

Astronomical Events 2019

(edited somewhat) from: <http://astropixels.com/ephemeris/astrocal/astrocal2019gmt.html>

January

Note: Time column is UT, subtract 5 hours for local EST, 4 hours for DST

Jan 1 to 4, Crescent Moon near Venus, Jupiter, Mercury in dawn sky -very photogenic!

01 Tue 21:50 Venus 1.3°S of Moon

02 Wed 05:00 Saturn in Conjunction with Sun (not easily visible)

03 Thu 05:00 Earth at Perihelion: 0.98330 AU (147 million km)

03 07:37 Jupiter 3.1°S of Moon

04 Fri 02:00 Quadrantid Meteor Shower (120/hour! moon only 3%)

05 Sat 18:42 Saturn (magn. 0.5) occulted by 7 hour crescent Moon! Daytime event, and the Sun is only 3° away. Very tough observation.

06 Sun 01:28 New Moon rises locally at 8:23 am EST (not visible)

06 01:41 Partial Solar Eclipse; mag=0.715, visible Japan, Pacific Ocean (not locally)

06 05:00 Venus at Greatest Elongation West of Sun: 47.0°W

09 Wed 04:29 Moon at apogee : 406 116 km

12 19:47 Mars 5.3°N of Moon

14 Mon 06:45 FQ Moon rises locally at 12:20 pm EST

17 Thu 18:20 Aldebaran 1.6°S of Moon

21 Mon 05:12 Total Lunar Eclipse; mag=1.195 (Total from 11:41pm Jan 20 to 12:43 am Jan 21 -best lunar eclipse in years!

21 05:16 Full Moon rises locally at 6:03 pm EST

21 15:32 Beehive 0.6°N of Moon

21 19:58 Moon at perigee : 357 345 km (another "supermoon eclipse")

23 Wed 01:41 Regulus 2.5°S of Moon

27 Sun 21:10 LQ Moon rises locally at 12:18 am EST

30 Wed 03:00 Mercury at Superior Conjunction (not easily visible)

Jan 30 to Feb 2 waning crescent near Jupiter, then Venus, then Saturn

30 23:54 Jupiter 2.8°S of Moon

31 Thu 17:36 Venus 0.1°S of Moon: Occultation visible in parts of S.America, S. Pacific. A miss locally by only 0.7° just before local moonset.

February

02 Sat 07:18 Saturn 0.6°S of Moon: Occultation visible in E. Hemisphere. Occurs below our horizon. Closest separation is 2.7° at 6 am moonrise Feb 2.

04 Mon 21:04 New Moon rises locally at 7:42 am EST

05 Tue 09:26 Moon at apogee : 406 556 km

12 Tue 22:26 FQ Moon rises locally at 11:18 am EST

13 Wed 04:00 Mars and Neptune less than 1° apart (evening of Feb 12)

14 Thu 03:29 Aldebaran 1.7°S of Moon

18 Mon 03:05 Beehive 0.6°N of Moon

18 14:00 Venus and Saturn less than 1° apart (morning of Feb 18)

19 Tue 09:06 Moon at perigee : 356 762 km

19 13:08 Regulus 2.5°S of Moon

19 15:53 Full Moon rises locally at 6:09 pm EST (the biggest "supermoon" of 2019)

26 Tue 11:28 LQ Moon rises locally at 1:26 am EST

27 Wed 01:00 Mercury at Greatest Elongation East of Sun: 18.1°E

27 14:17 Jupiter 2.3°S of Moon

Feb 27 to Mar 3 Waning crescent Moon near Jupiter, then Saturn, then Venus dawn sky

