

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:

***** 2021 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 2021, 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 14	8 19	Dec 21	15 43	Dec 29	19 30	Jan 06	1 39
Jan 12	21 03	Jan 20	13 04	Jan 28	11 19	Feb 04	9 39
Feb 11	11 08	Feb 19	10 49	Feb 27	0 20	Mar 05	17 32
Mar 13	2 24	Mar 21	7 42	Mar 28	11 50	Apr 04	3 04
Apr 11	19 33	Apr 20	0 00	Apr 26	20 33	May 03	12 52
May 11	12 02	May 19	12 13	May 26	4 15	Jun 02	0 26
Jun 10	3 54	Jun 17	20 55	Jun 24	11 40	Jul 01	14 13
Jul 09	18 18	Jul 17	3 12	Jul 23	19 37	Jul 31	6 18
Aug 08	6 51	Aug 15	8 21	Aug 22	5 02	Aug 30	0 15
Sep 06	17 52	Sep 13	13 41	Sep 20	16 55	Sep 28	18 58
Oct 06	4 06	Oct 12	20 28	Oct 20	7 58	Oct 28	13 07
Nov 04	14 15	Nov 11	4 48	Nov 19	1 00	Nov 27	4 30
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

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.

***** 2021 JANUARY *****

Date (eve/morn)	LMST midn	----- Sun: -----			LST twilight:		----- Moon: -----				Twi-Twi		
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Fri Jan 01/Sat Jan 02	6 51	16 59	18 25	5 38	7 05	1 15	12 30	19 28	.....	89	9 39.4	18 40	11.2
Sat Jan 02/Sun Jan 03	6 55	16 59	18 26	5 39	7 05	1 20	12 35	20 35	.....	81	10 33.1	14 20	11.2
Sun Jan 03/Mon Jan 04	6 59	17 00	18 26	5 39	7 05	1 24	12 39	21 42	.....	72	11 25.2	9 14	11.2
Mon Jan 04/Tue Jan 05	7 03	17 01	18 27	5 39	7 05	1 29	12 43	22 49	.....	61	12 16.2	3 36	11.2
Tue Jan 05/Wed Jan 06	7 07	17 02	18 28	5 39	7 05	1 34	12 47	23 57	.....	50	13 06.9	- 2 16	11.2
Wed Jan 06/Thu Jan 07	7 11	17 03	18 29	5 39	7 05	1 39	12 51	1 05	.....	39	13 58.5	- 8 05	11.2
Thu Jan 07/Fri Jan 08	7 15	17 04	18 29	5 39	7 05	1 43	12 55	2 15	.....	28	14 51.9	-13 31	11.2
Fri Jan 08/Sat Jan 09	7 19	17 05	18 30	5 39	7 05	1 48	12 59	3 27	.....	18	15 47.7	-18 15	11.1
Sat Jan 09/Sun Jan 10	7 23	17 06	18 31	5 39	7 04	1 53	13 03	4 38	.....	10	16 46.3	-21 57	11.1
Sun Jan 10/Mon Jan 11	7 27	17 07	18 32	5 39	7 04	1 58	13 07	5 47	.....	4	17 47.2	-24 17	11.1
Mon Jan 11/Tue Jan 12	7 31	17 08	18 33	5 39	7 04	2 02	13 10	6 50	15 42	1	18 48.9	-25 05	11.1
Tue Jan 12/Wed Jan 13	7 34	17 08	18 34	5 39	7 04	2 07	13 14	7 44	16 44	0	19 49.8	-24 18	11.1
Wed Jan 13/Thu Jan 14	7 38	17 09	18 34	5 39	7 04	2 12	13 18	.....	17 50	2	20 48.0	-22 07	11.1
Thu Jan 14/Fri Jan 15	7 42	17 10	18 35	5 38	7 03	2 17	13 22	.....	18 56	5	21 42.8	-18 48	11.1
Fri Jan 15/Sat Jan 16	7 46	17 11	18 36	5 38	7 03	2 22	13 26	.....	20 01	11	22 33.9	-14 39	11.0
Sat Jan 16/Sun Jan 17	7 50	17 12	18 37	5 38	7 03	2 27	13 29	.....	21 03	18	23 21.7	- 9 58	11.0
Sun Jan 17/Mon Jan 18	7 54	17 13	18 38	5 38	7 02	2 31	13 33	.....	22 03	26	0 07.1	- 5 00	11.0
Mon Jan 18/Tue Jan 19	7 58	17 15	18 39	5 37	7 02	2 36	13 37	.....	23 01	35	0 51.1	0 04	11.0
Tue Jan 19/Wed Jan 20	8 02	17 16	18 40	5 37	7 01	2 41	13 40	.....	23 58	44	1 34.5	5 03	11.0
Wed Jan 20/Thu Jan 21	8 06	17 17	18 41	5 37	7 01	2 46	13 44	.....	0 55	54	2 18.3	9 49	10.9
Thu Jan 21/Fri Jan 22	8 10	17 18	18 42	5 36	7 00	2 51	13 47	.....	1 52	63	3 03.4	14 14	10.9
Fri Jan 22/Sat Jan 23	8 14	17 19	18 43	5 36	7 00	2 56	13 51	.....	2 51	72	3 50.6	18 06	10.9
Sat Jan 23/Sun Jan 24	8 18	17 20	18 44	5 36	6 59	3 01	13 54	.....	3 50	80	4 40.5	21 16	10.9
Sun Jan 24/Mon Jan 25	8 22	17 21	18 44	5 35	6 59	3 05	13 58	.....	4 49	87	5 33.3	23 30	10.8
Mon Jan 25/Tue Jan 26	8 26	17 22	18 45	5 35	6 58	3 10	14 01	.....	5 46	93	6 28.7	24 35	10.8
Tue Jan 26/Wed Jan 27	8 30	17 23	18 46	5 34	6 57	3 15	14 05	.....	6 38	97	7 26.0	24 22	10.8
Wed Jan 27/Thu Jan 28	8 34	17 24	18 47	5 33	6 57	3 20	14 08	16 09	7 25	100	8 23.8	22 45	10.8
Thu Jan 28/Fri Jan 29	8 38	17 25	18 48	5 33	6 56	3 25	14 11	17 15	8 06	100	9 21.0	19 47	10.7
Fri Jan 29/Sat Jan 30	8 42	17 26	18 49	5 32	6 55	3 30	14 15	18 23	.....	97	10 16.7	15 37	10.7
Sat Jan 30/Sun Jan 31	8 45	17 27	18 50	5 32	6 54	3 35	14 18	19 32	.....	92	11 10.6	10 33	10.7
Sun Jan 31/Mon Feb 01	8 49	17 28	18 51	5 31	6 53	3 40	14 21	20 40	.....	85	12 03.0	4 52	10.7

