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:

***** 2016 Night-time Astronomical Calendar for Cerro Tololo *****

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, with
a non-USA convention.

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 -0.9 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

[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.

MOON PHASES FOR 2016, at Cerro Tololo

Times and dates are given in local time, zone = 4 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 11 7 30	Dec 18 12 15	Dec 25 8 12	Jan 02 2 32
Jan 09 22 31	Jan 16 20 27	Jan 23 22 46	Feb 01 0 29
Feb 08 11 40	Feb 15 4 48	Feb 22 15 21	Mar 01 20 13
Mar 08 22 56	Mar 15 13 04	Mar 23 8 02	Mar 31 11 19
Apr 07 7 25	Apr 14 0 01	Apr 22 1 25	Apr 29 23 30
May 06 15 31	May 13 13 03	May 21 17 17	May 29 8 14
Jun 04 23 02	Jun 12 4 11	Jun 20 7 05	Jun 27 14 21
Jul 04 7 03	Jul 11 20 53	Jul 19 19 00	Jul 26 19 03
Aug 02 16 47	Aug 10 14 22	Aug 18 5 30	Aug 24 23 44
Sep 01 5 05	Sep 09 7 51	Sep 16 15 08	Sep 23 5 59
Sep 30 20 13	Oct 09 0 35	Oct 16 1 25	Oct 22 16 16
Oct 30 14 40	Nov 07 16 53	Nov 14 10 54	Nov 21 5 35
Nov 29 9 20	Dec 07 6 04	Dec 13 21 07	Dec 20 22 57
Dec 29 3 54	Jan 05 16 48	Jan 12 8 35	Jan 19 19 14

Calendar for Cerro Tololo, west longitude (h.m.s) = 4 43 16, latitude (d.m) = -30 09.9
Rise/set times in Chilean time (4 hr W), for 2215 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.

***** 2016 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
Fri Jan 01/Sat Jan 02	5 02	20 56	22 24	5 10	6 38	3 26	10 12	1 26	.....	51	12 41.7	- 2 17	6.8
Sat Jan 02/Sun Jan 03	5 05	20 56	22 24	5 10	6 39	3 30	10 17	2 00	.....	41	13 26.6	- 5 52	6.8
Sun Jan 03/Mon Jan 04	5 09	20 56	22 25	5 11	6 39	3 34	10 22	2 35	.....	32	14 12.4	- 9 12	6.8
Mon Jan 04/Tue Jan 05	5 13	20 57	22 25	5 12	6 40	3 38	10 26	3 12	.....	24	14 59.4	-12 11	6.8
Tue Jan 05/Wed Jan 06	5 17	20 57	22 25	5 13	6 41	3 42	10 31	3 53	.....	16	15 48.3	-14 40	6.8
Wed Jan 06/Thu Jan 07	5 21	20 57	22 24	5 14	6 42	3 45	10 36	4 38	17 52	10	16 39.2	-16 30	6.8
Thu Jan 07/Fri Jan 08	5 25	20 57	22 24	5 15	6 42	3 49	10 41	5 27	18 47	5	17 32.1	-17 32	6.8
Fri Jan 08/Sat Jan 09	5 29	20 57	22 24	5 16	6 43	3 53	10 46	6 21	19 41	1	18 26.7	-17 39	6.9
Sat Jan 09/Sun Jan 10	5 33	20 57	22 24	5 17	6 44	3 57	10 51	.....	20 33	0	19 22.4	-16 46	6.9
Sun Jan 10/Mon Jan 11	5 37	20 57	22 24	5 18	6 45	4 01	10 56	.....	21 22	1	20 18.5	-14 53	6.9
Mon Jan 11/Tue Jan 12	5 41	20 57	22 24	5 19	6 46	4 04	11 01	.....	22 09	5	21 14.3	-12 05	6.9
Tue Jan 12/Wed Jan 13	5 45	20 57	22 23	5 20	6 47	4 08	11 06	.....	22 53	11	22 09.5	- 8 31	7.0
Wed Jan 13/Thu Jan 14	5 49	20 57	22 23	5 21	6 48	4 11	11 11	.....	23 36	19	23 03.9	- 4 25	7.0
Thu Jan 14/Fri Jan 15	5 53	20 57	22 23	5 22	6 48	4 15	11 16	.....	0 16	29	23 57.9	- 0 00	7.0
Fri Jan 15/Sat Jan 16	5 57	20 56	22 22	5 24	6 49	4 19	11 21	.....	0 57	40	0 52.0	4 27	7.0
Sat Jan 16/Sun Jan 17	6 01	20 56	22 22	5 25	6 50	4 22	11 26	.....	1 39	51	1 46.5	8 42	7.0
Sun Jan 17/Mon Jan 18	6 05	20 56	22 21	5 26	6 51	4 26	11 31	.....	2 23	63	2 42.0	12 29	7.1
Mon Jan 18/Tue Jan 19	6 09	20 56	22 21	5 27	6 52	4 29	11 36	.....	3 09	73	3 38.6	15 34	7.1
Tue Jan 19/Wed Jan 20	6 13	20 55	22 20	5 28	6 53	4 32	11 41	.....	3 59	82	4 36.2	17 46	7.1
Wed Jan 20/Thu Jan 21	6 16	20 55	22 20	5 29	6 54	4 36	11 47	17 41	4 52	90	5 34.4	18 56	7.2
Thu Jan 21/Fri Jan 22	6 20	20 55	22 19	5 30	6 55	4 39	11 52	18 37	5 47	96	6 32.3	19 00	7.2
Fri Jan 22/Sat Jan 23	6 24	20 54	22 18	5 32	6 56	4 43	11 57	19 30	.....	99	7 29.0	18 02	7.2
Sat Jan 23/Sun Jan 24	6 28	20 54	22 18	5 33	6 56	4 46	12 02	20 17	.....	100	8 23.8	16 08	7.2
Sun Jan 24/Mon Jan 25	6 32	20 54	22 17	5 34	6 57	4 49	12 07	21 01	.....	99	9 16.3	13 28	7.3
Mon Jan 25/Tue Jan 26	6 36	20 53	22 16	5 35	6 58	4 52	12 12	21 40	.....	96	10 06.6	10 16	7.3
Tue Jan 26/Wed Jan 27	6 40	20 53	22 16	5 36	6 59	4 56	12 17	22 17	.....	91	10 54.7	6 42	7.3
Wed Jan 27/Thu Jan 28	6 44	20 52	22 15	5 37	7 00	4 59	12 22	22 52	.....	84	11 41.3	2 58	7.4
Thu Jan 28/Fri Jan 29	6 48	20 52	22 14	5 39	7 01	5 02	12 28	23 25	.....	77	12 26.9	- 0 48	7.4
Fri Jan 29/Sat Jan 30	6 52	20 51	22 13	5 40	7 02	5 05	12 33	23 59	.....	68	13 12.1	- 4 28	7.4
Sat Jan 30/Sun Jan 31	6 56	20 51	22 13	5 41	7 03	5 08	12 38	0 33	.....	59	13 57.6	- 7 55	7.5
Sun Jan 31/Mon Feb 01	7 00	20 50	22 12	5 42	7 04	5 11	12 43	1 09	.....	50	14 43.9	-11 02	7.5

