

Astronomy News

Night Sky 2021 - May

Sunrise	Sunset	Mercury Sets	Venus Sets
1 st – 5:44am	1 st – 8:33pm	1 st – 9:54pm	1 st – 9:18pm
10 th – 5:28am	10 th – 8:47pm	10 th – 10:47pm	10 th – 9:45pm
20 th – 5:14am	20 th – 9:02pm	20 th – 10:59pm	20 th – 10:14pm
30 th – 5:03am	30 th – 9:14pm	30 th – 10:21pm	30 th – 10:36pm
Moon Rise	Moon Set	Moon Rise	Moon Set
1 st – 1:22am (SE)	1 st – 8:47am (SW)	20 th – 12:58pm (ENE)	21 st – 3:24am
2 nd – 2:21am	2 nd – 9:54am	21 st – 2:18pm	22 nd – 3:42am
3 rd – 3:05am	3 rd – 11:08am	22 nd – 3:40pm (E)	23 rd – 3:59am (W)
4 th – 3:37am	4 th – 12:25pm	23 rd – 5:05pm	24 th – 4:18am
5 th – 4:00am (ESE)	5 th – 1:40pm (WSW)	24 th – 6:33pm (ESE)	25 th – 4:39am (WSW)
6 th – 4:19am	6 th – 2:52pm	25 th – 8:04pm	26 th – 5:06am
7 th – 4:35am	7 th – 4:02pm	26 th – 9:34pm	27 th – 5:42am
8 th – 4:49am (E)	8 th – 5:11pm (W)	27 th – 10:58pm	28 th – 6:30am (SW)
9 th – 5:03am	9 th – 6:19pm	29 th – 12:08am (SE)	29 th – 7:33am (SW)
10 th – 5:17am	10 th – 7:27pm (WNW)	30 th – 1:00am	30 th – 8:48am
11 th – 5:33am (ENE)	11 th – 8:36pm	31 st – 1:38am	31 st – 10:06am
12 th – 5:52am	12 th – 9:44pm	-----	-----
13 th – 6:16am	13 th – 10:51pm		
14 th – 6:46am	14 th – 11:54pm		
15 th – 7:26am	16 th – 12:50am		
16 th – 8:16am (NE)	17 th – 1:36am (NW)	All times in notes are set for Somerton unless stated	Moon Phases Last Quarter – 3 rd New Moon – 11 th First Quarter – 19 th Full Moon – 26 th
17 th – 9:16am	18 th – 2:12am		
18 th – 10:25am	19 th – 2:41am		
19 th – 11:40am	20 th – 3:04am (WNW)		
A useful site: www.heavens-above.com	A S Zielonka		

Arianespace will use a Soyuz rocket to launch 36 satellites into orbit for the OneWeb internet constellation. The Mission, called OneWeb 7 will lift off from the Vostochny Cosmodrome in Siberia sometime during this month*.

China's Tianwen-1 Mars rover will touch down on the Red Planet this month*.

On the 1st at 4:45am the star Kaus Borealis (2.8 mag) in Sagittarius is $1\frac{1}{4}$ degrees upper right of the Moon.

From the 1st – 5th Jupiter passes the star Iota Aquarii (4.2 mag) in Aquarius. On the 3rd at 4:30am low in the south east Iota Aquarii is $1\frac{1}{4}$ degrees below Jupiter.

From the 2nd – 4th Mercury passes close to the Pleiades low in the WNW. On the 4th at 9:05pm Mercury is $2\frac{1}{2}$ degrees to the left of the Pleiades star cluster with Venus $6\frac{1}{2}$ degrees below the Pleiades at 296 degrees azimuth and just 3 degrees above the horizon.

At 4:45am on the 3rd Saturn is 9 degrees to the left of the Moon and $3\frac{1}{2}$ degrees above. The star Theta Capricorni (4 mag) in Capricorn is just $\frac{3}{4}$ of a degree to the left of Saturn.

On the 4th at 4:30am Saturn is 6 degrees above the Crescent Moon and $3\frac{1}{2}$ degrees to the right. Jupiter is $11\frac{1}{2}$ degrees to the left of the Moon and 3 degrees above. The star '106039' (4.5 mag) in Hipparcos Catalogue is 1 degree lower right of the Moon.

At 4:30am on the 5th the crescent Moon is in the south east and just 3 degrees above the horizon at 122 degrees azimuth. Jupiter is $5\frac{3}{4}$ degrees above the Moon and $\frac{3}{4}$ of a degree to the right.

On the 6th at 4:40am the crescent Moon is due ESE at 112.5 degrees azimuth and just $2\frac{1}{4}$ degrees above the horizon in the constellation of Aquarius.

The Eta Aquarids meteor shower can be seen from 19th April - 28th May. They reach their peak on the night of the 6th/7th May. Its produced by dust particles left behind by comet Halley. Best viewing will be from a dark location after midnight and will radiate from the constellation of Aquarius, but can appear anywhere in the sky.

At 4:45am on the 7th a thin crescent Moon is barely a degree above the eastern horizon at 102 degrees azimuth. Neptune is $5\frac{1}{2}$ degrees above the Moon and 2 degrees to the right.