***** 2021 FEBRUARY *****

Date (eve/morn)	LMST midn	----- Sun: -----			LST twilight:		----- Moon: -----				Twi-Twi		
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Mon Feb 01/Tue Feb 02	8 53	17 29	18 52	5 30	6 53	3 45	14 24	21 49	.....	75	12 54.7	- 1 06	10.6
Tue Feb 02/Wed Feb 03	8 57	17 31	18 53	5 29	6 52	3 49	14 28	22 58	.....	65	13 46.5	- 7 02	10.6
Wed Feb 03/Thu Feb 04	9 01	17 32	18 54	5 29	6 51	3 54	14 31	0 07	.....	54	14 39.4	-12 35	10.6
Thu Feb 04/Fri Feb 05	9 05	17 33	18 55	5 28	6 50	3 59	14 34	1 17	.....	42	15 34.2	-17 28	10.6
Fri Feb 05/Sat Feb 06	9 09	17 34	18 56	5 27	6 49	4 04	14 37	2 27	.....	32	16 31.2	-21 21	10.5
Sat Feb 06/Sun Feb 07	9 13	17 35	18 57	5 26	6 48	4 09	14 40	3 35	.....	22	17 30.3	-23 58	10.5
Sun Feb 07/Mon Feb 08	9 17	17 36	18 58	5 25	6 47	4 14	14 43	4 38	.....	13	18 30.6	-25 09	10.5
Mon Feb 08/Tue Feb 09	9 21	17 37	18 59	5 25	6 46	4 19	14 46	5 35	.....	7	19 30.6	-24 50	10.4
Tue Feb 09/Wed Feb 10	9 25	17 38	19 00	5 24	6 45	4 24	14 49	6 23	.....	3	20 28.8	-23 04	10.4
Wed Feb 10/Thu Feb 11	9 29	17 39	19 01	5 23	6 44	4 29	14 52	7 03	16 39	0	21 24.1	-20 06	10.4
Thu Feb 11/Fri Feb 12	9 33	17 40	19 01	5 22	6 43	4 33	14 55	7 38	17 44	0	22 16.1	-16 11	10.3
Fri Feb 12/Sat Feb 13	9 37	17 41	19 02	5 21	6 42	4 38	14 58	.....	18 48	3	23 05.0	-11 37	10.3
Sat Feb 13/Sun Feb 14	9 41	17 42	19 03	5 20	6 41	4 43	15 01	.....	19 49	7	23 51.3	- 6 41	10.3
Sun Feb 14/Mon Feb 15	9 45	17 43	19 04	5 19	6 40	4 48	15 04	.....	20 48	12	0 35.8	- 1 34	10.2
Mon Feb 15/Tue Feb 16	9 49	17 44	19 05	5 18	6 38	4 53	15 07	.....	21 46	19	1 19.5	3 30	10.2
Tue Feb 16/Wed Feb 17	9 52	17 45	19 06	5 16	6 37	4 58	15 10	.....	22 43	27	2 03.1	8 23	10.2
Wed Feb 17/Thu Feb 18	9 56	17 46	19 07	5 15	6 36	5 03	15 13	.....	23 41	36	2 47.6	12 56	10.1
Thu Feb 18/Fri Feb 19	10 00	17 47	19 08	5 14	6 35	5 08	15 15	.....	0 39	45	3 33.6	16 58	10.1
Fri Feb 19/Sat Feb 20	10 04	17 48	19 09	5 13	6 34	5 13	15 18	.....	1 38	55	4 21.9	20 22	10.1
Sat Feb 20/Sun Feb 21	10 08	17 49	19 10	5 12	6 32	5 17	15 21	.....	2 36	64	5 12.9	22 54	10.0
Sun Feb 21/Mon Feb 22	10 12	17 50	19 11	5 11	6 31	5 22	15 24	.....	3 33	73	6 06.5	24 24	10.0
Mon Feb 22/Tue Feb 23	10 16	17 51	19 12	5 09	6 30	5 27	15 26	.....	4 27	82	7 02.4	24 41	10.0
Tue Feb 23/Wed Feb 24	10 20	17 52	19 13	5 08	6 29	5 32	15 29	.....	5 16	89	7 59.6	23 36	9.9
Wed Feb 24/Thu Feb 25	10 24	17 53	19 14	5 07	6 27	5 37	15 32	.....	5 59	95	8 57.1	21 08	9.9
Thu Feb 25/Fri Feb 26	10 28	17 54	19 15	5 06	6 26	5 42	15 35	.....	6 38	99	9 53.9	17 21	9.8
Fri Feb 26/Sat Feb 27	10 32	17 55	19 16	5 04	6 25	5 47	15 37	17 13	7 12	100	10 49.5	12 28	9.8
Sat Feb 27/Sun Feb 28	10 36	17 56	19 17	5 03	6 23	5 52	15 40	18 24	.....	98	11 43.8	6 46	9.8
Sun Feb 28/Mon Mar 01	10 40	17 57	19 18	5 02	6 22	5 57	15 42	19 35	.....	94	12 37.3	0 37	9.7

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.

***** 2021 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	
Mon Mar 01/Tue Mar 02	10 44	17 58	19 19	5 00	6 21	6 01	15 45	20 46	.....	88	13 30.8	- 5 37	9.7
Tue Mar 02/Wed Mar 03	10 48	17 59	19 19	4 59	6 19	6 06	15 48	21 57	.....	79	14 25.0	-11 31	9.7
Wed Mar 03/Thu Mar 04	10 52	18 00	19 20	4 58	6 18	6 11	15 50	23 08	.....	69	15 20.7	-16 45	9.6
Thu Mar 04/Fri Mar 05	10 56	18 01	19 21	4 56	6 16	6 16	15 53	0 20	.....	57	16 18.2	-20 58	9.6
Fri Mar 05/Sat Mar 06	11 00	18 02	19 22	4 55	6 15	6 21	15 55	1 29	.....	46	17 17.4	-23 54	9.5
Sat Mar 06/Sun Mar 07	11 03	18 03	19 23	4 53	6 14	6 26	15 58	2 33	.....	35	18 17.5	-25 22	9.5
Sun Mar 07/Mon Mar 08	11 07	18 04	19 24	4 52	6 12	6 31	16 00	3 31	.....	25	19 17.2	-25 20	9.5
Mon Mar 08/Tue Mar 09	11 11	18 05	19 25	4 51	6 11	6 36	16 03	4 20	.....	17	20 15.1	-23 53	9.4
Tue Mar 09/Wed Mar 10	11 15	18 06	19 26	4 49	6 09	6 41	16 05	5 02	.....	10	21 10.3	-21 11	9.4
Wed Mar 10/Thu Mar 11	11 19	18 07	19 27	4 48	6 08	6 46	16 08	5 38	.....	5	22 02.3	-17 30	9.3
Thu Mar 11/Fri Mar 12	11 23	18 08	19 28	4 46	6 06	6 50	16 10	6 09	16 36	1	22 51.3	-13 06	9.3
Fri Mar 12/Sat Mar 13	11 27	18 09	19 29	4 45	6 05	6 55	16 12	6 36	17 37	0	23 37.8	- 8 14	9.3
Sat Mar 13/Sun Mar 14*	11 31	18 10	19 30	5 43	7 03	7 00	16 15	8 02	18 37	1	0 22.5	- 3 08	9.2
Sun Mar 14/Mon Mar 15	10 35	19 10	20 31	5 42	7 02	7 05	16 17	.....	20 35	3	1 03.7	1 48	9.2
Mon Mar 15/Tue Mar 16	10 39	19 11	20 32	5 40	7 01	7 10	16 20	.....	21 33	7	1 47.2	6 48	9.1
Tue Mar 16/Wed Mar 17	10 43	19 12	20 33	5 38	6 59	7 15	16 22	.....	22 31	13	2 31.3	11 31	9.1
Wed Mar 17/Thu Mar 18	10 47	19 13	20 34	5 37	6 58	7 20	16 24	.....	23 29	20	3 16.7	15 47	9.0
Thu Mar 18/Fri Mar 19	10 51	19 14	20 35	5 35	6 56	7 25	16 27	.....	0 27	28	4 03.8	19 26	9.0
Fri Mar 19/Sat Mar 20	10 55	19 15	20 36	5 34	6 55	7 30	16 29	.....	1 26	37	4 53.3	22 17	9.0
Sat Mar 20/Sun Mar 21	10 58	19 16	20 37	5 32	6 53	7 35	16 31	.....	2 23	46	5 45.2	24 11	8.9
Sun Mar 21/Mon Mar 22	11 02	19 17	20 38	5 30	6 52	7 40	16 34	.....	3 17	56	6 39.2	24 56	8.9
Mon Mar 22/Tue Mar 23	11 06	19 18	20 39	5 29	6 50	7 45	16 36	.....	4 07	66	7 34.8	24 25	8.8
Tue Mar 23/Wed Mar 24	11 10	19 19	20 40	5 27	6 49	7 50	16 38	.....	4 52	75	8 31.1	22 34	8.8
Wed Mar 24/Thu Mar 25	11 14	19 19	20 41	5 26	6 47	7 55	16 41	.....	5 32	84	9 27.3	19 23	8.7
Thu Mar 25/Fri Mar 26	11 18	19 20	20 42	5 24	6 46	8 00	16 43	.....	6 08	91	10 22.9	14 59	8.7
Fri Mar 26/Sat Mar 27	11 22	19 21	20 43	5 22	6 44	8 05	16 45	.....	6 40	97	11 17.7	9 34	8.7
Sat Mar 27/Sun Mar 28	11 26	19 22	20 44	5 21	6 43	8 10	16 48	.....	18 11	100	12 12.0	3 27	8.6
Sun Mar 28/Mon Mar 29	11 30	19 23	20 45	5 19	6 41	8 15	16 50	.....	19 24	99	13 06.5	- 2 59	8.6
Mon Mar 29/Tue Mar 30	11 34	19 24	20 46	5 17	6 40	8 20	16 52	.....	20 37	96	14 01.9	- 9 19	8.5
Tue Mar 30/Wed Mar 31	11 38	19 25	20 47	5 16	6 38	8 25	16 55	.....	21 51	90	14 58.9	-15 07	8.5
Wed Mar 31/Thu Apr 01	11 42	19 26	20 48	5 14	6 37	8 30	16 57	.....	23 06	82	15 57.9	-19 56	8.4