***** 2016 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
Mon Feb 01/Tue Feb 02	7 04	20 49	22 11	5 43	7 05	5 14	12 48	1 47	.....	40	15 31.7	-13 41	7.5
Tue Feb 02/Wed Feb 03	7 08	20 49	22 10	5 44	7 06	5 17	12 53	2 29	.....	31	16 21.2	-15 46	7.6
Wed Feb 03/Thu Feb 04	7 12	20 48	22 09	5 46	7 06	5 20	12 58	3 16	.....	22	17 12.7	-17 07	7.6
Thu Feb 04/Fri Feb 05	7 16	20 47	22 08	5 47	7 07	5 23	13 03	4 07	17 27	14	18 06.2	-17 37	7.6
Fri Feb 05/Sat Feb 06	7 20	20 47	22 07	5 48	7 08	5 26	13 08	5 03	18 20	8	19 01.3	-17 10	7.7
Sat Feb 06/Sun Feb 07	7 23	20 46	22 06	5 49	7 09	5 29	13 13	6 03	19 11	3	19 57.5	-15 42	7.7
Sun Feb 07/Mon Feb 08	7 27	20 45	22 05	5 50	7 10	5 32	13 18	.....	20 00	0	20 54.0	-13 14	7.8
Mon Feb 08/Tue Feb 09	7 31	20 44	22 04	5 51	7 11	5 35	13 24	.....	20 46	0	21 50.5	- 9 54	7.8
Tue Feb 09/Wed Feb 10	7 35	20 44	22 03	5 52	7 12	5 38	13 29	.....	21 31	3	22 46.5	- 5 54	7.8
Wed Feb 10/Thu Feb 11	7 39	20 43	22 02	5 53	7 12	5 41	13 34	.....	22 14	8	23 42.1	- 1 29	7.9
Thu Feb 11/Fri Feb 12	7 43	20 42	22 01	5 55	7 13	5 44	13 39	.....	22 56	16	0 37.4	3 04	7.9
Fri Feb 12/Sat Feb 13	7 47	20 41	22 00	5 56	7 14	5 46	13 44	.....	23 39	25	1 32.8	7 28	7.9
Sat Feb 13/Sun Feb 14	7 51	20 40	21 59	5 57	7 15	5 49	13 49	.....	0 22	36	2 28.7	11 25	8.0
Sun Feb 14/Mon Feb 15	7 55	20 39	21 57	5 58	7 16	5 52	13 54	.....	1 08	47	3 25.1	14 42	8.0
Mon Feb 15/Tue Feb 16	7 59	20 38	21 56	5 59	7 17	5 55	13 59	.....	1 57	58	4 22.0	17 07	8.0
Tue Feb 16/Wed Feb 17	8 03	20 38	21 55	6 00	7 17	5 58	14 04	.....	2 48	69	5 19.2	18 33	8.1
Wed Feb 17/Thu Feb 18	8 07	20 37	21 54	6 01	7 18	6 00	14 09	.....	3 42	79	6 16.1	18 56	8.1
Thu Feb 18/Fri Feb 19	8 11	20 36	21 53	6 02	7 19	6 03	14 14	17 25	4 37	87	7 12.1	18 18	8.2
Fri Feb 19/Sat Feb 20	8 15	20 35	21 52	6 03	7 20	6 06	14 19	18 13	5 33	93	8 06.5	16 44	8.2
Sat Feb 20/Sun Feb 21	8 19	20 34	21 50	6 04	7 21	6 09	14 24	18 57	6 28	97	8 59.1	14 22	8.2
Sun Feb 21/Mon Feb 22	8 23	20 33	21 49	6 05	7 21	6 11	14 28	19 38	.....	100	9 49.7	11 23	8.3
Mon Feb 22/Tue Feb 23	8 27	20 32	21 48	6 06	7 22	6 14	14 33	20 15	.....	100	10 38.5	7 57	8.3
Tue Feb 23/Wed Feb 24	8 30	20 31	21 47	6 07	7 23	6 17	14 38	20 51	.....	98	11 25.7	4 16	8.3
Wed Feb 24/Thu Feb 25	8 34	20 30	21 46	6 08	7 24	6 20	14 43	21 25	.....	95	12 11.9	0 29	8.4
Thu Feb 25/Fri Feb 26	8 38	20 29	21 44	6 09	7 24	6 22	14 48	21 58	.....	90	12 57.6	- 3 15	8.4
Fri Feb 26/Sat Feb 27	8 42	20 27	21 43	6 10	7 25	6 25	14 53	22 32	.....	83	13 43.3	- 6 48	8.4
Sat Feb 27/Sun Feb 28	8 46	20 26	21 42	6 10	7 26	6 28	14 58	23 07	.....	75	14 29.4	-10 02	8.5
Sun Feb 28/Mon Feb 29	8 50	20 25	21 40	6 11	7 27	6 30	15 03	23 44	.....	67	15 16.5	-12 50	8.5
Mon Feb 29/Tue Mar 01	8 54	20 24	21 39	6 12	7 27	6 33	15 07	0 24	.....	58	16 05.0	-15 06	8.6

Calendar for Cerro Tololo, west longitude (h.m.s) = 4 43 16, latitude (d.m) = -30 09.9
Rise/set times in Chilean time (4 hr W), for 2215 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.

***** 2016 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	8 58	20 23	21 38	6 13	7 28	6 36	15 12	1 08	.....	48	16 55.1	-16 42	8.6
Wed Mar 02/Thu Mar 03	9 02	20 22	21 37	6 14	7 29	6 38	15 17	1 55	.....	38	17 47.0	-17 30	8.6
Thu Mar 03/Fri Mar 04	9 06	20 21	21 35	6 15	7 30	6 41	15 22	2 48	.....	28	18 40.4	-17 26	8.7
Fri Mar 04/Sat Mar 05	9 10	20 20	21 34	6 16	7 30	6 44	15 27	3 45	16 58	19	19 35.1	-16 24	8.7
Sat Mar 05/Sun Mar 06	9 14	20 18	21 33	6 17	7 31	6 46	15 31	4 45	17 47	12	20 30.8	-14 23	8.7
Sun Mar 06/Mon Mar 07	9 18	20 17	21 32	6 17	7 32	6 49	15 36	5 49	18 34	5	21 27.0	-11 26	8.8
Mon Mar 07/Tue Mar 08	9 22	20 16	21 30	6 18	7 32	6 52	15 41	6 55	19 20	1	22 23.3	- 7 42	8.8
Tue Mar 08/Wed Mar 09	9 26	20 15	21 29	6 19	7 33	6 54	15 46	.....	20 04	0	23 19.8	- 3 23	8.8
Wed Mar 09/Thu Mar 10	9 30	20 14	21 28	6 20	7 34	6 57	15 50	.....	20 48	2	0 16.4	1 14	8.9
Thu Mar 10/Fri Mar 11	9 34	20 13	21 26	6 21	7 34	6 59	15 55	.....	21 32	6	1 13.2	5 50	8.9
Fri Mar 11/Sat Mar 12	9 38	20 11	21 25	6 21	7 35	7 02	16 00	.....	22 17	13	2 10.6	10 04	8.9
Sat Mar 12/Sun Mar 13*	9 41	20 10	21 24	5 22	6 36	7 05	16 05	.....	23 04	22	3 08.3	13 40	9.0
Sun Mar 13/Mon Mar 14	10 46	19 09	20 22	5 23	6 36	7 07	16 09	.....	22 53	32	4 08.9	16 26	9.0
Mon Mar 14/Tue Mar 15	10 50	19 08	20 21	5 24	6 37	7 10	16 14	.....	23 44	43	5 06.7	18 07	9.0
Tue Mar 15/Wed Mar 16	10 53	19 07	20 20	5 24	6 38	7 13	16 19	.....	0 38	54	6 03.9	18 45	9.1
Wed Mar 16/Thu Mar 17	10 57	19 05	20 19	5 25	6 38	7 15	16 23	.....	1 33	65	6 59.8	18 20	9.1
Thu Mar 17/Fri Mar 18	11 01	19 04	20 17	5 26	6 39	7 18	16 28	.....	2 28	74	7 54.0	16 59	9.1
Fri Mar 18/Sat Mar 19	11 05	19 03	20 16	5 26	6 39	7 21	16 33	.....	3 23	83	8 46.4	14 50	9.2
Sat Mar 19/Sun Mar 20	11 09	19 02	20 15	5 27	6 40	7 23	16 37	.....	4 18	90	9 36.7	12 02	9.2
Sun Mar 20/Mon Mar 21	11 13	19 01	20 13	5 28	6 41	7 26	16 42	17 15	5 12	95	10 25.4	8 45	9.2
Mon Mar 21/Tue Mar 22	11 17	18 59	20 12	5 28	6 41	7 29	16 46	17 51	6 04	98	11 12.7	5 08	9.3
Tue Mar 22/Wed Mar 23	11 21	18 58	20 11	5 29	6 42	7 31	16 51	18 25	6 57	100	11 59.1	1 23	9.3
Wed Mar 23/Thu Mar 24	11 25	18 57	20 10	5 30	6 42	7 34	16 56	18 59	.....	100	12 45.0	- 2 24	9.3
Thu Mar 24/Fri Mar 25	11 29	18 56	20 08	5 30	6 43	7 37	17 00	19 33	.....	97	13 30.9	- 6 02	9.4
Fri Mar 25/Sat Mar 26	11 33	18 55	20 07	5 31	6 44	7 39	17 05	20 07	.....	93	14 17.3	- 9 23	9.4
Sat Mar 26/Sun Mar 27	11 37	18 53	20 06	5 32	6 44	7 42	17 09	20 43	.....	88	15 04.5	-12 21	9.4
Sun Mar 27/Mon Mar 28	11 41	18 52	20 05	5 32	6 45	7 45	17 14	21 22	.....	81	15 52.9	-14 46	9.5
Mon Mar 28/Tue Mar 29	11 45	18 51	20 03	5 33	6 46	7 47	17 19	22 03	.....	73	16 42.5	-16 33	9.5
Tue Mar 29/Wed Mar 30	11 49	18 50	20 02	5 34	6 46	7 50	17 23	22 49	.....	64	17 33.6	-17 34	9.5
Wed Mar 30/Thu Mar 31	11 53	18 48	20 01	5 34	6 47	7 53	17 28	23 38	.....	54	18 25.9	-17 44	9.6
Thu Mar 31/Fri Apr 01	11 57	18 47	20 00	5 35	6 47	7 56	17 32	0 31	.....	44	19 19.3	-17 00	9.6

