

Astronomy News Night Sky 2021 - April

Sunrise	Sunset	Mercury Sets	Venus Sets
1 st – 6:46am 10 th – 6:27am 20 th – 6:05am 30 th – 5:46am	1 st – 7:44pm 10 th – 7:59pm 20 th – 8:15pm 30 th – 8:32pm	24 th – 8:54pm 26 th – 9:12pm 28 th – 9:29pm 30 th – 9:46pm	20 th – 8:43pm 25 th – 8:58pm 30 th – 9:14pm
Moon Rise	Moon Set	Moon Rise	Moon Set
----- 2 nd – 1:07am 3 rd – 2:26am 4 th – 3:33am 5 th – 4:24am 6 th – 5:02am 7 th – 5:31am 8 th – 5:53am (ESE) 9 th – 6:11am 10 th – 6:26am 11 th – 6:40am (E) 12 th – 6:55am 13 th – 7:10am 14 th – 7:27am (ENE) 15 th – 7:47am 16 th – 8:13am 17 th – 8:46am 18 th – 9:29am	1 st – 8:43am 2 nd – 9:18am 3 rd – 10:03am 4 th – 11:00am 5 th – 12:08pm 6 th – 1:21pm 7 th – 2:36pm 8 th – 3:50pm (WSW) 9 th – 5:02pm 10 th – 6:12pm (W) 11 th – 7:20pm 12 th – 8:29pm 13 th – 9:37pm (WNW) 14 th – 10:46pm 15 th – 11:54pm 17 th – 1:00am 18 th – 2:00am 19 th – 2:53am	19 th – 10:23am 20 th – 11:28am 21 st – 12:41pm 22 nd – 2:00pm (ENE) 23 rd – 3:21pm 24 th – 4:45pm 25 th – 6:10pm (E) 26 th – 7:39pm 27 th – 9:09pm (ESE) 28 th – 10:40pm 30 th – 12:06am ----- All times in notes are set for Somerton unless stated	20 th – 3:36am 21 st – 4:10am 22 nd – 4:38am 23 rd – 5:00am (WNW) 24 th – 5:20am 25 th – 5:38am (W) 26 th – 5:56am 27 th – 6:16am (WSW) 28 th – 6:41am 29 th – 7:12am 30 th – 7:53am ----- Moon Phases Last Quarter – 4 th New Moon – 12 th First Quarter – 20 th Full Moon – 27 th
A useful site: www.heavens-above.com	A S Zielonka		

There is a scheduled landing (splashdown) of the SpaceX Crew-1 in late April or early May. NASA astronauts Michael Hopkins, Victor Glover and Shannon Walker, along with JAXA astronaut Soichi Noguchi are due to return to Earth from the ISS.

The asteroid 4 Vesta (6.5 mag) throughout April stays within the constellation of Leo. (for further information please see the 'Asteroid' section in the website above).

On the 1st at 5:45am the star Acrab (2.5 mag) in Scorpius is 4 degrees to the left of the Moon and 1 degree above.

There is a scheduled flight test on the 2nd. For this second uncrewed flight test, Boeing's CST-100 Starliner will launch atop a United Launch Alliance Atlas V rocket. OFT-2 will fly a new, reusable Starliner crew module providing additional on-orbit experience for the operational teams prior to flying missions with astronauts.

At 5:00am on the 2nd the star Antares (1 mag) in Scorpius is 5 degrees to the lower right of the Moon.

On the 4th at 5:00am in the SSE the star Nunki (2 mag) in Sagittarius is $\frac{3}{4}$ of a degree to the left of the last quarter Moon.

At 5:45am on the 6th Saturn is $5\frac{1}{2}$ degrees to the upper left of the crescent Moon in the south east. Jupiter is 5 degrees above the horizon at 119 degrees azimuth and 16 degrees to the left of the Moon.

On the 7th at 5:45am the crescent Moon is 1 degree above the horizon at 123.5 degrees azimuth. Jupiter is 5¾ degrees above left of the Moon. Saturn is 11 degrees above right of the Moon.

At 6:00am on the 8th the crescent Moon is on the horizon at 115 degrees azimuth with Jupiter 11 degrees above right of it.

On the 13th at 8:45pm a very thin crescent Moon is 6½ degrees above the horizon at 282 degrees azimuth. Uranus is 3½ degrees to the right of the Moon and ¾ of a degree below.

