 8	6 53	7 26	6 18	6 51	5 38	6 11	4 0	4 33	10		
20	5 27	5 52	8 38	9 4	7 56	8 22	7 21	7 47	6 41	7 7	5 3	5 29	11		
21	6 15	6 35	9 27	9 47	8 45	9 5	8 10	8 30	7 30	7 50	5 52	6 12	12		
22	6 54	7 12	10 6	10 24	9 24	9 42	8 49	9 7	8 9	8 27	6 31	6 49	13		E.
23	7 29	7 44	10 40	10 56	9 58	10 14	9 23	9 39	8 43	8 59	7 5	7 21	14		
24	8 0	8 17	11 12	11 28	10 30	10 46	9 55	10 11	9 15	9 31	7 37	7 53	15	○	A.
25	8 33	8 49	11 45	* *	11 3	11 18	10 28	10 43	9 48	10 3	8 10	8 25	16		
26	9 6	9 22	0 0	0 17	11 35	11 51	11 0	11 16	10 20	10 36	8 42	8 58	17		
27	9 39	9 56	0 33	0 50	* *	0 8	11 33	11 50	10 53	11 10	9 15	9 32	18		
28	10 14	10 33	1 7	1 25	0 25	0 43	* *	0 8	11 28	11 48	9 50	10 10	19		
29	10 52	11 12	1 45	2 4	1 3	1 22	0 28	0 47	* *	0 7	10 29	10 49	20		
30	11 33	11 57	2 24	2 45	1 42	2 3	1 7	1 28	0 27	0 48	11 10	11 34	21		S.



明治四十三年 四月

地名	吳		門		司竹		敷平		戶佐		世保		長崎		三角	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	1 2	1 23	0 36	0 57	0 41	1 2	0 15	0 36	0 3	0 24	11 54	* *	0 30	0 51		
2	1 45	2 9	1 19	1 43	1 24	1 48	0 58	1 22	0 46	1 10	0 16	0 40	1 13	1 37		
3	2 36	3 8	2 10	2 42	2 15	2 47	1 49	2 21	1 37	2 9	1 7	1 39	2 4	2 36		
4	3 44	4 26	3 18	4 1	3 23	4 6	2 57	3 40	2 45	3 28	2 15	2 58	3 12	3 55		
5	5 11	5 56	4 45	5 30	4 50	5 35	4 24	5 9	4 12	4 57	3 42	4 27	4 39	5 24		
6	6 38	7 15	6 12	6 49	6 17	6 54	5 51	6 28	5 39	6 16	5 9	5 46	6 6	6 43		
7	7 49	8 17	7 23	7 51	7 28	7 56	7 2	7 30	6 50	7 18	6 20	6 48	7 17	7 45		
8	8 42	9 6	8 16	8 40	8 21	8 45	7 55	8 19	7 43	8 7	7 13	7 37	8 10	8 34		
9	9 27	9 45	9 1	9 19	9 6	9 24	8 40	8 58	8 28	8 46	7 58	8 16	8 55	9 13		
10	10 4	10 22	9 38	9 56	9 43	10 1	9 17	9 35	9 5	9 23	8 35	8 53	9 32	9 50		
11	10 39	10 56	10 13	10 30	10 18	10 35	9 52	10 9	9 40	9 57	9 10	9 27	10 7	10 24		
12	11 13	11 33	10 47	11 7	10 52	11 12	10 26	10 46	10 14	10 34	9 44	10 4	10 41	11 1		
13	11 52	* *	11 26	11 48	11 31	11 53	11 5	11 27	10 53	11 15	10 23	10 45	11 20	11 42		
14	0 14	0 36	* *	0 10	* *	0 15	11 49	* *	11 37	* *	11 7	11 32	* *	0 4		
15	1 1	1 29	0 35	1 3	0 40	1 8	0 14	0 42	0 2	0 30	* *	0 0	0 29	0 57		
16	1 59	2 31	1 33	2 6	1 38	2 11	1 12	1 45	1 0	1 33	0 30	1 3	1 27	2 0		
17	3 10	3 49	2 44	3 23	2 49	3 28	2 23	3 2	2 11	2 50	1 41	2 20	2 38	3 17		
18	4 32	5 14	4 6	4 48	4 11	4 53	3 45	4 27	3 33	4 15	3 3	3 45	4 0	4 42		
19	5 52	6 25	5 26	5 59	5 31	6 4	5 5	5 38	4 53	5 26	4 23	4 56	5 20	5 53		
20	6 55	7 21	6 29	6 55	6 34	7 0	6 8	6 34	5 56	6 22	5 26	5 52	6 23	6 49		
21	7 44	8 4	7 18	7 38	7 23	7 43	6 57	7 17	6 45	7 5	6 15	6 35	7 12	7 32		
22	8 23	8 41	7 57	8 15	8 2	8 20	7 36	7 54	7 24	7 42	6 54	7 12	7 51	8 9		
23	8 57	9 13	8 31	8 47	8 36	8 52	8 10	8 26	7 58	8 14	7 28	7 44	8 25	8 41		
24	9 29	9 45	9 3	9 19	9 8	9 24	8 42	8 58	8 30	8 46	8 0	8 16	8 57	9 13		
25	10 2	10 17	9 36	9 51	9 41	9 56	9 15	9 30	9 3	9 18	8 33	8 48	9 30	9 45		
26	10 34	10 50	10 8	10 24	10 13	10 29	9 47	10 3	9 35	9 51	9 5	9 21	10 2	10 18		
27	11 7	11 24	10 41	10 58	10 46	11 3	10 20	10 37	10 8	10 25	9 38	9 55	10 35	10 52		
28	11 42	* *	11 16	11 36	11 21	11 41	10 55	11 15	10 43	11 3	10 13	10 33	11 10	11 30		
29	0 2	0 21	11 55	* *	* *	0 0	11 34	11 54	11 22	11 42	10 52	11 12	11 49	* *		
30	0 41	1 2	0 15	0 36	0 20	0 41	* *	0 15	* *	0 3	11 33	11 57	0 9	0 30		

明治四十三年 四月

地名	(五島)		鹿兒島		油津		那霸		基隆		馬公		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	* *	0 16	11 2	11 24	9 50	10 12	10 55	11 17	0 41	1 2	2 56	3 17	22		
2	0 38	1 2	11 48	* *	10 36	11 3	11 42	* *	1 24	1 49	3 39	4 4	23	(	S.
3	1 29	2 1	0 15	0 47	11 35	* *	0 9	0 41	2 16	2 48	4 31	5 3	24		
4	2 37	3 20	1 23	2 6	0 11	0 53	1 17	1 59	3 24	4 7	5 39	6 22	25		
5	4 4	4 49	2 50	3 35	1 38	2 23	2 44	3 29	4 52	5 36	7 7	7 51	26		
6	5 31	6 8	4 17	4 54	3 5	3 42	4 11	4 48	6 18	6 55	8 33	9 10	27		
7	6 42	7 10	5 28	5 56	4 16	4 44	5 22	5 49	7 29	7 56	9 44	10 11	28		
8	7 35	7 59	6 21	6 45	5 9	5 33	6 14	6 38	8 21	8 45	10 36	11 0	29		
9	8 20	8 38	7 6	7 24	5 54	6 12	6 59	7 17	9 6	9 24	11 21	11 39	30		E.
10	8 57	9 15	7 43	8 1	6 31	6 49	7 36	7 54	9 43	10 1	11 58	* *	1	●	P.
11	9 32	9 49	8 18	8 35	7 6	7 23	8 11	8 28	10 18	10 35	0 16	0 33	2		
12	10 6	10 26	8 52	9 12	7 40	8 0	8 45	9 5	10 52	11 12	0 50	1 7	3		
13	10 45	11 7	9 31	9 53	8 19	8 41	9 24	9 46	11 31	11 53	1 27	1 46	4		
14	11 29	11 54	10 15	10 40	9 3	9 28	10 8	10 34	* *	0 15	2 8	2 30	5		
15	* *	0 22	11 8	11 38	9 56	10 26	11 2	11 32	0 41	1 9	2 56	3 24	6		N.
16	0 52	1 25	* *	0 11	10 58	11 37	* *	0 5	1 39	2 12	3 54	4 27	7	)	
17	2 3	2 42	0 49	1 28	* *	0 16	0 43	1 22	2 50	3 29	5 5	5 44	8		
18	3 25	4 7	2 11	2 53	0 59	1 41	2 5	2 47	4 13	4 54	6 28	7 9	9		
19	4 45	5 18	3 31	4 4	2 19	2 52	3 25	3 58	5 32	6 5	7 47	8 20	10		
20	5 48	6 14	4 34	5 0	3 22	3 48	4 28	4 53	6 35	7 0	8 50	9 15	11		
21	6 37	6 57	5 23	5 43	4 11	4 31	5 16	5 36	7 23	7 43	9 38	9 58	12		
22	7 16	7 34	6 2	6 20	4 50	5 8	5 55	6 13	8 2	8 20	10 17	10 35	13		E.
23	7 50	8 6	6 36	6 52	5 24	5 40	6 29	6 45	8 36	8 52	10 51	11 7	14		
24	8 22	8 38	7 8	7 24	5 56	6 12	7 1	7 17	9 8	9 24	11 23	11 39	15	○	A.
25	8 55	9 10	7 41	7 56	6 29	6 44	7 34	7 49	9 41	9 56	11 56	* *	16		
26	9 27	9 43	8 13	8 29	7 1	7 17	8 6	8 22	10 13	10 29	0 11	0 28	17		
27	10 0	10 17	8 46	9 3	7 34	7 51	8 39	8 56	10 46	11 3	0 44	1 1	18		
28	10 35	10 55	9 21	9 41	8 9	8 29	9 14	9 34	11 21	11 41	1 18	1 36	19		
29	11 14	11 34	10 0	10 20	8 48	9 8	9 53	10 13	* *	0 0	1 56	2 15	20		
30	11 55	* *	10 41	11 5	9 29	9 53	10 34	10 58	0 20	0 41	2 35	2 56	21		S.



