I slightly modified Thorstensen's code to print out the time between evening twilight and morning twilight.
For Okie-Tex site (site code = o) near Kenton OK I used same time zone as for Oklahoma City.

W. Romanishin- August 2013 - email: wromanishin at ou.edu - Here is stuff from John T. intro:

***** 2022 Night-time Astronomical Calendar for Cape Cod Schmidt Observatory *****

By John Thorstensen, Dartmouth College

This calendar is designed to provide information useful for the planning of nighttime observations.
The format should minimize confusion; each line gives the phenomena for a single (local!) night,
and each line is labeled with both evening and morning (local) day and date.
Note that all times given are LOCAL CIVIL (zone) times. DAYLIGHT SAVINGS time is used using
conventions for the USA; for 2007+, 2nd Sunday in March to first Sunday in November.

The rise/set times printed are the times at which the center of the object is 50 arcminutes below
the geometrical horizon. At the given twilight, the center of the sun is 0.0 degrees below the geometrical horizon.

The moon positions (and rise/set times) are generated by an implementation of the Low-Precision formulae
in the Astronomical Almanac. The Almanac states that the error seldom exceeds 0.3 degrees.
Topocentric corrections are included. Comparisons with tables for Kitt Peak in the NOAO Newsletter
indicate that the rise-set times are good to +- 2 min or so. The moon's RA, Dec, and illuminated fraction
are given for local midnight, regardless of whether the moon is actually up at that time.
Note that the moonrise and moonset times are not printed if they occur near mid-day.

The LST at evening and morning twilight are tabulated. This gives an accurate idea of the
range of RA's accessible during the night.

The JD is given (severely rounded off) for local midnight. Again, this avoids any ambiguity.

Some credits: The sidereal time and Julian date routines were originally coded in PL/I by
Steve Maker of Dartmouth College. The algorithms originated in the old American Ephemeris.
The routine to convert JD back to calendar date is adapted from Numerical Recipes in C, by Press et al.

CAUTIONS: I believe that the program which generates these tables is reasonably accurate. However,
it has not been exhaustively tested, so you should be sure to run 'sanity checks' on the results. Also,
in view of the approximations used, the results should not be used when high precision is needed.
Extension to dates far from the present (1990) should be done with great caution. The code has
not been tested for the eastern or southern hemishpheres. Rise/set times are slightly incaccurate and
rather confusing at circumpolar latitudes, where the concept of a 'night' is blurry.

The daylight savings time conventions (if used) are quite specific (to U. S., post-1986) and subject to change.
I know that the code has many infelicities; if you should find actual errors,please notify
John.Thorstensen@dartmouth.edu

MOON PHASES FOR 2022, at Cape Cod Schmidt Observatory

Times and dates are given in local time, zone = 5 hr West.
They are generally better than +- 2 minutes.
Daylight savings time used.

The end of the previous year and the beginning of the next are included for continuity.

NEW		1ST		FULL		LAST	
Dec 04	2 45	Dec 10	20 38	Dec 18	23 38	Dec 26	21 26
Jan 02	13 36	Jan 09	13 13	Jan 17	18 51	Jan 25	8 43
Feb 01	0 49	Feb 08	8 52	Feb 16	12 00	Feb 23	17 35
Mar 02	12 38	Mar 10	5 46	Mar 18	3 21	Mar 25	1 39
Apr 01	2 28	Apr 09	2 48	Apr 16	14 58	Apr 23	7 58
Apr 30	16 31	May 08	20 22	May 16	0 16	May 22	14 45
May 30	7 32	Jun 07	10 49	Jun 14	7 53	Jun 20	23 12
Jun 28	22 53	Jul 06	22 15	Jul 13	14 38	Jul 20	10 19
Jul 28	13 55	Aug 05	7 08	Aug 11	21 36	Aug 19	0 37
Aug 27	4 17	Sep 03	14 09	Sep 10	5 59	Sep 17	17 52
Sep 25	17 54	Oct 02	20 15	Oct 09	16 55	Oct 17	13 16
Oct 25	6 48	Nov 01	2 39	Nov 08	6 03	Nov 16	8 29
Nov 23	17 57	Nov 30	9 39	Dec 07	23 10	Dec 16	3 59
Dec 23	5 18	Dec 29	20 23	Jan 06	18 10	Jan 14	21 13

Calendar for Cape Cod Schmidt Observatory, west longitude (h.m.s) = 4 40 47, latitude (d.m) = 41 40.7
Rise/set times in Eastern time (5 hr W), uncorrected for elevation, DAYLIGHT time used, * shows clock reset.
Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2022 JANUARY *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Sat Jan 01/Sun Jan 02	7 06	16 21	18 01	5 28	7 08	1 07	12 35	7 15	.....	1	18 17.5	-26 27	11.4
Sun Jan 02/Mon Jan 03	7 10	16 22	18 02	5 28	7 08	1 11	12 39	8 16	16 08	0	19 24.1	-26 10	11.4
Mon Jan 03/Tue Jan 04	7 14	16 23	18 03	5 28	7 08	1 16	12 44	.....	17 22	3	20 28.5	-24 03	11.4
Tue Jan 04/Wed Jan 05	7 18	16 24	18 04	5 28	7 08	1 21	12 48	.....	18 39	8	21 28.8	-20 27	11.4
Wed Jan 05/Thu Jan 06	7 22	16 25	18 04	5 28	7 08	1 26	12 52	.....	19 55	16	22 24.4	-15 46	11.4
Thu Jan 06/Fri Jan 07	7 26	16 26	18 05	5 28	7 08	1 31	12 55	.....	21 08	24	23 15.7	-10 27	11.4
Fri Jan 07/Sat Jan 08	7 30	16 27	18 06	5 28	7 08	1 35	12 59	.....	22 16	34	0 03.7	- 4 49	11.4
Sat Jan 08/Sun Jan 09	7 34	16 28	18 07	5 28	7 07	1 40	13 03	.....	23 21	44	0 49.5	0 49	11.4
Sun Jan 09/Mon Jan 10	7 38	16 29	18 08	5 28	7 07	1 45	13 07	.....	0 24	54	1 34.4	6 17	11.3
Mon Jan 10/Tue Jan 11	7 42	16 30	18 09	5 28	7 07	1 50	13 11	.....	1 27	63	2 19.3	11 24	11.3
Tue Jan 11/Wed Jan 12	7 46	16 31	18 10	5 28	7 07	1 55	13 15	.....	2 29	72	3 05.1	16 00	11.3
Wed Jan 12/Thu Jan 13	7 50	16 32	18 11	5 28	7 06	2 00	13 18	.....	3 31	80	3 52.6	19 56	11.3
Thu Jan 13/Fri Jan 14	7 54	16 33	18 12	5 27	7 06	2 05	13 22	.....	4 32	87	4 42.2	23 01	11.3
Fri Jan 14/Sat Jan 15	7 58	16 34	18 13	5 27	7 05	2 10	13 26	.....	5 30	93	5 33.8	25 06	11.2
Sat Jan 15/Sun Jan 16	8 02	16 35	18 14	5 27	7 05	2 14	13 29	.....	6 24	97	6 27.1	26 01	11.2
Sun Jan 16/Mon Jan 17	8 06	16 37	18 15	5 27	7 04	2 19	13 33	.....	7 11	99	7 21.2	25 41	11.2
Mon Jan 17/Tue Jan 18	8 10	16 38	18 16	5 26	7 04	2 24	13 37	16 12	7 52	100	8 15.0	24 05	11.2
Tue Jan 18/Wed Jan 19	8 14	16 39	18 17	5 26	7 03	2 29	13 40	17 14	8 27	98	9 07.6	21 17	11.2
Wed Jan 19/Thu Jan 20	8 17	16 40	18 18	5 25	7 03	2 34	13 44	18 19	.....	95	9 58.5	17 27	11.1
Thu Jan 20/Fri Jan 21	8 21	16 41	18 19	5 25	7 02	2 39	13 47	19 25	.....	90	10 47.7	12 46	11.1
Fri Jan 21/Sat Jan 22	8 25	16 43	18 20	5 24	7 01	2 44	13 51	20 31	.....	82	11 35.6	7 26	11.1
Sat Jan 22/Sun Jan 23	8 29	16 44	18 21	5 24	7 01	2 49	13 54	21 37	.....	74	12 23.0	1 42	11.0
Sun Jan 23/Mon Jan 24	8 33	16 45	18 22	5 23	7 00	2 54	13 57	22 45	.....	64	13 10.9	- 4 13	11.0
Mon Jan 24/Tue Jan 25	8 37	16 46	18 23	5 23	6 59	2 59	14 01	23 55	.....	53	14 00.3	-10 03	11.0
Tue Jan 25/Wed Jan 26	8 41	16 48	18 24	5 22	6 58	3 04	14 04	1 07	.....	42	14 52.4	-15 32	11.0
Wed Jan 26/Thu Jan 27	8 45	16 49	18 25	5 21	6 57	3 09	14 07	2 23	.....	31	15 48.0	-20 18	10.9
Thu Jan 27/Fri Jan 28	8 49	16 50	18 26	5 21	6 57	3 14	14 11	3 39	.....	21	16 47.8	-23 59	10.9
Fri Jan 28/Sat Jan 29	8 53	16 51	18 27	5 20	6 56	3 19	14 14	4 53	.....	12	17 51.1	-26 11	10.9
Sat Jan 29/Sun Jan 30	8 57	16 53	18 28	5 19	6 55	3 24	14 17	5 58	.....	6	18 56.3	-26 37	10.8
Sun Jan 30/Mon Jan 31	9 01	16 54	18 30	5 18	6 54	3 29	14 20	6 52	.....	2	20 01.1	-25 13	10.8
Mon Jan 31/Tue Feb 01	9 05	16 55	18 31	5 18	6 53	3 35	14 23	7 35	16 10	0	21 03.1	-22 10	10.8