March

- 01 Fri 18:40 Saturn 0.3°S of Moon:** Occultation visible Central Pacific. Closest approach for us is 1:30 pm (daytime) as Moon/Saturn set in west. Occultation occurs below our horizon)
- 02 21:28 Venus 1.2°N of Moon. Look for Jupiter, Saturn, crescent Moon, Venus in 6 am dawn sky. Nice!**
- 04 Mon 11:25 Moon at apogee : 406 391 km
- 06 Wed 16:04 New Moon rises locally at 7:14 am EST
- 07 Thu 01:00 Neptune in Conjunction with Sun (not easily visible)
- 10 Sun Daylight Saving Time starts (set clocks ahead one hour)**
- 11 Mon 12:09 Mars 5.8°N of Moon
- 13 Wed 10:13 Aldebaran 1.9°S of Moon
- 14 Thu 10:27 FQ Moon rises locally at 12:14 am DST
- 15 Fri 02:00 Mercury at Inferior Conjunction (not easily visible)
- 17 Sun 13:01 Beehive 0.5°N of Moon
- 18 Mon 23:59 Regulus 2.6°S of Moon
- 19 Tue 19:47 Moon at perigee : 359 381 km
- 20 Wed 21:58 Vernal Equinox (Sun altitude 45° 20' and climbing).**
- 21 Thu 01:43 Full Moon rises locally at 7:15 pm DST
- 27 Wed 02:28 Jupiter 1.9°S of Moon
- 28 Thu 04:10 LQ Moon rises locally at 3:13 am DST
- 29 Fri 05:11 Saturn 0.1°N of Moon: Occultation S.Africa/Indian Ocean.** Closest approach for Bruce-Grey is 2.2° at moonrise 3:06 am EST)
- 31 Sun 03:06 Mars 3.1°S of Pleiades

April

- 01 Mon 00:14 Moon at apogee : 405 577 km
- 02 Tue 04:18 Venus 2.7°N of Crescent Moon, Mercury and Neptune 0.4° apart at 6:30 am, nice grouping at dawn!**
- 02 23:01 Mercury 3.6°N of Moon
- 05 Fri 08:50 New Moon rises locally at 7:31 am DST
- 09 Tue 06:40 Mars 4.7°N of Moon
- 09 15:43 Aldebaran 2.1°S of Moon
- 11 Thu 19:00 Mercury at Greatest Elongation West of Sun: 27.7°W**
- 12 Fri 19:06 FQ Moon rises locally at 11:59 am DST
- 13 Sat 20:12 Beehive 0.2°N of Moon
- 15 Mon 00:24 Mars 6.4°N of Aldebaran
- 15 08:22 Regulus 2.7°S of Moon
- 16 Tue 20:00 Mercury 4.3° of Venus
- 16 22:02 Moon at perigee : 364 209 km
- 19 Fri 11:12 Full Moon rises locally at 8:36 pm DST
- 22 Mon 18:00 Lyrid Meteor Shower (20/h peak 8 pm DST Apr 22, Moon 88%)**
- 23 Tue 00:00 Uranus in Conjunction with Sun (not easily visible)
- 23 11:36 Jupiter 1.6°S of Moon
- 25 Thu 14:38 Saturn 0.4°N of Moon: Occultation in S.Pacific Australia to S.America.** Closest approach locally is 0.8° before moonset in daylight in W 11:04 am.
- 26 Fri 22:18 LQ Moon rises locally at 2:41 am DST
- 28 Sun 18:20 Moon at apogee : 404 577 km

May

02	Thu	11:39	Venus 3.6°N of Moon
03	Fri	06:26	Mercury 2.9°N of Moon
04	Sat	22:45	New Moon rises locally at 6:25 am DST
06	Mon	08:00	Eta-Aquarid Meteor Shower (60/h, Moon 2% or less!)
06		21:52	Aldebaran 2.3°S of Moon
07	Tue	23:36	Mars 3.2°N of Moon
10	Fri	03:30	Pollux 6.3°N of Moon
11	Sat	01:35	Beehive 0.0°S of Moon (10:35 pm May 10). Moon (39%) occults several 6th and 7th mag. stars in southern part of Beehive Cluster.
12	Sun	01:12	FQ Moon rises locally at 12:07 pm DST
12		14:19	Regulus 3.0°S of Moon
13	Mon	21:53	Moon at perigee : 369 017 km
18	Sat	21:11	Full Moon rises locally at 8:38 pm DST
20	Mon	16:54	Jupiter 1.7°S of Moon
21	Tue	13:00	Mercury at Superior Conjunction (not easily visible)
22	Wed	22:25	Saturn 0.5°N of Moon: Occultation in far S. Pacific. Closest approach locally is 5° at 8:54 pm at moonset in west.
26	Sun	13:27	Moon at apogee : 404 134 km
26		16:33	LQ Moon rises locally at 2:23 am DST