***** 2016 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 00	18 46	19 59	5 35	6 48	7 58	17 37	1 29	.....	34	20 13.4	-15 19	9.6
Sat Apr 02/Sun Apr 03	12 04	18 45	19 57	5 36	6 49	8 01	17 41	2 29	.....	24	21 08.1	-12 44	9.6
Sun Apr 03/Mon Apr 04	12 08	18 44	19 56	5 37	6 49	8 04	17 46	3 32	.....	15	22 03.3	- 9 19	9.7
Mon Apr 04/Tue Apr 05	12 12	18 43	19 55	5 37	6 50	8 07	17 50	4 38	16 53	8	22 58.8	- 5 14	9.7
Tue Apr 05/Wed Apr 06	12 16	18 41	19 54	5 38	6 50	8 09	17 55	5 45	17 36	3	23 54.9	- 0 43	9.7
Wed Apr 06/Thu Apr 07	12 20	18 40	19 53	5 38	6 51	8 12	17 59	6 53	18 20	0	0 51.8	3 56	9.8
Thu Apr 07/Fri Apr 08	12 24	18 39	19 52	5 39	6 52	8 15	18 04	.....	19 05	1	1 49.6	8 25	9.8
Fri Apr 08/Sat Apr 09	12 28	18 38	19 51	5 39	6 52	8 18	18 08	.....	19 52	4	2 48.4	12 22	9.8
Sat Apr 09/Sun Apr 10	12 32	18 37	19 49	5 40	6 53	8 21	18 13	.....	20 42	10	3 47.9	15 31	9.8
Sun Apr 10/Mon Apr 11	12 36	18 36	19 48	5 41	6 53	8 24	18 17	.....	21 34	19	4 47.5	17 38	9.9
Mon Apr 11/Tue Apr 12	12 40	18 35	19 47	5 41	6 54	8 26	18 22	.....	22 29	28	5 46.5	18 38	9.9
Tue Apr 12/Wed Apr 13	12 44	18 33	19 46	5 42	6 55	8 29	18 26	.....	23 26	39	6 44.1	18 31	9.9
Wed Apr 13/Thu Apr 14	12 48	18 32	19 45	5 42	6 55	8 32	18 31	.....	0 22	49	7 39.7	17 24	10.0
Thu Apr 14/Fri Apr 15	12 52	18 31	19 44	5 43	6 56	8 35	18 35	.....	1 18	60	8 32.9	15 26	10.0
Fri Apr 15/Sat Apr 16	12 56	18 30	19 43	5 43	6 56	8 38	18 40	.....	2 13	69	9 23.8	12 46	10.0
Sat Apr 16/Sun Apr 17	13 00	18 29	19 42	5 44	6 57	8 41	18 44	.....	3 07	78	10 12.7	9 36	10.0
Sun Apr 17/Mon Apr 18	13 04	18 28	19 41	5 44	6 58	8 44	18 49	.....	4 00	86	11 00.0	6 04	10.1
Mon Apr 18/Tue Apr 19	13 08	18 27	19 40	5 45	6 58	8 47	18 53	16 27	4 52	92	11 46.2	2 21	10.1
Tue Apr 19/Wed Apr 20	13 11	18 26	19 39	5 46	6 59	8 50	18 58	17 01	5 44	96	12 31.9	- 1 26	10.1
Wed Apr 20/Thu Apr 21	13 15	18 25	19 38	5 46	6 59	8 53	19 02	17 34	6 36	99	13 17.7	- 5 08	10.1
Thu Apr 21/Fri Apr 22	13 19	18 24	19 37	5 47	7 00	8 56	19 07	18 08	7 27	100	14 04.0	- 8 37	10.2
Fri Apr 22/Sat Apr 23	13 23	18 23	19 36	5 47	7 01	8 59	19 11	18 43	.....	99	14 51.1	-11 45	10.2
Sat Apr 23/Sun Apr 24	13 27	18 22	19 35	5 48	7 01	9 02	19 16	19 21	.....	96	15 39.5	-14 22	10.2
Sun Apr 24/Mon Apr 25	13 31	18 21	19 34	5 48	7 02	9 05	19 20	20 02	.....	92	16 29.1	-16 22	10.2
Mon Apr 25/Tue Apr 26	13 35	18 20	19 34	5 49	7 02	9 08	19 25	20 46	.....	86	17 20.0	-17 37	10.3
Tue Apr 26/Wed Apr 27	13 39	18 19	19 33	5 49	7 03	9 11	19 29	21 33	.....	78	18 12.0	-18 02	10.3
Wed Apr 27/Thu Apr 28	13 43	18 18	19 32	5 50	7 04	9 14	19 34	22 25	.....	69	19 04.8	-17 34	10.3
Thu Apr 28/Fri Apr 29	13 47	18 17	19 31	5 50	7 04	9 17	19 38	23 19	.....	59	19 58.0	-16 10	10.3
Fri Apr 29/Sat Apr 30	13 51	18 16	19 30	5 51	7 05	9 20	19 43	0 17	.....	49	20 51.4	-13 54	10.3
Sat Apr 30/Sun May 01	13 55	18 16	19 30	5 51	7 06	9 24	19 47	1 17	.....	38	21 45.0	-10 49	10.4

Calendar for Cerro Tololo, west longitude (h.m.s) = 4 43 16, latitude (d.m) = -30 09.9
Rise/set times in Chilean time (4 hr W), for 2215 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.

