

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 CA iTel *****

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 hemispheres. Rise/set times are slightly inaccurate 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

[This output comes from a (hopefully) portable, completely self-contained program in the c language. It is available from the author and may be used freely for scientific or educational purposes. If you use it for profit, please contact the author to arrange a (modest!) fee. Source code is copyright John Thorstensen, 1990.]

MOON PHASES FOR 2022, at CA iTel

Times and dates are given in local time, zone = 8 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 03	23 45	Dec 10	17 38	Dec 18	20 38	Dec 26	18 26
Jan 02	10 36	Jan 09	10 13	Jan 17	15 51	Jan 25	5 43
Jan 31	21 49	Feb 08	5 52	Feb 16	9 00	Feb 23	14 35
Mar 02	9 38	Mar 10	2 46	Mar 18	0 21	Mar 24	22 39
Mar 31	23 28	Apr 08	23 48	Apr 16	11 58	Apr 23	4 58
Apr 30	13 31	May 08	17 22	May 15	21 16	May 22	11 45
May 30	4 32	Jun 07	7 49	Jun 14	4 53	Jun 20	20 12
Jun 28	19 53	Jul 06	19 15	Jul 13	11 38	Jul 20	7 19
Jul 28	10 55	Aug 05	4 08	Aug 11	18 36	Aug 18	21 37
Aug 27	1 17	Sep 03	11 09	Sep 10	2 59	Sep 17	14 52
Sep 25	14 54	Oct 02	17 15	Oct 09	13 55	Oct 17	10 16
Oct 25	3 48	Oct 31	23 39	Nov 08	3 03	Nov 16	5 29
Nov 23	14 57	Nov 30	6 39	Dec 07	20 10	Dec 16	0 59
Dec 23	2 18	Dec 29	17 23	Jan 06	15 10	Jan 14	18 13

Calendar for CA iTel, west longitude (h.m.s) = 7 57 36, latitude (d.m) = 37 04.2
 Rise/set times in Pacific time (8 hr W), for 1405 m above surroundings, 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 midn	Sun: -----			LST twilight:		Moon: -----				RA Dec		Twi-Twi hours
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum			
Sat Jan 01/Sun Jan 02	6 50	16 58	18 25	5 38	7 04	1 14	12 29	7 16	15 53	0	18 25.7	-26 26	11.2
Sun Jan 02/Mon Jan 03	6 54	16 59	18 25	5 39	7 05	1 19	12 34	8 17	16 59	1	19 32.0	-25 55	11.2
Mon Jan 03/Tue Jan 04	6 58	17 00	18 26	5 39	7 05	1 23	12 38	.....	18 12	4	20 36.0	-23 37	11.2
Tue Jan 04/Wed Jan 05	7 02	17 01	18 27	5 39	7 05	1 28	12 42	.....	19 26	9	21 35.7	-19 51	11.2
Wed Jan 05/Thu Jan 06	7 06	17 02	18 28	5 39	7 05	1 33	12 46	.....	20 38	17	22 30.7	-15 04	11.2
Thu Jan 06/Fri Jan 07	7 10	17 03	18 28	5 39	7 05	1 37	12 50	.....	21 46	25	23 21.6	- 9 42	11.2
Fri Jan 07/Sat Jan 08	7 14	17 04	18 29	5 39	7 05	1 42	12 54	.....	22 50	35	0 09.3	- 4 04	11.2
Sat Jan 08/Sun Jan 09	7 18	17 04	18 30	5 39	7 05	1 47	12 58	.....	23 52	45	0 55.0	1 35	11.2
Sun Jan 09/Mon Jan 10	7 22	17 05	18 31	5 39	7 04	1 52	13 02	.....	0 52	55	1 39.8	7 01	11.1
Mon Jan 10/Tue Jan 11	7 26	17 06	18 32	5 39	7 04	1 56	13 06	.....	1 51	64	2 24.8	12 04	11.1
Tue Jan 11/Wed Jan 12	7 30	17 07	18 33	5 39	7 04	2 01	13 09	.....	2 50	73	3 10.9	16 36	11.1
Wed Jan 12/Thu Jan 13	7 34	17 08	18 33	5 39	7 04	2 06	13 13	.....	3 50	81	3 58.7	20 26	11.1
Thu Jan 13/Fri Jan 14	7 37	17 09	18 34	5 39	7 04	2 11	13 17	.....	4 48	88	4 48.6	23 25	11.1
Fri Jan 14/Sat Jan 15	7 41	17 10	18 35	5 39	7 03	2 16	13 21	.....	5 45	93	5 40.5	25 21	11.1
Sat Jan 15/Sun Jan 16	7 45	17 11	18 36	5 38	7 03	2 21	13 25	.....	6 38	97	6 34.0	26 07	11.0
Sun Jan 16/Mon Jan 17	7 49	17 12	18 37	5 38	7 03	2 25	13 28	15 49	7 25	99	7 28.2	25 37	11.0
Mon Jan 17/Tue Jan 18	7 53	17 13	18 38	5 38	7 02	2 30	13 32	16 45	8 07	100	8 21.9	23 52	11.0
Tue Jan 18/Wed Jan 19	7 57	17 14	18 39	5 38	7 02	2 35	13 36	17 46	.....	98	9 14.3	20 55	11.0
Wed Jan 19/Thu Jan 20	8 01	17 15	18 40	5 37	7 01	2 40	13 39	18 49	.....	94	10 05.0	16 58	11.0
Thu Jan 20/Fri Jan 21	8 05	17 16	18 41	5 37	7 01	2 45	13 43	19 52	.....	89	10 54.0	12 11	10.9
Fri Jan 21/Sat Jan 22	8 09	17 17	18 41	5 37	7 00	2 50	13 46	20 55	.....	81	11 41.9	6 48	10.9
Sat Jan 22/Sun Jan 23	8 13	17 18	18 42	5 36	7 00	2 54	13 50	21 58	.....	73	12 29.3	1 02	10.9
Sun Jan 23/Mon Jan 24	8 17	17 20	18 43	5 36	6 59	2 59	13 53	23 02	.....	63	13 17.2	- 4 53	10.9
Mon Jan 24/Tue Jan 25	8 21	17 21	18 44	5 35	6 59	3 04	13 57	0 09	.....	52	14 06.9	-10 42	10.8
Tue Jan 25/Wed Jan 26	8 25	17 22	18 45	5 35	6 58	3 09	14 00	1 18	.....	41	14 59.3	-16 06	10.8
Wed Jan 26/Thu Jan 27	8 29	17 23	18 46	5 34	6 57	3 14	14 04	2 30	.....	30	15 55.4	-20 45	10.8
Thu Jan 27/Fri Jan 28	8 33	17 24	18 47	5 34	6 57	3 19	14 07	3 43	.....	20	16 55.6	-24 15	10.8
Fri Jan 28/Sat Jan 29	8 37	17 25	18 48	5 33	6 56	3 24	14 11	4 54	.....	12	17 59.2	-26 15	10.8
Sat Jan 29/Sun Jan 30	8 41	17 26	18 49	5 32	6 55	3 29	14 14	5 58	.....	5	19 04.4	-26 27	10.7
Sun Jan 30/Mon Jan 31	8 45	17 27	18 50	5 32	6 54	3 34	14 17	6 53	.....	1	20 08.8	-24 51	10.7
Mon Jan 31/Tue Feb 01	8 48	17 28	18 51	5 31	6 54	3 38	14 20	7 38	16 59	0	21 10.3	-21 37	10.7