June

01	Sat	18:15	Venus 3.2°N of Crescent Moon, Pleiades nearby, -nice morning view.
03	Mon	10:02	New Moon rises locally at 6:03 am DST
04	Tue	15:42	Mercury 3.7°N of Moon
05	Wed	15:05	Mars 1.6°N of Moon
06	Thu	09:41	Pollux 6.2°N of Moon
07	Fri	07:19	Beehive 0.2°S of Moon. Moon sets (12:20 am) before any occultations.
07		23:21	Moon at perigee : 368 508 km
08	Sat	19:36	Regulus 3.2°S of Moon
09	Sun	01:51	Venus 5.0°S of Pleiades (close to sunrise)
10	Mon	05:59	FQ Moon rises locally at 1:38 pm DST
10		15:00	Jupiter at Opposition, magnitude -2.6, Saturn 30° to the east
16	Sun	18:50	Jupiter 2.0°S of Moon
16		23:09	Venus 4.6°N of Aldebaran
17	Mon	08:31	Full Moon rises locally at 9:36 pm DST
18	Tue	18:00	Mercury 0.2° S of Mars, sep'n 18.5 minutes when Mars sets 10:50 pm
19	Wed	03:58	Saturn 0.4°N of Moon: Occultation S. Atlantic, S. America to S. Africa. Minimum separation 1° locally at moonrise 10:30 am DST.
19		13:04	Mercury 5.2°S of Pollux
21	Fri	08:00	Mars 5.4°S of Pollux
21		15:54	Summer Solstice. Sun at highest elevation 69° 51' in N. Hemisphere.
23	Sun	07:50	Moon at apogee : 404 549 km
23		23:00	Mercury at Greatest Elongation East of Sun: 25.2°E
25	Tue	09:46	LQ Moon rises locally at 1:41 am DST
30	Sun	15:06	Aldebaran 2.3°S of Moon

July

02	Tue	19:16	New Moon rises locally at 5:30 am DST
02		19:23	Total Solar Eclipse; mag=1.046 (vis. Chile, S.Pacific -best solar eclipse of year, nothing visible here)
04	Thu	08:34	Mercury 3.3°S of Moon
04		13:20	Mercury 2.5°S of Beehive
04		15:02	Beehive 0.2°S of Moon
04		23:00	Earth at Aphelion: 1.01676 AU (152 million km)
05	Fri	04:54	Moon at perigee : 363 729 km
05		23:00	Mercury 3.8° of Mars
06	Sat	02:17	Regulus 3.2°S of Moon
07	Sun	07:00	Mercury at Aphelion
09	Tue	10:55	FQ Moon rises locally at 1:53 pm DST
09		16:00	Saturn at Opposition (magn. 0.05, disk = 18 arc-sec, ring tilt = 24.3°)
13	Sat	07:06	Mars 0.4°S of Beehive
13		19:43	Jupiter 2.3°S of Moon
16	Tue	07:27	Saturn 0.2°N of Moon: Occultation S. Pacific, S. America. (Saturn-Moon separation locally is 1° at 4 am EDT -visible locally)
16		21:31	Partial Lunar Eclipse; mag=0.653 (visible Indian Ocean, Mid.East, Africa nothing visible in N. or S. America.
16		21:38	Full Moon rises locally at 10:25 pm DST
21	Sun	00:01	Moon at apogee : 405 480 km
21		13:00	Mercury at Inferior Conjunction (not easily visible)
25	Thu	01:18	LQ Moon rises locally at 12:30 am DST
28	Sun	00:47	Aldebaran 2.3°S of Moon
29	Mon	10:00	S. Delta-Aquarid Meteors (20/h, Moon 11% waning, rises 3:15 am DST)
31	Wed	12:12	pm DST New Moon (second New Moon in July -rises Aug 1 at 5:27 am DST)

