

Astronomy News

Night Sky 2022 - April

Sunrise	Sunset	Mercury Sets	Venus Rises
1 st – 6:47am 10 th – 6:27am 20 th – 6:06am 30 th – 5:46am	1 st – 7:44pm 10 th – 7:58pm 20 th – 8:15pm 30 th – 8:31pm	10 th – 8:41pm 20 th – 9:57pm 30 th – 10:33pm	1 st – 5:24am 10 th – 5:12am 20 th – 4:57am 30 th – 4:41am
Moon Rise	Moon Set	Moon Rise	Moon Set
1 st – 7:14am (E) 2 nd – 7:28am 3 rd – 7:43am (ENE) 4 th – 8:00am 5 th – 8:21am 6 th – 8:48am 7 th – 9:23am 8 th – 10:09am (NE) 9 th – 11:05am 10 th – 12:11pm 11 th – 1:23pm 12 th – 2:38pm (ENE) 13 th – 3:55pm 14 th – 5:13pm 15 th – 6:33pm (E) 16 th – 7:56pm 17 th – 9:22pm (ESE) 18 th – 10:51pm 20 th – 12:19am	1 st – 8:04pm 2 nd – 9:19pm 3 rd – 10:33pm (WNW) 4 th – 11:47pm 6 th – 12:58am 7 th – 2:05am 8 th – 3:03am (NW) 9 th – 3:51am 10 th – 4:29am 11 th – 4:58am 12 th – 5:20am 13 th – 5:38am (WNW) 14 th – 5:54am 15 th – 6:09am (W) 16 th – 6:23am 17 th – 6:39am (WSW) 18 th – 6:59am 19 th – 7:24am 20 th – 7:59am	21 st – 1:40am (SE) 22 nd – 2:46am 23 rd – 3:35am 24 th – 4:09am 25 th – 4:34am 26 th – 4:52am (ESE) 27 th – 5:08am 28 th – 5:22am (E) 29 th – 5:35am 30 th – 5:49am ----- All times in notes are set for Somerton unless stated	21 st – 8:48am 135 (SW) 22 nd – 9:53am 23 rd – 11:10am 24 th – 12:33pm 25 th – 1:56pm (WSW) 26 th – 3:16pm 27 th – 4:33pm 28 th – 5:49pm (W) 29 th – 7:03pm 30 th – 8:17pm (WNW) ----- Moon Phases New Moon – 1 st First Quarter – 9 th Full Moon – 16 th Last Quarter – 23 rd New Moon - 30 th
A useful site: www.heavens-above.com	A S Zielonka		

There is still no date at present of the first flight of NASA's X-57. It will take place at the Armstrong Flight Centre in California during the Spring. It is a small, experimental airplane powered by electricity. An All-electric technology will make flying cleaner, quieter and more sustainable.

Venus, Saturn and Mars are within 6 degrees of one another on the 1st. At 6:00am Venus is 5 degrees above the horizon at 116.5 degrees azimuth. Saturn is 3½ degrees to the right of Venus and ½ a degree below with Mars 2½ degrees to the right of Saturn.

Mercury is at superior conjunction on the 2nd.

On the evening of the 2nd a very thin crescent Moon will be seen low in the west. At 8:30pm the Moon will be 6¼ degrees above the horizon at 277 degrees azimuth. (The railway line from Huish bridge points 271 degrees west and 91 degrees east).

At 8:30pm on the 3rd Uranus is approximately ¾ of a degree to the right of the thin crescent Moon and a ¼ of a degree above, looking almost due west.

On the 4th at 10:30pm the Pleiades star cluster is 5 degrees above the crescent Moon and 1½ degrees to the right.

Saturn and Mars are in close conjunction on the 5th. At 6:00am they are 6 degrees above the horizon at 123 degrees azimuth, with Saturn ¼ of a degree above Mars.

At 9:30pm on the 5th the stars Upsilon Tauri (4.2 mag) and Kappa Tauri (4.2 mag) are very close to the crescent Moon. At 9:30pm Kappa Tauri is less than a ¼ of a degree to the left of the Moon and Upsilon Tauri is less than ½ a degree above the Moon.

On the 6th at midnight the star Elnath (1.6 mag) in Taurus is just ¾ degrees above right of the Moon.

The crescent Moon is at apogee (404,438km) on the 7th at 8:12pm. At 11:40pm on the 7th the two stars Nu Geminorum (4.1 mag) and Mu Geminorum (2.8 mag) point the way to the Moon.

At 8:30pm on the 8th the star Mebsuta (3 mag) in Gemini is 4 degrees to the lower right of the Moon.

On the 9th at 8:45pm the stars Iota Geminorum (3.7 mag) and Upsilon Geminorum point the way to the first quarter Moon. Also Castor (1.5 mag) and Pollux (1.1 mag) point in the general direction of the Moon. The star Kappa Geminorum (3.5 mag) is just 2½ degrees to the lower right of the Moon.

At 9:00pm on the 10th the Beehive star cluster is 3½ degrees below the Moon and 1½ degrees to the right.

On the 11th at 9:30pm the two lesser known stars Kappa Leonis (4.4 mag) and Lambda Leonis (4.3 mag) point the way to the Moon, which is 4½ degrees from Lambda Leonis.

At 9:00pm on the 12th the star Regulus (1.3 mag) is 5½ degrees to the right of the Moon and 2 degrees below.

Mercury is at perihelion on the 13th.

On the 13th at 10:30pm the star Iota Leonis (4 mag) is 2 degrees to the upper right of the Moon.