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

Date (eve/morn)	LMST midn	Sun: -----			LST twilight:		Moon: -----				RA Dec		Twi-Twi hours
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum			
Tue Feb 01/Wed Feb 02	8 52	17 29	18 52	5 30	6 53	3 43	14 24	.....	18 13	2	22 07.7	-17 09	10.6
Wed Feb 02/Thu Feb 03	8 56	17 30	18 53	5 30	6 52	3 48	14 27	.....	19 24	6	23 01.0	-11 51	10.6
Thu Feb 03/Fri Feb 04	9 00	17 31	18 54	5 29	6 51	3 53	14 30	.....	20 32	12	23 50.7	- 6 08	10.6
Fri Feb 04/Sat Feb 05	9 04	17 32	18 55	5 28	6 50	3 58	14 33	.....	21 36	19	0 38.1	- 0 19	10.6
Sat Feb 05/Sun Feb 06	9 08	17 33	18 56	5 27	6 49	4 03	14 36	.....	22 39	28	1 24.0	5 20	10.5
Sun Feb 06/Mon Feb 07	9 12	17 35	18 57	5 26	6 48	4 08	14 39	.....	23 40	37	2 09.6	10 38	10.5
Mon Feb 07/Tue Feb 08	9 16	17 36	18 57	5 26	6 47	4 13	14 43	.....	0 40	47	2 55.7	15 24	10.5
Tue Feb 08/Wed Feb 09	9 20	17 37	18 58	5 25	6 46	4 18	14 46	.....	1 40	56	3 43.1	19 29	10.4
Wed Feb 09/Thu Feb 10	9 24	17 38	18 59	5 24	6 45	4 22	14 49	.....	2 40	66	4 32.4	22 43	10.4
Thu Feb 10/Fri Feb 11	9 28	17 39	19 00	5 23	6 44	4 27	14 52	.....	3 37	74	5 23.6	24 58	10.4
Fri Feb 11/Sat Feb 12	9 32	17 40	19 01	5 22	6 43	4 32	14 55	.....	4 31	82	6 16.5	26 05	10.3
Sat Feb 12/Sun Feb 13	9 36	17 41	19 02	5 21	6 42	4 37	14 58	.....	5 21	89	7 10.3	25 57	10.3
Sun Feb 13/Mon Feb 14	9 40	17 42	19 03	5 20	6 41	4 42	15 01	.....	6 04	94	8 04.3	24 33	10.3
Mon Feb 14/Tue Feb 15	9 44	17 43	19 04	5 19	6 40	4 47	15 03	.....	6 42	98	8 57.5	21 55	10.2
Tue Feb 15/Wed Feb 16	9 48	17 44	19 05	5 18	6 39	4 52	15 06	16 38	7 16	100	9 49.2	18 10	10.2
Wed Feb 16/Thu Feb 17	9 52	17 45	19 06	5 17	6 38	4 57	15 09	17 42	7 45	99	10 39.5	13 29	10.2
Thu Feb 17/Fri Feb 18	9 55	17 46	19 07	5 16	6 36	5 02	15 12	18 47	.....	97	11 28.4	8 06	10.1
Fri Feb 18/Sat Feb 19	9 59	17 47	19 08	5 15	6 35	5 07	15 15	19 51	.....	92	12 16.6	2 16	10.1
Sat Feb 19/Sun Feb 20	10 03	17 48	19 09	5 13	6 34	5 11	15 18	20 56	.....	85	13 05.1	- 3 46	10.1
Sun Feb 20/Mon Feb 21	10 07	17 49	19 10	5 12	6 33	5 16	15 20	22 02	.....	77	13 54.7	- 9 43	10.0
Mon Feb 21/Tue Feb 22	10 11	17 50	19 11	5 11	6 31	5 21	15 23	23 10	.....	67	14 46.5	-15 16	10.0
Tue Feb 22/Wed Feb 23	10 15	17 51	19 12	5 10	6 30	5 26	15 26	0 20	.....	56	15 41.3	-20 06	10.0
Wed Feb 23/Thu Feb 24	10 19	17 52	19 13	5 09	6 29	5 31	15 29	1 31	.....	45	16 39.6	-23 51	9.9
Thu Feb 24/Fri Feb 25	10 23	17 53	19 14	5 07	6 28	5 36	15 31	2 41	.....	34	17 41.0	-26 12	9.9
Fri Feb 25/Sat Feb 26	10 27	17 54	19 15	5 06	6 26	5 41	15 34	3 46	.....	23	18 44.4	-26 53	9.9
Sat Feb 26/Sun Feb 27	10 31	17 55	19 15	5 05	6 25	5 46	15 37	4 43	.....	15	19 47.6	-25 50	9.8
Sun Feb 27/Mon Feb 28	10 35	17 56	19 16	5 03	6 24	5 51	15 39	5 30	.....	7	20 48.7	-23 08	9.8
Mon Feb 28/Tue Mar 01	10 39	17 57	19 17	5 02	6 22	5 55	15 42	6 10	3	21 46.5	-19 06	9.7

Calendar for CA iTel, west longitude (h.m.s) = 7 57 36, latitude (d.m) = 37 04.2
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 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

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

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi hours	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Tue Mar 01/Wed Mar 02	10 43	17 58	19 18	5 01	6 21	6 00	15 44	6 43	17 01	0	22 40.6	-14 04	9.7
Wed Mar 02/Thu Mar 03	10 47	17 59	19 19	4 59	6 20	6 05	15 47	7 12	18 11	1	23 31.4	- 8 26	9.7
Thu Mar 03/Fri Mar 04	10 51	18 00	19 20	4 58	6 18	6 10	15 50	7 39	19 17	3	0 19.7	- 2 33	9.6
Fri Mar 04/Sat Mar 05	10 55	18 01	19 21	4 57	6 17	6 15	15 52	.....	20 22	8	1 06.5	3 17	9.6
Sat Mar 05/Sun Mar 06	10 59	18 02	19 22	4 55	6 15	6 20	15 55	.....	21 24	14	1 52.6	8 50	9.6
Sun Mar 06/Mon Mar 07	11 02	18 03	19 23	4 54	6 14	6 25	15 57	.....	22 26	21	2 39.0	13 54	9.5
Mon Mar 07/Tue Mar 08	11 06	18 04	19 24	4 52	6 13	6 30	16 00	.....	23 28	30	3 26.4	18 18	9.5
Tue Mar 08/Wed Mar 09	11 10	18 05	19 25	4 51	6 11	6 35	16 02	.....	0 28	39	4 15.3	21 52	9.4
Wed Mar 09/Thu Mar 10	11 14	18 06	19 26	4 49	6 10	6 39	16 05	.....	1 27	48	5 06.0	24 28	9.4
Thu Mar 10/Fri Mar 11	11 18	18 07	19 27	4 48	6 08	6 44	16 07	.....	2 23	58	5 58.2	25 58	9.4
Fri Mar 11/Sat Mar 12	11 22	18 07	19 28	4 46	6 07	6 49	16 09	.....	3 14	67	6 51.4	26 15	9.3
Sat Mar 12/Sun Mar 13*	11 26	18 08	19 29	5 45	7 05	6 54	16 12	.....	5 00	76	7 45.0	25 16	9.3
Sun Mar 13/Mon Mar 14	10 30	19 09	20 30	5 43	7 04	6 59	16 14	.....	5 40	83	8 36.6	23 12	9.2
Mon Mar 14/Tue Mar 15	10 34	19 10	20 31	5 42	7 02	7 04	16 17	.....	6 15	90	9 28.8	19 50	9.2
Tue Mar 15/Wed Mar 16	10 38	19 11	20 32	5 40	7 01	7 09	16 19	.....	6 45	95	10 19.7	15 27	9.1
Wed Mar 16/Thu Mar 17	10 42	19 12	20 33	5 39	6 59	7 14	16 21	17 32	7 14	99	11 09.5	10 12	9.1
Thu Mar 17/Fri Mar 18	10 46	19 13	20 34	5 37	6 58	7 19	16 24	18 38	.....	100	11 58.6	4 22	9.1
Fri Mar 18/Sat Mar 19	10 50	19 14	20 35	5 36	6 56	7 24	16 26	19 44	.....	99	12 47.8	- 1 49	9.0
Sat Mar 19/Sun Mar 20	10 54	19 15	20 36	5 34	6 55	7 29	16 29	20 51	.....	95	13 38.1	- 8 01	9.0
Sun Mar 20/Mon Mar 21	10 58	19 16	20 37	5 32	6 53	7 34	16 31	22 00	.....	89	14 30.4	-13 55	8.9
Mon Mar 21/Tue Mar 22	11 01	19 17	20 38	5 31	6 52	7 39	16 33	23 11	.....	81	15 25.4	-19 07	8.9
Tue Mar 22/Wed Mar 23	11 05	19 17	20 39	5 29	6 50	7 44	16 36	0 23	.....	71	16 23.5	-23 16	8.8
Wed Mar 23/Thu Mar 24	11 09	19 18	20 40	5 28	6 49	7 49	16 38	1 34	.....	60	17 24.6	-26 02	8.8
Thu Mar 24/Fri Mar 25	11 13	19 19	20 41	5 26	6 47	7 53	16 40	2 41	.....	49	18 27.4	-27 10	8.8
Fri Mar 25/Sat Mar 26	11 17	19 20	20 42	5 24	6 46	7 58	16 43	3 39	.....	38	19 30.0	-26 34	8.7
Sat Mar 26/Sun Mar 27	11 21	19 21	20 43	5 23	6 44	8 03	16 45	4 28	.....	27	20 30.7	-24 21	8.7
Sun Mar 27/Mon Mar 28	11 25	19 22	20 44	5 21	6 43	8 08	16 47	5 09	.....	18	21 28.3	-20 44	8.6
Mon Mar 28/Tue Mar 29	11 29	19 23	20 45	5 19	6 42	8 13	16 49	5 43	.....	10	22 22.2	-16 04	8.6
Tue Mar 29/Wed Mar 30	11 33	19 24	20 46	5 18	6 40	8 18	16 52	6 13	16 55	5	23 13.0	-10 41	8.5
Wed Mar 30/Thu Mar 31	11 37	19 25	20 47	5 16	6 39	8 23	16 54	6 40	18 01	1	0 01.3	- 4 54	8.5
Thu Mar 31/Fri Apr 01	11 41	19 25	20 48	5 15	6 37	8 28	16 56	7 05	19 06	0	0 48.0	0 58	8.4