The Moon is at apogee (406,119km) on the 14th at 6:46pm. At 10:30pm the thin crescent Moon is barely above the WNW horizon. The Pleiades star cluster is 8 degrees above the Moon and 2 degrees to the right.

On the 15th at 10:30pm the star Ain (3.5 mag) in Taurus is 2½ degrees to the left of the crescent Moon and a ¼ of a degree above. The star Kappa Tauri (4.2 mag) is 2¼ degrees above the Moon. The Pleiades star cluster is 8½ degrees to the right of the Moon and 2 degrees below.

At midnight on the 16th Mars is 7 degrees to the upper left of the crescent Moon. The star Zeta Tauri (2.9 mag) is 6 degrees to the left of the Moon and 2 degrees above.

An occultation of Mars occurs on the 17th. This will be visible from the equatorial regions of Africa and Asia.

At 11:30pm on the 17th Mars is 4½ degrees to the lower right of the crescent Moon. The star 1 Geminorum (4.1 mag) in Gemini is just 1¼ degrees to the lower left of the Moon.

On the 18th at 9:00pm the star Mebsuta (3 mag) in Gemini is just 2 degrees to the lower right of the crescent Moon.

Mercury is at superior conjunction on the 19th.

At 9:00pm on the 19th the star Kappa Geminorum (3.5 mag) in Gemini is just 1 degree to the lower right of the Moon... then at 1:00am the stars Castor (1.5 mag) and Pollux (1.1 mag) point the way to the Moon.

There is a scheduled launch (no earlier than the 20th*) to the ISS. NASA's SpaceX Crew-2 mission will launch four astronauts aboard a Crew Dragon spacecraft on a Falcon 9 rocket to the space station. It will be the first mission to fly two international partner crew members as part of the agency's Commercial Crew Program. NASA astronauts Shane Kimbrough and Megan McArthur will serve as spacecraft commander and pilot, respectively. Japan Aerospace Exploration Agency (JAXA) astronaut Akihiko Hoshide, and European Space Agency (ESA) astronaut Thomas Pesquet will join as mission specialists. (See ISS News below)

On the 20th at midnight the Beehive star cluster is 3 degrees below the Moon.

There is a very close conjunction between Venus and Uranus on the 22nd. At 8:35pm (16 mins after sunset) low in the WNW Venus is at 290 degrees azimuth and just 2 degrees above the horizon with Uranus just above it.

The Lyrids meteor shower reaches its peak on the night of the 22nd. The nearly full moon will be a problem this year. Its glare will block out all but the brightest meteors. Best viewing will be from a dark location after midnight. They will radiate from the constellation Lyra though they can appear anywhere in the sky.

At midnight on the 22nd the star Rho Leonis (3.8 mag) in Leo is 4½ degrees below the Moon and 1½ degrees to the left.

From the 24th April - 1st May Mars passes alongside the stars 1 Geminorum (4.1 mag), Propus (1.3mag) and Mu Geminorum (2.8 mag) in Gemini. At 9:30pm on the 28th Propus is 2½ degrees to the lower left of Mars.

On the 24th at midnight the star Zaniah (3.8 mag) in Virgo is 3 degrees below the Moon.

There is a close conjunction between Venus and Mercury on the 25th. At 8:40pm (17 mins after sunset) low in the WNW Venus is at 291 degrees azimuth with Mercury 1 degree above right.

Then at 10:00pm the star Theta Virginis (4.3 mag) is just 2 degrees to the lower right of the Moon.

Mars is midway between Elnath (1.6 mag) and Zeta Tauri (2.9mag) in Taurus at 10:00pm on the 25th. Elnath is 4 degrees to the upper right of Mars.

On the 26th at midnight the star Kappa Virginis (4.1 mag) is just ½ a degree above the Moon.

Mercury is at perihelion on the 27th.

The Moon is at perigee (357,378km) on the 27th at 4:23pm. At 10:00pm the star Zubenelgenubi (2.7 mag) in Libra is 4 degrees to the upper right of the Moon.

On the 28th at midnight low in the south east the two stars named Omega Scorpii (3.8 & 4.1 mag) in Scorpius are just 1½ degrees to the upper right of the Moon... Then at 5:00am they are 4 degrees to the right of the Moon.