At 9:00pm on the 14th the star Zavijava (3.5 mag) in Virgo is 4¼ degrees to the right of the Moon and half a degree above.

There is a planned launch on the 15th* of NASA's SpaceX Crew-4 mission to the International Space Station (ISS). Missions teams are targeting no earlier than April to the space station for a six-month science mission aboard the microgravity laboratory.

On the 15th at 9:00pm the star Porrima (2.7mag) in Virgo is 3½ degrees above the Moon and 2¼ degrees to the right.

At 10:00pm on the 16th the star Spica (1 mag) in Virgo is 6 degrees to the right of the Moon and 1½ degrees above.

There is a close conjunction between Mercury and Uranus on the 17th. At 9:00pm Mercury will be 5½ degrees above the horizon at 290.5 degrees. Uranus is 2 degrees to the left of Mercury and ½ a degree below.

On the 17th at midnight the star Zubenelgenubi (2.7 mag) in Libra is just 1 degree to the lower left of the Moon.

At 5:00am on the 19th the star Dschubba (2.2 mag) in Scorpius is 1¾ degrees to the left of the Moon. The Moon is at perigee (365,143km) at 4:14pm.

On the 20th at 5:00am the star Antares (1 mag) in Scorpius is 6 degrees to the right of the Moon and 1¾ degrees below.

At 5:00am on the 21st the star Alnasl (2.9 mag) in Sagittarius is 3 degrees below the Moon and 1 degree to the left.

On the 22nd at 5:00am the star Tau Sagittarii (3.3 mag) is less than a ¼ of a degree to the left of the Moon.

The Lyrids meteor shower reaches its peak on the 22nd - 23rd though they can be seen from the 14th to the 30th.

At 5:00am on the 23rd the last quarter Moon is just 7 degrees above the horizon at 150 degrees azimuth.

On the 24th at 5:00am the crescent Moon is 4 degrees above the horizon and due south east at 135 degrees azimuth.

At 5:00am on the 25th the crescent Moon is 1 degree above the horizon at 122 degrees azimuth. Saturn is 6 degrees above the Moon and 1½ degrees to the right.

On the 26th at 5:15am the crescent Moon is 2½ degrees above the horizon at 114.5 degrees azimuth. Mars is 5 degrees above the Moon and 1 degree to the right.

At 5:15am on the 27th the crescent Moon is barely above the horizon at 102 degrees azimuth. Venus is 4½ degrees above the horizon at 101 degrees azimuth with Jupiter 3½ degrees above the horizon at 98 degrees azimuth. Neptune is also amongst them and just ½ a degree to the left of Venus.

From the 28th - 30th Mercury passes close to the Pleiades star cluster. At 9:00pm on the 30th Mercury is just 2 degrees to the left of the Pleiades in the WNW. Mercury is 13 degrees above the horizon at 290.5 degrees azimuth.

There is a close conjunction of Venus and Neptune at 5:15am on the 28th. Neptune is less than a $\frac{1}{4}$ of a degree to the right of Venus with Jupiter $2\frac{1}{2}$ degrees to the left of Venus.

Mercury reaches maximum eastern elongation from the Sun on the 29th.

There is a partial solar eclipse on the 30th. This will only be seen from the southern half of South America. The maximum eclipse occurs at 9:41:25pm.

* = Dates and times are subject to change.

News: On the 3rd March Russia cut further space ties, when Roscosmos announced that it would stop selling rocket engines to American companies.

Following the recommendation to freeze co-operation with Russia, the German-led X-ray telescope eROSITA has been placed in safe mode. The mission to map galaxy clusters and follow the evolution of largescale structure has halted halfway through the initial planned observations, with only four of eight intended observing passes complete.

It was announced on March 17th that the European Space Agency (ESA) has now formally suspended its ExoMars program. Following the decision by Roscosmos to withdraw their personnel from Europe's Spaceport in French Guiana, all missions scheduled for launch by Soyuz have been put on hold. These concern essentially four institutional missions for which ESA is the launch service procurement entity (Galileo M10, Galileo M11, Euclid and EarthCare) and one additional institutional launch.

Later this year, NASA plans to land a robotic drilling machine on the Moon called the Polar Resources Ice Mining Experiment 1 (PRIME 1). The landing site: a crater named Shackleton, is located almost exactly at the Moon's south pole.

Recently, astronomers found a third moon orbiting the asteroid 130 Elektra, breaking the record for moons among asteroid systems.

Apollo 17 (the last manned mission to the Moon) crew of Eugene Cernan and Harrison "Jack" Schmitt departed the Taurus-Littrow region of the Moon aboard the Challenger module on December 14th 1972, with 115 kilograms (254lbs) of lunar material. Many of these have helped scientists learn about the Earth-Moon system over the years, but a small amount of samples were put aside for future use, under the assumption that more sophisticated analysis techniques would arise in decades to

come. (A portion of the samples that NASA's OSIRIS-REx will return from asteroid 101955 Bennu next year are ear-marked for the same sort of Preservation).

NASA has extended flight operations of the Ingenuity Mars Helicopter through to September. Even after several months and a dust storm, Ingenuity shows no signs of wear. Dust hasn't impeded its solar panels (Probably because its been flying around), and the only change in performance is that it can't fly quite as far because atmospheric pressure is dropping as the seasons change.

Facts: On the afternoon of December 19th, 2021 a team of amateur astronomers in two towns in Italy, Cremona and Salerno, observed the close passage of the near-Earth asteroid 163899 (2003 SD220). Observations enabled us to calculate its distance using the parallax method.