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

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi hours	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Fri Apr 01/Sat Apr 02	11 45	19 26	20 49	5 13	6 36	8 33	16 59	.....	20 09	1	1 34.1	6 41	8.4
Sat Apr 02/Sun Apr 03	11 49	19 27	20 50	5 11	6 34	8 38	17 01	.....	21 11	4	2 20.3	12 01	8.3
Sun Apr 03/Mon Apr 04	11 53	19 28	20 51	5 10	6 33	8 44	17 03	.....	22 14	9	3 07.5	16 45	8.3
Mon Apr 04/Tue Apr 05	11 57	19 29	20 52	5 08	6 31	8 49	17 05	.....	23 15	15	3 56.1	20 43	8.3
Tue Apr 05/Wed Apr 06	12 01	19 30	20 54	5 06	6 30	8 54	17 08	.....	0 16	23	4 46.4	23 44	8.2
Wed Apr 06/Thu Apr 07	12 05	19 31	20 55	5 04	6 28	8 59	17 10	.....	1 14	31	5 38.2	25 41	8.2
Thu Apr 07/Fri Apr 08	12 08	19 32	20 56	5 03	6 27	9 04	17 12	.....	2 07	40	6 31.0	26 26	8.1
Fri Apr 08/Sat Apr 09	12 12	19 33	20 57	5 01	6 25	9 09	17 14	.....	2 55	50	7 24.2	25 56	8.1
Sat Apr 09/Sun Apr 10	12 16	19 33	20 58	4 59	6 24	9 14	17 17	.....	3 36	59	8 17.0	24 12	8.0
Sun Apr 10/Mon Apr 11	12 20	19 34	20 59	4 58	6 23	9 19	17 19	.....	4 13	69	9 08.8	21 17	8.0
Mon Apr 11/Tue Apr 12	12 24	19 35	21 00	4 56	6 21	9 24	17 21	.....	4 45	78	9 59.4	17 18	7.9
Tue Apr 12/Wed Apr 13	12 28	19 36	21 01	4 54	6 20	9 29	17 23	.....	5 13	86	10 49.0	12 24	7.9
Wed Apr 13/Thu Apr 14	12 32	19 37	21 03	4 53	6 18	9 34	17 26	.....	5 40	92	11 38.1	6 45	7.8
Thu Apr 14/Fri Apr 15	12 36	19 38	21 04	4 51	6 17	9 39	17 28	17 25	6 07	97	12 27.4	0 37	7.8
Fri Apr 15/Sat Apr 16	12 40	19 39	21 05	4 49	6 16	9 45	17 30	18 32	6 35	100	13 17.8	- 5 45	7.7
Sat Apr 16/Sun Apr 17	12 44	19 40	21 06	4 48	6 14	9 50	17 33	19 42	.....	100	14 10.3	-11 59	7.7
Sun Apr 17/Mon Apr 18	12 48	19 41	21 07	4 46	6 13	9 55	17 35	20 55	.....	97	15 05.9	-17 41	7.6
Mon Apr 18/Tue Apr 19	12 52	19 42	21 09	4 45	6 12	10 00	17 37	22 09	.....	91	16 05.1	-22 25	7.6
Tue Apr 19/Wed Apr 20	12 56	19 42	21 10	4 43	6 10	10 05	17 40	23 23	.....	83	17 07.5	-25 44	7.6
Wed Apr 20/Thu Apr 21	13 00	19 43	21 11	4 41	6 09	10 10	17 42	0 33	.....	74	18 11.9	-27 22	7.5
Thu Apr 21/Fri Apr 22	13 04	19 44	21 12	4 40	6 08	10 15	17 44	1 36	.....	63	19 16.3	-27 10	7.5
Fri Apr 22/Sat Apr 23	13 08	19 45	21 13	4 38	6 06	10 21	17 46	2 28	.....	52	20 18.4	-25 15	7.4
Sat Apr 23/Sun Apr 24	13 12	19 46	21 15	4 36	6 05	10 26	17 49	3 11	.....	41	21 16.8	-21 52	7.4
Sun Apr 24/Mon Apr 25	13 16	19 47	21 16	4 35	6 04	10 31	17 51	3 46	.....	30	22 11.2	-17 25	7.3
Mon Apr 25/Tue Apr 26	13 19	19 48	21 17	4 33	6 03	10 36	17 54	4 16	.....	21	23 02.0	-12 12	7.3
Tue Apr 26/Wed Apr 27	13 23	19 49	21 18	4 32	6 01	10 41	17 56	4 43	.....	13	23 49.9	- 6 33	7.2
Wed Apr 27/Thu Apr 28	13 27	19 50	21 20	4 30	6 00	10 47	17 58	5 08	.....	7	0 36.1	- 0 45	7.2
Thu Apr 28/Fri Apr 29	13 31	19 51	21 21	4 29	5 59	10 52	18 01	5 33	17 58	3	1 21.5	4 58	7.1
Fri Apr 29/Sat Apr 30	13 35	19 52	21 22	4 27	5 58	10 57	18 03	5 59	19 00	0	2 07.0	10 23	7.1
Sat Apr 30/Sun May 01	13 39	19 52	21 23	4 26	5 57	11 02	18 05	6 27	20 02	0	2 53.5	15 18	7.0

Calendar for CA iTel, west longitude (h.m.s) = 7 57 36, latitude (d.m) = 37 04.2
Rise/set times in Pacific time (8 hr W), for 1405 m above surroundings, DAYLIGHT time used, * shows clock reset.
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***** 2022 MAY *****