***** 2022 FEBRUARY *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Tue Feb 01/Wed Feb 02	9 09	16 56	18 32	5 17	6 52	3 40	14 26	8 09	17 27	1	22 01.0	-17 49	10.7
Wed Feb 02/Thu Feb 03	9 13	16 58	18 33	5 16	6 51	3 45	14 29	.....	18 43	5	22 54.8	-12 36	10.7
Thu Feb 03/Fri Feb 04	9 17	16 59	18 34	5 15	6 50	3 50	14 32	.....	19 55	11	23 45.0	- 6 55	10.7
Fri Feb 04/Sat Feb 05	9 21	17 00	18 35	5 14	6 49	3 55	14 35	.....	21 04	18	0 32.5	- 1 06	10.6
Sat Feb 05/Sun Feb 06	9 24	17 02	18 36	5 13	6 47	4 00	14 38	.....	22 10	27	1 18.6	4 35	10.6
Sun Feb 06/Mon Feb 07	9 28	17 03	18 37	5 12	6 46	4 05	14 41	.....	23 14	36	2 04.1	9 56	10.6
Mon Feb 07/Tue Feb 08	9 32	17 04	18 38	5 11	6 45	4 10	14 44	.....	0 17	46	2 50.1	14 46	10.5
Tue Feb 08/Wed Feb 09	9 36	17 05	18 40	5 10	6 44	4 15	14 47	.....	1 20	55	3 37.3	18 56	10.5
Wed Feb 09/Thu Feb 10	9 40	17 07	18 41	5 09	6 43	4 20	14 50	.....	2 22	65	4 26.3	22 18	10.5
Thu Feb 10/Fri Feb 11	9 44	17 08	18 42	5 08	6 41	4 25	14 53	.....	3 22	73	5 17.2	24 40	10.4
Fri Feb 11/Sat Feb 12	9 48	17 09	18 43	5 07	6 40	4 30	14 56	.....	4 17	81	6 09.8	25 56	10.4
Sat Feb 12/Sun Feb 13	9 52	17 10	18 44	5 05	6 39	4 35	14 58	.....	5 07	88	7 03.5	25 58	10.4
Sun Feb 13/Mon Feb 14	9 56	17 12	18 45	5 04	6 37	4 40	15 01	.....	5 50	94	7 57.5	24 43	10.3
Mon Feb 14/Tue Feb 15	10 00	17 13	18 46	5 03	6 36	4 45	15 04	.....	6 27	98	8 50.7	22 14	10.3
Tue Feb 15/Wed Feb 16	10 04	17 14	18 48	5 02	6 35	4 51	15 06	16 07	6 58	100	9 42.7	18 37	10.2
Wed Feb 16/Thu Feb 17	10 08	17 15	18 49	5 00	6 33	4 56	15 09	17 14	7 25	100	10 33.0	14 03	10.2
Thu Feb 17/Fri Feb 18	10 12	17 17	18 50	4 59	6 32	5 01	15 12	18 21	7 50	97	11 22.0	8 45	10.2
Fri Feb 18/Sat Feb 19	10 16	17 18	18 51	4 58	6 31	5 06	15 14	19 29	.....	93	12 10.3	2 57	10.1
Sat Feb 19/Sun Feb 20	10 20	17 19	18 52	4 56	6 29	5 11	15 17	20 37	.....	86	12 58.7	- 3 04	10.1
Sun Feb 20/Mon Feb 21	10 24	17 20	18 53	4 55	6 28	5 16	15 20	21 47	.....	78	13 48.1	- 9 03	10.0
Mon Feb 21/Tue Feb 22	10 28	17 22	18 54	4 54	6 26	5 21	15 22	22 58	.....	68	14 39.6	-14 40	10.0
Tue Feb 22/Wed Feb 23	10 32	17 23	18 56	4 52	6 25	5 26	15 25	0 12	.....	58	15 34.0	-19 37	9.9
Wed Feb 23/Thu Feb 24	10 35	17 24	18 57	4 51	6 23	5 31	15 27	1 27	.....	46	16 31.9	-23 32	9.9
Thu Feb 24/Fri Feb 25	10 39	17 25	18 58	4 49	6 22	5 36	15 30	2 40	.....	35	17 33.1	-26 04	9.9
Fri Feb 25/Sat Feb 26	10 43	17 26	18 59	4 48	6 20	5 41	15 32	3 46	.....	25	18 36.3	-26 59	9.8
Sat Feb 26/Sun Feb 27	10 47	17 28	19 00	4 46	6 19	5 47	15 34	4 43	.....	16	19 39.8	-26 08	9.8
Sun Feb 27/Mon Feb 28	10 51	17 29	19 01	4 45	6 17	5 52	15 37	5 29	.....	8	20 41.3	-23 38	9.7
Mon Feb 28/Tue Mar 01	10 55	17 30	19 02	4 43	6 16	5 57	15 39	6 06	.....	3	21 39.7	-19 44	9.7