明治四十三年 四月

地名	打		狗		(隱岐) 西 郷		境		舞 鶴		敦 賀		七 尾		函 館	
	日	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	
1	11	41	* *	5 33	5 55	5 46	6 8	5 51	6 13	5 45	6 7	6 24	6 46	7 8	7 30	
2	0	3	0 28	6 19	6 46	6 32	6 59	6 38	7 4	6 32	6 58	7 11	7 37	7 54	8 20	
3	0	55	1 27	7 18	7 54	7 31	8 7	7 36	8 13	7 30	8 7	8 9	8 46	8 52	9 29	
4	2	3	2 46	8 36	9 21	8 49	9 34	8 54	9 39	8 48	9 33	9 27	10 12	10 10	10 54	
5	3	31	4 15	10 6	10 48	10 19	11 1	10 24	11 6	10 18	11 0	10 57	11 39	11 40	* *	
6	4	57	5 34	11 25	11 59	11 38	* *	11 43	* *	11 37	* *	* *	0 16	0 22	0 59	
7	6	8	6 35	* *	0 27	0 12	0 40	0 17	0 45	0 11	0 39	0 50	1 18	1 33	2 2	
8	7	0	7 24	0 52	1 16	1 5	1 29	1 10	1 34	1 4	1 28	1 43	2 7	2 27	2 51	
9	7	45	8 3	1 37	1 55	1 50	2 8	1 55	2 13	1 49	2 7	2 28	2 46	3 12	3 30	
10	8	22	8 40	2 14	2 32	2 27	2 45	2 33	2 50	2 27	2 44	3 6	3 23	3 49	4 7	
11	8	57	9 14	2 49	3 6	3 2	3 19	3 8	3 25	3 2	3 19	3 41	3 58	4 24	4 41	
12	9	31	9 51	3 23	3 43	3 36	3 56	3 41	4 1	3 35	3 55	4 14	4 34	4 58	5 18	
13	10	10	10 32	4 2	4 24	4 15	4 37	4 20	4 42	4 14	4 36	4 53	5 15	5 37	5 59	
14	10	54	11 20	4 46	5 11	4 59	5 24	5 5	5 30	4 59	5 24	5 38	6 3	6 21	6 46	
15	11	48	* *	5 39	6 9	5 52	6 22	5 58	6 28	5 52	6 22	6 31	7 1	7 14	7 44	
16	0	18	0 51	6 41	7 20	6 54	7 33	6 59	7 38	6 53	7 32	7 32	8 11	8 15	8 54	
17	1	29	2 8	7 59	8 42	8 12	8 55	8 17	9 0	8 11	8 54	8 50	9 33	9 33	10 15	
18	2	52	3 33	9 24	10 2	9 37	10 15	9 42	10 20	9 36	10 14	10 15	10 53	10 58	11 36	
19	4	11	4 44	10 35	11 5	10 48	11 18	10 54	11 24	10 48	11 18	11 27	11 57	* *	0 10	
20	5	14	5 39	11 31	11 54	11 44	* *	11 49	* *	11 43	* *	* *	0 22	0 40	1 6	
21	6	2	6 22	* *	0 14	0 7	0 27	0 12	0 32	0 6	0 26	0 45	1 5	1 29	1 49	
22	6	41	6 59	0 33	0 51	0 46	1 4	0 51	1 9	0 45	1 3	1 24	1 42	2 8	2 26	
23	7	15	7 31	1 7	1 23	1 20	1 36	1 26	1 41	1 20	1 35	1 59	2 14	2 42	2 58	
24	7	47	8 3	1 39	1 55	1 52	2 8	1 57	2 14	1 51	2 8	2 30	2 47	3 14	3 30	
25	8	20	8 35	2 12	2 27	2 25	2 40	2 30	2 46	2 24	2 40	3 3	3 19	3 47	4 2	
26	8	52	9 8	2 44	3 0	2 57	3 13	3 3	3 19	2 57	3 13	3 30	3 52	4 19	4 35	
27	9	25	9 42	3 17	3 34	3 30	3 47	3 36	3 53	3 30	3 47	4 9	4 26	4 52	5 9	
28	10	0	10 20	3 52	4 12	4 5	4 25	4 11	4 30	4 5	4 24	4 44	5 3	5 27	5 47	
29	10	39	10 59	4 31	4 51	4 44	5 4	4 49	5 9	4 43	5 3	5 22	5 42	6 6	6 26	
30	11	20	11 44	5 12	5 36	5 25	5 49	5 30	5 54	5 24	5 48	6 3	6 27	6 47	7 11	

明治四十三年 四月

地名	大 湊		(陸中) 山 田		根 室		小 樽		稚 内		(樺太) 大 泊		太陰曆日附	太陰盈虛	太陰位置
	日	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前			
1	6	59	7 21	7 7	7 29	6 47	7 9	7 9	7 31	6 58	7 20	6 43	7 5	22	C S.
2	7	45	8 11	7 53	8 19	7 33	7 59	7 55	8 21	7 44	8 10	7 29	7 55	23	
3	8	43	9 20	8 51	9 28	8 31	9 8	8 53	9 30	8 42	9 19	8 27	9 4	24	
4	10	1	10 45	10 9	10 53	9 49	10 33	10 11	10 55	10 0	10 44	9 45	10 29	25	P.
5	11	31	* *	11 39	* *	11 19	* *	11 41	* *	11 30	* *	11 15	11 57	26	
6	0	13	0 50	0 21	0 58	0 1	0 38	0 23	1 0	0 12	0 49	* *	0 34	27	
7	1	24	1 53	1 32	2 1	1 12	1 41	1 34	2 3	1 23	1 52	1 8	1 37	28	E.
8	2	18	2 42	2 26	2 50	2 6	2 30	2 28	2 52	2 17	2 41	2 2	2 26	29	
9	3	3	3 21	3 11	3 29	2 51	3 9	3 13	3 31	3 2	3 20	2 47	3 5	30	
10	3	40	3 58	3 48	4 6	3 29	3 46	3 50	4 8	3 39	3 57	3 25	3 42	1	D P.
11	4	15	4 32	4 23	4 40	4 4	4 21	4 25	4 42	4 14	4 31	4 0	4 17	2	
12	4	49	5 9	4 57	5 17	4 37	4 57	4 59	5 19	4 48	5 8	4 33	4 53	3	
13	5	28	5 50	5 36	5 58	5 16	5 38	5 38	6 0	5 27	5 49	5 12	5 34	4	N.
14	6	12	6 37	6 20	6 45	6 1	6 25	6 22	6 47	6 11	6 36	5 57	6 21	5	
15	7	5	7 35	7 13	7 43	6 53	7 23	7 15	7 45	7 4	7 34	6 49	7 19	6	
16	8	6	8 45	8 14	8 53	7 54	8 33	8 16	8 55	8 5	8 44	7 50	8 29	7	E.
17	9	24	10 6	9 32	10 14	9 12	9 54	9 34	10 16	9 23	10 5	9 8	9 50	8	
18	10	49	11 27	10 57	11 35	10 37	11 15	10 59	11 37	10 48	11 26	10 33	11 11	9	
19	* *	0 1	* *	0 9	11 49	* *	* *	0 11	* *	0 0	11 45	* *	10	A.	
20	0	31	0 57	0 39	1 5	0 19	0 45	0 41	1 7	0 30	0 56	0 15	0 41		11
21	1	20	1 40	1 28	1 48	1 8	1 28	1 30	1 50	1 19	1 39	1 4	1 24		12
22	1	59	2 17	2 7	2 25	1 47	2 5	2 9	2 27	1 58	2 16	1 43	2 1	13	E.
23	2	33	2 49	2 41	2 57	2 22	2 37	2 43	2 59	2 32	2 48	2 18	2 33	14	
24	3	5	3 21	3 13	3 29	2 53	3 10	3 15	3 31	3 4	3 20	2 49	3 6	15	
25	3	38	3 53	3 46	4 1	3 26	3 42	3 48	4 3	3 37	3 52	3 22	3 38	16	A.
26	4	10	4 26	4 18	4 34	3 59	4 15	4 20	4 36	4 9	4 25	3 55	4 11	17	
27	4	43	5 0	4 51	5 8	4 32	4 49	4 53	5 10	4 42	4 59	4 28	4 45	18	
28	5	18	5 38	5 26	5 46	5 7	5 26	5 28	5 48	5 17	5 37	5 3	5 22	19	S.
29	5	57	6 17	6 5	6 25	5 45	6 5	6 7	6 27	5 56	6 16	5 41	6 1	20	
30	6	38	7 2	6 46	7 10	6 26	6 50	6 48	7 12	6 37	7 1	6 22	6 46	21	



高潮時表

明治四十三年 四月

地名	元山		釜山		蛇梁海峽		長直路		長竹水道		木浦		八口浦	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	6 39	7 1	11 33	11 55	0 7	0 28	1 1	1 22	3 17	3 38	5 39	6 1	4 7	4 29
2	7 26	7 53	* *	0 19	0 50	1 15	1 44	2 0	4 0	4 25	6 26	6 53	4 54	5 21
3	8 25	9 1	0 46	1 18	1 42	2 14	2 36	3 8	4 52	5 24	7 25	8 1	5 53	6 29
4	9 43	10 28	1 54	2 37	2 50	3 32	3 44	4 26	6 0	6 42	8 43	9 28	7 11	7 56
5	11 13	11 55	3 21	4 6	4 17	5 2	5 11	5 56	7 27	8 12	10 13	10 55	8 41	9 23
6	* *	0 32	4 48	5 25	5 44	6 21	6 38	7 15	8 54	9 31	11 32	* *	10 0	10 34
7	1 6	1 33	5 59	6 27	6 55	7 22	7 49	8 16	10 5	10 32	0 6	0 33	11 1	11 26
8	1 58	2 22	6 52	7 16	7 47	8 11	8 41	9 5	10 57	11 21	0 58	1 22	11 50	* *
9	2 43	3 1	7 37	7 55	8 32	8 50	9 26	9 44	11 42	* *	1 43	2 1	0 11	0 29
10	3 20	3 38	8 14	8 32	9 9	9 27	10 3	10 21	0 0	0 19	2 20	2 38	0 48	1 6
11	3 55	4 12	8 49	9 6	9 44	10 1	10 38	10 55	0 37	0 54	2 55	3 12	1 23	1 40
12	4 29	4 49	9 23	9 43	10 18	10 38	11 12	11 32	1 11	1 28	3 29	3 49	1 57	2 17
13	5 8	5 30	10 2	10 24	10 57	11 19	11 51	* *	1 48	2 7	4 8	4 30	2 36	2 58
14	5 52	6 18	10 46	11 11	11 41	* *	0 13	0 35	2 29	2 51	4 52	5 18	3 20	3 46
15	6 46	7 16	11 39	* *	0 7	0 35	1 1	1 29	3 17	3 45	5 46	6 16	4 14	4 44
16	7 49	8 27	0 9	0 42	1 5	1 38	1 59	2 32	4 15	4 48	6 49	7 27	5 17	5 55
17	9 6	9 49	1 20	1 59	2 16	2 55	3 10	3 49	5 26	6 5	8 6	8 49	6 34	7 17
18	10 31	11 9	2 42	3 24	3 38	4 20	4 32	5 14	6 48	7 30	9 31	10 9	7 59	8 37
19	11 42	* *	4 2	4 35	4 58	5 31	5 52	6 25	8 8	8 41	10 42	11 12	9 10	9 40
20	0 12	0 37	5 5	5 31	6 1	6 26	6 55	7 20	9 11	9 36	11 37	* *	10 5	10 28
21	1 0	1 20	5 54	6 14	6 49	7 9	7 43	8 3	9 59	10 19	0 0	0 20	10 48	11 7
22	1 39	1 57	6 33	6 51	7 28	7 46	8 22	8 40	10 38	10 56	0 39	0 57	11 25	11 41
23	2 13	2 29	7 7	7 23	8 2	8 18	8 56	9 12	11 12	11 28	1 13	1 29	11 57	* *
24	2 45	3 1	7 39	7 55	8 34	8 50	9 28	9 44	11 44	* *	1 45	2 1	0 13	0 29
25	3 18	3 33	8 12	8 27	9 7	9 22	10 1	10 16	0 0	0 17	2 18	2 33	0 46	1 1
26	3 50	4 6	8 44	9 0	9 39	9 55	10 33	10 49	0 32	0 49	2 50	3 6	1 18	1 34
27	4 23	4 40	9 17	9 34	10 12	10 29	11 6	11 23	1 5	1 22	3 23	3 40	1 51	2 8
28	4 58	5 18	9 52	10 12	10 47	11 7	11 41	* *	1 39	1 57	3 58	4 18	2 26	2 46
29	5 37	5 57	10 31	10 51	11 26	11 46	0 1	0 20	2 17	2 36	4 37	4 57	3 5	3 25
30	6 18	6 42	11 12	11 36	* *	0 7	0 40	1 1	2 56	3 17	5 18	5 42	3 46	4 10