Date (eve/morn)	LMST midn	----- Sun: -----			LST twilight:		----- Moon: -----				Twi-Twi hours		
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Sun May 01/Mon May 02	13 43	19 53	21 25	4 24	5 55	11 07	18 08	.....	21 03	2	3 41.4	19 31	7.0
Mon May 02/Tue May 03	13 47	19 54	21 26	4 23	5 54	11 13	18 10	.....	22 05	5	4 31.0	22 51	6.9
Tue May 03/Wed May 04	13 51	19 55	21 27	4 21	5 53	11 18	18 13	.....	23 04	10	5 22.2	25 08	6.9
Wed May 04/Thu May 05	13 55	19 56	21 29	4 20	5 52	11 23	18 15	.....	24 00	17	6 14.6	26 16	6.9
Thu May 05/Fri May 06	13 59	19 57	21 30	4 18	5 51	11 28	18 18	.....	0 49	25	7 07.3	26 10	6.8
Fri May 06/Sat May 07	14 03	19 58	21 31	4 17	5 50	11 34	18 20	.....	1 33	33	7 59.7	24 51	6.8
Sat May 07/Sun May 08	14 07	19 59	21 32	4 15	5 49	11 39	18 23	.....	2 11	42	8 51.0	22 22	6.7
Sun May 08/Mon May 09	14 11	20 00	21 34	4 14	5 48	11 44	18 25	.....	2 44	52	9 41.0	18 49	6.7
Mon May 09/Tue May 10	14 15	20 01	21 35	4 13	5 47	11 49	18 28	.....	3 13	62	10 29.8	14 20	6.6
Tue May 10/Wed May 11	14 19	20 01	21 36	4 11	5 46	11 55	18 31	.....	3 40	72	11 17.8	9 04	6.6
Wed May 11/Thu May 12	14 23	20 02	21 38	4 10	5 45	12 00	18 33	.....	4 06	81	12 05.8	3 12	6.5
Thu May 12/Fri May 13	14 26	20 03	21 39	4 09	5 44	12 05	18 36	.....	4 33	89	12 54.9	- 3 02	6.5
Fri May 13/Sat May 14	14 30	20 04	21 40	4 07	5 44	12 10	18 39	.....	5 01	95	13 46.2	- 9 22	6.5
Sat May 14/Sun May 15	14 34	20 05	21 41	4 06	5 43	12 15	18 41	18 30	5 34	99	14 40.7	-15 25	6.4
Sun May 15/Mon May 16	14 38	20 06	21 43	4 05	5 42	12 21	18 44	19 45	6 13	100	15 39.4	-20 44	6.4
Mon May 16/Tue May 17	14 42	20 07	21 44	4 04	5 41	12 26	18 47	21 02	.....	98	16 42.4	-24 48	6.3
Tue May 17/Wed May 18	14 46	20 08	21 45	4 03	5 40	12 31	18 50	22 17	.....	93	17 48.6	-27 11	6.3
Wed May 18/Thu May 19	14 50	20 08	21 46	4 02	5 40	12 36	18 52	23 25	.....	86	18 55.9	-27 37	6.3
Thu May 19/Fri May 20	14 54	20 09	21 48	4 00	5 39	12 41	18 55	0 23	.....	77	20 01.3	-26 09	6.2
Fri May 20/Sat May 21	14 58	20 10	21 49	3 59	5 38	12 46	18 58	1 10	.....	66	21 02.7	-23 01	6.2
Sat May 21/Sun May 22	15 02	20 11	21 50	3 58	5 37	12 52	19 01	1 49	.....	55	21 59.4	-18 41	6.1
Sun May 22/Mon May 23	15 06	20 12	21 51	3 57	5 37	12 57	19 04	2 20	.....	44	22 51.7	-13 31	6.1
Mon May 23/Tue May 24	15 10	20 12	21 52	3 56	5 36	13 02	19 07	2 48	.....	34	23 40.4	- 7 54	6.1
Tue May 24/Wed May 25	15 14	20 13	21 53	3 55	5 36	13 07	19 10	3 13	.....	24	0 26.7	- 2 07	6.0
Wed May 25/Thu May 26	15 18	20 14	21 55	3 54	5 35	13 12	19 13	3 38	.....	16	1 11.9	3 36	6.0
Thu May 26/Fri May 27	15 22	20 15	21 56	3 54	5 35	13 17	19 16	4 03	.....	9	1 56.8	9 03	6.0
Fri May 27/Sat May 28	15 26	20 15	21 57	3 53	5 34	13 22	19 19	4 30	17 53	4	2 42.5	14 03	5.9
Sat May 28/Sun May 29	15 30	20 16	21 58	3 52	5 34	13 27	19 22	4 59	18 55	1	3 29.6	18 25	5.9
Sun May 29/Mon May 30	15 34	20 17	21 59	3 51	5 33	13 32	19 25	5 33	19 56	0	4 18.3	21 57	5.9
Mon May 30/Tue May 31	15 37	20 18	22 00	3 50	5 33	13 37	19 29	6 13	20 56	1	5 08.9	24 31	5.8
Tue May 31/Wed Jun 01	15 41	20 18	22 01	3 50	5 32	13 42	19 32	.....	21 53	3	6 00.8	25 56	5.8

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

Date (eve/morn)	LMST midn	----- Sun: -----			LST twilight:		----- Moon: -----				Twi-Twi hours		
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Wed Jun 01/Thu Jun 02	15 45	20 19	22 02	3 49	5 32	13 47	19 35	.....	22 45	7	6 53.3	26 10	5.8
Thu Jun 02/Fri Jun 03	15 49	20 20	22 03	3 49	5 32	13 52	19 38	.....	23 31	12	7 45.5	25 10	5.8
Fri Jun 03/Sat Jun 04	15 53	20 20	22 04	3 48	5 31	13 57	19 42	.....	0 10	19	8 36.6	23 01	5.7
Sat Jun 04/Sun Jun 05	15 57	20 21	22 05	3 47	5 31	14 01	19 45	.....	0 44	27	9 26.1	19 49	5.7
Sun Jun 05/Mon Jun 06	16 01	20 21	22 05	3 47	5 31	14 06	19 49	.....	1 14	36	10 14.2	15 41	5.7
Mon Jun 06/Tue Jun 07	16 05	20 22	22 06	3 47	5 31	14 11	19 52	.....	1 41	46	11 01.1	10 48	5.7
Tue Jun 07/Wed Jun 08	16 09	20 23	22 07	3 46	5 31	14 16	19 56	.....	2 07	57	11 47.6	5 17	5.7
Wed Jun 08/Thu Jun 09	16 13	20 23	22 08	3 46	5 30	14 20	19 59	.....	2 32	67	12 34.7	- 0 39	5.6
Thu Jun 09/Fri Jun 10	16 17	20 24	22 08	3 45	5 30	14 25	20 03	.....	2 59	77	13 23.5	- 6 48	5.6
Fri Jun 10/Sat Jun 11	16 21	20 24	22 09	3 45	5 30	14 30	20 07	.....	3 29	86	14 15.3	-12 53	5.6
Sat Jun 11/Sun Jun 12	16 25	20 25	22 10	3 45	5 30	14 34	20 10	.....	4 04	93	15 11.3	-18 31	5.6
Sun Jun 12/Mon Jun 13	16 29	20 25	22 10	3 45	5 30	14 39	20 14	18 34	4 46	98	16 12.2	-23 13	5.6
Mon Jun 13/Tue Jun 14	16 33	20 25	22 11	3 45	5 30	14 43	20 18	19 51	5 39	100	17 17.9	-26 26	5.6
Tue Jun 14/Wed Jun 15	16 37	20 26	22 11	3 45	5 30	14 48	20 22	21 04	.....	99	18 26.6	-27 46	5.6
Wed Jun 15/Thu Jun 16	16 41	20 26	22 12	3 45	5 30	14 52	20 26	22 09	.....	95	19 35.3	-27 02	5.5
Thu Jun 16/Fri Jun 17	16 44	20 27	22 12	3 45	5 30	14 56	20 30	23 03	.....	88	20 40.9	-24 23	5.5
Fri Jun 17/Sat Jun 18	16 48	20 27	22 13	3 45	5 31	15 01	20 34	23 46	.....	79	21 41.6	-20 14	5.5
Sat Jun 18/Sun Jun 19	16 52	20 27	22 13	3 45	5 31	15 05	20 38	0 21	.....	69	22 37.1	-15 05	5.5
Sun Jun 19/Mon Jun 20	16 56	20 27	22 13	3 45	5 31	15 09	20 42	0 51	.....	59	23 28.2	- 9 23	5.5
Mon Jun 20/Tue Jun 21	17 00	20 28	22 14	3 45	5 31	15 14	20 46	1 18	.....	48	0 16.1	- 3 28	5.5
Tue Jun 21/Wed Jun 22	17 04	20 28	22 14	3 45	5 31	15 18	20 50	1 43	.....	38	1 02.1	2 22	5.5
Wed Jun 22/Thu Jun 23	17 08	20 28	22 14	3 46	5 32	15 22	20 54	2 07	.....	28	1 47.3	7 56	5.5
Thu Jun 23/Fri Jun 24	17 12	20 28	22 14	3 46	5 32	15 26	20 59	2 33	.....	20	2 32.8	13 02	5.5
Fri Jun 24/Sat Jun 25	17 16	20 28	22 14	3 46	5 32	15 30	21 03	3 02	.....	13	3 19.4	17 31	5.5
Sat Jun 25/Sun Jun 26	17 20	20 28	22 14	3 47	5 33	15 34	21 07	3 34	17 49	7	4 07.6	21 13	5.5
Sun Jun 26/Mon Jun 27	17 24	20 28	22 14	3 47	5 33	15 38	21 12	4 12	18 49	3	4 57.5	23 58	5.6
Mon Jun 27/Tue Jun 28	17 28	20 29	22 14	3 48	5 33	15 42	21 16	4 56	19 47	1	5 49.0	25 38	5.6
Tue Jun 28/Wed Jun 29	17 32	20 29	22 14	3 48	5 34	15 45	21 21	5 45	20 41	0	6 41.2	26 06	5.6
Wed Jun 29/Thu Jun 30	17 36	20 29	22 14	3 49	5 34	15 49	21 25	.....	21 29	1	7 33.4	25 22	5.6
Thu Jun 30/Fri Jul 01	17 40	20 28	22 14	3 50	5 35	15 53	21 30	.....	22 10	4	8 24.6	23 28	5.6