Calendar for Cape Cod Schmidt Observatory, west longitude (h.m.s) = 4 40 47, latitude (d.m) = 41 40.7
Rise/set times in Eastern time (5 hr W), uncorrected for elevation, DAYLIGHT time used, * shows clock reset.
Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2022 MARCH *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Tue Mar 01/Wed Mar 02	10 59	17 31	19 04	4 42	6 14	6 02	15 42	6 36	16 19	1	22 34.3	-14 48	9.6
Wed Mar 02/Thu Mar 03	11 03	17 32	19 05	4 40	6 12	6 07	15 44	7 02	17 32	0	23 25.5	- 9 14	9.6
Thu Mar 03/Fri Mar 04	11 07	17 34	19 06	4 39	6 11	6 12	15 46	7 25	18 43	3	0 14.1	- 3 21	9.5
Fri Mar 04/Sat Mar 05	11 11	17 35	19 07	4 37	6 09	6 17	15 49	.....	19 51	7	1 01.0	2 30	9.5
Sat Mar 05/Sun Mar 06	11 15	17 36	19 08	4 35	6 08	6 22	15 51	.....	20 57	13	1 47.1	8 07	9.5
Sun Mar 06/Mon Mar 07	11 19	17 37	19 09	4 34	6 06	6 27	15 53	.....	22 02	20	2 33.5	13 15	9.4
Mon Mar 07/Tue Mar 08	11 23	17 38	19 11	4 32	6 04	6 33	15 56	.....	23 07	29	3 20.7	17 44	9.4
Tue Mar 08/Wed Mar 09	11 27	17 39	19 12	4 30	6 03	6 38	15 58	.....	0 10	38	4 09.4	21 25	9.3
Wed Mar 09/Thu Mar 10	11 31	17 41	19 13	4 29	6 01	6 43	16 00	.....	1 11	47	4 59.8	24 08	9.3
Thu Mar 10/Fri Mar 11	11 35	17 42	19 14	4 27	5 59	6 48	16 02	.....	2 09	57	5 51.7	25 46	9.2
Fri Mar 11/Sat Mar 12	11 39	17 43	19 15	4 25	5 58	6 53	16 05	.....	3 01	66	6 44.8	26 12	9.2
Sat Mar 12/Sun Mar 13*	11 42	17 44	19 17	5 24	6 56	6 58	16 07	.....	4 46	75	7 38.4	25 23	9.1
Sun Mar 13/Mon Mar 14	10 46	18 45	20 18	5 22	6 54	7 03	16 09	.....	5 25	82	8 29.9	23 28	9.1
Mon Mar 14/Tue Mar 15	10 50	18 46	20 19	5 20	6 53	7 09	16 11	.....	5 58	89	9 22.2	20 15	9.0
Tue Mar 15/Wed Mar 16	10 54	18 47	20 20	5 18	6 51	7 14	16 13	.....	6 27	95	10 13.2	15 58	9.0
Wed Mar 16/Thu Mar 17	10 58	18 49	20 21	5 16	6 49	7 19	16 15	17 06	6 52	98	11 03.0	10 50	8.9
Thu Mar 17/Fri Mar 18	11 02	18 50	20 23	5 15	6 48	7 24	16 17	18 14	7 16	100	11 52.2	5 03	8.9
Fri Mar 18/Sat Mar 19	11 06	18 51	20 24	5 13	6 46	7 29	16 20	19 24	.....	99	12 41.4	- 1 06	8.8
Sat Mar 19/Sun Mar 20	11 10	18 52	20 25	5 11	6 44	7 35	16 22	20 34	.....	96	13 31.4	- 7 19	8.8
Sun Mar 20/Mon Mar 21	11 14	18 53	20 26	5 09	6 42	7 40	16 24	21 47	.....	90	14 23.4	-13 16	8.7
Mon Mar 21/Tue Mar 22	11 18	18 54	20 28	5 07	6 41	7 45	16 26	23 02	.....	82	15 18.0	-18 35	8.7
Tue Mar 22/Wed Mar 23	11 22	18 55	20 29	5 05	6 39	7 50	16 28	0 18	.....	72	16 15.8	-22 54	8.6
Wed Mar 23/Thu Mar 24	11 26	18 56	20 30	5 04	6 37	7 55	16 30	1 32	.....	61	17 16.6	-25 51	8.6
Thu Mar 24/Fri Mar 25	11 30	18 57	20 32	5 02	6 36	8 01	16 32	2 41	.....	50	18 19.3	-27 12	8.5
Fri Mar 25/Sat Mar 26	11 34	18 59	20 33	5 00	6 34	8 06	16 34	3 39	.....	39	19 22.2	-26 49	8.4
Sat Mar 26/Sun Mar 27	11 38	19 00	20 34	4 58	6 32	8 11	16 36	4 27	.....	28	20 23.3	-24 47	8.4
Sun Mar 27/Mon Mar 28	11 41	19 01	20 35	4 56	6 30	8 16	16 38	5 06	.....	19	21 21.4	-21 20	8.3
Mon Mar 28/Tue Mar 29	11 45	19 02	20 37	4 54	6 29	8 22	16 40	5 37	.....	11	22 15.8	-16 46	8.3
Tue Mar 29/Wed Mar 30	11 49	19 03	20 38	4 52	6 27	8 27	16 42	6 04	.....	5	23 07.0	-11 27	8.2
Wed Mar 30/Thu Mar 31	11 53	19 04	20 39	4 50	6 25	8 32	16 44	6 27	17 25	2	23 55.6	- 5 42	8.2
Thu Mar 31/Fri Apr 01	11 57	19 05	20 41	4 48	6 24	8 37	16 46	6 50	18 33	0	0 42.5	0 11	8.1

***** 2022 APRIL *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Fri Apr 01/Sat Apr 02	12 01	19 06	20 42	4 46	6 22	8 43	16 48	.....	19 40	1	1 28.6	5 56	8.1
Sat Apr 02/Sun Apr 03	12 05	19 07	20 43	4 44	6 20	8 48	16 50	.....	20 46	4	2 14.8	11 19	8.0
Sun Apr 03/Mon Apr 04	12 09	19 08	20 45	4 42	6 19	8 53	16 52	.....	21 51	8	3 01.9	16 09	8.0
Mon Apr 04/Tue Apr 05	12 13	19 10	20 46	4 40	6 17	8 59	16 54	.....	22 56	14	3 50.3	20 13	7.9
Tue Apr 05/Wed Apr 06	12 17	19 11	20 48	4 39	6 15	9 04	16 56	.....	23 59	22	4 40.3	23 21	7.8
Wed Apr 06/Thu Apr 07	12 21	19 12	20 49	4 37	6 14	9 09	16 58	.....	0 59	30	5 31.9	25 26	7.8
Thu Apr 07/Fri Apr 08	12 25	19 13	20 50	4 35	6 12	9 15	17 00	.....	1 53	39	6 24.6	26 20	7.7
Fri Apr 08/Sat Apr 09	12 29	19 14	20 52	4 33	6 10	9 20	17 02	.....	2 41	48	7 17.7	25 59	7.7
Sat Apr 09/Sun Apr 10	12 33	19 15	20 53	4 31	6 09	9 25	17 04	.....	3 23	58	8 10.5	24 24	7.6
Sun Apr 10/Mon Apr 11	12 37	19 16	20 55	4 29	6 07	9 31	17 06	.....	3 57	67	9 02.4	21 38	7.6
Mon Apr 11/Tue Apr 12	12 41	19 17	20 56	4 27	6 06	9 36	17 08	.....	4 27	76	9 53.1	17 47	7.5
Tue Apr 12/Wed Apr 13	12 45	19 18	20 58	4 25	6 04	9 42	17 10	.....	4 53	85	10 42.8	12 59	7.5
Wed Apr 13/Thu Apr 14	12 48	19 19	20 59	4 23	6 02	9 47	17 12	.....	5 17	92	11 31.8	7 26	7.4
Thu Apr 14/Fri Apr 15	12 52	19 20	21 00	4 21	6 01	9 52	17 14	.....	5 41	97	12 21.0	1 20	7.3
Fri Apr 15/Sat Apr 16	12 56	19 22	21 02	4 19	5 59	9 58	17 16	18 14	6 04	99	13 11.1	- 5 01	7.3
Sat Apr 16/Sun Apr 17	13 00	19 23	21 03	4 17	5 58	10 03	17 18	19 28	6 31	100	14 03.3	-11 17	7.2
Sun Apr 17/Mon Apr 18	13 04	19 24	21 05	4 15	5 56	10 09	17 20	20 44	.....	97	14 58.5	-17 04	7.2
Mon Apr 18/Tue Apr 19	13 08	19 25	21 06	4 13	5 55	10 14	17 22	22 02	.....	92	15 57.1	-21 57	7.1
Tue Apr 19/Wed Apr 20	13 12	19 26	21 08	4 11	5 53	10 20	17 24	23 20	.....	85	16 59.2	-25 29	7.1
Wed Apr 20/Thu Apr 21	13 16	19 27	21 10	4 09	5 52	10 25	17 26	0 33	.....	75	18 03.6	-27 20	7.0
Thu Apr 21/Fri Apr 22	13 20	19 28	21 11	4 07	5 50	10 31	17 28	1 36	.....	64	19 08.1	-27 22	6.9
Fri Apr 22/Sat Apr 23	13 24	19 29	21 13	4 05	5 49	10 36	17 30	2 28	.....	53	20 10.7	-25 39	6.9
Sat Apr 23/Sun Apr 24	13 28	19 30	21 14	4 03	5 47	10 42	17 32	3 09	.....	42	21 09.7	-22 27	6.8
Sun Apr 24/Mon Apr 25	13 32	19 31	21 16	4 01	5 46	10 47	17 34	3 41	.....	31	22 04.6	-18 06	6.8
Mon Apr 25/Tue Apr 26	13 36	19 32	21 17	3 59	5 44	10 53	17 36	4 09	.....	22	22 55.8	-12 57	6.7
Tue Apr 26/Wed Apr 27	13 40	19 34	21 19	3 58	5 43	10 58	17 38	4 32	.....	14	23 44.1	- 7 20	6.6
Wed Apr 27/Thu Apr 28	13 44	19 35	21 21	3 56	5 41	11 04	17 40	4 54	.....	7	0 30.5	- 1 32	6.6
Thu Apr 28/Fri Apr 29	13 48	19 36	21 22	3 54	5 40	11 09	17 42	5 16	17 28	3	1 16.0	4 12	6.5
Fri Apr 29/Sat Apr 30	13 52	19 37	21 24	3 52	5 39	11 15	17 44	5 38	18 33	1	2 01.5	9 41	6.5
Sat Apr 30/Sun May 01	13 55	19 38	21 25	3 50	5 37	11 20	17 46	6 03	19 38	0	2 47.9	14 40	6.4