***** 2016 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	18 15	19 29	5 52	7 06	9 27	19 52	2 19	.....	28	22 38.8	- 7 02	10.4
Mon May 02/Tue May 03	14 03	18 14	19 28	5 52	7 07	9 30	19 56	3 23	.....	18	23 33.2	- 2 45	10.4
Tue May 03/Wed May 04	14 07	18 13	19 27	5 53	7 07	9 33	20 01	4 29	16 10	10	0 28.4	1 50	10.4
Wed May 04/Thu May 05	14 11	18 12	19 27	5 53	7 08	9 36	20 05	5 37	16 53	4	1 24.9	6 24	10.4
Thu May 05/Fri May 06	14 15	18 11	19 26	5 54	7 09	9 40	20 10	6 45	17 38	1	2 22.9	10 38	10.5
Fri May 06/Sat May 07	14 18	18 11	19 25	5 55	7 09	9 43	20 14	7 53	18 27	0	3 22.4	14 14	10.5
Sat May 07/Sun May 08	14 22	18 10	19 25	5 55	7 10	9 46	20 18	.....	19 19	3	4 22.9	16 52	10.5
Sun May 08/Mon May 09	14 26	18 09	19 24	5 56	7 11	9 50	20 23	.....	20 14	8	5 23.6	18 24	10.5
Mon May 09/Tue May 10	14 30	18 09	19 23	5 56	7 11	9 53	20 27	.....	21 12	15	6 23.4	18 44	10.5
Tue May 10/Wed May 11	14 34	18 08	19 23	5 57	7 12	9 56	20 32	.....	22 10	24	7 21.2	17 57	10.6
Wed May 11/Thu May 12	14 38	18 07	19 22	5 57	7 12	10 00	20 36	.....	23 09	34	8 16.5	16 13	10.6
Thu May 12/Fri May 13	14 42	18 07	19 22	5 58	7 13	10 03	20 41	.....	0 06	44	9 09.1	13 42	10.6
Fri May 13/Sat May 14	14 46	18 06	19 21	5 58	7 14	10 07	20 45	.....	1 01	54	9 59.1	10 37	10.6
Sat May 14/Sun May 15	14 50	18 05	19 21	5 59	7 14	10 10	20 50	.....	1 55	64	10 47.0	7 09	10.6
Sun May 15/Mon May 16	14 54	18 05	19 20	5 59	7 15	10 14	20 54	.....	2 48	73	11 33.5	3 27	10.6
Mon May 16/Tue May 17	14 58	18 04	19 20	6 00	7 15	10 17	20 59	.....	3 39	81	12 19.1	- 0 21	10.7
Tue May 17/Wed May 18	15 02	18 04	19 19	6 00	7 16	10 20	21 03	.....	4 31	88	13 04.6	- 4 06	10.7
Wed May 18/Thu May 19	15 06	18 03	19 19	6 01	7 17	10 24	21 07	16 09	5 23	93	13 50.5	- 7 42	10.7
Thu May 19/Fri May 20	15 10	18 03	19 19	6 01	7 17	10 28	21 12	16 44	6 15	97	14 37.4	-10 58	10.7
Fri May 20/Sat May 21	15 14	18 02	19 18	6 02	7 18	10 31	21 16	17 21	7 07	99	15 25.6	-13 48	10.7
Sat May 21/Sun May 22	15 18	18 02	19 18	6 02	7 18	10 35	21 21	18 01	8 00	100	16 15.2	-16 03	10.7
Sun May 22/Mon May 23	15 22	18 01	19 18	6 03	7 19	10 38	21 25	18 44	.....	98	17 06.3	-17 34	10.8
Mon May 23/Tue May 24	15 25	18 01	19 17	6 03	7 20	10 42	21 30	19 30	.....	95	17 58.7	-18 16	10.8
Tue May 24/Wed May 25	15 29	18 01	19 17	6 04	7 20	10 46	21 34	20 21	.....	89	18 51.8	-18 02	10.8
Wed May 25/Thu May 26	15 33	18 00	19 17	6 04	7 21	10 49	21 38	21 14	.....	82	19 45.3	-16 54	10.8
Thu May 26/Fri May 27	15 37	18 00	19 16	6 05	7 21	10 53	21 43	22 11	.....	74	20 38.7	-14 51	10.8
Fri May 27/Sat May 28	15 41	18 00	19 16	6 05	7 22	10 57	21 47	23 09	.....	64	21 31.8	-11 59	10.8
Sat May 28/Sun May 29	15 45	17 59	19 16	6 05	7 22	11 00	21 52	0 09	.....	53	22 24.7	- 8 26	10.8
Sun May 29/Mon May 30	15 49	17 59	19 16	6 06	7 23	11 04	21 56	1 11	.....	42	23 17.6	- 4 21	10.8
Mon May 30/Tue May 31	15 53	17 59	19 16	6 06	7 23	11 08	22 00	2 13	.....	31	0 10.9	0 04	10.8
Tue May 31/Wed Jun 01	15 57	17 59	19 16	6 07	7 24	11 12	22 05	3 18	.....	21	1 05.3	4 35	10.9

***** 2016 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 01	17 58	19 15	6 07	7 24	11 16	22 09	4 24	.....	12	2 01.1	8 55	10.9
Thu Jun 02/Fri Jun 03	16 05	17 58	19 15	6 08	7 25	11 20	22 14	5 31	16 15	6	2 58.8	12 46	10.9
Fri Jun 03/Sat Jun 04	16 09	17 58	19 15	6 08	7 25	11 23	22 18	6 37	17 04	1	3 58.1	15 50	10.9
Sat Jun 04/Sun Jun 05	16 13	17 58	19 15	6 08	7 26	11 27	22 22	7 42	17 57	0	4 58.6	17 53	10.9
Sun Jun 05/Mon Jun 06	16 17	17 58	19 15	6 09	7 26	11 31	22 27	.....	18 54	2	5 59.2	18 46	10.9
Mon Jun 06/Tue Jun 07	16 21	17 58	19 15	6 09	7 27	11 35	22 31	.....	19 53	6	6 58.7	18 28	10.9
Tue Jun 07/Wed Jun 08	16 25	17 58	19 15	6 10	7 27	11 39	22 35	.....	20 53	12	7 56.1	17 06	10.9
Wed Jun 08/Thu Jun 09	16 29	17 58	19 15	6 10	7 28	11 43	22 40	.....	21 53	19	8 50.8	14 49	10.9
Thu Jun 09/Fri Jun 10	16 33	17 58	19 15	6 10	7 28	11 47	22 44	.....	22 50	28	9 42.7	11 53	10.9
Fri Jun 10/Sat Jun 11	16 36	17 58	19 15	6 11	7 28	11 51	22 48	.....	23 46	38	10 32.0	8 28	10.9
Sat Jun 11/Sun Jun 12	16 40	17 58	19 15	6 11	7 29	11 55	22 52	.....	0 40	48	11 19.4	4 47	10.9
Sun Jun 12/Mon Jun 13	16 44	17 58	19 15	6 11	7 29	11 59	22 57	.....	1 33	57	12 05.4	0 58	10.9
Mon Jun 13/Tue Jun 14	16 48	17 58	19 16	6 12	7 30	12 03	23 01	.....	2 25	66	12 50.9	- 2 50	10.9
Tue Jun 14/Wed Jun 15	16 52	17 58	19 16	6 12	7 30	12 07	23 05	.....	3 16	75	13 36.5	- 6 30	10.9
Wed Jun 15/Thu Jun 16	16 56	17 58	19 16	6 12	7 30	12 11	23 09	.....	4 08	83	14 22.8	- 9 55	10.9
Thu Jun 16/Fri Jun 17	17 00	17 58	19 16	6 13	7 30	12 15	23 14	.....	5 01	89	15 10.4	-12 56	10.9
Fri Jun 17/Sat Jun 18	17 04	17 58	19 16	6 13	7 31	12 19	23 18	15 59	5 53	95	15 59.6	-15 25	10.9
Sat Jun 18/Sun Jun 19	17 08	17 58	19 16	6 13	7 31	12 23	23 22	16 41	6 46	98	16 50.5	-17 14	10.9
Sun Jun 19/Mon Jun 20	17 12	17 59	19 16	6 13	7 31	12 28	23 26	17 26	7 38	100	17 43.1	-18 15	10.9
Mon Jun 20/Tue Jun 21	17 16	17 59	19 17	6 13	7 31	12 32	23 30	18 16	.....	99	18 36.8	-18 21	10.9
Tue Jun 21/Wed Jun 22	17 20	17 59	19 17	6 14	7 32	12 36	23 35	19 09	.....	97	19 31.2	-17 29	10.9
Wed Jun 22/Thu Jun 23	17 24	17 59	19 17	6 14	7 32	12 40	23 39	20 05	.....	92	20 25.6	-15 40	10.9
Thu Jun 23/Fri Jun 24	17 28	17 59	19 17	6 14	7 32	12 44	23 43	21 04	.....	85	21 19.6	-12 59	10.9
Fri Jun 24/Sat Jun 25	17 32	18 00	19 18	6 14	7 32	12 49	23 47	22 03	.....	77	22 12.9	- 9 34	10.9
Sat Jun 25/Sun Jun 26	17 36	18 00	19 18	6 14	7 32	12 53	23 51	23 04	.....	67	23 05.8	- 5 36	10.9
Sun Jun 26/Mon Jun 27	17 40	18 00	19 18	6 14	7 32	12 57	23 55	0 05	.....	56	23 58.5	- 1 16	10.9
Mon Jun 27/Tue Jun 28	17 43	18 01	19 19	6 15	7 32	13 01	23 59	1 08	.....	45	0 51.7	3 10	10.9
Tue Jun 28/Wed Jun 29	17 47	18 01	19 19	6 15	7 32	13 05	0 03	2 11	.....	33	1 45.8	7 30	10.9
Wed Jun 29/Thu Jun 30	17 51	18 01	19 19	6 15	7 32	13 10	0 07	3 16	.....	23	2 41.3	11 27	10.9
Thu Jun 30/Fri Jul 01	17 55	18 02	19 19	6 15	7 32	13 14	0 11	4 20	.....	14	3 38.6	14 46	10.9

Calendar for Cerro Tololo, west longitude (h.m.s) = 4 43 16, latitude (d.m) = -30 09.9
Rise/set times in Chilean time (4 hr W), for 2215 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.