Calendar for CA iTel, west longitude (h.m.s) = 7 57 36, latitude (d.m) = 37 04.2
 Rise/set times in Pacific time (8 hr W), for 1405 m above surroundings, 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 midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi hours	
			set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Fri Jul 01/Sat Jul 02		17 44	20 28	22 13	3 50	5 35	15 57	21 34	.....	22 46	9	9 14.3	20 29	5.6
Sat Jul 02/Sun Jul 03		17 48	20 28	22 13	3 51	5 36	16 00	21 39	.....	23 17	15	10 02.2	16 36	5.6
Sun Jul 03/Mon Jul 04		17 52	20 28	22 13	3 52	5 36	16 04	21 44	.....	23 44	23	10 48.6	11 56	5.6
Mon Jul 04/Tue Jul 05		17 55	20 28	22 12	3 52	5 37	16 07	21 48	.....	0 10	31	11 34.2	6 42	5.7
Tue Jul 05/Wed Jul 06		17 59	20 28	22 12	3 53	5 37	16 11	21 53	.....	0 34	41	12 19.7	1 01	5.7
Wed Jul 06/Thu Jul 07		18 03	20 28	22 11	3 54	5 38	16 14	21 58	.....	0 59	52	13 06.3	- 4 54	5.7
Thu Jul 07/Fri Jul 08		18 07	20 27	22 11	3 55	5 38	16 18	22 03	.....	1 27	62	13 55.1	-10 49	5.7
Fri Jul 08/Sat Jul 09		18 11	20 27	22 10	3 56	5 39	16 21	22 08	.....	1 58	73	14 47.5	-16 28	5.8
Sat Jul 09/Sun Jul 10		18 15	20 27	22 10	3 57	5 40	16 24	22 12	.....	2 35	83	15 44.6	-21 26	5.8
Sun Jul 10/Mon Jul 11		18 19	20 26	22 09	3 58	5 40	16 28	22 17	.....	3 22	91	16 47.0	-25 17	5.8
Mon Jul 11/Tue Jul 12		18 23	20 26	22 08	3 58	5 41	16 31	22 22	18 39	4 19	96	17 53.9	-27 28	5.8
Tue Jul 12/Wed Jul 13		18 27	20 25	22 07	3 59	5 42	16 34	22 27	19 48	5 28	99	19 03.1	-27 40	5.9
Wed Jul 13/Thu Jul 14		18 31	20 25	22 07	4 00	5 42	16 37	22 32	20 48	.....	99	20 11.4	-25 48	5.9
Thu Jul 14/Fri Jul 15		18 35	20 25	22 06	4 02	5 43	16 40	22 37	21 37	.....	96	21 15.9	-22 08	5.9
Fri Jul 15/Sat Jul 16		18 39	20 24	22 05	4 03	5 44	16 44	22 42	22 17	.....	90	22 15.3	-17 08	6.0
Sat Jul 16/Sun Jul 17		18 43	20 23	22 04	4 04	5 44	16 47	22 47	22 50	.....	82	23 09.9	-11 22	6.0
Sun Jul 17/Mon Jul 18		18 47	20 23	22 03	4 05	5 45	16 50	22 52	23 19	.....	73	0 00.5	- 5 15	6.0
Mon Jul 18/Tue Jul 19		18 51	20 22	22 02	4 06	5 46	16 53	22 57	23 45	.....	63	0 48.6	0 50	6.1
Tue Jul 19/Wed Jul 20		18 55	20 22	22 01	4 07	5 47	16 56	23 02	0 10	.....	53	1 35.2	6 39	6.1
Wed Jul 20/Thu Jul 21		18 59	20 21	22 00	4 08	5 47	16 58	23 07	0 36	.....	43	2 21.5	12 00	6.1
Thu Jul 21/Fri Jul 22		19 02	20 20	21 59	4 09	5 48	17 01	23 12	1 04	.....	33	3 08.4	16 42	6.2
Fri Jul 22/Sat Jul 23		19 06	20 20	21 58	4 10	5 49	17 04	23 18	1 35	.....	24	3 56.5	20 36	6.2
Sat Jul 23/Sun Jul 24		19 10	20 19	21 57	4 12	5 50	17 07	23 23	2 11	.....	17	4 46.3	23 33	6.2
Sun Jul 24/Mon Jul 25		19 14	20 18	21 56	4 13	5 50	17 10	23 28	2 53	17 42	10	5 37.5	25 26	6.3
Mon Jul 25/Tue Jul 26		19 18	20 17	21 55	4 14	5 51	17 13	23 33	3 41	18 37	5	6 29.6	26 09	6.3
Tue Jul 26/Wed Jul 27		19 22	20 17	21 53	4 15	5 52	17 15	23 38	4 35	19 26	2	7 21.9	25 38	6.4
Wed Jul 27/Thu Jul 28		19 26	20 16	21 52	4 16	5 53	17 18	23 43	5 33	20 10	0	8 13.4	23 57	6.4
Thu Jul 28/Fri Jul 29		19 30	20 15	21 51	4 18	5 54	17 21	23 48	.....	20 47	0	9 03.4	21 09	6.4
Fri Jul 29/Sat Jul 30		19 34	20 14	21 50	4 19	5 55	17 23	23 54	.....	21 20	2	9 51.7	17 24	6.5
Sat Jul 30/Sun Jul 31		19 38	20 13	21 48	4 20	5 55	17 26	23 59	.....	21 48	6	10 38.4	12 53	6.5
Sun Jul 31/Mon Aug 01		19 42	20 12	21 47	4 21	5 56	17 29	0 04	.....	22 14	12	11 23.8	7 45	6.6