Calendar for Cape Cod Schmidt Observatory, west longitude (h.m.s) = 4 40 47, latitude (d.m) = 41 40.7
Rise/set times in Eastern time (5 hr W), uncorrected for elevation, DAYLIGHT time used, * shows clock reset.
Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2022 MAY *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Sun May 01/Mon May 02	13 59	19 39	21 27	3 48	5 36	11 26	17 48	.....	20 43	2	3 35.6	18 59	6.4
Mon May 02/Tue May 03	14 03	19 40	21 29	3 46	5 35	11 32	17 50	.....	21 47	5	4 25.0	22 26	6.3
Tue May 03/Wed May 04	14 07	19 41	21 30	3 44	5 34	11 37	17 52	.....	22 49	10	5 16.0	24 51	6.2
Wed May 04/Thu May 05	14 11	19 42	21 32	3 43	5 32	11 43	17 55	.....	23 46	16	6 08.3	26 08	6.2
Thu May 05/Fri May 06	14 15	19 43	21 34	3 41	5 31	11 48	17 57	.....	0 36	24	7 01.0	26 11	6.1
Fri May 06/Sat May 07	14 19	19 44	21 35	3 39	5 30	11 54	17 59	.....	1 20	32	7 53.4	25 00	6.1
Sat May 07/Sun May 08	14 23	19 45	21 37	3 37	5 29	12 00	18 01	.....	1 57	41	8 44.8	22 39	6.0
Sun May 08/Mon May 09	14 27	19 46	21 38	3 36	5 28	12 05	18 03	.....	2 28	51	9 34.9	19 14	6.0
Mon May 09/Tue May 10	14 31	19 48	21 40	3 34	5 26	12 11	18 05	.....	2 54	61	10 23.8	14 52	5.9
Tue May 10/Wed May 11	14 35	19 49	21 42	3 32	5 25	12 16	18 08	.....	3 19	71	11 11.8	9 42	5.8
Wed May 11/Thu May 12	14 39	19 50	21 43	3 31	5 24	12 22	18 10	.....	3 42	80	11 59.8	3 54	5.8
Thu May 12/Fri May 13	14 43	19 51	21 45	3 29	5 23	12 27	18 12	.....	4 05	88	12 48.6	- 2 18	5.7
Fri May 13/Sat May 14	14 47	19 52	21 47	3 27	5 22	12 33	18 15	.....	4 29	94	13 39.4	- 8 38	5.7
Sat May 14/Sun May 15	14 51	19 53	21 48	3 26	5 21	12 39	18 17	18 17	4 57	99	14 33.4	-14 45	5.6
Sun May 15/Mon May 16	14 55	19 54	21 50	3 24	5 20	12 44	18 19	19 36	5 31	100	15 31.5	-20 10	5.6
Mon May 16/Tue May 17	14 59	19 55	21 52	3 22	5 19	12 50	18 22	20 57	6 13	98	16 34.0	-24 26	5.5
Tue May 17/Wed May 18	15 03	19 56	21 53	3 21	5 18	12 55	18 24	22 15	.....	94	17 39.9	-27 03	5.5
Wed May 18/Thu May 19	15 06	19 57	21 55	3 19	5 17	13 01	18 26	23 25	.....	87	18 47.2	-27 45	5.4
Thu May 19/Fri May 20	15 10	19 58	21 56	3 18	5 17	13 06	18 29	0 23	.....	78	19 53.0	-26 30	5.4
Fri May 20/Sat May 21	15 14	19 59	21 58	3 17	5 16	13 12	18 31	1 09	.....	67	20 55.1	-23 34	5.3
Sat May 21/Sun May 22	15 18	20 00	21 59	3 15	5 15	13 17	18 34	1 45	.....	56	21 52.4	-19 21	5.3
Sun May 22/Mon May 23	15 22	20 00	22 01	3 14	5 14	13 23	18 37	2 14	.....	45	22 45.2	-14 16	5.2
Mon May 23/Tue May 24	15 26	20 01	22 02	3 12	5 14	13 28	18 39	2 38	.....	35	23 34.4	- 8 41	5.2
Tue May 24/Wed May 25	15 30	20 02	22 04	3 11	5 13	13 34	18 42	3 00	.....	25	0 21.0	- 2 54	5.1
Wed May 25/Thu May 26	15 34	20 03	22 05	3 10	5 12	13 39	18 45	3 22	.....	17	1 06.3	2 51	5.1
Thu May 26/Fri May 27	15 38	20 04	22 07	3 09	5 12	13 45	18 47	3 43	.....	10	1 51.3	8 21	5.0
Fri May 27/Sat May 28	15 42	20 05	22 08	3 08	5 11	13 50	18 50	4 07	.....	5	2 36.9	13 25	5.0
Sat May 28/Sun May 29	15 46	20 06	22 10	3 06	5 10	13 55	18 53	4 33	18 33	2	3 23.8	17 52	4.9
Sun May 29/Mon May 30	15 50	20 07	22 11	3 05	5 10	14 01	18 56	5 04	19 37	0	4 12.4	21 32	4.9
Mon May 30/Tue May 31	15 54	20 07	22 12	3 04	5 09	14 06	18 59	5 41	20 40	0	5 02.8	24 13	4.9
Tue May 31/Wed Jun 01	15 58	20 08	22 14	3 03	5 09	14 11	19 02	6 25	21 38	3	5 54.6	25 47	4.8

***** 2022 JUNE *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Wed Jun 01/Thu Jun 02	16 02	20 09	22 15	3 02	5 08	14 16	19 05	.....	22 31	6	6 47.0	26 09	4.8
Thu Jun 02/Fri Jun 03	16 06	20 10	22 16	3 01	5 08	14 21	19 08	.....	23 17	12	7 39.3	25 18	4.8
Fri Jun 03/Sat Jun 04	16 10	20 10	22 17	3 01	5 08	14 27	19 11	.....	23 56	18	8 30.5	23 17	4.7
Sat Jun 04/Sun Jun 05	16 13	20 11	22 18	3 00	5 07	14 32	19 14	.....	0 29	26	9 20.3	20 12	4.7
Sun Jun 05/Mon Jun 06	16 17	20 12	22 20	2 59	5 07	14 37	19 17	.....	0 57	35	10 08.4	16 11	4.7
Mon Jun 06/Tue Jun 07	16 21	20 12	22 21	2 58	5 07	14 42	19 20	.....	1 21	45	10 55.4	11 22	4.6
Tue Jun 07/Wed Jun 08	16 25	20 13	22 22	2 58	5 06	14 47	19 24	.....	1 44	55	11 41.9	5 56	4.6
Wed Jun 08/Thu Jun 09	16 29	20 14	22 23	2 57	5 06	14 52	19 27	.....	2 06	66	12 28.8	0 03	4.6
Thu Jun 09/Fri Jun 10	16 33	20 14	22 23	2 57	5 06	14 56	19 30	.....	2 29	76	13 17.3	- 6 05	4.6
Fri Jun 10/Sat Jun 11	16 37	20 15	22 24	2 56	5 06	15 01	19 34	.....	2 54	85	14 08.6	-12 11	4.5
Sat Jun 11/Sun Jun 12	16 41	20 15	22 25	2 56	5 06	15 06	19 38	.....	3 24	92	15 03.9	-17 54	4.5
Sun Jun 12/Mon Jun 13	16 45	20 16	22 26	2 56	5 06	15 11	19 41	18 27	4 02	97	16 04.1	-22 44	4.5
Mon Jun 13/Tue Jun 14	16 49	20 16	22 27	2 55	5 06	15 15	19 45	19 47	4 50	100	17 09.2	-26 10	4.5
Tue Jun 14/Wed Jun 15	16 53	20 17	22 27	2 55	5 06	15 20	19 49	21 04	5 50	99	18 17.7	-27 46	4.5
Wed Jun 15/Thu Jun 16	16 57	20 17	22 28	2 55	5 06	15 24	19 52	22 09	.....	95	19 26.5	-27 17	4.5
Thu Jun 16/Fri Jun 17	17 01	20 17	22 28	2 55	5 06	15 29	19 56	23 02	.....	89	20 32.6	-24 52	4.4
Fri Jun 17/Sat Jun 18	17 05	20 18	22 29	2 55	5 06	15 33	20 00	23 43	.....	81	21 34.0	-20 53	4.4
Sat Jun 18/Sun Jun 19	17 09	20 18	22 29	2 55	5 06	15 38	20 04	0 16	.....	71	22 30.2	-15 50	4.4
Sun Jun 19/Mon Jun 20	17 13	20 18	22 29	2 55	5 06	15 42	20 08	0 42	.....	60	23 21.8	-10 11	4.4
Mon Jun 20/Tue Jun 21	17 17	20 19	22 30	2 55	5 06	15 46	20 12	1 05	.....	49	0 10.1	- 4 17	4.4
Tue Jun 21/Wed Jun 22	17 21	20 19	22 30	2 56	5 07	15 50	20 17	1 27	.....	39	0 56.3	1 35	4.4
Wed Jun 22/Thu Jun 23	17 24	20 19	22 30	2 56	5 07	15 54	20 21	1 49	.....	29	1 41.6	7 12	4.4
Thu Jun 23/Fri Jun 24	17 28	20 19	22 30	2 56	5 07	15 58	20 25	2 12	.....	21	2 27.1	12 23	4.4
Fri Jun 24/Sat Jun 25	17 32	20 19	22 30	2 57	5 08	16 02	20 29	2 37	.....	13	3 13.6	16 58	4.4
Sat Jun 25/Sun Jun 26	17 36	20 19	22 30	2 57	5 08	16 06	20 34	3 06	.....	8	4 01.6	20 46	4.5
Sun Jun 26/Mon Jun 27	17 40	20 19	22 30	2 58	5 08	16 10	20 38	3 41	18 32	3	4 51.4	23 39	4.5
Mon Jun 27/Tue Jun 28	17 44	20 19	22 30	2 58	5 09	16 14	20 43	4 23	19 32	1	5 42.7	25 27	4.5
Tue Jun 28/Wed Jun 29	17 48	20 19	22 30	2 59	5 09	16 17	20 48	5 11	20 27	0	6 35.0	26 04	4.5
Wed Jun 29/Thu Jun 30	17 52	20 19	22 29	3 00	5 10	16 21	20 52	6 07	21 15	1	7 27.2	25 29	4.5
Thu Jun 30/Fri Jul 01	17 56	20 19	22 29	3 00	5 10	16 25	20 57	.....	21 56	4	8 18.6	23 43	4.5