高潮時表

明治四十三年 四月

地名	古群山群島		濟物浦		(大同江) 漁隱洞		(鴨綠江口) 圓島		大連		旅順		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	6 22	6 44	8 29	8 51	* *	0 14	0 23	0 44	1 33	1 54	2 4	2 25	22		
2	7 9	7 36	9 16	9 43	0 36	1 1	1 6	1 31	2 10	2 41	2 47	3 12	23		
3	8 8	8 44	10 15	10 51	1 28	2 0	1 58	2 30	3 8	3 40	3 39	4 11	24	○	S.
4	9 26	10 11	11 33	* *	2 36	3 19	3 6	3 49	4 16	4 59	4 47	5 30	25		
5	10 56	11 38	0 18	1 3	4 4	4 48	4 34	5 18	5 44	6 28	6 15	6 59	26		
6	* *	0 15	1 45	2 22	5 30	6 7	6 0	6 37	7 10	7 47	7 41	8 18	27		
7	0 49	1 16	2 56	3 23	6 41	7 8	7 11	7 38	8 21	8 48	8 52	9 19	28		
8	1 41	2 5	3 48	4 12	7 33	7 57	8 3	8 27	9 13	9 37	9 44	10 8	29		
9	2 26	2 44	4 33	4 51	8 18	8 36	8 48	9 6	9 58	10 16	10 29	10 47	30		E.
10	3 3	3 21	5 10	5 28	8 56	9 13	9 26	9 43	10 35	10 53	11 6	11 24	1	●	P.
11	3 38	3 55	5 45	6 2	9 31	9 48	10 1	10 18	11 10	11 27	11 41	11 58	2		
12	4 12	4 32	6 19	6 39	10 4	10 24	10 34	10 54	11 44	* *	* *	0 15	3		
13	4 51	5 13	6 58	7 20	10 43	11 5	11 13	11 35	0 4	0 23	0 35	0 54	4		
14	5 35	6 1	7 42	8 8	11 28	11 53	11 58	* *	0 45	1 7	1 16	1 38	5		
15	6 29	6 59	8 36	9 6	* *	0 21	0 23	0 51	1 33	2 1	2 4	2 32	6		N.
16	7 32	8 10	9 39	10 17	0 51	1 24	1 21	1 54	2 31	3 4	3 2	3 35	7	○	D.
17	8 49	9 32	10 56	11 39	2 2	2 41	2 32	3 11	3 42	4 21	4 13	4 52	8		
18	10 14	10 52	* *	0 21	3 25	4 6	3 55	4 36	5 5	5 46	5 36	6 17	9		
19	11 25	11 55	0 59	1 32	4 44	5 17	5 14	5 47	6 24	6 57	6 55	7 28	10		
20	* *	0 20	2 2	2 27	5 47	6 12	6 17	6 42	7 27	7 52	7 58	8 23	11		
21	0 43	1 3	2 50	3 10	6 35	6 55	7 5	7 25	8 15	8 35	8 46	9 6	12		
22	1 22	1 40	3 29	3 47	7 14	7 32	7 44	8 2	8 54	9 12	9 25	9 43	13		E.
23	1 56	2 12	4 3	4 19	7 49	8 4	8 19	8 34	9 28	9 44	9 59	10 15	14		
24	2 28	2 44	4 35	4 51	8 20	8 37	8 50	9 7	10 0	10 16	10 31	10 47	15	○	A.
25	3 1	3 16	5 8	5 23	8 53	9 9	9 23	9 39	10 33	10 48	11 4	11 19	16		
26	3 33	3 49	5 40	5 56	9 26	9 42	9 56	10 12	11 5	11 21	11 36	11 52	17		
27	4 6	4 23	6 13	6 30	9 59	10 16	10 29	10 46	11 38	11 55	* *	0 9	18		
28	4 41	5 1	6 48	7 8	10 34	10 53	11 4	11 23	* *	0 13	0 26	0 44	19		
29	5 20	5 40	7 27	7 47	11 12	11 32	11 42	* *	0 33	0 52	1 4	1 23	20		
30	6 1	6 25	8 8	8 32	11 53	* *	0 2	0 23	1 12	1 33	1 43	2 4	21		S.



明治四十三年 五月

地名	横須賀		下田		清水		鳥羽		(紀伊) 串本		(淡路) 由良		神戸	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	9 3	9 28	9 22	9 47	9 42	10 7	9 55	10 21	10 0	10 26	10 48	11 14	11 21	11 47
2	9 57	10 31	10 16	10 50	10 36	11 10	10 50	11 24	10 55	11 29	11 43	* *	* *	0 16
3	11 8	11 51	11 27	* *	11 47	* *	* *	0 2	* *	0 7	0 17	0 55	0 50	1 28
4	* *	0 34	0 10	0 53	0 30	1 13	0 44	1 27	0 49	1 32	1 37	2 20	2 10	2 53
5	1 17	1 55	1 36	2 14	1 56	2 34	2 10	2 48	2 15	2 53	3 3	3 41	3 36	4 14
6	2 30	3 1	2 49	3 20	3 9	3 40	3 23	3 54	3 28	3 59	4 16	4 47	4 49	5 20
7	3 28	3 53	3 47	4 12	4 7	4 32	4 20	4 45	4 25	4 50	5 13	5 38	5 46	6 11
8	4 16	4 36	4 35	4 55	4 55	5 15	5 8	5 28	5 13	5 33	6 1	6 21	6 34	6 54
9	4 54	5 14	5 13	5 33	5 33	5 53	5 47	6 7	5 52	6 12	6 40	7 0	7 13	7 33
10	5 34	5 53	5 53	6 12	6 13	6 32	6 26	6 45	6 31	6 50	7 19	7 38	7 52	8 11
11	6 12	6 32	6 31	6 51	6 51	7 11	7 4	7 25	7 9	7 30	7 57	8 18	8 30	8 51
12	6 54	7 16	7 13	7 35	7 33	7 55	7 46	8 8	7 51	8 13	8 39	9 1	9 12	9 34
13	7 40	8 4	7 59	8 23	8 19	8 43	8 32	8 56	8 37	9 1	9 25	9 49	9 58	10 22
14	8 32	8 59	8 51	9 18	9 11	9 38	9 24	9 52	9 29	9 57	10 17	10 45	10 50	11 18
15	9 27	9 58	9 46	10 17	10 6	10 37	10 20	10 51	10 25	10 56	11 13	11 44	11 46	* *
16	10 32	11 5	10 51	11 24	11 11	11 44	11 25	11 58	11 30	* *	* *	0 18	0 17	0 51
17	11 41	* *	* *	0 0	* *	0 20	* *	0 34	0 3	0 39	0 51	1 27	1 24	2 0
18	0 16	0 50	0 35	1 9	0 55	1 29	1 9	1 43	1 14	1 48	2 2	2 36	2 35	3 9
19	1 20	1 46	1 39	2 5	1 59	2 25	2 13	2 39	2 18	2 44	3 6	3 32	3 39	4 5
20	2 13	2 36	2 32	2 55	2 52	3 15	3 5	3 28	3 10	3 33	3 58	4 21	4 31	4 54
21	2 57	3 16	3 16	3 35	3 36	3 55	3 49	4 8	3 54	4 13	4 42	5 1	5 15	5 34
22	3 34	3 53	3 53	4 12	4 13	4 32	4 26	4 45	4 31	4 50	5 19	5 38	5 52	6 11
23	4 10	4 27	4 29	4 46	4 49	5 6	5 3	5 20	5 8	5 25	5 56	6 13	6 29	6 46
24	4 46	5 5	5 5	5 24	5 25	5 44	5 38	5 57	5 43	6 2	6 31	6 50	7 4	7 23
25	5 23	5 42	5 42	6 1	6 2	6 21	6 15	6 34	6 20	6 39	7 8	7 27	7 41	8 0
26	6 0	6 19	6 19	6 38	6 39	6 58	6 52	7 12	6 57	7 17	7 45	8 5	8 18	8 38
27	6 39	6 59	6 58	7 18	7 18	7 38	7 32	7 51	7 37	7 56	8 25	8 44	8 58	9 17
28	7 19	7 39	7 38	7 58	7 58	8 18	8 11	8 31	8 16	8 36	9 4	9 24	9 37	9 57
29	7 59	8 22	8 18	8 41	8 38	9 1	8 51	9 14	8 56	9 19	9 44	10 7	10 17	10 40
30	8 44	9 7	9 3	9 26	9 23	9 46	9 36	10 0	9 41	10 5	10 29	10 53	11 2	11 26
31	9 32	10 0	9 51	10 19	10 11	10 39	10 25	10 53	10 30	10 58	11 18	11 46	11 51	* *

明治四十三年 五月

地名	明石		粟島		(三原瀬戸) 瀬戸田		來島		三津ヶ濱		佐賀ノ關		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	* *	0 21	3 9	3 33	2 27	2 51	1 52	2 16	1 12	1 36	11 58	* *	22		
2	0 47	1 16	3 58	4 28	3 16	3 46	2 41	3 11	2 1	2 31	0 23	0 53	23	☾	
3	1 50	2 28	5 2	5 40	4 20	4 58	3 45	4 23	3 5	3 43	1 27	2 5	24		
4	3 10	3 53	6 22	7 5	5 40	6 23	5 5	5 48	4 25	5 8	2 47	3 30	25		
5	4 36	5 14	7 48	8 26	7 6	7 44	6 31	7 9	5 51	6 29	4 13	4 51	26		
6	5 49	6 20	9 0	9 31	8 18	8 49	7 43	8 14	7 3	7 34	5 25	5 56	27		
7	6 46	7 11	9 58	10 23	9 16	9 41	8 41	9 6	8 1	8 26	6 23	6 48	28		E.
8	7 34	7 54	10 46	11 9	10 4	10 24	9 29	9 49	8 49	9 12	7 11	7 31	29		P.
9	8 13	8 33	11 24	11 44	10 42	11 2	10 7	10 27	9 27	9 47	7 49	8 9	1	●	
10	8 52	9 11	* *	0 4	11 22	11 41	10 47	11 6	10 7	10 26	8 29	8 48	2		
11	9 30	9 51	0 23	0 42	* *	0 0	11 25	11 45	10 45	11 5	9 7	9 27	3		
12	10 12	10 34	1 2	1 24	0 20	0 42	* *	0 7	11 27	11 49	9 49	10 11	4		
13	10 58	11 22	1 46	2 10	1 4	1 28	0 29	0 53	* *	0 13	10 35	10 59	5		N.
14	11 50	* *	2 34	3 2	1 52	2 20	1 17	1 45	0 37	1 5	11 27	11 54	6		
15	0 18	0 46	3 29	3 57	2 47	3 15	2 12	2 40	1 32	2 0	* *	0 22	7		
16	1 17	1 51	4 28	5 2	3 46	4 20	3 11	3 45	2 31	3 5	0 53	1 27	8	☽	
17	2 24	3 0	5 36	6 12	4 54	5 30	4 19	4 55	3 39	4 15	2 1	2 37	9		
18	3 35	4 9	6 47	7 20	6 5	6 38	5 30	6 3	4 50	5 23	3 12	3 45	10		
19	4 39	5 5	7 50	8 16	7 8	7 34	6 33	6 59	5 53	6 19	4 15	4 41	11		E.
20	5 31	5 54	8 43	9 6	8 1	8 24	7 26	7 49	6 46	7 9	5 8	5 31	12		
21	6 15	6 34	9 27	9 46	8 45	9 4	8 10	8 29	7 30	7 49	5 52	6 11	13		
22	6 52	7 11	10 4	10 23	9 22	9 41	8 47	9 6	8 7	8 26	6 29	6 48	14		A.
23	7 29	7 46	10 40	10 57	9 58	10 15	9 23	9 40	8 43	9 0	7 5	7 22	15		
24	8 4	8 23	11 16	11 35	10 34	10 53	9 59	10 18	9 19	9 38	7 41	8 0	16	○	
25	8 41	9 0	11 53	* *	11 11	11 30	10 36	10 55	9 56	10 15	8 18	8 37	17		
26	9 18	9 38	0 12	0 30	11 48	* *	11 13	11 32	10 33	10 52	8 55	9 14	18		
27	9 58	10 17	0 49	1 9	0 7	0 27	11 52	* *	11 12	11 32	9 34	9 54	19		S.
28	10 37	10 57	1 29	1 49	0 47	1 7	0 12	0 32	11 52	* *	10 14	10 34	20		
29	11 17	11 40	2 9	2 29	1 27	1 47	0 52	1 12	0 12	0 32	10 54	11 17	21		
30	* *	0 2	2 52	3 14	2 10	2 32	1 35	1 57	0 55	1 17	11 39	* *	22		
31	0 26	0 51	3 47	4 2	2 55	3 20	2 20	2 45	1 50	2 5	0 2	0 27	23		