August

01	Thu	03:12	New Moon rises locally at 5:17 am DST
02	Fri	07:08	Moon at perigee : 359 398 km
07	Wed	17:31	FQ Moon rises locally at 2:05 pm EDT
09	Fri	22:53	Jupiter 2.5°S of Moon
09		23:00	Mercury at Greatest Elongation West of Sun: 19.0°W
12	Mon	10:05	Saturn 0.0°N of Moon: Occultation Australia, S. Pacific (Saturn-Moon separation locally is 14 minutes at 6 pm in daylight.)
12		14:59	Jupiter 4.3°N of Antares
13	Tue	02:00	Perseid Meteor Shower (110/hr, spoiled by 90% Moon)
14	Wed	06:00	Venus at Superior Conjunction (not easily visible)
15	Thu	12:29	Full Moon rises locally at 8:57 pm EDT
17	Sat	04:24	Mercury 1.2°S of Beehive
17		10:50	Moon at apogee : 406 244 km
23	Fri	14:56	LQ Moon rises locally at 11:51 pm EDT Aug 22
24	Sat	09:24	Aldebaran 2.4°S of Moon
27	Tue	14:30	Pollux 6.1°N of Moon
28	Wed	11:31	Beehive 0.2°S of Moon
30	Fri	10:37	New Moon rises locally at 6:40 am EDT (not visible)
30		15:57	Moon at perigee : 357 177 km

September

- 02 Mon 10:00 Mars in Conjunction with Sun (not easily visible)
- 04 Wed 01:00 Mercury at Superior Conjunction (not easily visible)
- 06 Fri 03:10 FQ Moon rises locally at 2:12 pm EDT
- 06 06:52 Jupiter 2.3°S of Moon
- 08 Sun 13:53 Saturn 0.0°N of Moon: Occultation visible in S.Africa, S. Pacific, Australia.** Locally Moon misses Saturn by 8 min. at 8:34 am EDT (daylight)
- 10 Tue 06:00 Neptune at Opposition (magn. 7.81) in Aquarius**
- 13 Fri 13:32 Moon at apogee : 406 378 km
- 14 Sat 04:33 Full Moon rises locally at 8:16 pm EDT (“mini Moon”... but no one cares)
- 20 Fri 16:14 Aldebaran 2.6°S of Moon
- 22 Sun 02:41 LQ Moon rises locally at 11:44 pm EDT
- 23 Mon 07:50 Autumnal Equinox
- 23 23:34 Pollux 5.9°N of Moon
- 24 Tue 21:15 Beehive 0.4°S of Moon (daytime event)
- 26 Thu 08:30 Regulus 3.3°S of Moon
- 28 Sat 02:27 Moon at perigee : 357 803 km
- 28 18:26 New Moon rises locally at 6:49 am EDT (not visible)
- 29 Sun 04:15 Mercury 1.2°N of Spica

October

- 03 Thu 20:23 Jupiter 1.9°S of Moon
- 05 Sat 16:47 FQ Moon rises locally at 3:03 pm EDT
- 05 20:48 Saturn 0.3°N of Moon: Occultation in S. America, S. Atlantic, S. Africa. Closest approach about 1° locally at 1:34 pm (daylight).**
- 10 Thu 18:29 Moon at apogee : 405 902 km
- 13 Sun 21:08 Full Moon rises locally at 7:06 pm EDT
- 17 Thu 21:51 Aldebaran 2.9°S of Moon
- 20 Sun 04:00 Mercury at Greatest Elongation East: 24.6°E
- 21 Mon 06:21 Pollux 5.7°N of Moon
- 21 12:39 LQ Moon rises locally at 11:29 pm EDT Oct 20
- 21 17:00 Orionid Meteor Shower (20/h, LQ Moon Moon 49%)**
- 22 Tue 04:41 Beehive 0.6°S of Moon
- 23 17:11 Regulus 3.5°S of Moon
- 26 Sat 10:41 Moon at perigee : 361 316 km
- 28 Mon 03:38 New Moon rises locally at 6:58 am EDT (not visible)
- 28 08:00 Uranus at Opposition (magnitude 5.7 in Aries)**
18:00 Thin First Crescent Moon (19.5 h old) sets 40 min after Sun.
- Oct 29 to Nov 1 Thin crescent Moon slips past Venus, Mercury, Jupiter Ceres, Saturn**
- 29 Tue 13:34 Venus 3.9°S of Moon
- 31 Thu 04:00 Mercury 2.5° of Venus
- 31 14:22 Jupiter 1.3°S of Moon