Calendar for Cape Cod Schmidt Observatory, west longitude (h.m.s) = 4 40 47, latitude (d.m) = 41 40.7
Rise/set times in Eastern time (5 hr W), uncorrected for elevation, DAYLIGHT time used, * shows clock reset.
Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2022 JULY *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Fri Jul 01/Sat Jul 02	18 00	20 19	22 28	3 01	5 11	16 28	21 02	.....	22 31	8	9 08.5	20 51	4.5
Sat Jul 02/Sun Jul 03	18 04	20 19	22 28	3 02	5 11	16 32	21 07	.....	23 00	14	9 56.6	17 04	4.6
Sun Jul 03/Mon Jul 04	18 08	20 19	22 27	3 03	5 12	16 35	21 11	.....	23 25	22	10 43.1	12 30	4.6
Mon Jul 04/Tue Jul 05	18 12	20 18	22 27	3 04	5 12	16 38	21 16	.....	23 48	30	11 28.7	7 19	4.6
Tue Jul 05/Wed Jul 06	18 16	20 18	22 26	3 05	5 13	16 42	21 21	.....	0 09	40	12 14.2	1 41	4.6
Wed Jul 06/Thu Jul 07	18 20	20 18	22 25	3 06	5 14	16 45	21 26	.....	0 31	50	13 00.5	- 4 12	4.7
Thu Jul 07/Fri Jul 08	18 24	20 18	22 25	3 07	5 14	16 48	21 31	.....	0 54	61	13 48.9	-10 08	4.7
Fri Jul 08/Sat Jul 09	18 28	20 17	22 24	3 08	5 15	16 51	21 36	.....	1 21	72	14 40.8	-15 49	4.7
Sat Jul 09/Sun Jul 10	18 31	20 17	22 23	3 10	5 16	16 54	21 42	.....	1 54	81	15 37.1	-20 54	4.8
Sun Jul 10/Mon Jul 11	18 35	20 16	22 22	3 11	5 16	16 57	21 47	.....	2 35	90	16 38.8	-24 54	4.8
Mon Jul 11/Tue Jul 12	18 39	20 16	22 21	3 12	5 17	17 00	21 52	18 37	3 29	96	17 45.1	-27 20	4.8
Tue Jul 12/Wed Jul 13	18 43	20 15	22 20	3 13	5 18	17 03	21 57	19 48	4 35	99	18 54.1	-27 48	4.9
Wed Jul 13/Thu Jul 14	18 47	20 15	22 19	3 15	5 19	17 06	22 02	20 48	5 52	100	20 02.7	-26 11	4.9
Thu Jul 14/Fri Jul 15	18 51	20 14	22 18	3 16	5 20	17 09	22 08	21 35	.....	97	21 07.7	-22 43	5.0
Fri Jul 15/Sat Jul 16	18 55	20 14	22 17	3 17	5 20	17 12	22 13	22 13	.....	91	22 07.8	-17 53	5.0
Sat Jul 16/Sun Jul 17	18 59	20 13	22 15	3 19	5 21	17 14	22 18	22 42	.....	84	23 03.0	-12 11	5.1
Sun Jul 17/Mon Jul 18	19 03	20 12	22 14	3 20	5 22	17 17	22 24	23 08	.....	74	23 54.1	- 6 05	5.1
Mon Jul 18/Tue Jul 19	19 07	20 12	22 13	3 22	5 23	17 20	22 29	23 31	.....	64	0 42.4	0 01	5.1
Tue Jul 19/Wed Jul 20	19 11	20 11	22 12	3 23	5 24	17 22	22 35	23 53	.....	54	1 29.2	5 54	5.2
Wed Jul 20/Thu Jul 21	19 15	20 10	22 10	3 25	5 25	17 25	22 40	0 15	.....	44	2 15.5	11 19	5.2
Thu Jul 21/Fri Jul 22	19 19	20 09	22 09	3 26	5 26	17 27	22 45	0 40	.....	34	3 02.4	16 07	5.3
Fri Jul 22/Sat Jul 23	19 23	20 08	22 07	3 28	5 27	17 30	22 51	1 08	.....	25	3 50.4	20 08	5.3
Sat Jul 23/Sun Jul 24	19 27	20 08	22 06	3 29	5 27	17 32	22 56	1 41	.....	18	4 40.0	23 13	5.4
Sun Jul 24/Mon Jul 25	19 31	20 07	22 04	3 31	5 28	17 35	23 02	2 20	.....	11	5 31.1	25 14	5.4
Mon Jul 25/Tue Jul 26	19 35	20 06	22 03	3 32	5 29	17 37	23 07	3 07	18 23	6	6 23.2	26 06	5.5
Tue Jul 26/Wed Jul 27	19 39	20 05	22 01	3 34	5 30	17 40	23 13	4 01	19 13	2	7 15.6	25 44	5.5
Wed Jul 27/Thu Jul 28	19 42	20 04	22 00	3 35	5 31	17 42	23 18	5 00	19 56	0	8 07.2	24 11	5.6
Thu Jul 28/Fri Jul 29	19 46	20 03	21 58	3 37	5 32	17 44	23 24	6 02	20 33	0	8 57.5	21 31	5.6
Fri Jul 29/Sat Jul 30	19 50	20 02	21 56	3 38	5 33	17 46	23 29	.....	21 03	2	9 46.1	17 52	5.7
Sat Jul 30/Sun Jul 31	19 54	20 01	21 55	3 40	5 34	17 49	23 35	.....	21 29	6	10 32.9	13 26	5.8
Sun Jul 31/Mon Aug 01	19 58	20 00	21 53	3 42	5 35	17 51	23 40	.....	21 52	11	11 18.4	8 21	5.8