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

Date (eve/morn)		LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi hours	
			set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Mon Aug 01/Tue Aug 02		19 46	20 11	21 46	4 22	5 57	17 31	0 09	.....	22 38	19	12 08.8	2 11	6.6
Tue Aug 02/Wed Aug 03		19 50	20 10	21 44	4 24	5 58	17 34	0 14	.....	23 03	27	12 54.2	- 3 36	6.7
Wed Aug 03/Thu Aug 04		19 54	20 09	21 43	4 25	5 59	17 36	0 19	.....	23 28	37	13 41.2	- 9 24	6.7
Thu Aug 04/Fri Aug 05		19 58	20 08	21 41	4 26	6 00	17 39	0 25	.....	23 57	48	14 30.9	-14 59	6.7
Fri Aug 05/Sat Aug 06		20 02	20 07	21 40	4 27	6 00	17 41	0 30	.....	0 31	59	15 24.5	-20 02	6.8
Sat Aug 06/Sun Aug 07		20 06	20 06	21 39	4 29	6 01	17 44	0 35	.....	1 12	70	16 22.8	-24 09	6.8
Sun Aug 07/Mon Aug 08		20 09	20 05	21 37	4 30	6 02	17 46	0 40	.....	2 03	80	17 26.0	-26 55	6.9
Mon Aug 08/Tue Aug 09		20 13	20 04	21 36	4 31	6 03	17 49	0 45	.....	3 05	88	18 32.7	-27 54	6.9
Tue Aug 09/Wed Aug 10		20 17	20 03	21 34	4 32	6 04	17 51	0 50	18 31	4 16	95	19 40.4	-26 54	7.0
Wed Aug 10/Thu Aug 11		20 21	20 01	21 33	4 34	6 05	17 54	0 56	19 25	5 32	99	20 46.4	-23 59	7.0
Thu Aug 11/Fri Aug 12		20 25	20 00	21 31	4 35	6 06	17 56	1 01	20 09	.....	100	21 48.4	-19 28	7.1
Fri Aug 12/Sat Aug 13		20 29	19 59	21 30	4 36	6 06	17 58	1 06	20 46	.....	98	22 45.9	-13 51	7.1
Sat Aug 13/Sun Aug 14		20 33	19 58	21 28	4 37	6 07	18 01	1 11	21 17	.....	93	23 39.3	- 7 39	7.2
Sun Aug 14/Mon Aug 15		20 37	19 57	21 26	4 38	6 08	18 03	1 16	21 44	.....	86	0 29.7	- 1 17	7.2
Mon Aug 15/Tue Aug 16		20 41	19 55	21 25	4 40	6 09	18 05	1 21	22 10	.....	78	1 18.2	4 53	7.2
Tue Aug 16/Wed Aug 17		20 45	19 54	21 23	4 41	6 10	18 08	1 26	22 37	.....	68	2 06.0	10 36	7.3
Wed Aug 17/Thu Aug 18		20 49	19 53	21 22	4 42	6 11	18 10	1 32	23 04	.....	58	2 53.9	15 39	7.3
Thu Aug 18/Fri Aug 19		20 53	19 52	21 20	4 43	6 11	18 12	1 37	23 35	.....	49	3 42.8	19 53	7.4
Fri Aug 19/Sat Aug 20		20 57	19 50	21 18	4 44	6 12	18 15	1 42	0 09	.....	39	4 32.9	23 09	7.4
Sat Aug 20/Sun Aug 21		21 01	19 49	21 17	4 45	6 13	18 17	1 47	0 49	.....	30	5 24.3	25 19	7.5
Sun Aug 21/Mon Aug 22		21 05	19 48	21 15	4 47	6 14	18 19	1 52	1 35	.....	22	6 16.6	26 19	7.5
Mon Aug 22/Tue Aug 23		21 09	19 46	21 13	4 48	6 15	18 21	1 57	2 27	17 23	15	7 09.1	26 04	7.6
Tue Aug 23/Wed Aug 24		21 13	19 45	21 12	4 49	6 16	18 24	2 02	3 25	18 08	9	8 00.9	24 37	7.6
Wed Aug 24/Thu Aug 25		21 17	19 43	21 10	4 50	6 17	18 26	2 07	4 25	18 48	4	8 51.5	22 02	7.7
Thu Aug 25/Fri Aug 26		21 20	19 42	21 08	4 51	6 17	18 28	2 12	5 26	19 22	1	9 40.4	18 27	7.7
Fri Aug 26/Sat Aug 27		21 24	19 41	21 07	4 52	6 18	18 31	2 17	6 28	19 51	0	10 27.6	14 01	7.8
Sat Aug 27/Sun Aug 28		21 28	19 39	21 05	4 53	6 19	18 33	2 22	.....	20 18	1	11 13.5	8 56	7.8
Sun Aug 28/Mon Aug 29		21 32	19 38	21 03	4 54	6 20	18 35	2 27	.....	20 43	4	11 58.8	3 23	7.9
Mon Aug 29/Tue Aug 30		21 36	19 36	21 02	4 55	6 21	18 37	2 33	.....	21 07	9	12 44.1	- 2 25	7.9
Tue Aug 30/Wed Aug 31		21 40	19 35	21 00	4 57	6 22	18 40	2 38	.....	21 32	15	13 30.6	- 8 16	7.9
Wed Aug 31/Thu Sep 01		21 44	19 34	20 58	4 58	6 22	18 42	2 43	.....	22 00	24	14 19.2	-13 53	8.0

Calendar for CA iTel, west longitude (h.m.s) = 7 57 36, latitude (d.m) = 37 04.2
 Rise/set times in Pacific time (8 hr W), for 1405 m above surroundings, 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 midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi hours	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Thu Sep 01/Fri Sep 02	21 48	19 32	20 56	4 59	6 23	18 44	2 48	.....	22 31	33	15 10.9	-19 01	8.0
Fri Sep 02/Sat Sep 03	21 52	19 31	20 55	5 00	6 24	18 46	2 53	.....	23 09	44	16 06.7	-23 18	8.1
Sat Sep 03/Sun Sep 04	21 56	19 29	20 53	5 01	6 25	18 48	2 58	.....	23 55	55	17 06.7	-26 22	8.1
Sun Sep 04/Mon Sep 05	22 00	19 28	20 51	5 02	6 26	18 51	3 03	.....	0 51	67	18 10.3	-27 52	8.2
Mon Sep 05/Tue Sep 06	22 04	19 26	20 50	5 03	6 26	18 53	3 08	.....	1 56	77	19 15.7	-27 33	8.2
Tue Sep 06/Wed Sep 07	22 08	19 25	20 48	5 04	6 27	18 55	3 13	17 15	3 09	86	20 20.4	-25 22	8.3
Wed Sep 07/Thu Sep 08	22 12	19 23	20 46	5 05	6 28	18 57	3 17	18 02	4 24	93	21 22.5	-21 29	8.3
Thu Sep 08/Fri Sep 09	22 16	19 22	20 45	5 06	6 29	19 00	3 22	18 41	5 39	98	22 21.0	-16 19	8.4
Fri Sep 09/Sat Sep 10	22 20	19 20	20 43	5 07	6 30	19 02	3 27	19 13	6 51	100	23 15.7	-10 18	8.4
Sat Sep 10/Sun Sep 11	22 24	19 19	20 41	5 08	6 31	19 04	3 32	19 42	.....	99	0 07.6	- 3 52	8.4
Sun Sep 11/Mon Sep 12	22 27	19 17	20 39	5 09	6 31	19 06	3 37	20 09	.....	95	0 57.5	2 34	8.5
Mon Sep 12/Tue Sep 13	22 31	19 16	20 38	5 10	6 32	19 09	3 42	20 36	.....	90	1 46.4	8 39	8.5
Tue Sep 13/Wed Sep 14	22 35	19 14	20 36	5 11	6 33	19 11	3 47	21 03	.....	82	2 35.4	14 09	8.6
Wed Sep 14/Thu Sep 15	22 39	19 13	20 34	5 12	6 34	19 13	3 52	21 32	.....	74	3 25.2	18 51	8.6
Thu Sep 15/Fri Sep 16	22 43	19 11	20 33	5 13	6 35	19 15	3 57	22 06	.....	65	4 16.1	22 33	8.7
Fri Sep 16/Sat Sep 17	22 47	19 09	20 31	5 14	6 35	19 18	4 02	22 44	.....	55	5 08.1	25 07	8.7
Sat Sep 17/Sun Sep 18	22 51	19 08	20 29	5 15	6 36	19 20	4 07	23 28	.....	46	6 00.9	26 29	8.8
Sun Sep 18/Mon Sep 19	22 55	19 06	20 28	5 16	6 37	19 22	4 12	0 18	.....	36	6 53.9	26 35	8.8
Mon Sep 19/Tue Sep 20	22 59	19 05	20 26	5 17	6 38	19 24	4 17	1 14	.....	28	7 46.3	25 27	8.8
Tue Sep 20/Wed Sep 21	23 03	19 03	20 24	5 18	6 39	19 27	4 21	2 13	16 46	20	8 37.4	23 09	8.9
Wed Sep 21/Thu Sep 22	23 07	19 02	20 23	5 18	6 40	19 29	4 26	3 15	17 22	13	9 26.8	19 48	8.9
Thu Sep 22/Fri Sep 23	23 11	19 00	20 21	5 19	6 40	19 31	4 31	4 17	17 53	7	10 14.6	15 32	9.0
Fri Sep 23/Sat Sep 24	23 15	18 59	20 19	5 20	6 41	19 34	4 36	5 19	18 20	3	11 01.0	10 33	9.0
Sat Sep 24/Sun Sep 25	23 19	18 57	20 18	5 21	6 42	19 36	4 41	6 22	18 46	0	11 46.7	5 02	9.1
Sun Sep 25/Mon Sep 26	23 23	18 56	20 16	5 22	6 43	19 38	4 46	.....	19 10	0	12 32.4	- 0 50	9.1
Mon Sep 26/Tue Sep 27	23 27	18 54	20 15	5 23	6 44	19 41	4 51	.....	19 35	2	13 19.0	- 6 48	9.1
Tue Sep 27/Wed Sep 28	23 31	18 53	20 13	5 24	6 45	19 43	4 55	.....	20 02	6	14 07.6	-12 36	9.2
Wed Sep 28/Thu Sep 29	23 35	18 51	20 12	5 25	6 45	19 45	5 00	.....	20 33	12	14 59.0	-17 57	9.2
Thu Sep 29/Fri Sep 30	23 38	18 50	20 10	5 26	6 46	19 48	5 05	.....	21 09	21	15 54.0	-22 29	9.3
Fri Sep 30/Sat Oct 01	23 42	18 48	20 08	5 27	6 47	19 50	5 10	.....	21 52	30	16 52.8	-25 51	9.3