***** 2021 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	
Thu Apr 01/Fri Apr 02	11 46	19 27	20 49	5 12	6 35	8 35	16 59	0 19	.....	73	16 58.7	-23 27	8.4
Fri Apr 02/Sat Apr 03	11 50	19 27	20 50	5 11	6 34	8 40	17 01	1 27	.....	62	18 00.4	-25 26	8.3
Sat Apr 03/Sun Apr 04	11 54	19 28	20 52	5 09	6 32	8 45	17 04	2 28	.....	51	19 01.5	-25 48	8.3
Sun Apr 04/Mon Apr 05	11 58	19 29	20 53	5 07	6 31	8 50	17 06	3 20	.....	40	20 00.6	-24 41	8.2
Mon Apr 05/Tue Apr 06	12 02	19 30	20 54	5 06	6 29	8 55	17 08	4 04	.....	30	20 56.5	-22 15	8.2
Tue Apr 06/Wed Apr 07	12 06	19 31	20 55	5 04	6 28	9 00	17 10	4 41	.....	21	21 49.0	-18 47	8.2
Wed Apr 07/Thu Apr 08	12 09	19 32	20 56	5 02	6 26	9 05	17 13	5 12	.....	14	22 38.3	-14 33	8.1
Thu Apr 08/Fri Apr 09	12 13	19 33	20 57	5 01	6 25	9 10	17 15	5 40	.....	8	23 24.8	- 9 48	8.1
Fri Apr 09/Sat Apr 10	12 17	19 34	20 58	4 59	6 24	9 15	17 17	6 05	17 29	3	0 09.4	- 4 46	8.0
Sat Apr 10/Sun Apr 11	12 21	19 35	20 59	4 57	6 22	9 20	17 19	6 30	18 28	1	0 52.8	0 23	8.0
Sun Apr 11/Mon Apr 12	12 25	19 35	21 01	4 56	6 21	9 25	17 22	.....	19 25	0	1 36.0	5 27	7.9
Mon Apr 12/Tue Apr 13	12 29	19 36	21 02	4 54	6 19	9 30	17 24	.....	20 23	1	2 19.6	10 17	7.9
Tue Apr 13/Wed Apr 14	12 33	19 37	21 03	4 52	6 18	9 36	17 26	.....	21 21	4	3 04.4	14 42	7.8
Wed Apr 14/Thu Apr 15	12 37	19 38	21 04	4 51	6 17	9 41	17 29	.....	22 19	9	3 50.8	18 33	7.8
Thu Apr 15/Fri Apr 16	12 41	19 39	21 05	4 49	6 15	9 46	17 31	.....	23 18	15	4 39.3	21 38	7.7
Fri Apr 16/Sat Apr 17	12 45	19 40	21 06	4 47	6 14	9 51	17 33	.....	0 15	22	5 29.9	23 49	7.7
Sat Apr 17/Sun Apr 18	12 49	19 41	21 08	4 46	6 13	9 56	17 35	.....	1 10	30	6 22.5	24 55	7.6
Sun Apr 18/Mon Apr 19	12 53	19 42	21 09	4 44	6 11	10 01	17 38	.....	2 01	39	7 16.5	24 49	7.6
Mon Apr 19/Tue Apr 20	12 57	19 43	21 10	4 43	6 10	10 06	17 40	.....	2 47	49	8 11.1	23 28	7.5
Tue Apr 20/Wed Apr 21	13 01	19 44	21 11	4 41	6 09	10 12	17 42	.....	3 28	60	9 05.8	20 49	7.5
Wed Apr 21/Thu Apr 22	13 05	19 44	21 12	4 39	6 07	10 17	17 45	.....	4 04	70	9 59.9	16 59	7.4
Thu Apr 22/Fri Apr 23	13 09	19 45	21 14	4 38	6 06	10 22	17 47	.....	4 37	80	10 53.4	12 04	7.4
Fri Apr 23/Sat Apr 24	13 13	19 46	21 15	4 36	6 05	10 27	17 49	.....	5 08	88	11 46.7	6 18	7.4
Sat Apr 24/Sun Apr 25	13 16	19 47	21 16	4 34	6 03	10 32	17 52	.....	5 38	95	12 40.3	- 0 01	7.3
Sun Apr 25/Mon Apr 26	13 20	19 48	21 17	4 33	6 02	10 37	17 54	.....	6 10	99	13 35.2	- 6 31	7.3
Mon Apr 26/Tue Apr 27	13 24	19 49	21 19	4 31	6 01	10 43	17 56	.....	19 25	100	14 32.2	-12 46	7.2
Tue Apr 27/Wed Apr 28	13 28	19 50	21 20	4 30	6 00	10 48	17 59	.....	20 41	98	15 31.9	-18 16	7.2
Wed Apr 28/Thu Apr 29	13 32	19 51	21 21	4 28	5 59	10 53	18 01	.....	21 58	93	16 34.3	-22 32	7.1
Thu Apr 29/Fri Apr 30	13 36	19 52	21 23	4 27	5 57	10 58	18 04	.....	23 11	85	17 38.4	-25 15	7.1
Fri Apr 30/Sat May 01	13 40	19 53	21 24	4 25	5 56	11 03	18 06	.....	0 18	76	18 42.5	-26 12	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.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2021 MAY *****