November

- 02 Sat 07:31 Saturn 0.6°N of Moon: Occultation in Antarctica, New Zealand. Closest separation locally is 3.8° at 9:45 moonset.**
- 03 Sun Daylight Saving Time Ends (set clocks back 1 hour)**
- 04 Mon 10:23 FQ Moon rises locally at 2:05 pm EST
- 05 Tue 18:00 S Taurid Meteor Shower (10/h, Moon 62%)
- 07 Thu 08:37 Moon at apogee : 405 060 km
- 09 Sat 19:18 Venus 3.8°N of Antares
- 09 23:07 Mars 2.6°N of Spica
- 11 Mon 15:00 Transit of Mercury 7:36 am to 1:04 pm EST (Next one is 13 yr from now)**
- 12 Tue 13:34 Full Moon rises locally at 5:26 pm EST
- 12 17:00 N Taurid Meteor Shower (15/h. Moon 100%!)
- 14 Thu 03:52 Aldebaran 3.0°S of Moon
- 17 Sun 11:41 Pollux 5.4°N of Moon
- 17 23:00 Leonid Meteor Shower (20/h, Moon 71%)**
- 18 10:11 Beehive 0.9°S of Moon
- 19 Tue 21:11 LQ Moon rises locally at 11:50 pm EST
- 19 23:24 Regulus 3.7°S of Moon
- 23 Sat 07:54 Moon at perigee : 366 721 km
- 24 Sun 09:02 Mars 4.3°S of Moon
- 25 Mon 02:50 Mercury 1.9°S of Moon
- 26 Tue 15:06 New Moon rises locally at 7:21 am EST (not visible)
- 28 Thu 10:00 Mercury at Greatest Elongation West of Sun: 20.1°W**
- 28 10:49 Jupiter 0.7°S of Moon: Occultation visible in Europe, Middle East. Closest approach is 6° when Moon/Jupiter set in west 6:12 pm EST**
- 28 18:50 Venus 1.9°S of Moon (Jupiter nearby -see above)**
- 29 Fri 21:12 Saturn 0.9°N of Moon: Occultation visible in Antarctica. Closest separation is 1.7° about 6:20 pm EST just before moonset in west.**

December

- 04 Wed 06:58 FQ Moon rises locally at 1:30 pm EST
- 05 Thu 04:09 Moon at apogee : 404 447 km
- 11 Wed 11:40 Aldebaran 3.0°S of Moon
- 12 Thu 05:12 Full Moon rises locally at 5:19 pm EST
- 14 Sat 17:51 Pollux 5.3°N of Moon
- 14 12:00 Geminid Meteor Shower (120/h, Moon 94%)**
- 15 Sun 15:54 Beehive 1.0°S of Moon
- 17 Tue 04:41 Regulus 3.8°S of Moon
- 18 Wed 20:30 Moon at perigee : 370 260 km
- 19 Thu 04:57 LQ Moon rises locally at 12:08 am EST
- 22 Sun 04:19 Winter Solstice
- 22 21:00 Ursid Meteor Shower (10/h, Moon 13%)**
- 23 Mon 01:49 Mars 3.5°S of Moon
- 26 Thu 05:13 New Moon rises locally at 8:22 am EST (not visible)
- 26 05:18 Annular Solar Eclipse; mag=0.970, visible Indian Ocean, Philippines**
- 27 Fri 18:00 Jupiter in Conjunction with Sun (not easily visible)
- 29 Sun 01:32 Venus 1.0°N of Moon: Occultation visible in Australia, only. Locally, closest approach is 2.1° at moonset in west at 7:20pm EST**