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

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi hours	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Sat Oct 01/Sun Oct 02	23 46	18 47	20 07	5 28	6 48	19 53	5 15	.....	22 44	41	17 54.8	-27 42	9.3
Sun Oct 02/Mon Oct 03	23 50	18 45	20 05	5 28	6 49	19 55	5 20	.....	23 46	53	18 58.6	-27 50	9.4
Mon Oct 03/Tue Oct 04	23 54	18 44	20 04	5 29	6 50	19 57	5 24	.....	0 55	64	20 01.9	-26 10	9.4
Tue Oct 04/Wed Oct 05	23 58	18 42	20 02	5 30	6 50	20 00	5 29	.....	2 08	75	21 03.0	-22 52	9.5
Wed Oct 05/Thu Oct 06	0 02	18 41	20 01	5 31	6 51	20 02	5 34	16 39	3 21	84	22 00.8	-18 12	9.5
Thu Oct 06/Fri Oct 07	0 06	18 39	19 59	5 32	6 52	20 05	5 39	17 13	4 32	91	22 55.2	-12 33	9.5
Fri Oct 07/Sat Oct 08	0 10	18 38	19 58	5 33	6 53	20 07	5 44	17 42	5 41	97	23 46.9	- 6 20	9.6
Sat Oct 08/Sun Oct 09	0 14	18 36	19 57	5 34	6 54	20 10	5 49	18 09	6 48	99	0 36.8	0 06	9.6
Sun Oct 09/Mon Oct 10	0 18	18 35	19 55	5 35	6 55	20 12	5 53	18 35	.....	100	1 25.9	6 24	9.7
Mon Oct 10/Tue Oct 11	0 22	18 34	19 54	5 36	6 56	20 15	5 58	19 02	.....	98	2 15.1	12 14	9.7
Tue Oct 11/Wed Oct 12	0 26	18 32	19 52	5 36	6 57	20 17	6 03	19 30	.....	93	3 05.1	17 22	9.7
Wed Oct 12/Thu Oct 13	0 30	18 31	19 51	5 37	6 58	20 20	6 08	20 02	.....	87	3 56.4	21 33	9.8
Thu Oct 13/Fri Oct 14	0 34	18 29	19 50	5 38	6 58	20 23	6 13	20 38	.....	80	4 49.1	24 38	9.8
Fri Oct 14/Sat Oct 15	0 38	18 28	19 48	5 39	6 59	20 25	6 18	21 20	.....	72	5 42.7	26 28	9.8
Sat Oct 15/Sun Oct 16	0 42	18 27	19 47	5 40	7 00	20 28	6 22	22 08	.....	63	6 36.4	27 00	9.9
Sun Oct 16/Mon Oct 17	0 45	18 25	19 46	5 41	7 01	20 30	6 27	23 02	.....	53	7 29.6	26 15	9.9
Mon Oct 17/Tue Oct 18	0 49	18 24	19 44	5 42	7 02	20 33	6 32	0 00	.....	44	8 21.3	24 18	10.0
Tue Oct 18/Wed Oct 19	0 53	18 23	19 43	5 43	7 03	20 36	6 37	1 01	.....	35	9 11.2	21 16	10.0
Wed Oct 19/Thu Oct 20	0 57	18 21	19 42	5 43	7 04	20 38	6 42	2 02	.....	26	9 59.3	17 17	10.0
Thu Oct 20/Fri Oct 21	1 01	18 20	19 41	5 44	7 05	20 41	6 46	3 04	16 21	18	10 45.9	12 32	10.1
Fri Oct 21/Sat Oct 22	1 05	18 19	19 39	5 45	7 06	20 44	6 51	4 06	16 47	11	11 31.6	7 09	10.1
Sat Oct 22/Sun Oct 23	1 09	18 18	19 38	5 46	7 07	20 47	6 56	5 09	17 12	5	12 17.3	1 20	10.1
Sun Oct 23/Mon Oct 24	1 13	18 16	19 37	5 47	7 08	20 50	7 01	6 14	17 37	2	13 03.8	- 4 42	10.2
Mon Oct 24/Tue Oct 25	1 17	18 15	19 36	5 48	7 09	20 52	7 06	7 22	18 03	0	13 52.3	-10 41	10.2
Tue Oct 25/Wed Oct 26	1 21	18 14	19 35	5 49	7 10	20 55	7 11	.....	18 32	1	14 43.6	-16 19	10.2
Wed Oct 26/Thu Oct 27	1 25	18 13	19 34	5 50	7 11	20 58	7 15	.....	19 07	4	15 38.6	-21 14	10.3
Thu Oct 27/Fri Oct 28	1 29	18 12	19 33	5 50	7 12	21 01	7 20	.....	19 48	10	16 37.6	-25 02	10.3
Fri Oct 28/Sat Oct 29	1 33	18 11	19 32	5 51	7 13	21 04	7 25	.....	20 39	18	17 39.9	-27 20	10.3
Sat Oct 29/Sun Oct 30	1 37	18 09	19 31	5 52	7 14	21 07	7 30	.....	21 39	27	18 43.9	-27 53	10.4
Sun Oct 30/Mon Oct 31	1 41	18 08	19 30	5 53	7 15	21 10	7 35	.....	22 46	38	19 47.5	-26 38	10.4
Mon Oct 31/Tue Nov 01	1 45	18 07	19 29	5 54	7 16	21 13	7 40	.....	23 58	49	20 48.7	-23 42	10.4