***** 2022 AUGUST *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Mon Aug 01/Tue Aug 02	20 02	19 58	21 51	3 43	5 36	17 53	23 46	.....	22 14	18	12 03.4	2 51	5.9
Tue Aug 02/Wed Aug 03	20 06	19 57	21 50	3 45	5 37	17 55	23 51	.....	22 35	26	12 48.7	- 2 55	5.9
Wed Aug 03/Thu Aug 04	20 10	19 56	21 48	3 46	5 38	17 58	23 57	.....	22 57	36	13 35.4	- 8 44	6.0
Thu Aug 04/Fri Aug 05	20 14	19 55	21 46	3 48	5 39	18 00	0 03	.....	23 22	46	14 24.7	-14 21	6.0
Fri Aug 05/Sat Aug 06	20 18	19 54	21 44	3 50	5 40	18 02	0 08	.....	23 51	57	15 17.7	-19 29	6.1
Sat Aug 06/Sun Aug 07	20 22	19 53	21 43	3 51	5 41	18 04	0 14	.....	0 27	68	16 15.3	-23 44	6.1
Sun Aug 07/Mon Aug 08	20 26	19 51	21 41	3 53	5 42	18 06	0 19	.....	1 14	79	17 17.8	-26 41	6.2
Mon Aug 08/Tue Aug 09	20 30	19 50	21 39	3 54	5 43	18 08	0 25	.....	2 13	87	18 24.1	-27 54	6.3
Tue Aug 09/Wed Aug 10	20 34	19 49	21 37	3 56	5 44	18 10	0 30	18 32	3 24	94	19 31.8	-27 10	6.3
Wed Aug 10/Thu Aug 11	20 38	19 47	21 35	3 57	5 45	18 12	0 36	19 24	4 43	98	20 38.0	-24 29	6.4
Thu Aug 11/Fri Aug 12	20 42	19 46	21 33	3 59	5 46	18 14	0 41	20 06	6 04	100	21 40.6	-20 09	6.4
Fri Aug 12/Sat Aug 13	20 46	19 45	21 31	4 00	5 47	18 17	0 47	20 39	.....	98	22 38.6	-14 39	6.5
Sat Aug 13/Sun Aug 14	20 49	19 43	21 30	4 02	5 48	18 19	0 52	21 07	.....	94	23 32.5	- 8 30	6.5
Sun Aug 14/Mon Aug 15	20 53	19 42	21 28	4 04	5 49	18 21	0 58	21 31	.....	87	0 23.3	- 2 08	6.6
Mon Aug 15/Tue Aug 16	20 57	19 40	21 26	4 05	5 50	18 23	1 03	21 54	.....	79	1 12.0	4 05	6.7
Tue Aug 16/Wed Aug 17	21 01	19 39	21 24	4 07	5 51	18 25	1 09	22 17	.....	69	1 59.8	9 52	6.7
Wed Aug 17/Thu Aug 18	21 05	19 38	21 22	4 08	5 52	18 27	1 14	22 41	.....	60	2 47.7	15 01	6.8
Thu Aug 18/Fri Aug 19	21 09	19 36	21 20	4 10	5 53	18 29	1 19	23 08	.....	50	3 36.4	19 23	6.8
Fri Aug 19/Sat Aug 20	21 13	19 35	21 18	4 11	5 54	18 31	1 25	23 40	.....	40	4 26.4	22 46	6.9
Sat Aug 20/Sun Aug 21	21 17	19 33	21 16	4 13	5 56	18 33	1 30	0 17	.....	31	5 17.7	25 06	6.9
Sun Aug 21/Mon Aug 22	21 21	19 32	21 14	4 14	5 57	18 35	1 36	1 01	.....	23	6 10.0	26 14	7.0
Mon Aug 22/Tue Aug 23	21 25	19 30	21 12	4 16	5 58	18 36	1 41	1 53	.....	15	7 02.6	26 09	7.1
Tue Aug 23/Wed Aug 24	21 29	19 28	21 10	4 17	5 59	18 38	1 47	2 51	17 55	9	7 54.6	24 50	7.1
Wed Aug 24/Thu Aug 25	21 33	19 27	21 08	4 18	6 00	18 40	1 52	3 53	18 34	5	8 45.5	22 23	7.2
Thu Aug 25/Fri Aug 26	21 37	19 25	21 06	4 20	6 01	18 42	1 57	4 57	19 06	1	9 34.6	18 54	7.2
Fri Aug 26/Sat Aug 27	21 41	19 24	21 04	4 21	6 02	18 44	2 03	6 01	19 33	0	10 22.1	14 34	7.3
Sat Aug 27/Sun Aug 28	21 45	19 22	21 02	4 23	6 03	18 46	2 08	.....	19 57	1	11 08.1	9 33	7.3
Sun Aug 28/Mon Aug 29	21 49	19 21	21 00	4 24	6 04	18 48	2 13	.....	20 19	3	11 53.4	4 02	7.4
Mon Aug 29/Tue Aug 30	21 53	19 19	20 58	4 25	6 05	18 50	2 19	.....	20 40	8	12 38.7	- 1 45	7.5
Tue Aug 30/Wed Aug 31	21 56	19 17	20 56	4 27	6 06	18 52	2 24	.....	21 02	14	13 25.0	- 7 36	7.5
Wed Aug 31/Thu Sep 01	22 00	19 16	20 54	4 28	6 07	18 54	2 29	.....	21 26	23	14 13.2	-13 15	7.6

Calendar for Cape Cod Schmidt Observatory, west longitude (h.m.s) = 4 40 47, latitude (d.m) = 41 40.7
Rise/set times in Eastern time (5 hr W), uncorrected for elevation, DAYLIGHT time used, * shows clock reset.
Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2022 SEPTEMBER *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Thu Sep 01/Fri Sep 02	22 04	19 14	20 52	4 30	6 08	18 56	2 35	.....	21 53	32	15 04.5	-18 27	7.6
Fri Sep 02/Sat Sep 03	22 08	19 12	20 50	4 31	6 09	18 58	2 40	.....	22 26	43	15 59.7	-22 51	7.7
Sat Sep 03/Sun Sep 04	22 12	19 11	20 48	4 32	6 10	19 00	2 45	.....	23 07	54	16 59.1	-26 06	7.7
Sun Sep 04/Mon Sep 05	22 16	19 09	20 46	4 34	6 11	19 02	2 51	.....	24 00	65	18 02.3	-27 48	7.8
Mon Sep 05/Tue Sep 06	22 20	19 07	20 44	4 35	6 12	19 04	2 56	.....	1 04	76	19 07.5	-27 43	7.8
Tue Sep 06/Wed Sep 07	22 24	19 06	20 42	4 36	6 13	19 06	3 01	17 16	2 18	85	20 12.3	-25 45	7.9
Wed Sep 07/Thu Sep 08	22 28	19 04	20 40	4 38	6 14	19 08	3 06	18 00	3 37	93	21 14.8	-22 05	8.0
Thu Sep 08/Fri Sep 09	22 32	19 02	20 38	4 39	6 15	19 10	3 12	18 36	4 56	98	22 13.6	-17 04	8.0
Fri Sep 09/Sat Sep 10	22 36	19 00	20 36	4 40	6 16	19 12	3 17	19 05	6 13	100	23 08.8	-11 08	8.1
Sat Sep 10/Sun Sep 11	22 40	18 59	20 34	4 41	6 17	19 14	3 22	19 31	.....	99	0 00.9	- 4 44	8.1
Sun Sep 11/Mon Sep 12	22 44	18 57	20 32	4 43	6 18	19 16	3 27	19 54	.....	96	0 51.0	1 42	8.2
Mon Sep 12/Tue Sep 13	22 48	18 55	20 30	4 44	6 19	19 17	3 32	20 17	.....	91	1 40.0	7 52	8.2
Tue Sep 13/Wed Sep 14	22 52	18 54	20 28	4 45	6 20	19 19	3 38	20 41	.....	83	2 29.0	13 27	8.3
Wed Sep 14/Thu Sep 15	22 56	18 52	20 26	4 46	6 21	19 21	3 43	21 07	.....	75	3 18.6	18 16	8.3
Thu Sep 15/Fri Sep 16	23 00	18 50	20 24	4 48	6 22	19 23	3 48	21 37	.....	66	4 09.4	22 06	8.4
Fri Sep 16/Sat Sep 17	23 04	18 48	20 23	4 49	6 23	19 25	3 53	22 13	.....	57	5 01.3	24 50	8.4
Sat Sep 17/Sun Sep 18	23 07	18 47	20 21	4 50	6 24	19 27	3 58	22 55	.....	47	5 54.2	26 21	8.5
Sun Sep 18/Mon Sep 19	23 11	18 45	20 19	4 51	6 25	19 30	4 03	23 44	.....	38	6 47.2	26 37	8.5
Mon Sep 19/Tue Sep 20	23 15	18 43	20 17	4 52	6 26	19 32	4 09	0 39	.....	29	7 39.8	25 38	8.6
Tue Sep 20/Wed Sep 21	23 19	18 41	20 15	4 54	6 27	19 34	4 14	1 40	.....	21	8 31.1	23 28	8.6
Wed Sep 21/Thu Sep 22	23 23	18 40	20 13	4 55	6 28	19 36	4 19	2 44	17 07	13	9 20.8	20 14	8.7
Thu Sep 22/Fri Sep 23	23 27	18 38	20 11	4 56	6 29	19 38	4 24	3 49	17 36	8	10 08.8	16 05	8.7
Fri Sep 23/Sat Sep 24	23 31	18 36	20 09	4 57	6 30	19 40	4 29	4 54	18 01	3	10 55.4	11 10	8.8
Sat Sep 24/Sun Sep 25	23 35	18 34	20 07	4 58	6 31	19 42	4 34	6 00	18 23	1	11 41.2	5 41	8.8
Sun Sep 25/Mon Sep 26	23 39	18 33	20 06	4 59	6 32	19 44	4 39	7 06	18 45	0	12 26.9	- 0 09	8.9
Mon Sep 26/Tue Sep 27	23 43	18 31	20 04	5 01	6 33	19 46	4 44	.....	19 07	2	13 13.4	- 6 07	8.9
Tue Sep 27/Wed Sep 28	23 47	18 29	20 02	5 02	6 34	19 48	4 49	.....	19 30	6	14 01.7	-11 57	9.0
Wed Sep 28/Thu Sep 29	23 51	18 28	20 00	5 03	6 36	19 50	4 55	.....	19 56	12	14 52.7	-17 22	9.0
Thu Sep 29/Fri Sep 30	23 55	18 26	19 58	5 04	6 37	19 52	5 00	.....	20 27	20	15 47.2	-22 01	9.1
Fri Sep 30/Sat Oct 01	23 59	18 24	19 57	5 05	6 38	19 55	5 05	.....	21 05	29	16 45.5	-25 32	9.1