***** 2016 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	17 59	18 02	19 20	6 15	7 32	13 18	0 15	5 25	15 45	7	4 37.3	17 11	10.9
Sat Jul 02/Sun Jul 03	18 03	18 03	19 20	6 15	7 32	13 23	0 19	6 27	16 39	2	5 36.9	18 32	10.9
Sun Jul 03/Mon Jul 04	18 07	18 03	19 21	6 15	7 32	13 27	0 23	7 25	17 36	0	6 36.3	18 44	10.9
Mon Jul 04/Tue Jul 05	18 11	18 03	19 21	6 15	7 32	13 31	0 27	.....	18 36	1	7 34.5	17 48	10.9
Tue Jul 05/Wed Jul 06	18 15	18 04	19 21	6 15	7 32	13 36	0 31	.....	19 36	4	8 30.6	15 53	10.9
Wed Jul 06/Thu Jul 07	18 19	18 04	19 22	6 15	7 32	13 40	0 35	.....	20 36	8	9 24.0	13 11	10.9
Thu Jul 07/Fri Jul 08	18 23	18 05	19 22	6 15	7 32	13 44	0 39	.....	21 33	15	10 14.9	9 54	10.9
Fri Jul 08/Sat Jul 09	18 27	18 05	19 22	6 14	7 32	13 49	0 42	.....	22 29	23	11 03.5	6 16	10.9
Sat Jul 09/Sun Jul 10	18 31	18 06	19 23	6 14	7 31	13 53	0 46	.....	23 23	32	11 50.4	2 28	10.9
Sun Jul 10/Mon Jul 11	18 35	18 06	19 23	6 14	7 31	13 57	0 50	.....	0 16	41	12 36.2	- 1 23	10.8
Mon Jul 11/Tue Jul 12	18 39	18 07	19 24	6 14	7 31	14 02	0 54	.....	1 08	50	13 21.7	- 5 07	10.8
Tue Jul 12/Wed Jul 13	18 43	18 07	19 24	6 14	7 31	14 06	0 57	.....	2 00	60	14 07.5	- 8 37	10.8
Wed Jul 13/Thu Jul 14	18 47	18 08	19 25	6 14	7 30	14 10	1 01	.....	2 52	69	14 54.3	-11 47	10.8
Thu Jul 14/Fri Jul 15	18 51	18 08	19 25	6 13	7 30	14 15	1 05	.....	3 45	78	15 42.6	-14 29	10.8
Fri Jul 15/Sat Jul 16	18 54	18 09	19 25	6 13	7 30	14 19	1 09	.....	4 37	85	16 32.6	-16 34	10.8
Sat Jul 16/Sun Jul 17	18 58	18 09	19 26	6 13	7 29	14 24	1 12	.....	5 30	92	17 24.5	-17 55	10.8
Sun Jul 17/Mon Jul 18	19 02	18 10	19 26	6 13	7 29	14 28	1 16	16 08	6 22	96	18 18.1	-18 23	10.8
Mon Jul 18/Tue Jul 19	19 06	18 10	19 27	6 12	7 29	14 32	1 20	17 01	7 12	99	19 13.0	-17 53	10.8
Tue Jul 19/Wed Jul 20	19 10	18 11	19 27	6 12	7 28	14 37	1 23	17 56	7 59	100	20 08.3	-16 23	10.7
Wed Jul 20/Thu Jul 21	19 14	18 11	19 28	6 12	7 28	14 41	1 27	18 55	.....	98	21 03.7	-13 57	10.7
Thu Jul 21/Fri Jul 22	19 18	18 12	19 28	6 11	7 27	14 45	1 30	19 56	.....	94	21 58.6	-10 41	10.7
Fri Jul 22/Sat Jul 23	19 22	18 13	19 29	6 11	7 27	14 50	1 34	20 57	.....	88	22 52.8	- 6 47	10.7
Sat Jul 23/Sun Jul 24	19 26	18 13	19 29	6 10	7 26	14 54	1 37	21 59	.....	79	23 46.5	- 2 28	10.7
Sun Jul 24/Mon Jul 25	19 30	18 14	19 30	6 10	7 26	14 59	1 41	23 02	.....	69	0 40.1	2 01	10.7
Mon Jul 25/Tue Jul 26	19 34	18 14	19 30	6 09	7 25	15 03	1 44	0 04	.....	58	1 34.0	6 24	10.7
Tue Jul 26/Wed Jul 27	19 38	18 15	19 30	6 09	7 24	15 08	1 48	1 08	.....	47	2 28.8	10 26	10.6
Wed Jul 27/Thu Jul 28	19 42	18 15	19 31	6 08	7 24	15 12	1 51	2 11	.....	36	3 24.8	13 53	10.6
Thu Jul 28/Fri Jul 29	19 46	18 16	19 31	6 08	7 23	15 16	1 55	3 14	.....	25	4 22.0	16 31	10.6
Fri Jul 29/Sat Jul 30	19 50	18 17	19 32	6 07	7 23	15 21	1 58	4 15	.....	16	5 20.0	18 11	10.6
Sat Jul 30/Sun Jul 31	19 54	18 17	19 32	6 07	7 22	15 25	2 01	5 13	.....	9	6 18.3	18 45	10.6
Sun Jul 31/Mon Aug 01	19 58	18 18	19 33	6 06	7 21	15 30	2 05	6 07	16 23	4	7 15.9	18 13	10.6