Calendar for CA iTel, west longitude (h.m.s) = 7 57 36, latitude (d.m) = 37 04.2
 Rise/set times in Pacific time (8 hr W), for 1405 m above surroundings, 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 midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twilight	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Tue Nov 01/Wed Nov 02	1 49	18 06	19 28	5 55	7 17	21 16	7 44	.....	1 10	61	21 46.2	-19 24	10.5
Wed Nov 02/Thu Nov 03	1 52	18 05	19 27	5 56	7 18	21 19	7 49	.....	2 21	71	22 40.2	-14 06	10.5
Thu Nov 03/Fri Nov 04	1 56	18 04	19 26	5 57	7 19	21 22	7 54	.....	3 29	81	23 31.2	- 8 09	10.5
Fri Nov 04/Sat Nov 05	2 00	18 03	19 25	5 58	7 20	21 25	7 59	16 12	4 35	89	0 20.3	- 1 53	10.5
Sat Nov 05/Sun Nov 06*	2 04	18 02	19 24	4 58	6 21	21 28	8 04	16 37	4 40	95	1 08.5	4 22	10.6
Sun Nov 06/Mon Nov 07	3 08	17 01	18 24	4 59	6 22	21 31	8 09	16 03	5 45	99	1 58.0	10 33	10.6
Mon Nov 07/Tue Nov 08	3 12	17 00	18 23	5 00	6 23	21 34	8 13	16 30	6 50	100	2 47.3	15 55	10.6
Tue Nov 08/Wed Nov 09	3 16	17 00	18 22	5 01	6 24	21 37	8 18	17 00	7 55	99	3 38.2	20 27	10.7
Wed Nov 09/Thu Nov 10	3 20	16 59	18 21	5 02	6 25	21 41	8 23	17 34	.....	96	4 30.8	23 58	10.7
Thu Nov 10/Fri Nov 11	3 24	16 58	18 21	5 03	6 26	21 44	8 28	18 14	.....	92	5 24.8	26 15	10.7
Fri Nov 11/Sat Nov 12	3 28	16 57	18 20	5 04	6 27	21 47	8 33	19 00	.....	86	6 19.4	27 13	10.7
Sat Nov 12/Sun Nov 13	3 32	16 56	18 19	5 05	6 28	21 50	8 38	19 52	.....	78	7 13.5	26 51	10.8
Sun Nov 13/Mon Nov 14	3 36	16 56	18 19	5 06	6 29	21 54	8 43	20 48	.....	70	8 06.2	25 14	10.8
Mon Nov 14/Tue Nov 15	3 40	16 55	18 18	5 07	6 30	21 57	8 47	21 47	.....	61	8 56.9	22 30	10.8
Tue Nov 15/Wed Nov 16	3 44	16 54	18 18	5 07	6 31	22 01	8 52	22 48	.....	51	9 45.4	18 47	10.8
Wed Nov 16/Thu Nov 17	3 48	16 53	18 17	5 08	6 32	22 04	8 57	23 49	.....	42	10 32.1	14 16	10.9
Thu Nov 17/Fri Nov 18	3 52	16 53	18 17	5 09	6 33	22 07	9 02	0 50	.....	32	11 17.6	9 06	10.9
Fri Nov 18/Sat Nov 19	3 56	16 52	18 16	5 10	6 34	22 11	9 07	1 51	.....	23	12 02.7	3 28	10.9
Sat Nov 19/Sun Nov 20	4 00	16 52	18 16	5 11	6 35	22 14	9 12	2 54	.....	15	12 48.5	- 2 29	10.9
Sun Nov 20/Mon Nov 21	4 04	16 51	18 15	5 12	6 36	22 18	9 16	4 00	.....	8	13 36.0	- 8 30	10.9
Mon Nov 21/Tue Nov 22	4 08	16 51	18 15	5 13	6 37	22 22	9 21	5 10	.....	3	14 26.5	-14 18	11.0
Tue Nov 22/Wed Nov 23	4 12	16 50	18 15	5 14	6 38	22 25	9 26	6 23	16 01	1	15 20.8	-19 33	11.0
Wed Nov 23/Thu Nov 24	4 15	16 50	18 14	5 14	6 39	22 29	9 31	7 38	16 40	0	16 19.6	-23 49	11.0
Thu Nov 24/Fri Nov 25	4 19	16 49	18 14	5 15	6 40	22 32	9 36	.....	17 28	3	17 22.5	-26 38	11.0
Fri Nov 25/Sat Nov 26	4 23	16 49	18 14	5 16	6 41	22 36	9 40	.....	18 26	8	18 27.8	-27 41	11.0
Sat Nov 26/Sun Nov 27	4 27	16 49	18 13	5 17	6 42	22 40	9 45	.....	19 33	15	19 33.2	-26 50	11.1
Sun Nov 27/Mon Nov 28	4 31	16 48	18 13	5 18	6 43	22 44	9 50	.....	20 47	24	20 36.1	-24 11	11.1
Mon Nov 28/Tue Nov 29	4 35	16 48	18 13	5 19	6 44	22 47	9 55	.....	22 01	35	21 35.0	-20 06	11.1
Tue Nov 29/Wed Nov 30	4 39	16 48	18 13	5 20	6 45	22 51	10 00	.....	23 12	46	22 29.7	-14 57	11.1
Wed Nov 30/Thu Dec 01	4 43	16 48	18 13	5 20	6 46	22 55	10 04	.....	0 21	57	23 20.8	- 9 09	11.1

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

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twilight	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Thu Dec 01/Fri Dec 02	4 47	16 47	18 13	5 21	6 47	22 59	10 09	.....	1 27	68	0 09.4	- 3 02	11.1
Fri Dec 02/Sat Dec 03	4 51	16 47	18 13	5 22	6 48	23 03	10 14	.....	2 31	77	0 56.8	3 07	11.2
Sat Dec 03/Sun Dec 04	4 55	16 47	18 13	5 23	6 48	23 07	10 19	.....	3 35	85	1 44.0	9 01	11.2
Sun Dec 04/Mon Dec 05	4 59	16 47	18 13	5 24	6 49	23 11	10 23	.....	4 39	92	2 32.0	14 28	11.2
Mon Dec 05/Tue Dec 06	5 03	16 47	18 13	5 24	6 50	23 15	10 28	.....	5 43	97	3 21.6	19 12	11.2
Tue Dec 06/Wed Dec 07	5 07	16 47	18 13	5 25	6 51	23 19	10 33	15 33	6 46	99	4 13.2	23 00	11.2
Wed Dec 07/Thu Dec 08	5 11	16 47	18 13	5 26	6 52	23 23	10 37	16 10	7 47	100	5 06.6	25 40	11.2
Thu Dec 08/Fri Dec 09	5 15	16 47	18 13	5 27	6 53	23 27	10 42	16 54	.....	99	6 01.1	27 04	11.2
Fri Dec 09/Sat Dec 10	5 19	16 47	18 13	5 27	6 53	23 31	10 47	17 44	.....	95	6 55.7	27 08	11.2
Sat Dec 10/Sun Dec 11	5 22	16 47	18 14	5 28	6 54	23 35	10 51	18 39	.....	91	7 49.2	25 53	11.2
Sun Dec 11/Mon Dec 12	5 26	16 48	18 14	5 29	6 55	23 39	10 56	19 37	.....	84	8 40.8	23 28	11.2
Mon Dec 12/Tue Dec 13	5 30	16 48	18 14	5 29	6 56	23 44	11 01	20 37	.....	77	9 30.0	20 02	11.3
Tue Dec 13/Wed Dec 14	5 34	16 48	18 14	5 30	6 56	23 48	11 05	21 37	.....	69	10 17.0	15 46	11.3
Wed Dec 14/Thu Dec 15	5 38	16 48	18 15	5 31	6 57	23 52	11 10	22 37	.....	59	11 02.3	10 51	11.3
Thu Dec 15/Fri Dec 16	5 42	16 49	18 15	5 31	6 58	23 56	11 14	23 37	.....	50	11 46.7	5 26	11.3
Fri Dec 16/Sat Dec 17	5 46	16 49	18 15	5 32	6 58	0 01	11 19	0 37	.....	40	12 31.2	- 0 18	11.3
Sat Dec 17/Sun Dec 18	5 50	16 49	18 16	5 32	6 59	0 05	11 23	1 40	.....	30	13 17.0	- 6 11	11.3
Sun Dec 18/Mon Dec 19	5 54	16 50	18 16	5 33	6 59	0 09	11 28	2 46	.....	21	14 05.2	-11 59	11.3
Mon Dec 19/Tue Dec 20	5 58	16 50	18 17	5 33	7 00	0 14	11 32	3 56	.....	13	14 57.1	-17 25	11.3
Tue Dec 20/Wed Dec 21	6 02	16 51	18 17	5 34	7 01	0 18	11 37	5 10	.....	6	15 53.7	-22 06	11.3
Wed Dec 21/Thu Dec 22	6 06	16 51	18 18	5 34	7 01	0 23	11 41	6 25	.....	2	16 55.2	-25 34	11.3
Thu Dec 22/Fri Dec 23	6 10	16 52	18 18	5 35	7 01	0 27	11 46	7 37	16 06	0	18 00.7	-27 24	11.3
Fri Dec 23/Sat Dec 24	6 14	16 52	18 19	5 35	7 02	0 32	11 50	.....	17 11	1	19 07.8	-27 16	11.3
Sat Dec 24/Sun Dec 25	6 18	16 53	18 19	5 36	7 02	0 36	11 54	.....	18 25	5	20 13.7	-25 10	11.3
Sun Dec 25/Mon Dec 26	6 22	16 53	18 20	5 36	7 03	0 41	11 59	.....	19 42	12	21 16.0	-21 23	11.3
Mon Dec 26/Tue Dec 27	6 26	16 54	18 20	5 37	7 03	0 45	12 03	.....	20 58	21	22 13.7	-16 21	11.3
Tue Dec 27/Wed Dec 28	6 30	16 55	18 21	5 37	7 03	0 50	12 07	.....	22 10	31	23 07.0	-10 33	11.3
Wed Dec 28/Thu Dec 29	6 33	16 55	18 22	5 37	7 04	0 54	12 12	.....	23 19	41	23 57.1	- 4 22	11.3
Thu Dec 29/Fri Dec 30	6 37	16 56	18 22	5 38	7 04	0 59	12 16	.....	0 24	52	0 45.1	1 50	11.3
Fri Dec 30/Sat Dec 31	6 41	16 57	18 23	5 38	7 04	1 03	12 20	.....	1 29	63	1 32.2	7 49	11.2
Sat Dec 31/Sun Jan 01	6 45	16 57	18 24	5 38	7 04	1 08	12 24	.....	2 32	72	2 19.7	13 20	11.2