Date (eve/morn)	LMST midn	----- Sun: -----			LST twilight:		----- Moon: -----				Twi-Twi		
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Sat May 01/Sun May 02	13 44	19 54	21 25	4 24	5 55	11 09	18 09	1 16	.....	66	19 44.7	-25 28	7.0
Sun May 02/Mon May 03	13 48	19 54	21 26	4 22	5 54	11 14	18 11	2 04	.....	55	20 43.3	-23 17	6.9
Mon May 03/Tue May 04	13 52	19 55	21 28	4 21	5 53	11 19	18 13	2 43	.....	45	21 37.8	-19 57	6.9
Tue May 04/Wed May 05	13 56	19 56	21 29	4 19	5 52	11 24	18 16	3 16	.....	35	22 28.4	-15 48	6.8
Wed May 05/Thu May 06	14 00	19 57	21 30	4 18	5 51	11 30	18 18	3 45	.....	26	23 15.6	-11 05	6.8
Thu May 06/Fri May 07	14 04	19 58	21 31	4 16	5 50	11 35	18 21	4 11	.....	18	0 00.4	- 6 04	6.7
Fri May 07/Sat May 08	14 08	19 59	21 33	4 15	5 49	11 40	18 23	4 35	.....	11	0 43.8	- 0 56	6.7
Sat May 08/Sun May 09	14 12	20 00	21 34	4 14	5 48	11 45	18 26	4 59	.....	6	1 26.7	4 10	6.7
Sun May 09/Mon May 10	14 16	20 01	21 35	4 12	5 47	11 51	18 29	5 24	18 17	2	2 09.8	9 04	6.6
Mon May 10/Tue May 11	14 20	20 02	21 37	4 11	5 46	11 56	18 31	5 51	19 14	0	2 54.0	13 36	6.6
Tue May 11/Wed May 12	14 23	20 03	21 38	4 10	5 45	12 01	18 34	6 21	20 13	0	3 39.9	17 37	6.5
Wed May 12/Thu May 13	14 27	20 03	21 39	4 08	5 44	12 06	18 37	.....	21 11	2	4 27.7	20 55	6.5
Thu May 13/Fri May 14	14 31	20 04	21 40	4 07	5 43	12 11	18 39	.....	22 10	5	5 17.7	23 20	6.4
Fri May 14/Sat May 15	14 35	20 05	21 42	4 06	5 42	12 17	18 42	.....	23 06	10	6 09.6	24 43	6.4
Sat May 15/Sun May 16	14 39	20 06	21 43	4 05	5 42	12 22	18 45	.....	23 58	17	7 02.7	24 56	6.4
Sun May 16/Mon May 17	14 43	20 07	21 44	4 04	5 41	12 27	18 47	.....	0 45	25	7 56.5	23 56	6.3
Mon May 17/Tue May 18	14 47	20 08	21 45	4 02	5 40	12 32	18 50	.....	1 26	34	8 49.9	21 42	6.3
Tue May 18/Wed May 19	14 51	20 09	21 47	4 01	5 39	12 37	18 53	.....	2 03	44	9 42.7	18 19	6.2
Wed May 19/Thu May 20	14 55	20 09	21 48	4 00	5 39	12 43	18 56	.....	2 36	55	10 34.6	13 53	6.2
Thu May 20/Fri May 21	14 59	20 10	21 49	3 59	5 38	12 48	18 59	.....	3 06	66	11 25.9	8 35	6.2
Fri May 21/Sat May 22	15 03	20 11	21 50	3 58	5 37	12 53	19 02	.....	3 36	76	12 17.5	2 39	6.1
Sat May 22/Sun May 23	15 07	20 12	21 51	3 57	5 37	12 58	19 05	.....	4 06	85	13 10.1	- 3 40	6.1
Sun May 23/Mon May 24	15 11	20 13	21 53	3 56	5 36	13 03	19 08	.....	4 38	93	14 04.8	- 9 59	6.1
Mon May 24/Tue May 25	15 15	20 13	21 54	3 55	5 35	13 08	19 11	18 12	5 15	98	15 02.7	-15 53	6.0
Tue May 25/Wed May 26	15 19	20 14	21 55	3 54	5 35	13 13	19 14	19 29	5 58	100	16 04.1	-20 51	6.0
Wed May 26/Thu May 27	15 23	20 15	21 56	3 53	5 34	13 18	19 17	20 46	.....	99	17 08.7	-24 24	6.0
Thu May 27/Fri May 28	15 27	20 16	21 57	3 53	5 34	13 23	19 20	21 59	.....	95	18 15.0	-26 13	5.9
Fri May 28/Sat May 29	15 31	20 16	21 58	3 52	5 33	13 28	19 23	23 03	.....	88	19 20.6	-26 10	5.9
Sat May 29/Sun May 30	15 34	20 17	21 59	3 51	5 33	13 33	19 26	23 57	.....	80	20 23.1	-24 25	5.9
Sun May 30/Mon May 31	15 38	20 18	22 00	3 50	5 33	13 38	19 29	0 41	.....	70	21 21.2	-21 19	5.8
Mon May 31/Tue Jun 01	15 42	20 18	22 01	3 50	5 32	13 43	19 33	1 18	.....	60	22 14.6	-17 14	5.8

***** 2021 JUNE *****

Date (eve/morn)	LMST midn	----- Sun: -----			LST twilight:		----- Moon: -----				Twi-Twi		
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Tue Jun 01/Wed Jun 02	15 46	20 19	22 02	3 49	5 32	13 48	19 36	1 48	.....	50	23 03.9	-12 32	5.8
Wed Jun 02/Thu Jun 03	15 50	20 20	22 03	3 48	5 32	13 53	19 39	2 15	.....	40	23 50.1	- 7 28	5.8
Thu Jun 03/Fri Jun 04	15 54	20 20	22 04	3 48	5 31	13 58	19 43	2 40	.....	31	0 34.2	- 2 16	5.7
Fri Jun 04/Sat Jun 05	15 58	20 21	22 05	3 47	5 31	14 03	19 46	3 04	.....	22	1 17.3	2 53	5.7
Sat Jun 05/Sun Jun 06	16 02	20 22	22 06	3 47	5 31	14 07	19 50	3 29	.....	15	2 00.3	7 51	5.7
Sun Jun 06/Mon Jun 07	16 06	20 22	22 06	3 46	5 31	14 12	19 53	3 55	.....	9	2 44.1	12 30	5.7
Mon Jun 07/Tue Jun 08	16 10	20 23	22 07	3 46	5 31	14 17	19 57	4 24	18 06	4	3 29.5	16 38	5.6
Tue Jun 08/Wed Jun 09	16 14	20 23	22 08	3 46	5 30	14 22	20 00	4 57	19 05	1	4 16.8	20 07	5.6
Wed Jun 09/Thu Jun 10	16 18	20 24	22 09	3 45	5 30	14 26	20 04	5 35	20 03	0	5 06.3	22 46	5.6
Thu Jun 10/Fri Jun 11	16 22	20 24	22 09	3 45	5 30	14 31	20 08	6 20	21 01	1	5 57.9	24 24	5.6
Fri Jun 11/Sat Jun 12	16 26	20 25	22 10	3 45	5 30	14 35	20 11	.....	21 54	3	6 50.9	24 53	5.6
Sat Jun 12/Sun Jun 13	16 30	20 25	22 10	3 45	5 30	14 40	20 15	.....	22 43	7	7 44.5	24 09	5.6
Sun Jun 13/Mon Jun 14	16 34	20 26	22 11	3 45	5 30	14 44	20 19	.....	23 27	13	8 37.8	22 12	5.6
Mon Jun 14/Tue Jun 15	16 38	20 26	22 12	3 45	5 30	14 49	20 23	.....	0 05	21	9 30.1	19 07	5.6
Tue Jun 15/Wed Jun 16	16 41	20 26	22 12	3 45	5 30	14 53	20 27	.....	0 38	30	10 21.2	15 00	5.5
Wed Jun 16/Thu Jun 17	16 45	20 27	22 12	3 45	5 30	14 58	20 31	.....	1 08	40	11 11.3	10 03	5.5
Thu Jun 17/Fri Jun 18	16 49	20 27	22 13	3 45	5 31	15 02	20 35	.....	1 37	51	12 01.1	4 28	5.5
Fri Jun 18/Sat Jun 19	16 53	20 27	22 13	3 45	5 31	15 06	20 39	.....	2 06	62	12 51.3	- 1 33	5.5
Sat Jun 19/Sun Jun 20	16 57	20 27	22 13	3 45	5 31	15 10	20 43	.....	2 36	73	13 43.2	- 7 41	5.5
Sun Jun 20/Mon Jun 21	17 01	20 28	22 14	3 45	5 31	15 15	20 47	.....	3 09	83	14 37.8	-13 36	5.5
Mon Jun 21/Tue Jun 22	17 05	20 28	22 14	3 45	5 31	15 19	20 51	.....	3 47	91	15 36.1	-18 52	5.5
Tue Jun 22/Wed Jun 23	17 09	20 28	22 14	3 46	5 32	15 23	20 55	18 19	4 33	97	16 38.3	-23 03	5.5
Wed Jun 23/Thu Jun 24	17 13	20 28	22 14	3 46	5 32	15 27	21 00	19 33	5 27	100	17 43.9	-25 41	5.5
Thu Jun 24/Fri Jun 25	17 17	20 28	22 14	3 47	5 32	15 31	21 04	20 43	.....	99	18 50.6	-26 30	5.5
Fri Jun 25/Sat Jun 26	17 21	20 28	22 14	3 47	5 33	15 35	21 08	21 43	.....	96	19 56.0	-25 27	5.5
Sat Jun 26/Sun Jun 27	17 25	20 29	22 14	3 47	5 33	15 39	21 13	22 33	.....	91	20 57.7	-22 48	5.6
Sun Jun 27/Mon Jun 28	17 29	20 29	22 14	3 48	5 33	15 43	21 17	23 14	.....	84	21 54.7	-18 56	5.6
Mon Jun 28/Tue Jun 29	17 33	20 29	22 14	3 48	5 34	15 46	21 22	23 48	.....	75	22 47.1	-14 16	5.6
Tue Jun 29/Wed Jun 30	17 37	20 29	22 14	3 49	5 34	15 50	21 26	0 17	.....	65	23 35.7	- 9 08	5.6
Wed Jun 30/Thu Jul 01	17 41	20 28	22 13	3 50	5 35	15 54	21 31	0 43	.....	55	0 21.4	- 3 49	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.