***** 2016 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 01	18 18	19 33	6 06	7 20	15 34	2 08	6 57	17 22	1	8 12.0	16 40	10.5
Tue Aug 02/Wed Aug 03	20 05	18 19	19 34	6 05	7 20	15 38	2 11	7 42	18 21	0	9 06.0	14 16	10.5
Wed Aug 03/Thu Aug 04	20 09	18 19	19 34	6 04	7 19	15 43	2 15	.....	19 20	2	9 57.6	11 12	10.5
Thu Aug 04/Fri Aug 05	20 13	18 20	19 35	6 04	7 18	15 47	2 18	.....	20 17	5	10 47.1	7 42	10.5
Fri Aug 05/Sat Aug 06	20 17	18 21	19 35	6 03	7 17	15 52	2 21	.....	21 12	11	11 34.7	3 56	10.5
Sat Aug 06/Sun Aug 07	20 21	18 21	19 36	6 02	7 17	15 56	2 24	.....	22 06	18	12 21.1	0 05	10.4
Sun Aug 07/Mon Aug 08	20 25	18 22	19 36	6 01	7 16	16 01	2 28	.....	22 59	26	13 06.7	- 3 42	10.4
Mon Aug 08/Tue Aug 09	20 29	18 22	19 37	6 01	7 15	16 05	2 31	.....	23 51	34	13 52.3	- 7 17	10.4
Tue Aug 09/Wed Aug 10	20 33	18 23	19 37	6 00	7 14	16 09	2 34	.....	0 43	44	14 38.5	-10 34	10.4
Wed Aug 10/Thu Aug 11	20 37	18 23	19 38	5 59	7 13	16 14	2 37	.....	1 35	53	15 25.7	-13 25	10.4
Thu Aug 11/Fri Aug 12	20 41	18 24	19 38	5 58	7 12	16 18	2 40	.....	2 27	63	16 14.4	-15 43	10.3
Fri Aug 12/Sat Aug 13	20 45	18 25	19 38	5 57	7 11	16 23	2 43	.....	3 19	72	17 04.9	-17 20	10.3
Sat Aug 13/Sun Aug 14	20 49	18 25	19 39	5 57	7 10	16 27	2 46	.....	4 11	80	17 57.3	-18 10	10.3
Sun Aug 14/Mon Aug 15	20 53	18 26	19 39	5 56	7 09	16 31	2 49	.....	5 02	88	18 51.3	-18 04	10.3
Mon Aug 15/Tue Aug 16	20 57	18 26	19 40	5 55	7 08	16 36	2 52	.....	5 51	94	19 46.5	-17 00	10.2
Tue Aug 16/Wed Aug 17	21 01	18 27	19 40	5 54	7 07	16 40	2 55	16 42	6 37	98	20 42.4	-14 56	10.2
Wed Aug 17/Thu Aug 18	21 05	18 27	19 41	5 53	7 06	16 45	2 59	17 42	7 22	100	21 38.4	-11 56	10.2
Thu Aug 18/Fri Aug 19	21 08	18 28	19 41	5 52	7 05	16 49	3 02	18 45	.....	99	22 34.1	- 8 10	10.2
Fri Aug 19/Sat Aug 20	21 12	18 28	19 42	5 51	7 04	16 54	3 04	19 48	.....	96	23 29.6	- 3 52	10.2
Sat Aug 20/Sun Aug 21	21 16	18 29	19 42	5 50	7 03	16 58	3 07	20 52	.....	90	0 24.8	0 43	10.1
Sun Aug 21/Mon Aug 22	21 20	18 30	19 43	5 49	7 02	17 02	3 10	21 56	.....	81	1 20.2	5 16	10.1
Mon Aug 22/Tue Aug 23	21 24	18 30	19 43	5 48	7 01	17 07	3 13	23 01	.....	71	2 16.0	9 30	10.1
Tue Aug 23/Wed Aug 24	21 28	18 31	19 44	5 47	7 00	17 11	3 16	0 05	.....	60	3 12.5	13 10	10.1
Wed Aug 24/Thu Aug 25	21 32	18 31	19 44	5 46	6 59	17 16	3 19	1 08	.....	49	4 09.7	16 01	10.0
Thu Aug 25/Fri Aug 26	21 36	18 32	19 45	5 45	6 58	17 20	3 22	2 09	.....	38	5 07.4	17 53	10.0
Fri Aug 26/Sat Aug 27	21 40	18 32	19 45	5 44	6 57	17 25	3 25	3 07	.....	27	6 05.0	18 42	10.0
Sat Aug 27/Sun Aug 28	21 44	18 33	19 46	5 43	6 56	17 29	3 28	4 01	.....	18	7 02.0	18 27	10.0
Sun Aug 28/Mon Aug 29	21 48	18 33	19 46	5 42	6 54	17 33	3 31	4 51	.....	11	7 57.5	17 12	9.9
Mon Aug 29/Tue Aug 30	21 52	18 34	19 47	5 41	6 53	17 38	3 33	5 37	.....	5	8 51.2	15 04	9.9
Tue Aug 30/Wed Aug 31	21 56	18 34	19 47	5 40	6 52	17 42	3 36	6 19	17 10	2	9 42.8	12 13	9.9
Wed Aug 31/Thu Sep 01	22 00	18 35	19 48	5 38	6 51	17 47	3 39	6 57	18 07	0	10 32.4	8 52	9.8

Calendar for Cerro Tololo, west longitude (h.m.s) = 4 43 16, latitude (d.m) = -30 09.9
Rise/set times in Chilean time (4 hr W), for 2215 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.

***** 2016 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	18 36	19 48	5 37	6 50	17 51	3 42	7 33	19 02	1	11 20.3	5 12	9.8
Fri Sep 02/Sat Sep 03	22 08	18 36	19 49	5 36	6 49	17 56	3 45	.....	19 56	3	12 06.9	1 23	9.8
Sat Sep 03/Sun Sep 04	22 12	18 37	19 49	5 35	6 47	18 00	3 47	.....	20 50	7	12 52.7	- 2 25	9.8
Sun Sep 04/Mon Sep 05	22 16	18 37	19 50	5 34	6 46	18 05	3 50	.....	21 42	13	13 38.2	- 6 04	9.7
Mon Sep 05/Tue Sep 06	22 19	18 38	19 50	5 33	6 45	18 09	3 53	.....	22 34	20	14 23.9	- 9 26	9.7
Tue Sep 06/Wed Sep 07	22 23	18 38	19 51	5 31	6 44	18 13	3 56	.....	23 26	28	15 10.4	-12 25	9.7
Wed Sep 07/Thu Sep 08	22 27	18 39	19 51	5 30	6 43	18 18	3 58	.....	0 18	37	15 58.0	-14 53	9.6
Thu Sep 08/Fri Sep 09	22 31	18 39	19 52	5 29	6 41	18 22	4 01	.....	1 10	46	16 47.0	-16 44	9.6
Fri Sep 09/Sat Sep 10	22 35	18 40	19 52	5 28	6 40	18 27	4 04	.....	2 01	56	17 37.6	-17 50	9.6
Sat Sep 10/Sun Sep 11	22 39	18 40	19 53	5 26	6 39	18 31	4 07	.....	2 51	66	18 29.9	-18 06	9.6
Sun Sep 11/Mon Sep 12	22 43	18 41	19 53	5 25	6 38	18 36	4 09	.....	3 40	75	19 23.5	-17 27	9.5
Mon Sep 12/Tue Sep 13	22 47	18 41	19 54	5 24	6 36	18 40	4 12	.....	4 27	84	20 18.3	-15 49	9.5
Tue Sep 13/Wed Sep 14	22 51	18 42	19 55	5 23	6 35	18 45	4 15	.....	5 12	91	21 13.8	-13 14	9.5
Wed Sep 14/Thu Sep 15	22 55	18 42	19 55	5 21	6 34	18 49	4 17	.....	5 56	96	22 09.7	- 9 47	9.4
Thu Sep 15/Fri Sep 16	22 59	18 43	19 56	5 20	6 33	18 54	4 20	17 30	6 39	99	23 06.0	- 5 38	9.4
Fri Sep 16/Sat Sep 17	23 03	18 44	19 56	5 19	6 31	18 58	4 23	18 35	7 21	100	0 02.5	- 1 01	9.4
Sat Sep 17/Sun Sep 18	23 07	18 44	19 57	5 18	6 30	19 03	4 25	19 41	.....	97	0 59.5	3 43	9.3
Sun Sep 18/Mon Sep 19	23 11	18 45	19 57	5 16	6 29	19 07	4 28	20 47	.....	92	1 57.2	8 16	9.3
Mon Sep 19/Tue Sep 20	23 15	18 45	19 58	5 15	6 28	19 12	4 30	21 54	.....	84	2 55.5	12 16	9.3
Tue Sep 20/Wed Sep 21	23 19	18 46	19 59	5 14	6 26	19 17	4 33	22 59	.....	74	3 54.5	15 29	9.3
Wed Sep 21/Thu Sep 22	23 23	18 46	19 59	5 12	6 25	19 21	4 36	0 02	.....	63	4 53.7	17 40	9.2
Thu Sep 22/Fri Sep 23	23 26	18 47	20 00	5 11	6 24	19 26	4 38	1 03	.....	52	5 52.5	18 45	9.2
Fri Sep 23/Sat Sep 24	23 30	18 47	20 00	5 10	6 23	19 30	4 41	1 58	.....	41	6 50.1	18 43	9.2
Sat Sep 24/Sun Sep 25	23 34	18 48	20 01	5 08	6 21	19 35	4 44	2 49	.....	31	7 46.1	17 40	9.1
Sun Sep 25/Mon Sep 26	23 38	18 48	20 02	5 07	6 20	19 39	4 46	3 36	.....	22	8 39.8	15 43	9.1
Mon Sep 26/Tue Sep 27	23 42	18 49	20 02	5 06	6 19	19 44	4 49	4 18	.....	14	9 31.4	13 02	9.1
Tue Sep 27/Wed Sep 28	23 46	18 50	20 03	5 04	6 18	19 49	4 51	4 57	.....	8	10 20.8	9 49	9.0
Wed Sep 28/Thu Sep 29	23 50	18 50	20 04	5 03	6 16	19 53	4 54	5 33	16 55	3	11 08.6	6 15	9.0
Thu Sep 29/Fri Sep 30	23 54	18 51	20 04	5 02	6 15	19 58	4 57	6 08	17 49	1	11 55.0	2 29	9.0
Fri Sep 30/Sat Oct 01	23 58	18 51	20 05	5 00	6 14	20 02	4 59	6 42	18 43	0	12 40.6	- 1 20	8.9