明治四十三年 五月

地名	吳		門		司竹		敷平		戶佐		保世		長崎		三角	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
日	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
1	1 26	1 50	1 0	1 24	1 5	1 29	0 39	1 3	0 27	0 51	* *	0 21	0 54	1 18		
2	2 15	2 45	1 49	2 19	1 54	2 24	1 28	1 58	1 16	1 46	0 46	1 16	1 43	2 13		
3	3 19	3 57	2 54	3 31	2 59	3 36	2 33	3 10	2 21	2 58	1 51	2 28	2 48	3 25		
4	4 39	5 22	4 13	4 56	4 18	5 1	3 52	4 35	3 40	4 23	3 10	3 53	4 7	4 50		
5	6 5	6 43	5 39	6 17	5 44	6 22	5 18	5 56	5 6	5 44	4 36	5 14	5 33	6 11		
6	7 17	7 48	6 51	7 22	6 56	7 27	6 30	7 1	6 18	6 49	5 48	6 19	6 45	7 16		
7	8 15	8 40	7 49	8 14	7 54	8 19	7 28	7 53	7 16	7 41	6 46	7 11	7 43	8 8		
8	9 3	9 23	8 37	8 57	8 42	9 2	8 16	8 36	8 4	8 24	7 34	7 54	8 31	8 51		
9	9 41	10 1	9 15	9 35	9 20	9 40	8 54	9 14	8 42	9 2	8 12	8 32	9 9	9 29		
10	10 21	10 40	9 55	10 14	10 0	10 19	9 34	9 53	9 22	9 41	8 52	9 11	9 49	10 8		
11	10 59	11 19	10 33	10 53	10 38	10 58	10 12	10 32	10 0	10 20	9 30	9 50	10 27	10 47		
12	11 41	* *	11 15	11 37	11 20	11 42	10 54	11 16	10 42	11 4	10 12	10 34	11 9	11 31		
13	0 3	0 27	* *	0 1	* *	0 6	11 40	* *	11 28	11 52	10 58	11 22	11 53	* *		
14	0 51	1 19	0 25	0 53	0 30	0 58	0 4	0 32	* *	0 20	11 50	* *	0 19	0 47		
15	1 46	2 14	1 20	1 48	1 25	1 53	0 59	1 27	0 47	1 15	0 17	0 45	1 14	1 42		
16	2 45	3 19	2 19	2 53	2 24	2 58	1 58	2 32	1 46	2 20	1 16	1 50	2 13	2 47		
17	3 53	4 29	3 27	4 3	3 32	4 8	3 6	3 42	2 54	3 30	2 24	3 0	3 21	3 57		
18	5 4	5 37	4 38	5 11	4 43	5 16	4 17	4 50	4 5	4 38	3 35	4 8	4 32	5 5		
19	6 7	6 33	5 41	6 7	5 46	6 12	5 20	5 46	5 8	5 34	4 38	5 4	5 35	6 1		
20	7 0	7 23	6 34	6 57	6 39	7 2	6 13	6 36	6 1	6 24	5 31	5 54	6 28	6 51		
21	7 44	8 3	7 18	7 37	7 23	7 42	6 57	7 16	6 45	7 4	6 15	6 34	7 12	7 31		
22	8 21	8 40	7 55	8 14	8 0	8 19	7 34	7 53	7 22	7 41	6 52	7 11	7 49	8 8		
23	8 57	9 14	8 31	8 48	8 36	8 53	8 10	8 27	7 58	8 15	7 28	7 45	8 25	8 42		
24	9 33	9 52	9 7	9 26	9 12	9 31	8 46	9 5	8 34	8 53	8 4	8 23	9 1	9 20		
25	10 10	10 29	9 44	10 3	9 49	10 8	9 23	9 42	9 11	9 30	8 41	9 0	9 38	9 57		
26	10 47	11 6	10 21	10 40	10 26	10 45	10 0	10 19	9 48	10 7	9 18	9 37	10 15	10 34		
27	11 26	11 46	11 0	11 20	11 5	11 25	10 39	10 59	10 27	10 47	9 57	10 17	10 54	11 14		
28	* *	0 6	11 40	* *	11 45	* *	11 19	11 39	11 7	11 27	10 37	10 57	11 34	11 54		
29	0 26	0 46	0 0	0 20	0 5	0 25	11 59	* *	11 47	* *	11 17	11 40	* *	0 14		
30	1 9	1 31	0 43	1 5	0 48	1 10	0 22	0 44	0 10	0 32	* *	0 2	0 37	0 59		
31	1 54	2 19	1 28	1 53	1 33	1 58	1 7	1 32	0 55	1 20	0 25	0 50	1 22	1 47		

明治四十三年 五月

地名	(五島)		鹿兒島		油津		那霸		基隆		馬公		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
日	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	d		
1	0 19	0 43	11 29	11 54	10 17	10 42	11 22	11 48	1 5	1 29	3 20	3 44	22		
2	1 8	1 38	* *	0 24	11 12	11 46	* *	0 18	1 55	2 25	4 10	4 40	23	(	
3	2 13	2 50	0 59	1 36	* *	0 24	0 52	1 30	3 0	3 38	5 15	5 53	24		
4	3 32	4 15	2 18	3 1	1 6	1 49	2 12	2 55	4 20	5 3	6 35	7 18	25		
5	4 58	5 36	3 44	4 22	2 32	3 10	3 38	4 16	5 45	6 23	8 0	8 38	26		
6	6 10	6 41	4 56	5 27	3 44	4 15	4 50	5 21	6 57	7 28	9 12	9 43	27		
7	7 8	7 33	5 54	6 19	4 42	5 7	5 47	6 12	7 54	8 19	10 9	10 34	28		E.
8	7 56	8 16	6 42	7 2	5 30	5 50	6 35	6 55	8 42	9 2	10 57	11 17	29		
9	8 34	8 54	7 20	7 40	6 8	6 28	7 13	7 33	9 20	9 40	11 35	11 55	1	●	P.
10	9 14	9 33	8 0	8 19	6 48	7 7	7 53	8 12	10 0	10 20	* *	0 15	2		
11	9 52	10 12	8 38	8 58	7 26	7 46	8 31	8 51	10 38	10 58	0 35	0 53	3		
12	10 34	10 56	9 20	9 42	8 8	8 30	9 13	9 35	11 20	11 42	1 13	1 35	4		
13	11 20	11 44	10 6	10 30	8 54	9 18	9 59	10 23	* *	0 6	1 57	2 21	5		N.
14	* *	0 12	10 58	11 25	9 46	10 13	10 51	11 19	0 30	0 58	2 45	3 13	6		
15	0 39	1 7	11 53	* *	10 41	11 12	11 47	* *	1 26	1 54	3 41	4 9	7		
16	1 38	2 12	0 24	0 58	11 46	* *	0 18	0 52	2 25	2 59	4 40	5 14	8	D	
17	2 46	3 22	1 32	2 8	0 20	0 56	1 26	2 2	3 33	4 9	5 48	6 24	9		
18	3 57	4 30	2 43	3 16	1 31	2 4	2 37	3 10	4 44	5 7	6 59	7 32	10		
19	5 0	5 26	3 46	4 12	2 34	3 0	3 40	4 6	5 47	6 13	8 2	8 28	11		
20	5 53	6 16	4 39	5 2	3 27	3 50	4 32	4 55	6 39	7 2	8 54	9 17	12		E.
21	6 37	6 56	5 23	5 42	4 11	4 30	5 16	5 35	7 23	7 42	9 38	9 57	13		
22	7 14	7 33	6 0	6 19	4 48	5 7	5 53	6 12	8 0	8 19	10 15	10 34	14		A.
23	7 50	8 7	6 36	6 53	5 24	5 41	6 29	6 46	8 36	8 53	10 51	11 8	15		
24	8 26	8 45	7 12	7 31	6 0	6 19	7 5	7 24	9 12	9 31	11 27	11 46	16	○	
25	9 3	9 22	7 49	8 8	6 37	6 56	7 42	8 1	9 49	10 8	* *	0 4	17		
26	9 40	9 59	8 26	8 45	7 14	7 33	8 19	8 38	10 26	10 45	0 23	0 41	18		
27	10 19	10 39	9 5	9 25	7 53	8 13	8 58	9 18	11 5	11 25	1 0	1 20	19		S.
28	10 59	11 19	9 45	10 5	8 33	8 53	9 38	9 58	11 45	* *	1 40	2 0	20		
29	11 39	* *	10 25	10 48	9 13	9 36	10 18	10 41	0 5	0 25	2 20	2 40	21		
30	0 2	0 24	11 10	11 33	9 58	10 21	11 3	11 27	0 48	1 10	3 3	3 25	22		
31	0 47	1 12	11 58	* *	10 46	11 14	11 52	* *	1 34	1 59	3 49	4 14	23		



高潮時表

明治四十三年 五月

地名	打狗		(隱岐) 西郷		境		舞鶴		敦賀		七尾		函館	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	* *	0 8	6 0	6 25	6 13	6 38	6 18	6 44	6 12	6 38	6 51	7 17	7 35	8 0
2	0 34	1 4	6 55	7 29	7 8	7 42	7 13	7 47	7 7	7 41	7 46	8 20	8 29	9 3
3	1 39	2 17	8 7	8 49	8 20	9 2	8 25	9 7	8 19	9 1	8 58	9 40	9 40	10 23
4	2 59	3 42	9 32	10 15	9 45	10 28	9 50	10 33	9 44	10 27	10 23	11 6	11 6	11 49
5	4 24	5 2	10 53	11 27	11 6	11 40	11 11	11 46	11 5	11 40	11 44	* *	* *	0 27
6	5 36	6 7	11 58	* *	* *	0 11	* *	0 17	* *	0 11	0 19	0 50	1 2	1 33
7	6 33	6 58	0 25	0 50	0 38	1 3	0 43	1 8	0 37	1 2	1 16	1 41	2 0	2 25
8	7 21	7 41	1 13	1 33	1 26	1 46	1 31	1 51	1 25	1 45	2 4	2 24	2 48	3 8
9	7 59	8 19	1 51	2 11	2 4	2 24	2 10	2 30	2 4	2 24	2 43	3 3	3 26	3 46
10	8 39	8 59	2 31	2 50	2 44	3 3	2 49	3 8	2 43	3 2	3 22	3 41	4 6	4 25
11	9 17	9 37	3 9	3 29	3 22	3 42	3 27	3 48	3 21	3 42	4 0	4 21	4 44	5 4
12	9 59	10 21	3 51	4 13	4 4	4 26	4 9	4 31	4 3	4 25	4 42	5 4	5 26	5 48
13	10 45	11 9	4 37	5 1	4 50	5 14	4 55	5 19	4 49	5 13	5 28	5 52	6 12	6 36
14	11 37	* *	5 29	5 56	5 42	6 9	5 47	6 15	5 41	6 9	6 20	6 48	7 4	7 31
15	0 5	0 33	6 24	6 55	6 37	7 8	6 43	7 14	6 37	7 8	7 16	7 47	7 59	8 30
16	1 4	1 38	7 29	8 3	7 42	8 16	7 48	8 21	7 42	8 15	8 21	8 54	9 4	9 37
17	2 12	2 48	8 39	9 14	8 52	9 27	8 57	9 32	8 51	9 26	9 30	10 5	10 13	10 48
18	3 23	3 46	9 47	10 17	10 0	10 30	10 6	10 36	10 0	10 30	10 39	11 9	11 22	11 52
19	4 26	4 52	10 43	11 10	10 56	11 23	11 2	11 28	10 56	11 22	11 35	* *	* *	0 18
20	5 18	5 41	11 33	11 54	11 46	* *	11 51	* *	11 45	* *	0 1	0 24	0 45	1 8
21	6 2	6 21	* *	0 13	0 7	0 26	0 12	0 31	0 6	0 25	0 45	1 4	1 29	1 48
22	6 39	6 58	0 31	0 50	0 44	1 3	0 49	1 8	0 43	1 2	1 22	1 41	2 6	2 25
23	7 15	7 42	1 7	1 24	1 20	1 37	1 26	1 43	1 20	1 37	1 59	2 16	2 42	2 59
24	7 51	8 10	1 43	2 2	1 56	2 15	2 1	2 20	1 55	2 14	2 34	2 53	3 18	3 37
25	8 28	8 47	2 20	2 39	2 33	2 52	2 38	2 57	2 32	2 51	3 11	3 30	3 55	4 14
26	9 5	9 24	2 57	3 16	3 10	3 29	3 15	3 35	3 9	3 29	3 48	4 8	4 32	4 51
27	9 44	10 4	3 36	3 56	3 49	4 9	3 55	4 14	3 49	4 8	4 28	4 47	5 11	5 31
28	10 24	10 44	4 16	4 36	4 29	4 49	4 34	4 54	4 28	4 48	5 7	5 27	5 51	6 11
29	11 4	11 27	4 56	5 19	5 9	5 32	5 14	5 37	5 8	5 31	5 47	6 10	6 31	6 54
30	11 49	* *	5 41	6 4	5 54	6 17	5 59	6 23	5 53	6 17	6 32	6 56	7 16	7 39
31	0 13	0 38	6 29	6 57	6 42	7 10	6 48	7 16	6 42	7 10	7 21	7 49	8 4	8 32