***** 2021 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	
Thu Jul 01/Fri Jul 02		17 45	20 28	22 13	3 50	5 35	15 57	21 36	1 08	.....	46	1 05.5	1 29	5.6
Fri Jul 02/Sat Jul 03		17 49	20 28	22 13	3 51	5 36	16 01	21 40	1 32	.....	36	1 49.0	6 35	5.6
Sat Jul 03/Sun Jul 04		17 52	20 28	22 13	3 52	5 36	16 05	21 45	1 58	.....	27	2 32.9	11 21	5.7
Sun Jul 04/Mon Jul 05		17 56	20 28	22 12	3 53	5 37	16 08	21 50	2 25	.....	19	3 18.0	15 38	5.7
Mon Jul 05/Tue Jul 06		18 00	20 28	22 12	3 53	5 37	16 12	21 54	2 57	.....	13	4 04.9	19 18	5.7
Tue Jul 06/Wed Jul 07		18 04	20 27	22 11	3 54	5 38	16 15	21 59	3 33	17 56	7	4 54.0	22 10	5.7
Wed Jul 07/Thu Jul 08		18 08	20 27	22 11	3 55	5 38	16 19	22 04	4 16	18 54	3	5 45.2	24 03	5.7
Thu Jul 08/Fri Jul 09		18 12	20 27	22 10	3 56	5 39	16 22	22 09	5 05	19 49	1	6 38.1	24 48	5.8
Fri Jul 09/Sat Jul 10		18 16	20 27	22 09	3 57	5 40	16 25	22 14	6 01	20 40	0	7 32.0	24 21	5.8
Sat Jul 10/Sun Jul 11		18 20	20 26	22 09	3 58	5 40	16 28	22 18	.....	21 26	2	8 25.7	22 38	5.8
Sun Jul 11/Mon Jul 12		18 24	20 26	22 08	3 59	5 41	16 32	22 23	.....	22 06	5	9 18.6	19 46	5.8
Mon Jul 12/Tue Jul 13		18 28	20 25	22 07	4 00	5 42	16 35	22 28	.....	22 40	11	10 10.0	15 50	5.9
Tue Jul 13/Wed Jul 14		18 32	20 25	22 07	4 01	5 42	16 38	22 33	.....	23 12	18	11 00.1	11 04	5.9
Wed Jul 14/Thu Jul 15		18 36	20 24	22 06	4 02	5 43	16 41	22 38	.....	23 41	27	11 49.3	5 39	5.9
Thu Jul 15/Fri Jul 16		18 40	20 24	22 05	4 03	5 44	16 44	22 43	.....	0 08	37	12 38.4	- 0 10	6.0
Fri Jul 16/Sat Jul 17		18 44	20 23	22 04	4 04	5 45	16 47	22 48	.....	0 37	48	13 28.4	- 6 08	6.0
Sat Jul 17/Sun Jul 18		18 48	20 23	22 03	4 05	5 45	16 50	22 53	.....	1 08	59	14 20.4	-11 57	6.0
Sun Jul 18/Mon Jul 19		18 52	20 22	22 02	4 06	5 46	16 53	22 58	.....	1 43	71	15 15.5	-17 17	6.1
Mon Jul 19/Tue Jul 20		18 56	20 22	22 01	4 07	5 47	16 56	23 03	.....	2 24	81	16 14.3	-21 45	6.1
Tue Jul 20/Wed Jul 21		18 59	20 21	22 00	4 08	5 48	16 59	23 09	.....	3 13	89	17 16.9	-24 54	6.1
Wed Jul 21/Thu Jul 22		19 03	20 20	21 59	4 10	5 48	17 02	23 14	18 23	4 11	95	18 22.0	-26 26	6.2
Thu Jul 22/Fri Jul 23		19 07	20 19	21 58	4 11	5 49	17 05	23 19	19 27	5 17	99	19 27.5	-26 08	6.2
Fri Jul 23/Sat Jul 24		19 11	20 19	21 57	4 12	5 50	17 08	23 24	20 21	6 27	100	20 31.0	-24 08	6.3
Sat Jul 24/Sun Jul 25		19 15	20 18	21 56	4 13	5 51	17 10	23 29	21 06	.....	98	21 30.6	-20 40	6.3
Sun Jul 25/Mon Jul 26		19 19	20 17	21 54	4 14	5 51	17 13	23 34	21 44	.....	94	22 25.8	-16 11	6.3
Mon Jul 26/Tue Jul 27		19 23	20 16	21 53	4 15	5 52	17 16	23 39	22 15	.....	87	23 16.9	-11 03	6.4
Tue Jul 27/Wed Jul 28		19 27	20 15	21 52	4 17	5 53	17 19	23 44	22 43	.....	80	0 04.7	- 5 38	6.4
Wed Jul 28/Thu Jul 29		19 31	20 15	21 51	4 18	5 54	17 21	23 50	23 09	.....	71	0 50.4	- 0 10	6.5
Thu Jul 29/Fri Jul 30		19 35	20 14	21 49	4 19	5 55	17 24	23 55	23 34	.....	62	1 34.9	5 08	6.5
Fri Jul 30/Sat Jul 31		19 39	20 13	21 48	4 20	5 56	17 27	24 00	23 59	.....	52	2 19.3	10 07	6.5
Sat Jul 31/Sun Aug 01		19 43	20 12	21 47	4 22	5 56	17 29	0 05	0 26	.....	43	3 04.5	14 37	6.6

