

Astronomy News

Night Sky 2020 - July

Sunrise	Sunset	Mercury Rises	Venus Rises
1 st – 5:01am 10 th – 5:09am 20 th – 5:20am 30 th – 5:34am	1 st – 9:29pm 10 th – 9:24pm 20 th – 9:14pm 30 th – 9:00pm	10 th – 4:41am 15 th – 4:18am 20 th – 4:02am 25 th – 3:57am 30 th – 4:04am	1 st – 3:21am 10 th – 2:58am 20 th – 2:38am 25 th – 2:30am 30 th – 2:24am
Moon Rise	Moon Set	Moon Rise	Moon Set
----- 1 st – 5:27pm (ESE) 2 nd – 6:48pm 3 rd – 8:05pm 4 th – 9:11pm 5 th – 10:06pm 6 th – 10:47pm 7 th – 11:19pm 8 th – 11:44pm (ESE) 10 th – 12:04am 11 th – 12:21am 12 th – 12:37am (E) 13 th – 12:53am 14 th – 1:10am 15 th – 1:28am (ENE) 16 th – 1:50am 17 th – 2:17am 18 th – 2:52am 19 th – 3:38am	1 st – 2:22am (WSW) 2 nd – 2:49am 3 rd – 3:23am 4 th – 4:05am 5 th – 4:59am 6 th – 6:03am 7 th – 7:12am 8 th – 8:24am 9 th – 9:35am (WSW) 10 th – 10:44am 11 th – 11:52am 12 th – 12:58pm(W) 13 th – 2:05pm 14 th – 3:12pm 15 th – 4:20pm (WNW)	20 th – 4:36am 21 st – 5:46am 22 nd – 7:04am 23 rd – 8:26am (ENE) 24 th – 9:48am 25 th – 11:10am (E) 26 th – 12:32pm 27 th – 1:53pm 28 th – 3:14pm (ENE) 29 th – 4:34pm 30 th – 5:51pm 31 st – 7:00pm ----- All times in notes are set for Somerton unless stated	20 th – 9:30pm 21 st – 10:09pm 22 nd – 10:39pm 23 rd – 11:04pm (WNW) 24 th – 11:26pm 25 th – 11:46pm (W) 27 th – 12:06am 28 th – 12:27am (WSW) 29 th – 12:52am 30 th – 1:22am 31 st – 2:01am ----- Moon Phases Full Moon – 5 th Last Quarter – 13 th New Moon – 20 th First Quarter – 27 th
A useful site: www.heavens-above.com	A S Zielonka		

Comet C/2019 U6 (6.6 mag – June 16th) travels from the constellation of Sextans (below Leo) to Coma Berenices (left of Leo) this month. For further information on this comet or others listed please see the 'Comet' section in the website above.

Comet C/2019 F1 Atlas-Africano (15.8 mag – June 7th) is in the constellation of Hydra this month. It reaches perihelion on June 22nd 2021.

Comet C/2017 T2 Panstarrs (9.1 mag – June 16th) travels from the constellation of Canes Venatici to Coma Berenices this month. On the 1st it will be a ¼ of a degree from the star Chara (4.2 mag). On the 19th at 11:00pm it will be approximately 1 degree from the star Beta Comae Berenices (4.2 mag) and very close to two other stars.

Comet C/2017 K2 Panstarrs (15.4 mag - June 12th) is in the constellation of Draco this month. From the 1st - 10th it passes within ½ a degree of the star Rastaban (2.7 mag). It reaches perihelion on the 19th December 2022.

From the 1st - 14th Venus passes through the Hyades star cluster in Taurus. On the 11th/12th at 4:30am the star Aldebaran (0.8 mag) will be 1 degree below/below right of Venus.

Mercury is at inferior conjunction on the 1st.

On the 1st at midnight the star Acrab (1st mag) in Scorpius is $4\frac{3}{4}$ degrees to the left of the moon.

At 11:00pm on the 2nd the star Antares (1st mag) in Scorpius is $5\frac{3}{4}$ degrees to the lower left of the moon.

Comet C/2020 F3 Neowise (6.8 mag – June 10th) is at perihelion on July 3rd at a distance of 0.295AU. From the 15th it will be in the constellation of Lynx which is low in the NNW at 11:00pm. On the 22nd/23rd the comet will be at its closest to Earth at 0.692AU in Ursa Major. From the 29th it will be in Coma Berenices constellation.