高潮時表

明治四十三年 五月

地名	大湊		(陸中) 山田		根室		小樽		稚内		(樺太) 大泊		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	7 26	7 51	7 34	7 59	7 14	7 39	7 36	8 1	7 25	7 50	7 10	7 35	22		
2	8 20	8 54	8 28	9 2	8 8	8 42	8 30	9 4	8 19	8 53	8 4	8 38	23	(	
3	9 31	10 14	9 39	10 22	9 19	10 2	9 41	10 24	9 30	10 13	9 15	9 58	24		
4	10 57	11 40	11 5	11 48	10 45	11 28	11 7	11 50	10 56	11 39	10 41	11 24	25		
5	* *	0 18	* *	0 26	* *	0 6	* *	0 28	* *	0 17	* *	0 2	26		
6	0 53	1 24	1 1	1 32	0 41	1 12	1 3	1 34	0 52	1 23	0 37	1 8	27		
7	1 51	2 16	1 59	2 24	1 39	2 4	2 1	2 26	1 50	2 15	1 35	2 0	28		E.
8	2 39	2 59	2 47	3 7	2 27	2 47	2 49	3 9	2 38	2 58	2 23	2 43	29		P.
9	3 17	3 37	3 25	3 45	3 6	3 26	3 27	3 47	3 16	3 36	3 2	3 22	1	●	
10	3 57	4 16	4 5	4 24	3 45	4 4	4 7	4 26	3 56	4 15	3 41	4 0	2		
11	4 35	4 55	4 43	5 3	4 23	4 44	4 45	5 5	4 34	4 54	4 19	4 40	3		
12	5 17	5 39	5 25	5 47	5 5	5 27	5 27	5 49	5 16	5 38	5 1	5 23	4		
13	6 3	6 27	6 11	6 35	5 51	6 15	6 13	6 37	6 2	6 26	5 47	6 11	5		N.
14	6 55	7 22	7 3	7 30	6 43	7 10	7 5	7 32	6 54	7 21	6 39	7 6	6		
15	7 50	8 21	7 58	8 29	7 38	8 9	8 0	8 31	7 49	8 20	7 34	8 5	7		
16	8 55	9 28	9 3	9 36	8 43	9 16	9 5	9 38	8 54	9 27	8 39	9 12	8	)	
17	10 4	10 39	10 12	10 47	9 52	10 27	10 14	10 49	10 3	10 38	9 48	10 23	9		
18	11 13	11 43	11 21	11 51	11 1	11 31	11 23	11 53	11 12	11 42	10 57	11 27	10		
19	* *	0 9	* *	0 17	11 57	* *	* *	0 19	* *	0 8	11 53	* *	11		
20	0 36	0 59	0 44	1 7	0 24	0 47	0 46	1 9	0 35	0 58	0 20	0 43	12		E.
21	1 20	1 39	1 28	1 47	1 8	1 27	1 30	1 49	1 19	1 38	1 4	1 23	13		
22	1 57	2 16	2 5	2 24	1 45	2 4	2 7	2 26	1 56	2 15	1 41	2 0	14		A.
23	2 33	2 50	2 41	2 58	2 22	2 39	2 43	3 0	2 32	2 49	2 18	2 35	15		
24	3 9	3 28	3 17	3 36	2 57	3 16	3 19	3 38	3 8	3 27	2 53	3 12	16	○	
25	3 46	4 5	3 54	4 13	3 34	3 53	3 56	4 15	3 45	4 4	3 30	3 49	17		
26	4 23	4 42	4 31	4 50	4 11	4 31	4 33	4 52	4 22	4 41	4 7	4 27	18		
27	5 2	5 22	5 10	5 30	4 51	5 10	5 12	5 32	5 1	5 21	4 47	5 6	19		S.
28	5 42	6 2	5 50	6 10	5 30	5 50	5 52	6 12	5 41	6 1	5 26	5 46	20		
29	6 22	6 45	6 30	6 53	6 10	6 33	6 32	6 55	6 21	6 44	6 6	6 29	21		
30	7 7	7 30	7 15	7 38	6 55	7 18	7 17	7 40	7 6	7 29	6 51	7 14	22		
31	7 55	8 23	8 3	8 31	7 43	8 11	8 5	8 33	7 54	8 22	7 39	8 7	23		



明治四十三年 五月

地名	元山		釜山		蛇梁海峡		長直路		長竹水道		木浦		八口浦	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	7 6	7 32	* *	0 0	0 31	0 55	1 25	1 49	3 41	4 5	6 6	6 32	4 34	5 0
2	8 2	8 36	0 25	0 55	1 21	1 51	2 15	2 45	4 31	5 1	7 2	7 36	5 30	6 4
3	9 14	9 56	1 30	2 7	2 25	3 3	3 19	3 57	5 35	6 13	8 14	8 56	6 42	7 24
4	10 39	11 22	2 49	3 32	3 45	4 28	4 39	5 22	6 55	7 38	9 39	10 22	8 7	8 50
5	* *	0 0	4 15	4 53	5 11	5 49	6 5	6 43	8 21	8 59	11 0	11 34	9 28	10 2
6	0 34	1 5	5 27	5 58	6 23	6 54	7 17	7 48	9 33	10 4	* *	0 5	10 33	10 59
7	1 31	1 56	6 25	6 50	7 20	7 45	8 14	8 39	10 30	10 55	0 31	0 56	11 24	11 47
8	2 19	2 39	7 13	7 33	8 8	8 28	9 2	9 22	11 18	11 38	1 19	1 39	* *	0 9
9	2 57	3 17	7 51	8 11	8 46	9 6	9 40	10 0	11 56	* *	1 57	2 17	0 25	0 45
10	3 37	3 56	8 31	8 50	9 26	9 45	10 20	10 39	0 16	0 36	2 37	2 56	1 5	1 24
11	4 15	4 35	9 9	9 29	10 4	10 24	10 58	11 18	0 55	1 14	3 15	3 35	1 43	2 3
12	4 57	5 19	9 51	10 13	10 46	11 8	11 40	* *	1 34	1 56	3 57	4 19	2 25	2 47
13	5 43	6 7	10 37	11 1	11 32	11 56	0 2	0 26	2 18	2 42	4 43	5 7	3 11	3 35
14	6 35	7 3	11 29	11 56	* *	0 24	0 50	1 18	3 6	3 34	5 35	6 3	4 3	4 31
15	7 31	8 2	* *	0 24	0 52	1 20	1 46	2 14	4 2	4 30	6 31	7 2	4 59	5 30
16	8 36	9 10	0 55	1 29	1 51	2 25	2 45	3 19	5 1	5 35	7 36	8 10	6 4	6 38
17	9 46	10 21	2 3	2 39	2 59	3 35	3 53	4 29	6 9	6 45	8 46	9 21	7 14	7 49
18	10 54	11 24	3 14	3 47	4 10	4 43	5 4	5 37	7 20	7 53	9 54	10 24	8 22	8 52
19	11 50	* *	4 17	4 43	5 13	5 39	6 7	6 33	8 23	8 49	10 50	11 16	9 18	9 44
20	0 16	0 39	5 10	5 33	6 5	6 28	6 59	7 22	9 15	9 38	11 39	* *	10 7	10 28
21	1 0	1 19	5 54	6 13	6 49	7 8	7 43	8 2	9 59	10 18	0 0	0 19	10 47	11 5
22	1 37	1 56	6 31	6 50	7 26	7 45	8 20	8 39	10 36	10 55	0 37	0 56	11 24	11 41
23	2 13	2 30	7 7	7 24	8 2	8 19	8 56	9 13	11 12	11 29	1 13	1 30	11 58	* *
24	2 49	3 8	7 43	8 2	8 38	8 57	9 32	9 51	11 48	* *	1 49	2 8	0 17	0 36
25	3 26	3 45	8 20	8 39	9 15	9 34	10 9	10 28	0 7	0 25	2 26	2 45	0 54	1 13
26	4 3	4 22	8 57	9 16	9 52	10 11	10 46	11 5	0 44	1 2	3 3	3 22	1 31	1 50
27	4 42	5 2	9 36	9 56	10 31	10 51	11 25	11 45	1 21	1 41	3 42	4 2	2 10	2 30
28	5 22	5 42	10 16	10 36	11 11	11 31	* *	0 5	2 1	2 21	4 22	4 42	2 50	3 10
29	6 2	6 25	10 56	11 19	11 51	* *	0 25	0 45	2 41	3 1	5 2	5 25	3 30	3 53
30	6 47	7 11	11 41	* *	0 14	0 36	1 8	1 30	3 24	3 46	5 47	6 11	4 15	4 39
31	7 36	8 4	0 4	0 29	1 0	1 25	1 54	2 19	4 10	4 35	6 36	7 4	5 4	5 32

明治四十三年 五月

地名	古群山群島		濟物浦		(大同江) 漁隱洞		(鴨綠江口) 圓島		大連		旅順		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	6 49	7 15	8 56	9 22	0 17	0 41	0 47	1 11	1 57	2 21	2 28	2 52	22		
2	7 45	8 19	9 52	10 26	1 8	1 37	1 38	2 7	2 47	3 17	3 18	3 48	23	(	
3	8 57	9 39	11 4	11 46	2 12	2 50	2 42	3 20	3 52	4 30	4 23	5 1	24		
4	10 22	11 5	* *	0 29	3 32	4 15	4 2	4 45	5 12	5 55	5 43	6 26	25		
5	11 43	* *	1 12	1 50	4 57	5 35	5 27	6 5	6 37	7 15	7 8	7 46	26		
6	0 17	0 48	2 24	2 55	6 9	6 40	6 39	7 10	7 49	8 20	8 20	8 51	27		
7	1 14	1 39	3 21	3 46	7 6	7 31	7 36	8 1	8 46	9 11	9 17	9 42	28		E.
8	2 2	2 22	4 9	4 29	7 54	8 14	8 24	8 44	9 34	9 54	10 5	10 25	29		P.
9	2 40	3 0	4 47	5 7	8 33	8 53	9 3	9 23	10 12	10 32	10 43	11 3	1		
10	3 20	3 39	5 27	5 46	9 12	9 32	9 42	10 2	10 52	11 12	11 23	11 43	2		
11	3 58	4 18	6 5	6 25	9 50	10 11	10 20	10 41	11 30	11 50	* *	0 1	3		
12	4 40	5 2	6 47	7 9	10 32	10 54	11 2	11 24	* *	0 12	0 21	0 43	4		
13	5 26	5 50	7 33	7 57	11 18	11 42	11 48	* *	0 34	0 58	1 5	1 29	5		N.
14	6 18	6 46	8 25	8 53	* *	0 10	0 12	0 40	1 22	1 50	1 53	2 21	6		
15	7 14	7 45	9 21	9 52	0 38	1 6	1 8	1 36	2 18	2 46	2 49	3 17	7		
16	8 19	8 53	10 26	11 0	1 37	2 11	2 7	2 41	3 17	3 51	3 48	4 22	8		D.
17	9 29	10 4	11 36	* *	2 45	3 21	3 15	3 51	4 25	5 1	4 56	5 32	9		
18	10 37	11 7	0 11	0 44	3 56	4 29	4 26	4 59	5 36	6 9	6 7	6 40	10		
19	11 33	11 59	1 14	1 40	4 59	5 25	5 29	5 55	6 39	7 5	7 10	7 36	11		
20	* *	0 22	2 6	2 29	5 51	6 14	6 21	6 44	7 31	7 54	8 2	8 25	12		E.
21	0 43	1 2	2 50	3 9	6 35	6 54	7 5	7 24	8 15	8 34	8 46	9 5	13		
22	1 20	1 39	3 27	3 46	7 12	7 31	7 42	8 1	8 52	9 11	9 23	9 42	14		A.
23	1 56	2 13	4 3	4 20	7 49	8 6	8 19	8 36	9 28	9 45	9 59	10 16	15		
24	2 32	2 51	4 39	4 58	8 24	8 42	8 54	9 12	10 4	10 23	10 35	10 54	16		O.
25	3 9	3 28	5 16	5 35	9 1	9 20	9 31	9 50	10 41	11 0	11 12	11 31	17		
26	3 46	4 5	5 53	6 12	9 38	9 58	10 8	10 28	11 18	11 37	11 49	* *	18		
27	4 25	4 45	6 32	6 52	10 18	10 37	10 48	11 7	11 57	* *	0 8	0 28	19		S.
28	5 5	5 25	7 12	7 32	10 57	11 17	11 27	11 47	0 17	0 37	0 48	1 8	20		
29	5 45	6 8	7 52	8 15	11 37	* *	* *	0 7	0 57	1 17	1 28	1 48	21		
30	6 30	6 54	8 37	9 1	0 0	0 22	0 30	0 52	1 40	2 2	2 11	2 33	22		
31	7 19	7 47	9 26	9 54	0 46	1 11	1 16	1 41	2 26	2 51	2 57	3 22	23		