***** 2021 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	
Sun Aug 01/Mon Aug 02		19 47	20 11	21 45	4 23	5 57	17 32	0 10	0 56	.....	33	3 51.1	18 29	6.6
Mon Aug 02/Tue Aug 03		19 51	20 10	21 44	4 24	5 58	17 34	0 15	1 30	.....	25	4 39.7	21 35	6.7
Tue Aug 03/Wed Aug 04		19 55	20 09	21 43	4 25	5 59	17 37	0 21	2 11	.....	17	5 30.4	23 44	6.7
Wed Aug 04/Thu Aug 05		19 59	20 08	21 41	4 26	6 00	17 39	0 26	2 58	17 41	11	6 23.1	24 48	6.8
Thu Aug 05/Fri Aug 06		20 03	20 07	21 40	4 28	6 01	17 42	0 31	3 52	18 34	5	7 17.0	24 39	6.8
Fri Aug 06/Sat Aug 07		20 07	20 06	21 38	4 29	6 01	17 44	0 36	4 51	19 22	2	8 11.1	23 15	6.8
Sat Aug 07/Sun Aug 08		20 10	20 05	21 37	4 30	6 02	17 47	0 41	5 55	20 04	0	9 04.7	20 36	6.9
Sun Aug 08/Mon Aug 09		20 14	20 03	21 35	4 31	6 03	17 49	0 46	.....	20 41	1	9 57.1	16 51	6.9
Mon Aug 09/Tue Aug 10		20 18	20 02	21 34	4 33	6 04	17 52	0 52	.....	21 14	3	10 48.1	12 11	7.0
Tue Aug 10/Wed Aug 11		20 22	20 01	21 32	4 34	6 05	17 54	0 57	.....	21 43	8	11 37.9	6 49	7.0
Wed Aug 11/Thu Aug 12		20 26	20 00	21 31	4 35	6 06	17 56	1 02	.....	22 12	15	12 27.2	1 00	7.1
Thu Aug 12/Fri Aug 13		20 30	19 59	21 29	4 36	6 07	17 59	1 07	.....	22 40	24	13 16.9	- 4 58	7.1
Fri Aug 13/Sat Aug 14		20 34	19 58	21 28	4 37	6 07	18 01	1 12	.....	23 10	34	14 08.0	-10 48	7.2
Sat Aug 14/Sun Aug 15		20 38	19 56	21 26	4 39	6 08	18 04	1 17	.....	23 43	46	15 01.4	-16 12	7.2
Sun Aug 15/Mon Aug 16		20 42	19 55	21 24	4 40	6 09	18 06	1 23	.....	0 21	57	15 57.9	-20 48	7.3
Mon Aug 16/Tue Aug 17		20 46	19 54	21 23	4 41	6 10	18 08	1 28	.....	1 06	68	16 57.8	-24 14	7.3
Tue Aug 17/Wed Aug 18		20 50	19 53	21 21	4 42	6 11	18 11	1 33	.....	1 59	78	18 00.4	-26 12	7.4
Wed Aug 18/Thu Aug 19		20 54	19 51	21 20	4 43	6 12	18 13	1 38	.....	3 01	87	19 04.2	-26 30	7.4
Thu Aug 19/Fri Aug 20		20 58	19 50	21 18	4 45	6 13	18 15	1 43	18 11	4 08	94	20 07.1	-25 05	7.4
Fri Aug 20/Sat Aug 21		21 02	19 49	21 16	4 46	6 13	18 17	1 48	18 59	5 18	98	21 07.3	-22 09	7.5
Sat Aug 21/Sun Aug 22		21 06	19 47	21 15	4 47	6 14	18 20	1 53	19 39	6 26	100	22 03.8	-18 00	7.5
Sun Aug 22/Mon Aug 23		21 10	19 46	21 13	4 48	6 15	18 22	1 58	20 13	.....	99	22 56.4	-13 02	7.6
Mon Aug 23/Tue Aug 24		21 14	19 45	21 11	4 49	6 16	18 24	2 03	20 42	.....	96	23 45.8	- 7 37	7.6
Tue Aug 24/Wed Aug 25		21 17	19 43	21 10	4 50	6 17	18 27	2 08	21 09	.....	91	0 32.8	- 2 01	7.7
Wed Aug 25/Thu Aug 26		21 21	19 42	21 08	4 51	6 18	18 29	2 14	21 34	.....	85	1 18.4	3 29	7.7
Thu Aug 26/Fri Aug 27		21 25	19 40	21 06	4 52	6 18	18 31	2 19	21 59	.....	77	2 03.5	8 43	7.8
Fri Aug 27/Sat Aug 28		21 29	19 39	21 05	4 54	6 19	18 33	2 24	22 26	.....	68	2 49.0	13 28	7.8
Sat Aug 28/Sun Aug 29		21 33	19 37	21 03	4 55	6 20	18 36	2 29	22 54	.....	59	3 35.6	17 37	7.9
Sun Aug 29/Mon Aug 30		21 37	19 36	21 01	4 56	6 21	18 38	2 34	23 27	.....	50	4 23.8	21 00	7.9
Mon Aug 30/Tue Aug 31		21 41	19 35	20 59	4 57	6 22	18 40	2 39	0 05	.....	40	5 14.1	23 28	8.0
Tue Aug 31/Wed Sep 01		21 45	19 33	20 58	4 58	6 23	18 42	2 44	0 49	.....	31	6 06.1	24 52	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.

***** 2021 SEPTEMBER *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Wed Sep 01/Thu Sep 02	21 49	19 32	20 56	4 59	6 23	18 45	2 49	1 40	.....	22	6 59.6	25 06	8.0
Thu Sep 02/Fri Sep 03	21 53	19 30	20 54	5 00	6 24	18 47	2 54	2 37	17 15	15	7 53.7	24 03	8.1
Fri Sep 03/Sat Sep 04	21 57	19 29	20 53	5 01	6 25	18 49	2 59	3 40	17 59	8	8 47.6	21 46	8.1
Sat Sep 04/Sun Sep 05	22 01	19 27	20 51	5 02	6 26	18 51	3 04	4 46	18 38	4	9 40.6	18 18	8.2
Sun Sep 05/Mon Sep 06	22 05	19 26	20 49	5 03	6 27	18 53	3 09	5 53	19 13	1	10 32.5	13 48	8.2
Mon Sep 06/Tue Sep 07	22 09	19 24	20 47	5 04	6 27	18 56	3 14	7 01	19 44	0	11 23.2	8 29	8.3
Tue Sep 07/Wed Sep 08	22 13	19 23	20 46	5 05	6 28	18 58	3 19	.....	20 13	2	12 13.4	2 38	8.3
Wed Sep 08/Thu Sep 09	22 17	19 21	20 44	5 06	6 29	19 00	3 24	.....	20 42	6	13 03.8	- 3 29	8.4
Thu Sep 09/Fri Sep 10	22 21	19 20	20 42	5 07	6 30	19 02	3 29	.....	21 12	13	13 55.2	- 9 31	8.4
Fri Sep 10/Sat Sep 11	22 24	19 18	20 41	5 08	6 31	19 05	3 34	.....	21 44	22	14 48.6	-15 08	8.5
Sat Sep 11/Sun Sep 12	22 28	19 17	20 39	5 09	6 32	19 07	3 38	.....	22 21	32	15 44.6	-19 58	8.5
Sun Sep 12/Mon Sep 13	22 32	19 15	20 37	5 10	6 32	19 09	3 43	.....	23 03	43	16 43.5	-23 42	8.5
Mon Sep 13/Tue Sep 14	22 36	19 14	20 36	5 11	6 33	19 11	3 48	.....	23 54	54	17 44.9	-26 00	8.6
Tue Sep 14/Wed Sep 15	22 40	19 12	20 34	5 12	6 34	19 14	3 53	.....	0 52	65	18 47.4	-26 41	8.6
Wed Sep 15/Thu Sep 16	22 44	19 11	20 32	5 13	6 35	19 16	3 58	.....	1 57	76	19 49.3	-25 42	8.7
Thu Sep 16/Fri Sep 17	22 48	19 09	20 31	5 14	6 36	19 18	4 03	16 56	3 04	84	20 48.9	-23 13	8.7
Fri Sep 17/Sat Sep 18	22 52	19 08	20 29	5 15	6 36	19 20	4 08	17 38	4 12	91	21 45.3	-19 27	8.8
Sat Sep 18/Sun Sep 19	22 56	19 06	20 27	5 16	6 37	19 23	4 13	18 13	5 18	96	22 38.2	-14 46	8.8
Sun Sep 19/Mon Sep 20	23 00	19 04	20 26	5 17	6 38	19 25	4 18	18 43	6 22	99	23 28.0	- 9 29	8.9
Mon Sep 20/Tue Sep 21	23 04	19 03	20 24	5 18	6 39	19 27	4 23	19 10	.....	100	0 15.5	- 3 53	8.9
Tue Sep 21/Wed Sep 22	23 08	19 01	20 22	5 19	6 40	19 30	4 27	19 35	.....	98	1 01.5	1 44	8.9
Wed Sep 22/Thu Sep 23	23 12	19 00	20 21	5 20	6 41	19 32	4 32	20 00	.....	94	1 46.9	7 09	9.0
Thu Sep 23/Fri Sep 24	23 16	18 58	20 19	5 21	6 41	19 34	4 37	20 26	.....	89	2 32.6	12 11	9.0
Fri Sep 24/Sat Sep 25	23 20	18 57	20 17	5 21	6 42	19 37	4 42	20 54	.....	83	3 19.3	16 38	9.1
Sat Sep 25/Sun Sep 26	23 24	18 55	20 16	5 22	6 43	19 39	4 47	21 24	.....	75	4 07.4	20 20	9.1
Sun Sep 26/Mon Sep 27	23 28	18 54	20 14	5 23	6 44	19 41	4 52	22 00	.....	66	4 57.3	23 09	9.1
Mon Sep 27/Tue Sep 28	23 32	18 52	20 13	5 24	6 45	19 44	4 57	22 41	.....	57	5 48.8	24 55	9.2
Tue Sep 28/Wed Sep 29	23 35	18 51	20 11	5 25	6 46	19 46	5 01	23 28	.....	47	6 41.7	25 32	9.2
Wed Sep 29/Thu Sep 30	23 39	18 49	20 10	5 26	6 46	19 48	5 06	0 23	.....	38	7 35.3	24 54	9.3
Thu Sep 30/Fri Oct 01	23 43	18 48	20 08	5 27	6 47	19 51	5 11	1 22	.....	28	8 28.9	23 02	9.3