***** 2022 OCTOBER *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Sat Oct 01/Sun Oct 02	0 03	18 22	19 55	5 06	6 39	19 57	5 10	.....	21 54	40	17 47.2	-27 36	9.2
Sun Oct 02/Mon Oct 03	0 07	18 21	19 53	5 07	6 40	19 59	5 15	.....	22 54	51	18 50.7	-27 57	9.2
Mon Oct 03/Tue Oct 04	0 11	18 19	19 51	5 08	6 41	20 01	5 20	.....	0 04	62	19 54.2	-26 30	9.3
Tue Oct 04/Wed Oct 05	0 14	18 17	19 50	5 10	6 42	20 03	5 25	.....	1 20	73	20 55.5	-23 23	9.3
Wed Oct 05/Thu Oct 06	0 18	18 16	19 48	5 11	6 43	20 06	5 30	16 36	2 37	83	21 53.6	-18 52	9.4
Thu Oct 06/Fri Oct 07	0 22	18 14	19 46	5 12	6 44	20 08	5 35	17 06	3 52	91	22 48.4	-13 20	9.4
Fri Oct 07/Sat Oct 08	0 26	18 12	19 44	5 13	6 45	20 10	5 40	17 32	5 05	96	23 40.4	- 7 11	9.5
Sat Oct 08/Sun Oct 09	0 30	18 11	19 43	5 14	6 46	20 12	5 45	17 56	6 17	99	0 30.4	- 0 46	9.5
Sun Oct 09/Mon Oct 10	0 34	18 09	19 41	5 15	6 47	20 15	5 50	18 18	7 27	100	1 19.5	5 34	9.6
Mon Oct 10/Tue Oct 11	0 38	18 07	19 40	5 16	6 48	20 17	5 55	18 41	.....	98	2 08.6	11 29	9.6
Tue Oct 11/Wed Oct 12	0 42	18 06	19 38	5 17	6 50	20 19	6 00	19 06	.....	94	2 58.5	16 43	9.7
Wed Oct 12/Thu Oct 13	0 46	18 04	19 36	5 18	6 51	20 22	6 05	19 35	.....	88	3 49.7	21 02	9.7
Thu Oct 13/Fri Oct 14	0 50	18 03	19 35	5 19	6 52	20 24	6 10	20 08	.....	81	4 42.1	24 16	9.7
Fri Oct 14/Sat Oct 15	0 54	18 01	19 33	5 21	6 53	20 26	6 15	20 47	.....	73	5 35.7	26 16	9.8
Sat Oct 15/Sun Oct 16	0 58	17 59	19 32	5 22	6 54	20 29	6 20	21 34	.....	64	6 29.5	26 58	9.8
Sun Oct 16/Mon Oct 17	1 02	17 58	19 30	5 23	6 55	20 31	6 25	22 27	.....	55	7 22.8	26 23	9.9
Mon Oct 17/Tue Oct 18	1 06	17 56	19 29	5 24	6 56	20 34	6 30	23 26	.....	45	8 14.8	24 35	9.9
Tue Oct 18/Wed Oct 19	1 10	17 55	19 27	5 25	6 58	20 36	6 35	0 29	.....	36	9 05.0	21 40	10.0
Wed Oct 19/Thu Oct 20	1 14	17 53	19 26	5 26	6 59	20 39	6 40	1 33	.....	27	9 53.4	17 48	10.0
Thu Oct 20/Fri Oct 21	1 18	17 52	19 24	5 27	7 00	20 41	6 45	2 37	16 03	19	10 40.2	13 07	10.0
Fri Oct 21/Sat Oct 22	1 22	17 50	19 23	5 28	7 01	20 44	6 51	3 43	16 26	12	11 26.0	7 48	10.1
Sat Oct 22/Sun Oct 23	1 25	17 49	19 22	5 29	7 02	20 46	6 56	4 49	16 48	6	12 11.7	2 01	10.1
Sun Oct 23/Mon Oct 24	1 29	17 47	19 20	5 30	7 03	20 49	7 01	5 58	17 09	2	12 58.1	- 4 00	10.2
Mon Oct 24/Tue Oct 25	1 33	17 46	19 19	5 31	7 05	20 52	7 06	7 09	17 32	0	13 46.3	-10 01	10.2
Tue Oct 25/Wed Oct 26	1 37	17 45	19 18	5 32	7 06	20 54	7 11	.....	17 57	1	14 37.3	-15 43	10.2
Wed Oct 26/Thu Oct 27	1 41	17 43	19 16	5 33	7 07	20 57	7 16	.....	18 26	4	15 31.8	-20 44	10.3
Thu Oct 27/Fri Oct 28	1 45	17 42	19 15	5 35	7 08	21 00	7 21	.....	19 03	9	16 30.3	-24 41	10.3
Fri Oct 28/Sat Oct 29	1 49	17 40	19 14	5 36	7 09	21 02	7 26	.....	19 49	17	17 32.3	-27 11	10.4
Sat Oct 29/Sun Oct 30	1 53	17 39	19 13	5 37	7 10	21 05	7 31	.....	20 47	26	18 36.2	-27 57	10.4
Sun Oct 30/Mon Oct 31	1 57	17 38	19 12	5 38	7 12	21 08	7 36	.....	21 55	37	19 39.9	-26 55	10.4
Mon Oct 31/Tue Nov 01	2 01	17 37	19 10	5 39	7 13	21 11	7 41	.....	23 09	48	20 41.4	-24 11	10.5