On the 3rd at 11:00pm the star Theta Ophiuchi (3.2 mag) in Ophiuchus is 5 degrees to the right of the moon.

From the 4th - 7th Comet C/2019 N1 Atlas 13.5 mag (as of June 14th) will pass within a degree of the star Phecda (2.4 mag) in Ursa Major. It reaches perihelion on December 1st.

At 11:00pm on the 4th the star Phi Sagittarii (3.1 mag) in Sagittarius is 2 degrees below the moon and $\frac{1}{2}$ a degree to the right. Jupiter is $13\frac{1}{2}$ degrees to the left of the moon and 2 degrees below.

There is a Penumbral Lunar eclipse on the 5th. It starts at 4:07:23am when the moon is barely 5 degrees above the south west horizon. Greatest Eclipse occurs at 5:30am which is 31 minutes after the moon has set. The Penumbral phase ends at 6:52:23am.

On the 5th at 11:00pm Jupiter is 3 degrees above the moon with Saturn 6 degrees to the left of Jupiter and $1\frac{1}{2}$ degrees below.

At 11:30pm on the 6th the moon will be low in the SE. Saturn is $8\frac{1}{4}$ degrees to the upper right of the moon.

From the 7th - 15th the asteroid Iris (9.3 mag) passes within 1 degree of the star Mu Sagittarii (3.8 mag). (For further details please see the 'Asteroid section in the website above).

On the 7th at midnight the star Delta Capricorni (2.8 mag) in Capricornus is $4\frac{3}{4}$ degrees to the left of the moon and 2 degrees above.

At 4:00am on the 9th the star Tau Aquarii (4th mag) in Aquarius is $4\frac{1}{4}$ degrees to the left of the moon and 1 degree above.

Venus is at aphelion on the 10th.

On the 10th at 4:00am the star Psi Aquarii (4.4 mag) in Aquarius is $1\frac{3}{4}$ degrees above the moon and $\frac{1}{4}$ of a degree to the right. Neptune is $5\frac{3}{4}$ degrees above the moon and $3\frac{1}{2}$ degrees to the left.

At 4:00am on the 11th the star Mu Ceti (4.2 mag) in Cetus is 4 degrees below the moon and 2 degrees to the left. Mars is $8\frac{3}{4}$ degrees to the left of the moon and $2\frac{1}{2}$ degrees above.

On the 12th at 4:00am Mars is $3\frac{3}{4}$ degrees below left of the moon.

The moon is at apogee (404,199km from the Earth) on the 12th at 8:27pm.

At 4:00am on the 13th the star Nu Piscium (4.4 mag) in Pisces is just $2\frac{3}{4}$ degrees to the left of the moon.

Jupiter is at opposition on the 14th.

On the 14th at 4:00am Uranus is $6\frac{1}{2}$ degrees to the left of the moon and $2\frac{3}{4}$ degrees above. Pluto is at opposition on the 15th.

At 4:00am on the 15th Uranus is $6\frac{1}{4}$ degrees above the crescent moon and $4\frac{1}{2}$ degrees to the right.

On the 16th at 4:00am the Pleiades star cluster is $7\frac{1}{2}$ degrees to the upper left of the crescent moon. Venus is $2\frac{3}{4}$ degrees to the left of Aldebaran and 13 degrees to the lower left of the moon.

An occultation of the star Ain (3.5 mag) in Taurus by the moon occurs on the 16th. This will be visible from mid-Asia, Russia, China, Alaska and western-Canada.

At 4:00am on the 17th Venus is just $2\frac{1}{2}$ degrees below the crescent moon.

On the 18th at 4:00am the star Zeta Tauri (2.9 mag) in Taurus is just 1 degree below the thin crescent moon.

At 4:30am on the 19th low in the ENE Mercury is 3 degrees to the lower right of a very thin crescent moon. The moon is $5\frac{1}{2}$ degrees above the horizon and is at 59.5 degrees azimuth. The star Nu Geminorum (4.1 mag) in Gemini is just $\frac{3}{4}$ of a degree above right of Mercury. Also Comet C/2020 F8 Swan (9.0 mag – June 1st) is just 2 degrees above the moon and $\frac{1}{2}$ a degree to the left.

Saturn is at opposition on the 20th.

There is a planned launch on the 20th* between 2:15pm – 4:15pm* of a United Launch Alliance Atlas V rocket from Cape Canaveral Air Force Station. Its mission is to put a Perseverance Rover on Mars. It will search for signs of habitable conditions on Mars in the ancient past and for signs of past microbial life.