***** 2021 OCTOBER *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Fri Oct 01/Sat Oct 02	23 47	18 46	20 07	5 28	6 48	19 53	5 16	2 26	16 34	20	9 21.7	19 58	9.4
Sat Oct 02/Sun Oct 03	23 51	18 45	20 05	5 29	6 49	19 56	5 21	3 33	17 10	12	10 13.6	15 49	9.4
Sun Oct 03/Mon Oct 04	23 55	18 43	20 04	5 30	6 50	19 58	5 26	4 41	17 42	6	11 04.7	10 45	9.4
Mon Oct 04/Tue Oct 05	23 59	18 42	20 02	5 30	6 51	20 00	5 30	5 50	18 12	2	11 55.2	4 59	9.5
Tue Oct 05/Wed Oct 06	0 03	18 40	20 01	5 31	6 52	20 03	5 35	7 00	18 41	0	12 46.0	- 1 12	9.5
Wed Oct 06/Thu Oct 07	0 07	18 39	19 59	5 32	6 52	20 05	5 40	.....	19 10	1	13 37.9	- 7 28	9.6
Thu Oct 07/Fri Oct 08	0 11	18 38	19 58	5 33	6 53	20 08	5 45	.....	19 42	5	14 31.8	-13 26	9.6
Fri Oct 08/Sat Oct 09	0 15	18 36	19 56	5 34	6 54	20 10	5 50	.....	20 18	11	15 28.3	-18 43	9.6
Sat Oct 09/Sun Oct 10	0 19	18 35	19 55	5 35	6 55	20 13	5 55	.....	20 59	19	16 27.8	-22 54	9.7
Sun Oct 10/Mon Oct 11	0 23	18 33	19 53	5 36	6 56	20 15	5 59	.....	21 49	29	17 29.7	-25 39	9.7
Mon Oct 11/Tue Oct 12	0 27	18 32	19 52	5 37	6 57	20 18	6 04	.....	22 45	40	18 32.7	-26 44	9.7
Tue Oct 12/Wed Oct 13	0 31	18 30	19 51	5 37	6 58	20 21	6 09	.....	23 49	51	19 34.9	-26 08	9.8
Wed Oct 13/Thu Oct 14	0 35	18 29	19 49	5 38	6 59	20 23	6 14	.....	0 56	62	20 34.8	-23 59	9.8
Thu Oct 14/Fri Oct 15	0 39	18 28	19 48	5 39	7 00	20 26	6 19	.....	2 03	72	21 31.2	-20 32	9.9
Fri Oct 15/Sat Oct 16	0 42	18 26	19 47	5 40	7 01	20 28	6 24	16 15	3 09	81	22 24.0	-16 06	9.9
Sat Oct 16/Sun Oct 17	0 46	18 25	19 45	5 41	7 01	20 31	6 28	16 46	4 13	89	23 13.6	-11 01	9.9
Sun Oct 17/Mon Oct 18	0 50	18 24	19 44	5 42	7 02	20 34	6 33	17 13	5 15	94	0 00.8	- 5 32	10.0
Mon Oct 18/Tue Oct 19	0 54	18 22	19 43	5 43	7 03	20 36	6 38	17 39	6 15	98	0 46.6	0 04	10.0
Tue Oct 19/Wed Oct 20	0 58	18 21	19 42	5 44	7 04	20 39	6 43	18 03	7 14	100	1 31.8	5 35	10.0
Wed Oct 20/Thu Oct 21	1 02	18 20	19 40	5 44	7 05	20 42	6 48	18 28	.....	100	2 17.2	10 47	10.1
Thu Oct 21/Fri Oct 22	1 06	18 19	19 39	5 45	7 06	20 45	6 52	18 55	.....	97	3 03.6	15 30	10.1
Fri Oct 22/Sat Oct 23	1 10	18 17	19 38	5 46	7 07	20 47	6 57	19 24	.....	93	3 51.5	19 31	10.1
Sat Oct 23/Sun Oct 24	1 14	18 16	19 37	5 47	7 08	20 50	7 02	19 57	.....	88	4 41.2	22 40	10.2
Sun Oct 24/Mon Oct 25	1 18	18 15	19 36	5 48	7 09	20 53	7 07	20 36	.....	81	5 32.5	24 48	10.2
Mon Oct 25/Tue Oct 26	1 22	18 14	19 35	5 49	7 10	20 56	7 12	21 21	.....	73	6 25.1	25 48	10.2
Tue Oct 26/Wed Oct 27	1 26	18 13	19 34	5 50	7 11	20 59	7 17	22 12	.....	64	7 18.3	25 34	10.3
Wed Oct 27/Thu Oct 28	1 30	18 11	19 33	5 51	7 12	21 02	7 21	23 09	.....	55	8 11.4	24 07	10.3
Thu Oct 28/Fri Oct 29	1 34	18 10	19 31	5 52	7 13	21 04	7 26	0 10	.....	45	9 03.7	21 29	10.3
Fri Oct 29/Sat Oct 30	1 38	18 09	19 30	5 52	7 14	21 07	7 31	1 14	.....	35	9 55.0	17 46	10.4
Sat Oct 30/Sun Oct 31	1 42	18 08	19 29	5 53	7 15	21 10	7 36	2 19	.....	25	10 45.3	13 05	10.4
Sun Oct 31/Mon Nov 01	1 46	18 07	19 29	5 54	7 16	21 13	7 41	3 26	16 09	17	11 35.1	7 38	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.