Calendar for Cape Cod Schmidt Observatory, west longitude (h.m.s) = 4 40 47, latitude (d.m) = 41 40.7
Rise/set times in Eastern time (5 hr W), uncorrected for elevation, DAYLIGHT time used, * shows clock reset.
Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2022 NOVEMBER *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Tue Nov 01/Wed Nov 02	2 05	17 35	19 09	5 40	7 14	21 13	7 46	.....	0 25	59	21 39.3	-20 02	10.5
Wed Nov 02/Thu Nov 03	2 09	17 34	19 08	5 41	7 15	21 16	7 51	.....	1 40	70	22 33.7	-14 50	10.5
Thu Nov 03/Fri Nov 04	2 13	17 33	19 07	5 42	7 17	21 19	7 56	.....	2 52	80	23 24.9	- 8 57	10.6
Fri Nov 04/Sat Nov 05	2 17	17 32	19 06	5 43	7 18	21 22	8 01	16 00	4 02	88	0 14.1	- 2 44	10.6
Sat Nov 05/Sun Nov 06*	2 21	17 30	19 05	4 44	6 19	21 25	8 06	16 22	4 11	94	1 02.3	3 32	10.7
Sun Nov 06/Mon Nov 07	3 25	16 29	18 04	4 45	6 20	21 28	8 11	15 44	5 19	98	1 51.8	9 46	10.7
Mon Nov 07/Tue Nov 08	3 29	16 28	18 03	4 46	6 21	21 31	8 16	16 08	6 27	100	2 40.9	15 13	10.7
Tue Nov 08/Wed Nov 09	3 33	16 27	18 02	4 47	6 23	21 34	8 21	16 34	7 35	99	3 31.5	19 52	10.8
Wed Nov 09/Thu Nov 10	3 37	16 26	18 01	4 48	6 24	21 37	8 26	17 05	.....	97	4 23.9	23 31	10.8
Thu Nov 10/Fri Nov 11	3 41	16 25	18 01	4 49	6 25	21 40	8 31	17 42	.....	92	5 17.7	25 58	10.8
Fri Nov 11/Sat Nov 12	3 44	16 24	18 00	4 50	6 26	21 43	8 36	18 26	.....	87	6 12.3	27 07	10.8
Sat Nov 12/Sun Nov 13	3 48	16 23	17 59	4 52	6 28	21 46	8 41	19 17	.....	79	7 06.5	26 55	10.9
Sun Nov 13/Mon Nov 14	3 52	16 22	17 58	4 53	6 29	21 50	8 46	20 14	.....	71	7 59.5	25 28	10.9
Mon Nov 14/Tue Nov 15	3 56	16 21	17 57	4 54	6 30	21 53	8 51	21 15	.....	62	8 50.4	22 51	10.9
Tue Nov 15/Wed Nov 16	4 00	16 20	17 57	4 55	6 31	21 56	8 56	22 18	.....	53	9 39.3	19 15	11.0
Wed Nov 16/Thu Nov 17	4 04	16 20	17 56	4 56	6 32	21 59	9 01	23 21	.....	43	10 26.2	14 49	11.0
Thu Nov 17/Fri Nov 18	4 08	16 19	17 55	4 57	6 34	22 03	9 06	0 25	.....	34	11 11.8	9 44	11.0
Fri Nov 18/Sat Nov 19	4 12	16 18	17 55	4 58	6 35	22 06	9 11	1 30	.....	24	11 57.0	4 08	11.0
Sat Nov 19/Sun Nov 20	4 16	16 17	17 54	4 59	6 36	22 09	9 16	2 36	.....	16	12 42.7	- 1 47	11.1
Sun Nov 20/Mon Nov 21	4 20	16 17	17 54	5 00	6 37	22 13	9 21	3 45	.....	9	13 30.0	- 7 49	11.1
Mon Nov 21/Tue Nov 22	4 24	16 16	17 53	5 01	6 38	22 16	9 25	4 58	.....	4	14 20.1	-13 40	11.1
Tue Nov 22/Wed Nov 23	4 28	16 15	17 53	5 02	6 39	22 20	9 30	6 15	15 23	1	15 13.9	-19 01	11.1
Wed Nov 23/Thu Nov 24	4 32	16 15	17 52	5 03	6 41	22 23	9 35	7 34	15 57	0	16 12.2	-23 25	11.2
Thu Nov 24/Fri Nov 25	4 36	16 14	17 52	5 04	6 42	22 27	9 40	.....	16 40	2	17 14.7	-26 27	11.2
Fri Nov 25/Sat Nov 26	4 40	16 14	17 52	5 05	6 43	22 30	9 45	.....	17 34	7	18 19.9	-27 43	11.2
Sat Nov 26/Sun Nov 27	4 44	16 13	17 51	5 06	6 44	22 34	9 50	.....	18 41	14	19 25.5	-27 06	11.2
Sun Nov 27/Mon Nov 28	4 48	16 13	17 51	5 07	6 45	22 38	9 55	.....	19 56	23	20 28.7	-24 39	11.3
Mon Nov 28/Tue Nov 29	4 51	16 12	17 51	5 07	6 46	22 41	10 00	.....	21 14	34	21 28.1	-20 43	11.3
Tue Nov 29/Wed Nov 30	4 55	16 12	17 50	5 08	6 47	22 45	10 05	.....	22 30	45	22 23.3	-15 41	11.3
Wed Nov 30/Thu Dec 01	4 59	16 11	17 50	5 09	6 48	22 49	10 10	.....	23 43	56	23 14.8	- 9 57	11.3

***** 2022 DECEMBER *****

Date (eve/morn)	LMST	Sun:				LST twilight:		Moon:					Twi-Twi
	midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Thu Dec 01/Fri Dec 02	5 03	16 11	17 50	5 10	6 49	22 52	10 14	.....	0 53	66	0 03.6	- 3 51	11.3
Fri Dec 02/Sat Dec 03	5 07	16 11	17 50	5 11	6 50	22 56	10 19	.....	2 01	76	0 51.0	2 17	11.4
Sat Dec 03/Sun Dec 04	5 11	16 11	17 50	5 12	6 51	23 00	10 24	.....	3 09	85	1 38.1	8 14	11.4
Sun Dec 04/Mon Dec 05	5 15	16 11	17 50	5 13	6 52	23 04	10 29	.....	4 16	91	2 25.9	13 45	11.4
Mon Dec 05/Tue Dec 06	5 19	16 10	17 50	5 14	6 53	23 08	10 34	.....	5 23	96	3 15.2	18 35	11.4
Tue Dec 06/Wed Dec 07	5 23	16 10	17 50	5 14	6 54	23 12	10 38	.....	6 29	99	4 06.5	22 31	11.4
Wed Dec 07/Thu Dec 08	5 27	16 10	17 50	5 15	6 55	23 16	10 43	15 39	7 32	100	4 59.6	25 20	11.4
Thu Dec 08/Fri Dec 09	5 31	16 10	17 50	5 16	6 56	23 20	10 48	16 21	8 30	99	5 54.0	26 54	11.4
Fri Dec 09/Sat Dec 10	5 35	16 10	17 50	5 17	6 57	23 24	10 53	17 09	.....	96	6 48.6	27 08	11.4
Sat Dec 10/Sun Dec 11	5 39	16 10	17 50	5 18	6 58	23 28	10 57	18 04	.....	91	7 42.3	26 03	11.5
Sun Dec 11/Mon Dec 12	5 43	16 10	17 50	5 18	6 59	23 32	11 02	19 04	.....	85	8 34.2	23 47	11.5
Mon Dec 12/Tue Dec 13	5 47	16 11	17 51	5 19	6 59	23 36	11 07	20 06	.....	78	9 23.7	20 28	11.5
Tue Dec 13/Wed Dec 14	5 51	16 11	17 51	5 20	7 00	23 41	11 11	21 09	.....	70	10 10.9	16 17	11.5
Wed Dec 14/Thu Dec 15	5 55	16 11	17 51	5 20	7 01	23 45	11 16	22 11	.....	61	10 56.4	11 27	11.5
Thu Dec 15/Fri Dec 16	5 59	16 11	17 52	5 21	7 01	23 49	11 20	23 14	.....	51	11 41.0	6 05	11.5
Fri Dec 16/Sat Dec 17	6 02	16 11	17 52	5 22	7 02	23 53	11 25	0 18	.....	41	12 25.5	0 22	11.5
Sat Dec 17/Sun Dec 18	6 06	16 12	17 52	5 22	7 03	23 58	11 30	1 24	.....	31	13 11.0	- 5 30	11.5
Sun Dec 18/Mon Dec 19	6 10	16 12	17 53	5 23	7 03	0 02	11 34	2 33	.....	22	13 59.0	-11 21	11.5
Mon Dec 19/Tue Dec 20	6 14	16 13	17 53	5 23	7 04	0 06	11 39	3 46	.....	13	14 50.4	-16 51	11.5
Tue Dec 20/Wed Dec 21	6 18	16 13	17 53	5 24	7 04	0 11	11 43	5 04	.....	7	15 46.4	-21 39	11.5
Wed Dec 21/Thu Dec 22	6 22	16 13	17 54	5 24	7 05	0 15	11 47	6 23	.....	2	16 47.4	-25 18	11.5
Thu Dec 22/Fri Dec 23	6 26	16 14	17 54	5 25	7 05	0 20	11 52	7 37	15 16	0	17 52.6	-27 21	11.5
Fri Dec 23/Sat Dec 24	6 30	16 15	17 55	5 25	7 06	0 24	11 56	8 41	16 18	1	18 59.7	-27 28	11.5
Sat Dec 24/Sun Dec 25	6 34	16 15	17 56	5 26	7 06	0 29	12 01	.....	17 32	5	20 06.0	-25 36	11.5
Sun Dec 25/Mon Dec 26	6 38	16 16	17 56	5 26	7 07	0 33	12 05	.....	18 53	11	21 08.8	-22 00	11.5
Mon Dec 26/Tue Dec 27	6 42	16 16	17 57	5 26	7 07	0 38	12 09	.....	20 13	20	22 07.0	-17 05	11.5
Tue Dec 27/Wed Dec 28	6 46	16 17	17 57	5 27	7 07	0 42	12 14	.....	21 30	29	23 00.9	-11 21	11.5
Wed Dec 28/Thu Dec 29	6 50	16 18	17 58	5 27	7 07	0 47	12 18	.....	22 44	40	23 51.2	- 5 13	11.5
Thu Dec 29/Fri Dec 30	6 54	16 19	17 59	5 27	7 08	0 52	12 22	.....	23 53	51	0 39.3	1 00	11.5
Fri Dec 30/Sat Dec 31	6 58	16 19	18 00	5 28	7 08	0 56	12 26	.....	1 01	61	1 26.5	7 01	11.5
Sat Dec 31/Sun Jan 01	7 02	16 20	18 00	5 28	7 08	1 01	12 30	.....	2 08	71	2 13.8	12 36	11.5