From the 21st - 23rd Comet 88P Howell (11.8 mag – June 14th) will pass within a degree of the star Spica (1st mag) in Virgo. It reaches perihelion on September 26th.

On the 21st at 9:45pm a very thin crescent moon will be found low in the WSW. It will be just $2\frac{1}{2}$ degrees above the horizon and at 298.5 degrees azimuth.

Mercury is at maximum western elongation on the 22nd.

At 9:45pm on the 22nd the star Regulus (1.3 mag) in Leo is $3\frac{1}{2}$ degrees to the lower left of a thin crescent moon in the west. The star Eta Leonis (3.4 mag) is just $1\frac{3}{4}$ degrees above right of the moon.

On the 23rd at 10:00pm the star Chertan (3.3 mag) in Leo is 6 degrees above the crescent moon and $\frac{1}{2}$ a degree to the right.

Comet 249P Linear (15.9 mag – May 31st) travels from the constellation of Auriga to Taurus this month. From the 24th - 26th it passes within a couple of degrees of the star Elnath (1.6 mag) in Taurus. It was at perihelion on 29th June and only 0.497AU distance from the Sun.

The moon is at perigee (368,361km from the Earth) on the 25th at 6:02am.

Comet 246P Neat (14 mag – June 14th) is in the constellation of Virgo this month. It reaches perihelion on February 22nd 2021.

At 10:00pm on the 25th the star Porrima (2.7 mag) in Virgo is just $1\frac{3}{4}$ degrees to the lower right of the crescent moon.

On the 26th at 10:30pm the star Spica (1st mag) in Virgo is 6 degrees below the crescent moon and $\frac{1}{2}$ a degree to the right.

On the morning of the 27th at 4:00am Comet 58P Jackson-Neujmin (11.1 mag – June 13th) will be $\frac{1}{2}$ a degree from the star Omicron Orionis (4th mag) in Orion. The comet will be approximately $5\frac{1}{2}$ degrees from Aldebaran.

At 10:30pm on the 27th the star Zubenelgenubi (2.7 mag) in Libra is 5½ degrees to the left of the moon and 1¾ degrees below.

Comet C/2020 K3 Leonard (15.8 mag – May 27th) travels from the constellation of Cepheus to Hercules this month. At midnight on the 9th it will be just 1 degree from the star Altais (3rd mag) in Draco. It was at perihelion on June 1st.

Mercury will be 3½ degrees above the ENE horizon at 59 degrees azimuth on the 29th at 4:30am, with the star Wasat (3.5 mag) in Gemini just 1 degree to the left of the planet.

On the 29th at 10:30pm the star Antares (1st mag) in Scorpius is 5¾ degrees below the moon and 2 ½ degrees to the left.

The Alpha Capricornids meteor shower reaches its peak on the 29th / 30th though they can be seen from the 2nd July - 14th August.

At 10:30pm on the 30th the star Theta Ophiuchi (3.2 mag) in Ophiuchus is just 1½ degrees below the moon in the south.

The star Zeta Tauri (2.9 mag) in Taurus is 2½ degrees to the left of Venus on the 31st at 4:30am in the east.

On the 31st at midnight the star Kaus Borealis (2.8 mag) in Sagittarius is just ½ a degree to the lower left of the moon. Jupiter is 14½ degrees to the upper left of the moon with Saturn 7¾ degrees further left of Jupiter.

* = Dates and times are subject to change.

News: **Solar Orbiter:** The science payload is composed of 10 instruments.

4/10) RPW – Radio and Plasma waves (France): Unique amongst the Solar Orbiter instruments, RPW makes both in situ and remote-sensing measurements. RPW measures magnetic and electric fields at high time resolution using a number of sensors/antennas, to determine the characteristics of electromagnetic and electrostatic waves in the solar wind. (During its cruise phase to Venus, Solar Orbiter passed through the ion tail of Comet C/2019 Y4 Atlas from the 31st May - 1st June 2020. It also passed through the comet's dust tail on the 6th June 2020)

News: It was announced on the 15th that the European Space Agency's (ESA) Trace Gas Orbiter (TGO) spotted an emerald glow in Mars' wispy atmosphere, marking the first time the phenomenon has been spotted on a world beyond Earth, a new study reports.

Facts: The smallest constellation is Crux (The Cross or Southern Cross). Its the most familiar one to observers in the southern hemisphere. It contains the bright star Acrux, the 'Jewel Box' star cluster and most of the Coalsack Nebula.