***** 2021 NOVEMBER *****

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 Nov 01/Tue Nov 02	1 50	18 06	19 28	5 55	7 17	21 16	7 46	4 35	16 38	9	12 25.1	1 37	10.5
Tue Nov 02/Wed Nov 03	1 53	18 05	19 27	5 56	7 18	21 19	7 50	5 46	17 07	4	13 16.2	- 4 41	10.5
Wed Nov 03/Thu Nov 04	1 57	18 04	19 26	5 57	7 19	21 22	7 55	7 00	17 37	1	14 09.5	-10 54	10.5
Thu Nov 04/Fri Nov 05	2 01	18 03	19 25	5 58	7 20	21 26	8 00	.....	18 11	0	15 05.7	-16 38	10.5
Fri Nov 05/Sat Nov 06	2 05	18 02	19 24	5 59	7 21	21 29	8 05	.....	18 51	3	16 05.5	-21 25	10.6
Sat Nov 06/Sun Nov 07*	2 09	18 01	19 23	5 00	6 22	21 32	8 10	.....	19 38	8	17 08.4	-24 50	10.6
Sun Nov 07/Mon Nov 08	3 13	17 00	18 23	5 00	6 23	21 35	8 15	.....	19 34	16	18 16.4	-26 30	10.6
Mon Nov 08/Tue Nov 09	3 17	16 59	18 22	5 01	6 24	21 38	8 19	.....	20 37	26	19 20.5	-26 19	10.7
Tue Nov 09/Wed Nov 10	3 21	16 58	18 21	5 02	6 25	21 41	8 24	.....	21 45	36	20 22.0	-24 28	10.7
Wed Nov 10/Thu Nov 11	3 25	16 58	18 20	5 03	6 26	21 45	8 29	.....	22 54	47	21 19.7	-21 14	10.7
Thu Nov 11/Fri Nov 12	3 29	16 57	18 20	5 04	6 27	21 48	8 34	.....	0 02	58	22 13.2	-16 59	10.7
Fri Nov 12/Sat Nov 13	3 33	16 56	18 19	5 05	6 28	21 51	8 39	.....	1 06	68	23 03.1	-12 01	10.8
Sat Nov 13/Sun Nov 14	3 37	16 55	18 19	5 06	6 29	21 55	8 44	.....	2 08	77	23 50.2	- 6 39	10.8
Sun Nov 14/Mon Nov 15	3 41	16 55	18 18	5 07	6 30	21 58	8 49	.....	3 08	85	0 35.5	- 1 07	10.8
Mon Nov 15/Tue Nov 16	3 45	16 54	18 17	5 08	6 31	22 01	8 53	.....	4 07	91	1 20.1	4 22	10.8
Tue Nov 16/Wed Nov 17	3 49	16 53	18 17	5 09	6 32	22 05	8 58	.....	5 06	96	2 04.9	9 38	10.9
Wed Nov 17/Thu Nov 18	3 53	16 53	18 16	5 09	6 33	22 08	9 03	15 58	6 05	99	2 50.7	14 29	10.9
Thu Nov 18/Fri Nov 19	3 57	16 52	18 16	5 10	6 34	22 12	9 08	16 26	7 05	100	3 38.1	18 42	10.9
Fri Nov 19/Sat Nov 20	4 01	16 52	18 16	5 11	6 35	22 15	9 13	16 58	8 04	99	4 27.4	22 08	10.9
Sat Nov 20/Sun Nov 21	4 05	16 51	18 15	5 12	6 36	22 19	9 18	17 34	.....	97	5 18.7	24 35	10.9
Sun Nov 21/Mon Nov 22	4 09	16 51	18 15	5 13	6 37	22 22	9 22	18 17	.....	92	6 11.4	25 54	11.0
Mon Nov 22/Tue Nov 23	4 12	16 50	18 14	5 14	6 38	22 26	9 27	19 06	.....	86	7 04.9	26 00	11.0
Tue Nov 23/Wed Nov 24	4 16	16 50	18 14	5 15	6 39	22 30	9 32	20 00	.....	79	7 58.2	24 51	11.0
Wed Nov 24/Thu Nov 25	4 20	16 49	18 14	5 16	6 40	22 33	9 37	20 59	.....	71	8 50.5	22 31	11.0
Thu Nov 25/Fri Nov 26	4 24	16 49	18 14	5 16	6 41	22 37	9 42	22 01	.....	61	9 41.5	19 07	11.0
Fri Nov 26/Sat Nov 27	4 28	16 49	18 13	5 17	6 42	22 41	9 46	23 04	.....	51	10 31.1	14 46	11.1
Sat Nov 27/Sun Nov 28	4 32	16 48	18 13	5 18	6 43	22 45	9 51	0 08	.....	41	11 19.9	9 38	11.1
Sun Nov 28/Mon Nov 29	4 36	16 48	18 13	5 19	6 44	22 48	9 56	1 14	.....	30	12 08.4	3 54	11.1
Mon Nov 29/Tue Nov 30	4 40	16 48	18 13	5 20	6 45	22 52	10 01	2 21	.....	21	12 57.8	- 2 11	11.1
Tue Nov 30/Wed Dec 01	4 44	16 48	18 13	5 21	6 46	22 56	10 05	3 32	.....	12	13 49.1	- 8 22	11.1

***** 2021 DECEMBER *****

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 Dec 01/Thu Dec 02	4 48	16 47	18 13	5 21	6 47	23 00	10 10	4 46	.....	6	14 43.5	-14 16	11.1
Thu Dec 02/Fri Dec 03	4 52	16 47	18 13	5 22	6 48	23 04	10 15	6 03	15 40	1	15 41.7	-19 29	11.2
Fri Dec 03/Sat Dec 04	4 56	16 47	18 13	5 23	6 49	23 08	10 20	7 20	16 23	0	16 44.0	-23 31	11.2
Sat Dec 04/Sun Dec 05	5 00	16 47	18 13	5 24	6 50	23 12	10 24	.....	17 15	2	17 49.4	-25 57	11.2
Sun Dec 05/Mon Dec 06	5 04	16 47	18 13	5 24	6 50	23 16	10 29	.....	18 17	6	18 55.8	-26 30	11.2
Mon Dec 06/Tue Dec 07	5 08	16 47	18 13	5 25	6 51	23 20	10 34	.....	19 26	13	20 00.5	-25 13	11.2
Tue Dec 07/Wed Dec 08	5 12	16 47	18 13	5 26	6 52	23 24	10 38	.....	20 38	21	21 01.4	-22 19	11.2
Wed Dec 08/Thu Dec 09	5 16	16 47	18 13	5 27	6 53	23 28	10 43	.....	21 49	31	21 57.7	-18 14	11.2
Thu Dec 09/Fri Dec 10	5 19	16 47	18 14	5 27	6 54	23 32	10 48	.....	22 56	42	22 49.6	-13 21	11.2
Fri Dec 10/Sat Dec 11	5 23	16 48	18 14	5 28	6 54	23 36	10 52	.....	0 00	52	23 37.9	- 8 00	11.2
Sat Dec 11/Sun Dec 12	5 27	16 48	18 14	5 29	6 55	23 40	10 57	.....	1 02	62	0 23.8	- 2 28	11.2
Sun Dec 12/Mon Dec 13	5 31	16 48	18 14	5 29	6 56	23 45	11 02	.....	2 01	71	1 08.5	3 03	11.3
Mon Dec 13/Tue Dec 14	5 35	16 48	18 15	5 30	6 57	23 49	11 06	.....	3 00	80	1 52.8	8 21	11.3
Tue Dec 14/Wed Dec 15	5 39	16 48	18 15	5 31	6 57	23 53	11 11	.....	3 59	87	2 37.9	13 17	11.3
Wed Dec 15/Thu Dec 16	5 43	16 49	18 15	5 31	6 58	23 57	11 15	.....	4 58	93	3 24.5	17 40	11.3
Thu Dec 16/Fri Dec 17	5 47	16 49	18 16	5 32	6 58	0 02	11 20	.....	5 57	97	4 13.1	21 19	11.3
Fri Dec 17/Sat Dec 18	5 51	16 49	18 16	5 33	6 59	0 06	11 24	15 34	6 56	99	5 03.8	24 02	11.3
Sat Dec 18/Sun Dec 19	5 55	16 50	18 16	5 33	7 00	0 10	11 29	16 15	7 51	100	5 56.3	25 41	11.3
Sun Dec 19/Mon Dec 20	5 59	16 50	18 17	5 34	7 00	0 15	11 33	17 02	.....	99	6 50.0	26 07	11.3
Mon Dec 20/Tue Dec 21	6 03	16 51	18 17	5 34	7 01	0 19	11 38	17 55	.....	96	7 43.8	25 17	11.3
Tue Dec 21/Wed Dec 22	6 07	16 51	18 18	5 35	7 01	0 24	11 42	18 52	.....	91	8 36.7	23 15	11.3
Wed Dec 22/Thu Dec 23	6 11	16 52	18 18	5 35	7 02	0 28	11 47	19 53	.....	84	9 28.1	20 05	11.3
Thu Dec 23/Fri Dec 24	6 15	16 52	18 19	5 35	7 02	0 33	11 51	20 55	.....	77	10 17.9	15 59	11.3
Fri Dec 24/Sat Dec 25	6 19	16 53	18 19	5 36	7 02	0 37	11 55	21 58	.....	67	11 06.2	11 06	11.3
Sat Dec 25/Sun Dec 26	6 23	16 54	18 20	5 36	7 03	0 42	12 00	23 01	.....	57	11 53.7	5 38	11.3
Sun Dec 26/Mon Dec 27	6 27	16 54	18 21	5 37	7 03	0 46	12 04	0 06	.....	47	12 41.4	- 0 13	11.3
Mon Dec 27/Tue Dec 28	6 30	16 55	18 21	5 37	7 03	0 51	12 08	1 12	.....	36	13 30.4	- 6 12	11.3
Tue Dec 28/Wed Dec 29	6 34	16 55	18 22	5 37	7 04	0 55	12 13	2 21	.....	26	14 21.8	-12 04	11.3
Wed Dec 29/Thu Dec 30	6 38	16 56	18 23	5 38	7 04	1 00	12 17	3 34	.....	16	15 16.8	-17 26	11.3
Thu Dec 30/Fri Dec 31	6 42	16 57	18 23	5 38	7 04	1 05	12 21	4 50	.....	8	16 16.1	-21 55	11.2
Fri Dec 31/Sat Jan 01	6 46	16 58	18 24	5 38	7 04	1 09	12 25	6 06	.....	3	17 19.5	-25 03	11.2