From the 29th April – 3rd May Comet C/2021 D1 Swan (11.5 mag) will be passing close to the star Iota Aurigae (2.6 mag) in Auriga. At 10:00pm on the 1st May looking west, Comet Aurigae is ¾ of a degree to the upper right of Iota Aurigae. (For further information on this or other comets please see the “Comet” section in the website above.

Uranus is at superior conjunction on the 30th.

At 5:00am on the 30th the star Theta Ophiuchi (3.2 mag) in Ophiuchus is just 1 degree to the right of the Moon... Also at the same time in the south east, the star Theta Capricorni (4 mag) in Capricorn is just ¾ of a degree left of Saturn

On the 30th at 8:55pm Venus is at 294 degrees azimuth and 3 degrees above the horizon. Mercury is 4½ degrees above Venus and 1 degree to the left.

* = Dates and times are subject to change.

News: The Perseverance rover's Red Planet touchdown site has now been renamed for Octavia E Butler (1947 - 2006) the noted African American science fiction author. She was the first African American woman to win both the Hugo and Nebula awards that honour great science fiction, and the first science fiction writer overall who received a Mac Arthur Fellowship.

Mission team members at NASA announced on March 10th that the Perseverance Rover has begun using its rock-zapping SuperCam instrument on Mars. SuperCam, mounted in the head of the rover, is actually five instruments in one. Among the first targets for analysis are rocks dubbed Maaz and Yeeho (Maaz & Yeigo, are Navajo words meaning “Mars” and “Dilligent”). Its equipped with a microphone, which has picked up the gentle whoosh of the Martian wind as well as the not-so-gentle snaps generated by the laser when it hits a rock target.

As cleanup operations are underway at the Arecibo Observatory in Puerto Rico, some scientists are proposing a replacement for the esteemed radio dish. Cleanup isn't only about removing machinery; there are environmental effects too. For example, workers are also excavating soil contaminated with hydraulic oil released during the collapse. The next generation Arecibo Telescope, could pack hundreds, and maybe even more than 1,000 smaller radio dishes into the same space now occupied by the single 305-metre dish (with no suspended instrument platform required).

ISS News:

Shane Kimbrough (b.1967) is a retired U.S. Officer, and a NASA astronaut. He was part of the first group of candidates selected for NASA astronaut training following the Space Shuttle Columbia disaster. He is a veteran of two space flights. On his last mission in 2017 to the ISS he performed two Extravehicular Activities (EVA's) with Thomas Pesquet.

Megan McArthur (b.1971) is married to fellow astronaut Bob Behnken, and they have one son. She was a member of the STS-125 mission to service the Hubble Space Telescope. She was the ascent and entry flight engineer and was the lead robotics crew member for the mission. In a pre-flight interview, she put it as: “I'll be the last one with hands on the Hubble Space Telescope.” This will be her second time in space.

Akihiko Hoshide (b.1968) first mission was onboard Space Shuttle Discovery in May 2008. It was the second of three missions to deliver the Japanese Experiment Module (Kibo) to the ISS. During his second mission to the ISS in 2012, he performed 3 EVA's. During his third EVA he took hold of the record for the most cumulative space walk time for a Japanese astronaut of 21 hours and 23 minutes. During this mission he is scheduled to become only the second Japanese astronaut to take command of the station, following Koichi Wakata in 2014.

Thomas Pesquet (b.1978) was born in Rouen, France and considers Dieppe his hometown. He is married to Anne Mottet. Arriving at the ISS in November 2016, he became the first French astronaut since Leopold Eyharts who helped install the Columbus European laboratory module. His arrival marked the beginning of the European Proxima mission, which included 50 science experiments for ESA and CNES. During this mission he will become the first European astronaut to launch on board an American Commercial Crew Vehicle.

Facts: On January 31st 1961 a chimpanzee named Ham (from the central African nation of Cameroon) was launched into space, strapped into a nosecone of a Mercury-Redstone rocket. The rocket reached an altitude of 251km. Ham survived the flight itself, but nearly drowned when the capsule started filling with water after its ocean splashdown. Fortunately, the helicopter recovery team reached him in time. Ham's treat on emerging from the spacecraft was an apple, which he devoured eagerly. After his flight, Ham lived for 20 years by himself, in a zoo in Washington DC.