高潮時表

明治四十三年 六月

地名	横須賀		下田		清水		鳥羽		(紀伊) 串本		(淡路) 良		神戶	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	10 33	11 8	10 52	11 27	11 12	11 47	11 26	* *	11 31	* *	* *	0 19	0 19	0 52
2	11 48	* *	* *	0 7	* *	0 27	0 1	0 41	0 6	0 46	0 54	1 34	1 27	2 7
3	0 30	1 11	0 49	1 30	1 9	1 50	1 23	2 5	1 28	2 10	2 16	2 58	2 49	3 31
4	1 50	2 26	2 9	2 45	2 29	3 5	2 43	3 19	2 48	3 24	3 36	4 12	4 9	4 45
5	2 58	3 26	3 17	3 45	3 37	4 5	3 51	4 19	3 56	4 24	4 44	5 12	5 17	5 45
6	3 52	4 17	4 11	4 36	4 31	4 56	4 45	5 9	4 50	5 14	5 38	6 2	6 11	6 35
7	4 39	5 0	4 58	5 19	5 18	5 39	5 31	5 52	5 36	5 57	6 24	6 45	6 57	7 18
8	5 21	5 42	5 40	6 1	6 0	6 21	6 13	6 35	6 18	6 40	7 6	7 28	7 39	8 1
9	6 4	6 24	6 23	6 43	6 43	7 3	6 56	7 16	7 1	7 21	7 49	8 9	8 22	8 42
10	6 46	7 8	7 5	7 27	7 25	7 47	7 38	8 0	7 43	8 5	8 31	8 53	9 4	9 26
11	7 30	7 52	7 49	8 11	8 9	8 31	8 22	8 44	8 27	8 49	9 15	9 37	9 48	10 10
12	8 14	8 38	8 33	8 57	8 53	9 17	9 7	9 30	9 12	9 35	10 0	10 23	10 33	10 56
13	9 2	9 25	9 21	9 44	9 41	10 4	9 54	10 18	9 59	10 23	10 47	11 11	11 20	11 44
14	9 49	10 15	10 8	10 34	10 28	10 54	10 41	11 8	10 46	11 13	11 34	* *	* *	0 7
15	10 45	11 11	11 4	11 30	11 24	11 50	11 38	* *	11 43	* *	0 1	0 31	0 34	1 4
16	11 43	* *	* *	0 2	* *	0 22	0 4	0 36	0 9	0 41	0 57	1 29	1 30	2 2
17	0 14	0 46	0 33	1 5	0 53	1 25	1 7	1 39	1 12	1 44	2 0	2 32	2 33	3 5
18	1 16	1 42	1 35	2 1	1 55	2 21	2 9	2 35	2 14	2 40	3 2	3 28	3 35	4 1
19	2 10	2 35	2 29	2 54	2 49	3 14	3 2	3 27	3 7	3 32	3 55	4 20	4 28	4 53
20	2 58	3 20	3 17	3 39	3 37	3 59	3 51	4 12	3 56	4 17	4 44	5 5	5 17	5 38
21	3 42	4 4	4 1	4 23	4 21	4 43	4 35	4 56	4 40	5 1	5 28	5 49	6 1	6 22
22	4 24	4 45	4 43	5 4	5 3	5 24	5 16	5 37	5 21	5 42	6 9	6 30	6 42	7 3
23	5 6	5 26	5 25	5 45	5 45	6 5	5 58	6 19	6 3	6 24	6 51	7 12	7 24	7 45
24	5 47	6 7	6 6	6 26	6 26	6 46	6 39	6 59	6 44	7 4	7 32	7 52	8 5	8 25
25	6 26	6 46	6 45	7 5	7 5	7 25	7 18	7 38	7 23	7 43	8 11	8 31	8 44	9 4
26	7 6	7 25	7 25	7 44	7 45	8 4	7 58	8 17	8 3	8 22	8 51	9 10	9 24	9 43
27	7 45	8 3	8 4	8 22	8 24	8 42	8 37	8 55	8 42	9 0	9 30	9 48	10 3	10 21
28	8 23	8 44	8 42	9 3	9 2	9 23	9 16	9 36	9 21	9 41	10 9	10 29	10 42	11 2
29	9 5	9 27	9 24	9 46	9 44	10 6	9 57	10 20	10 2	10 25	10 50	11 13	11 23	11 46
30	9 54	10 24	10 13	10 43	10 33	11 3	10 47	11 17	10 52	11 22	11 40	* *	* *	0 13

高潮時表

明治四十三年 六月

地名	明石		粟島		(三原瀬戸) 瀬戸田		來島		三津ヶ濱		佐賀ノ關		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	1 19	1 52	4 30	5 4	3 48	4 22	3 13	3 47	2 33	3 7	0 55	1 29	24	(	
2	2 27	3 7	5 39	6 19	4 57	5 37	4 22	5 2	3 42	4 22	2 4	2 44	25		E.
3	3 49	4 31	7 1	7 43	6 19	7 1	5 44	6 26	5 4	5 46	3 26	4 8	26		
4	5 9	5 45	8 20	8 57	7 38	8 15	7 3	7 40	6 23	7 0	4 45	5 22	27		
5	6 17	6 45	9 28	9 56	8 46	9 14	8 11	8 39	7 31	7 59	5 53	6 21	28		P.
6	7 11	7 35	10 22	10 47	9 40	10 5	9 5	9 30	8 25	8 50	6 47	7 12	29		
7	7 57	8 18	11 9	11 30	10 27	10 48	9 52	10 13	9 12	9 33	7 34	7 55	1	●	
8	8 39	9 1	11 51	* *	11 9	11 30	10 34	10 55	9 54	10 15	8 16	8 37	2		N.
9	9 22	9 42	0 12	0 34	11 52	* *	11 17	11 37	10 37	10 57	8 59	9 19	3		
10	10 4	10 26	0 54	1 16	0 12	0 34	11 59	* *	11 19	11 41	9 41	10 3	4		
11	10 48	11 10	1 38	2 0	0 56	1 18	0 21	0 43	* *	0 3	10 25	10 47	5		
12	11 33	11 56	2 22	2 44	1 40	2 2	1 5	1 27	0 25	0 47	11 9	11 33	6		
13	* *	0 20	3 8	3 32	2 26	2 50	1 51	2 15	1 11	1 35	11 53	* *	7		
14	0 44	1 7	3 55	4 19	3 13	3 37	2 38	3 2	1 58	2 22	0 20	0 44	8		
15	1 34	2 4	4 46	5 15	4 4	4 33	3 29	3 58	2 49	3 18	1 11	1 40	9	)	
16	2 30	3 2	5 42	6 14	5 0	5 32	4 25	4 57	3 45	4 17	2 7	2 39	10		E.
17	3 33	4 5	6 43	7 16	6 3	6 34	5 26	5 59	4 46	5 19	3 10	3 41	11		
18	4 35	5 1	7 46	8 12	7 4	7 30	6 29	6 55	5 49	6 15	4 11	4 37	12		A.
19	5 28	5 53	8 40	9 5	7 58	8 23	7 23	7 48	6 43	7 8	5 5	5 30	13		
20	6 17	6 38	9 28	9 50	8 46	9 8	8 11	8 33	7 31	7 53	5 53	6 15	14		
21	7 1	7 22	10 12	10 34	9 30	9 52	8 55	9 17	8 15	8 37	6 37	6 59	15		
22	7 42	8 3	10 54	11 15	10 12	10 33	9 37	9 58	8 57	9 18	7 19	7 40	16		
23	8 24	8 45	11 36	11 56	10 54	11 14	10 19	10 39	9 39	9 59	8 1	8 21	17	○	S.
24	9 5	9 25	* *	0 17	11 35	11 55	11 0	11 20	10 20	10 40	8 42	9 2	18		
25	9 44	10 4	0 37	0 56	* *	0 14	11 39	11 59	10 59	11 19	9 21	9 41	19		
26	10 24	10 43	1 16	1 36	0 34	0 54	* *	0 19	11 39	11 58	10 1	10 20	20		
27	11 3	11 21	1 55	2 15	1 13	1 33	0 38	0 58	* *	0 18	10 40	10 58	21		
28	11 42	* *	2 33	2 53	1 51	2 11	1 16	1 36	0 36	0 56	11 18	11 39	22		
29	0 2	0 23	3 14	3 35	2 32	2 53	1 57	2 18	1 17	1 38	* *	0 0	23		
30	0 46	1 13	3 57	4 24	3 15	3 42	2 40	3 7	2 0	2 27	0 22	0 49	24	(	E.