***** 2016 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 02	18 52	20 06	4 59	6 13	20 07	5 02	.....	19 35	1	13 25.9	- 5 02	8.9
Sun Oct 02/Mon Oct 03	0 06	18 53	20 06	4 58	6 11	20 12	5 04	.....	20 28	4	14 11.4	- 8 30	8.9
Mon Oct 03/Tue Oct 04	0 10	18 53	20 07	4 56	6 10	20 16	5 07	.....	21 20	9	14 57.4	-11 35	8.8
Tue Oct 04/Wed Oct 05	0 14	18 54	20 08	4 55	6 09	20 21	5 10	.....	22 12	15	15 44.3	-14 12	8.8
Wed Oct 05/Thu Oct 06	0 18	18 54	20 09	4 54	6 08	20 26	5 12	.....	23 03	22	16 32.4	-16 14	8.7
Thu Oct 06/Fri Oct 07	0 22	18 55	20 09	4 52	6 07	20 30	5 15	.....	23 54	30	17 21.7	-17 33	8.7
Fri Oct 07/Sat Oct 08	0 26	18 56	20 10	4 51	6 05	20 35	5 17	.....	0 44	39	18 12.3	-18 06	8.7
Sat Oct 08/Sun Oct 09*	0 30	18 56	20 11	5 50	7 04	20 40	5 20	.....	1 32	49	19 04.1	-17 47	8.6
Sun Oct 09/Mon Oct 10	23 33	19 57	21 12	5 48	7 03	20 45	5 23	.....	3 18	59	19 55.0	-16 40	8.6
Mon Oct 10/Tue Oct 11	23 37	19 58	21 13	5 47	7 02	20 49	5 25	.....	4 03	69	20 48.8	-14 33	8.6
Tue Oct 11/Wed Oct 12	23 41	19 58	21 13	5 46	7 01	20 54	5 28	.....	4 46	79	21 43.2	-11 33	8.5
Wed Oct 12/Thu Oct 13	23 45	19 59	21 14	5 44	7 00	20 59	5 30	.....	5 29	87	22 38.2	- 7 45	8.5
Thu Oct 13/Fri Oct 14	23 49	20 00	21 15	5 43	6 59	21 04	5 33	17 13	6 11	94	23 34.1	- 3 21	8.5
Fri Oct 14/Sat Oct 15	23 53	20 00	21 16	5 42	6 57	21 08	5 36	18 18	6 53	98	0 31.0	1 25	8.4
Sat Oct 15/Sun Oct 16	23 57	20 01	21 17	5 40	6 56	21 13	5 38	19 25	.....	100	1 29.1	6 12	8.4
Sun Oct 16/Mon Oct 17	0 01	20 02	21 18	5 39	6 55	21 18	5 41	20 33	.....	98	2 28.6	10 39	8.4
Mon Oct 17/Tue Oct 18	0 05	20 02	21 18	5 38	6 54	21 23	5 44	21 42	.....	94	3 29.4	14 23	8.3
Tue Oct 18/Wed Oct 19	0 09	20 03	21 19	5 37	6 53	21 28	5 46	22 49	.....	87	4 30.9	17 08	8.3
Wed Oct 19/Thu Oct 20	0 13	20 04	21 20	5 35	6 52	21 33	5 49	23 53	.....	78	5 32.2	18 42	8.3
Thu Oct 20/Fri Oct 21	0 17	20 04	21 21	5 34	6 51	21 37	5 52	0 52	.....	67	6 32.3	19 03	8.2
Fri Oct 21/Sat Oct 22	0 21	20 05	21 22	5 33	6 50	21 42	5 55	1 46	.....	57	7 30.3	18 16	8.2
Sat Oct 22/Sun Oct 23	0 25	20 06	21 23	5 32	6 49	21 47	5 57	2 35	.....	46	8 25.7	16 31	8.1
Sun Oct 23/Mon Oct 24	0 29	20 07	21 24	5 30	6 48	21 52	6 00	3 19	.....	36	9 18.2	13 59	8.1
Mon Oct 24/Tue Oct 25	0 32	20 07	21 25	5 29	6 47	21 57	6 03	3 58	.....	26	10 08.2	10 52	8.1
Tue Oct 25/Wed Oct 26	0 36	20 08	21 26	5 28	6 46	22 02	6 05	4 35	.....	18	10 56.2	7 22	8.0
Wed Oct 26/Thu Oct 27	0 40	20 09	21 27	5 27	6 45	22 07	6 08	5 09	.....	11	11 42.5	3 38	8.0
Thu Oct 27/Fri Oct 28	0 44	20 10	21 28	5 26	6 44	22 12	6 11	5 43	17 38	6	12 27.9	- 0 11	8.0
Fri Oct 28/Sat Oct 29	0 48	20 10	21 29	5 25	6 43	22 17	6 14	6 17	18 30	2	13 12.9	- 3 56	7.9
Sat Oct 29/Sun Oct 30	0 52	20 11	21 30	5 24	6 42	22 22	6 17	.....	19 23	1	13 58.1	- 7 30	7.9
Sun Oct 30/Mon Oct 31	0 56	20 12	21 31	5 22	6 41	22 27	6 19	.....	20 15	0	14 43.7	-10 44	7.9
Mon Oct 31/Tue Nov 01	1 00	20 13	21 32	5 21	6 41	22 32	6 22	.....	21 07	2	15 30.3	-13 32	7.8

Calendar for Cerro Tololo, west longitude (h.m.s) = 4 43 16, latitude (d.m) = -30 09.9
Rise/set times in Chilean time (4 hr W), for 2215 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.