高潮時表

明治四十三年 六月

地名	吳		門		司竹		敷平		戶佐		世保		長崎		三角	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後
1	2 47	3 21	2 21	2 55	2 26	3 0	2 0	2 34	1 48	2 22	1 18	1 52	2 15	2 49		
2	3 56	4 36	3 30	4 11	3 35	4 16	3 9	3 50	2 57	3 38	2 27	3 8	3 24	4 5		
3	5 18	6 0	4 52	5 34	4 57	5 39	4 31	5 13	4 19	5 1	3 49	4 31	4 46	5 28		
4	6 37	7 14	6 11	6 48	6 16	6 53	5 50	6 27	5 38	6 15	5 8	5 45	6 5	6 42		
5	7 45	8 13	7 19	7 47	7 24	7 52	6 58	7 26	6 46	7 14	6 16	6 44	7 13	7 41		
6	8 39	9 4	8 13	8 38	8 18	8 43	7 52	8 17	7 40	8 5	7 10	7 35	8 7	8 32		
7	9 26	9 47	9 0	9 21	9 5	9 26	8 39	9 0	8 27	8 48	7 57	8 18	8 54	9 15		
8	10 8	10 29	9 42	10 3	9 47	10 8	9 21	9 42	9 9	9 30	8 39	9 0	9 36	9 57		
9	10 51	11 11	10 25	10 45	10 30	10 50	10 4	10 24	9 52	10 12	9 22	9 42	10 19	10 39		
10	11 33	11 55	11 7	11 29	11 12	11 34	10 46	11 8	10 34	10 56	10 4	10 26	11 1	11 23		
11	* *	0 17	11 51	* *	11 56	* *	11 30	11 52	11 18	11 40	10 48	11 10	11 45	* *		
12	0 39	1 1	0 13	0 35	0 18	0 40	* *	0 14	* *	0 2	11 32	11 56	0 7	0 29		
13	1 25	1 49	0 59	1 23	1 4	1 28	0 38	1 2	0 26	0 50	* *	0 20	0 53	1 17		
14	2 12	2 36	1 46	2 10	1 51	2 15	1 25	1 49	1 13	1 37	0 43	1 7	1 40	2 4		
15	3 3	3 32	2 37	3 6	2 42	3 11	2 16	2 45	2 4	2 33	1 34	2 3	2 31	3 0		
16	3 59	4 31	3 33	4 5	3 38	4 10	3 12	3 44	3 0	3 32	2 30	3 2	3 27	3 59		
17	5 2	5 33	4 36	5 7	4 41	5 12	4 15	4 46	4 3	4 34	3 33	4 4	4 30	5 1		
18	6 3	6 29	5 37	6 3	5 42	6 8	5 16	5 42	5 4	5 30	4 34	5 0	5 31	5 57		
19	6 57	7 22	6 31	6 56	6 36	7 1	6 10	6 35	5 58	6 23	5 28	5 53	6 25	6 50		
20	7 45	8 7	7 19	7 41	7 24	7 46	6 58	7 20	6 46	7 8	6 16	6 38	7 13	7 35		
21	8 29	8 51	8 3	8 25	8 8	8 30	7 42	8 4	7 30	7 52	7 0	7 22	7 57	8 19		
22	9 11	9 32	8 45	9 6	8 50	9 11	8 24	8 45	8 12	8 33	7 42	8 3	8 39	9 0		
23	9 53	10 13	9 27	9 47	9 32	9 52	9 6	9 26	8 54	9 14	8 24	8 44	9 21	9 41		
24	10 34	10 54	10 8	10 28	10 13	10 33	9 47	10 7	9 35	9 55	9 5	9 25	10 2	10 22		
25	11 13	11 33	10 47	11 7	10 52	11 12	10 26	10 46	10 14	10 34	9 44	10 4	10 41	11 1		
26	11 53	* *	11 27	11 46	11 32	11 51	11 6	11 25	10 54	11 13	10 24	10 43	11 21	11 40		
27	0 12	0 32	* *	0 6	* *	0 11	11 45	* *	11 33	11 51	11 3	11 21	* *	0 0		
28	0 50	1 10	0 24	0 44	0 29	0 49	0 3	0 23	* *	0 11	11 41	* *	0 18	0 38		
29	1 31	1 52	1 5	1 26	1 10	1 31	0 44	1 5	0 32	0 53	0 2	0 23	0 59	1 20		
30	2 14	2 41	1 48	2 15	1 53	2 20	1 27	1 54	1 15	1 42	0 45	1 12	1 42	2 9		

高潮時表

明治四十三年 六月

地名	(五島)		鹿兒島		油津		那霸		基隆		馬公		太陰曆日附	太陰盈虛	太陰位置
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後			
1	1 40	2 14	0 26	1 0	11 48	* *	0 20	0 54	2 27	3 1	4 42	5 16	24	(	
2	2 49	3 30	1 35	2 16	0 23	1 3	1 29	2 9	3 36	4 17	5 51	6 32	25		E.
3	4 11	4 53	2 57	3 39	1 45	2 27	2 51	3 33	4 58	5 41	7 13	7 56	26		
4	5 30	6 7	4 16	4 53	3 4	3 41	4 10	4 47	6 17	6 54	8 32	9 9	27		
5	6 38	7 6	5 24	5 52	4 12	4 40	5 18	5 46	7 25	7 53	9 40	10 8	28		P.
6	7 32	7 57	6 18	6 43	5 6	5 31	6 12	6 36	8 19	8 43	10 34	10 58	29		
7	8 19	8 40	7 5	7 26	5 53	6 14	6 58	7 19	9 5	9 26	11 20	11 41	30		
8	9 1	9 22	7 47	8 8	6 35	6 56	7 40	8 1	9 47	10 8	* *	0 2	1	●	
9	9 44	10 4	8 30	8 50	7 18	7 38	8 23	8 43	10 30	10 50	0 23	0 45	2		N.
10	10 26	10 48	9 12	9 34	8 0	8 22	9 5	9 27	11 12	11 34	1 5	1 27	3		
11	11 10	11 32	9 56	10 18	8 44	9 6	9 49	10 11	11 56	* *	1 49	2 11	4		
12	11 54	* *	10 40	11 4	9 28	9 52	10 34	10 57	0 18	0 41	2 33	2 56	5		
13	0 18	0 42	11 28	11 51	10 16	10 39	11 21	11 45	1 4	1 28	3 19	3 43	6		
14	1 5	1 29	* *	0 15	11 3	11 30	* *	0 8	1 52	2 15	4 7	4 30	7		
15	1 56	2 25	0 42	1 11	11 59	* *	0 36	1 5	2 43	3 12	4 58	5 27	8		D
16	2 52	3 24	1 38	2 10	0 26	0 58	1 32	2 4	3 39	4 11	5 54	6 26	9		E.
17	3 55	4 26	2 41	3 12	1 27	2 0	2 35	3 6	4 42	5 13	6 57	7 28	10		A.
18	4 56	5 22	3 42	4 8	2 30	2 56	3 36	4 2	5 43	6 9	7 58	8 24	11		
19	5 50	6 15	4 36	5 1	3 24	3 49	4 29	4 54	6 36	7 1	8 51	9 16	12		
20	6 38	7 0	5 24	5 46	4 12	4 34	5 18	5 39	7 25	7 46	9 40	10 1	13		
21	7 22	7 44	6 8	6 30	4 56	5 18	6 2	6 23	8 9	8 30	10 24	10 45	14		
22	8 4	8 25	6 50	7 11	5 38	5 59	6 43	7 4	8 50	9 11	11 5	11 26	15		
23	8 46	9 6	7 32	7 52	6 20	6 40	7 25	7 45	9 32	9 52	11 47	* *	16		
24	9 27	9 47	8 13	8 33	7 1	7 21	8 6	8 26	10 13	10 33	0 7	0 28	17	○	S.
25	10 6	10 26	8 52	9 12	7 40	8 0	8 45	9 5	10 52	11 12	0 48	1 7	18		
26	10 46	11 5	9 32	9 51	8 20	8 39	9 25	9 44	11 32	11 51	1 27	1 47	19		
27	11 25	11 43	10 11	10 29	8 59	9 17	10 4	10 22	* *	0 11	2 6	2 26	20		
28	* *	0 3	10 49	11 10	9 37	9 58	10 43	11 3	0 29	0 50	2 44	3 5	21		
29	0 24	0 45	11 31	11 53	10 19	10 41	11 24	11 47	1 10	1 31	3 25	3 46	22		
30	1 7	1 34	* *	0 20	11 8	11 39	* *	0 14	1 54	2 21	4 9	4 36	23	(	E.



明治四十三年 六月

地名	打		狗		(隱岐) 西 郷		境		舞 鶴		敦 賀		七 尾		函 館	
	日	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	
1		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	
2	1	6	1 40	7 31	8 6	7 44	8 19	7 49	8 24	7 43	8 18	8 22	8 57	9 5	9 40	
3	2	15	2 56	8 46	9 28	8 59	9 41	9 4	9 46	8 58	9 40	9 37	10 19	10 20	11 2	
4	3	37	4 20	10 10	10 47	10 23	11 0	10 28	11 6	10 22	11 0	11 1	11 39	11 43	* *	
5	4	56	5 33	11 24	11 55	11 37	* *	11 42	* *	11 36	* *	* *	0 15	0 22	0 58	
6	5	6 4	6 32	* *	0 23	0 8	0 36	0 14	0 42	0 8	0 36	0 47	1 15	1 30	1 58	
7	6	6 58	7 22	0 49	1 14	1 2	1 27	1 8	1 32	1 2	1 26	1 41	2 5	2 24	2 49	
8	7	7 44	8 5	1 36	1 57	1 49	2 10	1 54	2 15	1 48	2 9	2 27	2 48	3 11	3 32	
9	8	8 26	8 47	2 18	2 39	2 31	2 52	2 36	2 58	2 30	2 52	3 9	3 31	3 53	4 14	
10	9	9 9	9 29	3 1	3 21	3 14	3 34	3 19	3 39	3 13	3 33	3 52	4 12	4 36	4 56	
11	10	9 51	10 13	3 43	4 5	3 56	4 18	4 1	4 23	3 55	4 17	4 34	4 56	5 18	5 40	
12	11	10 35	10 57	4 27	4 49	4 40	5 2	4 45	5 7	4 39	5 1	5 18	5 40	6 2	6 24	
13	12	11 20	11 43	5 11	5 35	5 24	5 48	5 30	5 53	5 24	5 47	6 3	6 26	6 46	7 10	
14	13	* *	0 7	5 59	6 22	6 12	6 35	6 17	6 41	6 11	6 35	6 50	7 14	7 34	7 57	
15	14	0 31	0 54	6 46	7 13	6 59	7 26	7 4	7 31	6 58	7 25	7 37	8 4	8 21	8 47	
16	15	1 22	1 51	7 42	8 9	7 55	8 22	8 1	8 27	7 55	8 21	8 34	9 0	9 17	9 43	
17	16	2 18	2 50	8 41	9 12	8 54	9 23	8 59	9 30	8 53	9 24	9 32	10 3	10 15	10 46	
18	17	3 21	3 52	9 43	10 13	9 56	10 26	10 2	10 32	9 56	10 26	10 35	11 5	11 18	11 48	
19	18	4 22	4 48	10 39	11 7	10 52	11 20	10 58	11 25	10 52	11 19	11 31	11 58	* *	0 14	
20	19	5 17	5 40	11 32	11 55	11 45	* *	11 50	* *	11 44	* *	* *	0 23	0 42	1 7	
21	20	6 4	6 25	* *	0 17	0 8	0 30	0 14	0 35	0 8	0 29	0 47	1 8	1 30	1 52	
22	21	6 48	7 9	0 39	1 1	0 52	1 14	0 58	1 19	0 52	1 13	1 31	1 52	2 14	2 36	
23	22	7 29	7 50	1 21	1 42	1 34	1 55	1 39	2 0	1 33	1 54	2 12	2 33	2 56	3 17	
24	23	8 11	8 31	2 3	2 23	2 16	2 36	2 21	2 42	2 15	2 36	2 54	3 15	3 38	3 58	
25	24	8 52	9 12	2 44	3 4	2 57	3 17	3 2	3 22	2 56	3 16	3 35	3 55	4 19	4 39	
26	25	9 31	9 51	3 23	3 43	3 36	3 56	3 41	4 1	3 35	3 55	4 14	4 34	4 58	5 18	
27	26	10 11	10 30	4 3	4 22	4 16	4 35	4 21	4 40	4 15	4 34	4 54	5 13	5 38	5 57	
28	27	10 50	11 8	4 42	5 0	4 55	5 13	5 0	5 18	4 54	5 12	5 33	5 51	6 17	6 35	
29	28	11 29	11 49	5 20	5 41	5 33	5 54	5 39	5 59	5 33	5 53	6 12	6 32	6 55	7 16	
30	29	* *	0 10	6 2	6 24	6 15	6 37	6 20	6 43	6 14	6 37	6 53	7 16	7 37	7 59	
	30	0 33	1 0	6 51	7 22	7 4	7 35	7 10	7 40	7 4	7 34	7 43	8 13	8 26	8 56	