***** 2016 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	1 04	20 14	21 33	5 20	6 40	22 37	6 25	.....	21 59	5	16 18.0	-15 47	7.8
Wed Nov 02/Thu Nov 03	1 08	20 14	21 34	5 19	6 39	22 42	6 28	.....	22 50	10	17 06.8	-17 21	7.8
Thu Nov 03/Fri Nov 04	1 12	20 15	21 35	5 18	6 38	22 47	6 31	.....	23 40	16	17 56.7	-18 09	7.7
Fri Nov 04/Sat Nov 05	1 16	20 16	21 36	5 17	6 37	22 52	6 34	.....	0 28	24	18 47.5	-18 08	7.7
Sat Nov 05/Sun Nov 06	1 20	20 17	21 37	5 16	6 37	22 57	6 37	.....	1 14	33	19 38.9	-17 14	7.6
Sun Nov 06/Mon Nov 07	1 24	20 18	21 38	5 15	6 36	23 02	6 40	.....	1 59	42	20 30.9	-15 28	7.6
Mon Nov 07/Tue Nov 08	1 28	20 18	21 40	5 14	6 35	23 07	6 43	.....	2 41	53	21 23.2	-12 50	7.6
Tue Nov 08/Wed Nov 09	1 32	20 19	21 41	5 13	6 35	23 12	6 46	.....	3 22	63	22 16.0	- 9 26	7.5
Wed Nov 09/Thu Nov 10	1 36	20 20	21 42	5 12	6 34	23 17	6 49	.....	4 03	74	23 09.6	- 5 23	7.5
Thu Nov 10/Fri Nov 11	1 40	20 21	21 43	5 11	6 33	23 22	6 52	.....	4 43	83	0 04.2	- 0 51	7.5
Fri Nov 11/Sat Nov 12	1 43	20 22	21 44	5 11	6 33	23 27	6 55	.....	5 25	91	1 00.5	3 55	7.4
Sat Nov 12/Sun Nov 13	1 47	20 23	21 45	5 10	6 32	23 32	6 58	18 08	6 10	97	1 58.8	8 36	7.4
Sun Nov 13/Mon Nov 14	1 51	20 24	21 46	5 09	6 32	23 37	7 01	19 16	.....	100	2 59.3	12 49	7.4
Mon Nov 14/Tue Nov 15	1 55	20 24	21 47	5 08	6 31	23 42	7 04	20 25	.....	99	4 01.7	16 12	7.3
Tue Nov 15/Wed Nov 16	1 59	20 25	21 49	5 07	6 30	23 47	7 07	21 33	.....	96	5 05.3	18 27	7.3
Wed Nov 16/Thu Nov 17	2 03	20 26	21 50	5 07	6 30	23 52	7 11	22 38	.....	90	6 08.6	19 23	7.3
Thu Nov 17/Fri Nov 18	2 07	20 27	21 51	5 06	6 30	23 58	7 14	23 37	.....	82	7 10.1	19 01	7.3
Fri Nov 18/Sat Nov 19	2 11	20 28	21 52	5 05	6 29	0 03	7 17	0 30	.....	72	8 08.9	17 31	7.2
Sat Nov 19/Sun Nov 20	2 15	20 29	21 53	5 05	6 29	0 08	7 20	1 17	.....	62	9 04.3	15 07	7.2
Sun Nov 20/Mon Nov 21	2 19	20 30	21 54	5 04	6 28	0 13	7 24	1 59	.....	52	9 56.4	12 02	7.2
Mon Nov 21/Tue Nov 22	2 23	20 31	21 55	5 03	6 28	0 18	7 27	2 37	.....	42	10 45.7	8 32	7.1
Tue Nov 22/Wed Nov 23	2 27	20 31	21 56	5 03	6 28	0 23	7 30	3 12	.....	32	11 32.8	4 46	7.1
Wed Nov 23/Thu Nov 24	2 31	20 32	21 57	5 02	6 27	0 28	7 34	3 46	.....	24	12 18.5	0 55	7.1
Thu Nov 24/Fri Nov 25	2 35	20 33	21 59	5 02	6 27	0 33	7 37	4 19	.....	16	13 03.5	- 2 54	7.1
Fri Nov 25/Sat Nov 26	2 39	20 34	22 00	5 01	6 27	0 38	7 41	4 52	.....	10	13 48.3	- 6 32	7.0
Sat Nov 26/Sun Nov 27	2 43	20 35	22 01	5 01	6 27	0 43	7 44	5 27	18 10	5	14 33.6	- 9 54	7.0
Sun Nov 27/Mon Nov 28	2 47	20 36	22 02	5 00	6 27	0 48	7 48	6 04	19 02	2	15 19.8	-12 51	7.0
Mon Nov 28/Tue Nov 29	2 50	20 37	22 03	5 00	6 26	0 53	7 51	.....	19 54	0	16 07.1	-15 16	7.0
Tue Nov 29/Wed Nov 30	2 54	20 37	22 04	5 00	6 26	0 58	7 55	.....	20 46	1	16 55.7	-17 03	6.9
Wed Nov 30/Thu Dec 01	2 58	20 38	22 05	5 00	6 26	1 03	7 59	.....	21 37	2	17 45.4	-18 05	6.9

***** 2016 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	3 02	20 39	22 06	4 59	6 26	1 08	8 02	.....	22 26	6	18 36.0	-18 18	6.9
Fri Dec 02/Sat Dec 03	3 06	20 40	22 07	4 59	6 26	1 13	8 06	.....	23 13	11	19 27.1	-17 38	6.9
Sat Dec 03/Sun Dec 04	3 10	20 41	22 08	4 59	6 26	1 18	8 10	.....	23 58	18	20 18.4	-16 07	6.8
Sun Dec 04/Mon Dec 05	3 14	20 41	22 09	4 59	6 26	1 23	8 14	.....	0 41	27	21 09.7	-13 46	6.8
Mon Dec 05/Tue Dec 06	3 18	20 42	22 10	4 59	6 26	1 28	8 18	.....	1 21	36	22 01.0	-10 40	6.8
Tue Dec 06/Wed Dec 07	3 22	20 43	22 11	4 59	6 26	1 32	8 21	.....	2 00	47	22 52.4	- 6 55	6.8
Wed Dec 07/Thu Dec 08	3 26	20 44	22 12	4 59	6 27	1 37	8 25	.....	2 39	58	23 44.5	- 2 41	6.8
Thu Dec 08/Fri Dec 09	3 30	20 44	22 13	4 59	6 27	1 42	8 29	.....	3 19	69	0 37.8	1 52	6.8
Fri Dec 09/Sat Dec 10	3 34	20 45	22 13	4 59	6 27	1 47	8 33	.....	4 00	79	1 33.0	6 30	6.8
Sat Dec 10/Sun Dec 11	3 38	20 46	22 14	4 59	6 27	1 52	8 37	.....	4 45	88	2 30.6	10 54	6.7
Sun Dec 11/Mon Dec 12	3 42	20 47	22 15	4 59	6 27	1 56	8 41	18 00	5 34	95	3 30.8	14 43	6.7
Mon Dec 12/Tue Dec 13	3 46	20 47	22 16	4 59	6 28	2 01	8 46	19 08	6 27	99	4 33.5	17 36	6.7
Tue Dec 13/Wed Dec 14	3 50	20 48	22 17	4 59	6 28	2 06	8 50	20 15	.....	100	5 37.5	19 17	6.7
Wed Dec 14/Thu Dec 15	3 54	20 49	22 17	5 00	6 28	2 11	8 54	21 18	.....	98	6 41.5	19 36	6.7
Thu Dec 15/Fri Dec 16	3 58	20 49	22 18	5 00	6 29	2 15	8 58	22 16	.....	93	7 43.6	18 37	6.7
Fri Dec 16/Sat Dec 17	4 01	20 50	22 19	5 00	6 29	2 20	9 02	23 08	.....	86	8 42.7	16 31	6.7
Sat Dec 17/Sun Dec 18	4 05	20 50	22 19	5 01	6 29	2 24	9 07	23 54	.....	78	9 38.3	13 34	6.7
Sun Dec 18/Mon Dec 19	4 09	20 51	22 20	5 01	6 30	2 29	9 11	0 35	.....	69	10 30.5	10 04	6.7
Mon Dec 19/Tue Dec 20	4 13	20 51	22 20	5 01	6 30	2 33	9 15	1 12	.....	59	11 19.7	6 14	6.7
Tue Dec 20/Wed Dec 21	4 17	20 52	22 21	5 02	6 31	2 38	9 20	1 47	.....	49	12 06.8	2 18	6.7
Wed Dec 21/Thu Dec 22	4 21	20 52	22 21	5 02	6 31	2 42	9 24	2 21	.....	40	12 52.5	- 1 37	6.7
Thu Dec 22/Fri Dec 23	4 25	20 53	22 22	5 03	6 32	2 47	9 29	2 54	.....	31	13 37.7	- 5 23	6.7
Fri Dec 23/Sat Dec 24	4 29	20 53	22 22	5 03	6 32	2 51	9 33	3 28	.....	22	14 22.9	- 8 52	6.7
Sat Dec 24/Sun Dec 25	4 33	20 54	22 23	5 04	6 33	2 55	9 38	4 04	.....	15	15 08.7	-11 58	6.7
Sun Dec 25/Mon Dec 26	4 37	20 54	22 23	5 05	6 34	3 00	9 43	4 42	17 49	9	15 55.7	-14 34	6.7
Mon Dec 26/Tue Dec 27	4 41	20 55	22 23	5 05	6 34	3 04	9 47	5 24	18 41	5	16 43.9	-16 34	6.7
Tue Dec 27/Wed Dec 28	4 45	20 55	22 24	5 06	6 35	3 08	9 52	6 09	19 32	2	17 33.4	-17 50	6.7
Wed Dec 28/Thu Dec 29	4 49	20 55	22 24	5 07	6 36	3 12	9 56	.....	20 23	0	18 24.0	-18 18	6.7
Thu Dec 29/Fri Dec 30	4 53	20 56	22 24	5 08	6 36	3 17	10 01	.....	21 11	1	19 15.3	-17 54	6.7
Fri Dec 30/Sat Dec 31	4 57	20 56	22 24	5 08	6 37	3 21	10 06	.....	21 58	3	20 07.0	-16 36	6.7
Sat Dec 31/Sun Jan 01	5 01	20 56	22 24	5 09	6 38	3 25	10 11	.....	22 41	8	20 58.5	-14 28	6.7