明治四十三年 六月

地名	大 湊		(陸中) 山 田		根 室		小 樽		稚 内		(樺太) 大 泊		太陰曆日附	太陰盈虛	太陰位置
	日	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前			
1		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	d		
2	1	8 56	9 31	9 4	9 39	8 44	9 19	9 6	9 41	8 55	9 30	8 40	9 15	24	(
3	2	10 11	10 53	10 19	11 1	9 59	10 41	10 21	11 3	10 10	10 52	9 54	10 37	25	
4	3	11 34	* *	11 42	* *	11 22	* *	11 44	* *	11 33	* *	11 18	11 57	26	
5	4	0 13	0 49	0 21	0 57	0 1	0 37	0 23	0 59	0 12	0 48	* *	0 33	27	
6	5	1 21	1 49	1 29	1 57	1 9	1 37	1 31	1 59	1 20	1 48	1 5	1 33	28	
7	6	2 15	2 40	2 23	2 48	2 3	2 28	2 25	2 50	2 14	2 39	1 59	2 24	29	P.
8	7	3 2	3 23	3 10	3 31	2 50	3 11	3 12	3 33	3 1	3 22	2 46	3 7		●
9	8	3 44	4 5	3 52	4 13	3 32	3 54	3 54	4 15	3 43	4 4	3 28	3 50	2	
10	9	4 27	4 47	4 35	4 55	4 15	4 35	4 37	4 57	4 26	4 46	4 11	4 31	3	
11	10	5 9	5 31	5 17	5 39	4 57	5 19	5 19	5 41	5 8	5 30	4 53	5 15	4	
12	11	5 53	6 15	6 1	6 23	5 41	6 3	6 3	6 25	5 52	6 14	5 37	5 59	5	
13	12	6 37	7 1	6 45	7 9	6 25	6 49	6 47	7 11	6 36	7 0	6 21	6 45	6	
14	13	7 25	7 48	7 33	7 56	7 13	7 36	7 35	7 58	7 24	7 47	7 9	7 32	7	
15	14	8 12	8 38	8 20	8 46	8 0	8 26	8 22	8 48	8 11	8 37	7 56	8 22	8	
16	15	9 8	9 34	9 16	9 42	8 56	9 22	9 18	9 44	9 7	9 33	8 52	9 18	9	D
17	16	10 6	10 37	10 14	10 45	9 54	10 25	10 16	10 47	10 5	10 36	9 50	10 21	10	
18	17	11 9	11 39	11 17	11 47	10 57	11 27	11 19	11 49	11 8	11 38	10 53	11 23	11	
19	18	* *	0 5	* *	0 13	11 53	* *	* *	0 15	* *	0 4	11 49	* *	12	
20	19	0 33	0 58	0 41	1 6	0 21	0 46	0 43	1 8	0 32	0 57	0 17	0 42	13	
21	20	1 21	1 43	1 29	1 51	1 9	1 31	1 31	1 53	1 20	1 42	1 5	1 27	14	
22	21	2 5	2 27	2 13	2 35	1 53	2 15	2 15	2 37	2 4	2 26	1 49	2 11	15	
23	22	2 47	3 8	2 55	3 16	2 35	2 56	2 57	3 18	2 46	3 7	2 31	2 52	16	
24	23	3 29	3 49	3 37	3 57	3 17	3 38	3 39	3 59	3 28	3 48	3 13	3 34	17	
25	24	4 10	4 30	4 18	4 38	3 58	4 18	4 20	4 40	4 9	4 29	3 54	4 14	18	○ S.
26	25	4 49	5 9	4 57	5 17	4 37	4 57	4 59	5 19	4 48	5 8	4 33	4 53	19	
27	26	5 29	5 48	5 37	5 56	5 17	5 36	5 39	5 58	5 28	5 47	5 13	5 32	20	
28	27	6 8	6 26	6 16	6 34	5 56	6 14	6 18	6 36	6 7	6 25	5 52	6 10	21	
29	28	6 46	7 7	6 54	7 15	6 34	6 55	6 56	7 17	6 45	7 6	6 30	6 51	22	
30	29	7 28	7 50	7 36	7 58	7 16	7 38	7 38	8 0	7 27	7 49	7 12	7 34	23	
	30	8 17	8 47	8 25	8 55	8 5	8 35	8 27	8 57	8 16	8 46	8 1	8 31	24	( E.



明治四十三年 六月

地名	元山		釜山		蛇梁海峡		長直路		長竹水道		木浦		八口浦		
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	
日	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	
1	8 38	9 13	0 57	1 31	1 53	2 27	2 47	3 21	5 3	5 37	7 38	8 13	6 6	6 41	
2	9 53	10 35	2 6	2 47	3 2	3 42	3 56	4 36	6 12	6 52	8 53	9 35	7 21	8 3	
3	11 17	11 54	3 28	4 10	4 24	5 6	5 18	6 0	7 34	8 16	10 17	10 54	8 45	9 22	
4	*	*	0 31	4 47	5 24	5 43	6 20	6 37	7 14	8 53	9 30	11 31	*	*	
5	1 2	1 30	5 55	6 23	6 51	7 19	7 45	8 13	10 1	10 29	0 2	0 30	10 58	11 24	
6	1 56	2 20	6 49	7 14	7 45	8 9	8 39	9 3	10 55	11 19	0 56	1 20	11 48	*	*
7	2 42	3 3	7 36	7 57	8 31	8 52	9 25	9 46	11 41	*	*	1 42	2 3	0 10	0 31
8	3 24	3 45	8 18	8 39	9 13	9 34	10 7	10 28	0 2	0 23	2 24	2 45	0 52	1 13	
9	4 7	4 27	9 1	9 21	9 56	10 16	10 50	11 10	0 44	1 6	3 7	3 27	1 35	1 55	
10	4 49	5 11	9 43	10 5	10 38	11 0	11 32	11 54	1 26	1 48	3 49	4 11	2 17	2 39	
11	5 33	5 55	10 27	10 49	11 22	11 44	*	*	0 16	2 10	2 32	4 33	4 55	3 1	3 23
12	6 18	6 41	11 11	11 35	*	*	0 7	0 38	1 1	2 54	3 17	5 18	5 41	3 46	4 9
13	7 5	7 29	11 59	*	*	0 30	0 54	1 24	1 48	3 40	4 4	6 5	6 29	4 33	4 57
14	7 52	8 20	0 22	0 46	1 18	1 41	2 12	2 35	4 28	4 51	6 52	7 20	5 20	5 48	
15	8 49	9 16	1 13	1 42	2 9	2 38	3 3	3 32	5 19	5 48	7 49	8 16	6 17	6 44	
16	9 48	10 19	2 9	2 41	3 5	3 37	3 59	4 31	6 15	6 47	8 48	9 19	7 16	7 47	
17	10 50	11 20	3 12	3 43	4 8	4 39	5 2	5 33	7 18	7 49	9 50	10 20	8 18	8 48	
18	11 46	*	4 13	4 39	5 9	5 35	6 3	6 29	8 19	8 45	10 46	11 13	9 14	9 41	
19	0 13	0 38	5 7	5 32	6 2	6 27	6 56	7 21	9 12	9 37	11 38	*	*	10 6	10 30
20	1 2	1 23	5 55	6 17	6 51	7 12	7 45	8 6	10 1	10 22	0 2	0 23	10 51	11 14	
21	1 46	2 7	6 39	7 1	7 35	7 56	8 29	8 50	10 45	11 6	0 46	1 7	11 35	11 55	
22	2 27	2 48	7 21	7 42	8 16	8 37	9 10	9 31	11 26	11 47	1 27	1 48	*	*	0 16
23	3 9	3 29	8 3	8 23	8 58	9 18	9 52	10 12	*	*	0 8	2 9	2 29	0 37	0 57
24	3 50	4 10	8 44	9 4	9 39	9 59	10 33	10 53	0 28	0 49	2 50	3 10	1 18	1 38	
25	4 29	4 49	9 23	9 43	10 18	10 38	11 12	11 32	1 9	1 28	3 29	3 49	1 57	2 17	
26	5 9	5 28	10 3	10 22	10 58	11 17	11 52	*	*	1 48	2 8	4 9	4 28	2 37	2 56
27	5 48	6 6	10 42	11 0	11 37	11 55	0 11	0 31	2 27	2 47	4 48	5 6	3 16	3 34	
28	6 27	6 47	11 20	11 41	*	*	0 16	0 49	1 10	3 5	3 26	5 27	5 47	3 55	4 15
29	7 8	7 31	*	*	0 2	0 36	0 57	1 30	1 51	3 46	4 7	6 8	6 31	4 36	4 59
30	7 58	8 29	0 24	0 51	1 20	1 47	2 14	2 41	4 30	4 57	6 58	7 29	5 26	5 57	

明治四十三年 六月

地名	古群山群島		濟物浦		(大同江) 漁隱洞		(鴨綠江口) 圓島		大連		旅順		太陰曆日附	太陰盈虛	太陰位置	
	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後	午前	午後				
日	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	d			
1	8 21	8 56	10 28	11 3	1 39	2 13	2 9	2 43	3 19	3 53	3 50	4 24	24	(		
2	9 36	10 18	11 43	*	*	2 48	3 29	3 18	3 59	4 28	5 9	4 59	5 40	25		
3	11 0	11 37	0 25	1 7	4 10	4 53	4 40	5 23	5 50	6 33	6 21	7 4	26		E.	
4	*	*	0 14	1 44	2 21	5 29	6 6	5 59	6 36	7 9	7 46	7 40	8 17	27		
5	0 45	1 13	2 52	3 20	6 37	7 5	7 7	7 35	8 17	8 45	8 48	9 16	28		P.	
6	1 39	2 3	3 46	4 10	7 31	7 55	8 1	8 25	9 11	9 35	9 42	10 6	29			
7	2 25	2 46	4 32	4 53	8 17	8 38	8 47	9 8	9 57	10 18	10 28	10 49	1	●		
8	3 7	3 28	5 14	5 35	8 59	9 21	9 29	9 51	10 39	11 0	11 10	11 31	2		N.	
9	3 50	4 10	5 57	6 17	9 42	10 2	10 12	10 32	11 22	11 42	11 53	*	*	3		
10	4 32	4 54	6 39	7 1	10 24	10 46	10 54	11 16	*	*	0 4	0 13	0 35	4		
11	5 16	5 38	7 23	7 45	11 8	11 30	11 38	*	*	0 26	0 48	0 57	1 19	5		
12	6 1	6 24	8 8	8 31	11 53	*	*	0 0	0 23	1 10	1 33	1 41	2 4	6		
13	6 48	7 12	8 55	9 19	0 16	0 40	0 46	1 10	1 56	2 20	2 27	2 51	7			
14	7 35	8 3	9 42	10 10	1 4	1 27	1 34	1 57	2 44	3 7	3 15	3 38	8			
15	8 32	8 59	10 39	11 6	1 55	2 24	2 25	2 54	3 35	4 4	4 6	4 35	9	D		
16	9 31	10 2	11 38	*	*	2 51	3 23	3 21	3 53	4 31	5 3	5 2	5 34	10	E.	
17	10 33	11 3	0 9	0 40	3 54	4 25	4 24	4 55	5 34	6 5	6 5	6 36	11		A.	
18	11 29	11 56	1 10	1 36	4 55	5 21	5 25	5 51	6 35	7 1	7 6	7 32	12			
19	*	*	0 21	2 3	2 28	5 48	6 13	6 18	6 43	7 28	7 53	7 59	8 24	13		
20	0 45	1 6	2 52	3 13	6 37	6 58	7 7	7 28	8 17	8 38	8 48	9 9	14			
21	1 29	1 50	3 36	3 57	7 21	7 42	7 51	8 12	9 1	9 22	9 32	9 53	15			
22	2 10	2 31	4 17	4 38	8 2	8 23	8 32	8 53	9 42	10 3	10 13	10 34	16			
23	2 52	3 12	4 59	5 19	8 44	9 5	9 14	9 35	10 24	10 44	10 55	11 15	17	○	S.	
24	3 33	3 53	5 40	6 0	9 25	9 45	9 55	10 15	11 5	11 25	11 36	11 56	18			
25	4 12	4 32	6 19	6 39	10 4	10 24	10 34	10 54	11 44	*	*	*	*	0 15	19	
26	4 52	5 11	6 59	7 18	10 44	11 3	11 14	11 33	0 4	0 24	0 35	0 55	20			
27	5 31	5 49	7 38	7 56	11 23	11 41	11 53	*	*	0 43	1 3	1 14	1 34	21		
28	6 10	6 30	8 17	8 37	*	*	0 2	0 11	0 32	1 21	1 42	1 52	2 13	22		
29	6 51	7 14	8 58	9 21	0 22	0 43	0 52	1 13	2 2	2 23	2 33	2 54	23			
30	7 41	8 12	9 48	10 19	1 6	1 33	1 36	2 3	2 46	3 13	3 17	3 44	24	(	E.	