From the 7th – 10th Venus passes close the Pleiades low in the WNW. On the 8th at 9:15pm Venus is 4 degrees to the lower left of the Pleiades with Mercury 8 degrees above Venus and 3½ degrees to the left. Venus is at 298 degrees azimuth and just 3½ degrees above the horizon.

From the 7th – 11th Mars passes close to the star Mebsuta (3 mag) in Gemini. On the 9th around 10:00pm Mebsuta will be ¾ of a degree upper right of Mars in the west.

On the 8th at 5:00am a very thin crescent Moon will be low in the east at 94 degrees azimuth and just 1 degree above the horizon.

An occultation of the planet Venus by the Moon occurs on the 12th. This will only be visible from the South Pacific ocean.

At 9:15pm on the 12th a very thin crescent Moon is just 3 degrees above the WNW horizon at 298 degrees azimuth. Venus is 2 degrees above the Moon. Mercury is 8 degrees above Venus and 4 degrees to the left. Aldebaran (0.8 mag) is 7½ degrees to the left of Venus. The Pleiades star cluster are 6 degrees to the right of the Moon and Venus.

On the 13th at 9:30pm Mercury is 2½ degrees to the upper right of the thin crescent Moon in the WNW. Venus is 9 degrees to the lower right of the Moon at 300.5 degrees azimuth and just 3½ degrees above the horizon.

From the 14th – 16th Venus passes close to the Stars Kappa Tauri (4.2 mag) and Upsilon Tauri (4.2 mag). On the 15th at 9:30pm Kappa Tauri is less than ½ a degree to the upper right of Venus, and on the 16th at the same time Upsilon Tauri is 1½ degrees to the right of Venus.

At 10:30pm on the 14th the star Zeta Tauri (2.9 mag) in Taurus is 4 degrees below the crescent Moon. The star Elnath (1.6 mag) is 6½ degrees to the right of the Moon. Mercury should easily be seen 6½ degrees below Elnath and 3 degrees to the right.

On the 15th at 10:30pm the star Mebsuta (3 mag) in Gemini is ½ a degree above left of the crescent Moon. Mars is 3½ degrees to the left of the Moon and 2 degrees above.

At midnight on the 16th the star Kappa Geminorum (3.5 mag) in Gemini is just 1¼ degrees above left of the Moon. Mars is 8 degrees to the lower right of the Moon.

Mercury is at maximum eastern elongation (22 degrees) from the Sun on the 17th.

There is a planned launch on the 17th *of an Atlas V rocket from Cape Canaveral, Florida. It will put the U.S. Space Force's fifth Space Based Infrared System Geosynchronous satellite (SBIRS GEO 5) into orbit.

On the night of the 17th at 1:00am the Beehive Star Cluster is 2½ degrees to the left of the Moon and 1 degree below.

At 9:30pm on the 19th the Moon is approximately midway between the stars Algieba (2 mag) and Regulus (1.3 mag) in Leo. The star Eta Leonis (3.4 mag) is just 2 degrees to the right of the Moon.

From the 20th – 24th Mercury passes within 3 degrees of the star Elnath (1.6 mag) in Taurus. On the 23rd at 9:30pm Venus is 6½ degrees below Elnath. On the 24th at 9:30pm Mercury is midway between Elnath and Zeta Tauri (2.9 mag) with Venus 4¼ degrees lower right of Mercury.

On the 20th at 10:00pm the star Chertan (3.3 mag) in Leo is 5 degrees above the Moon.

At 10:00pm on the 21st the star Nu Virginus (4 mag) in Virgo is 3 degrees to the right of the Moon and 1 degree above.

From the 21st – 25th Mars passes close to the star Wasat (3.5 mag) in Gemini. On the 23rd at 10:00pm Wasat is just 1½ degrees lower left of Mars.

On the 22nd at 10:00pm the star Porrima (2.7 mag) in Virgo is just 2 degrees to the right of the Moon.

At 10:00pm on the 23rd the star Spica (0.9 mag) in Virgo is 6 degrees below right of the Moon.

On the 24th at midnight the star Zubenelgenubi (2.7 mag) in Libra is just 2¾ degrees lower left of the Moon.

At midnight on the 25th the star Theta Librae (4.1 mag) in Libra is 3¾ degrees to the upper left of the Moon... Then at 4:00am the following morning Theta Librae is 3½ degrees above the Moon and 1 degree to the right.

There is a Total Eclipse of the Moon on the 26th May. As the greatest eclipse occurs around midday not even a partial phase will be visible from any part of Europe or Africa. The penumbral phase starts at 9:47am and ends at 2:49pm. Totality only lasts for 14½ minutes.

From the 26th – 31st Venus passes close to Mercury. On the 28th at 9:30pm Mercury is ½ a degree to the left of Venus low in the WNW. On the 29th at the same time Mercury is 1 degree below Venus.

On the 26th at midnight low in the SSE the star Antares (1 mag) in Scorpius is 5 degrees to the right of the Moon and 2 degrees below.

From the 28th – 31st Comet C/2020 R4 Atlas (9.5 mag – April 16th) passes close to the star Zosma (2.5 mag) in Leo. On the 29th and 30th at midnight Comet Atlas is 2½ degrees to the right of Zosma.

Low in the south east at 12:30am on the night of the 28th, the star Nunki (2 mag) in Sagittarius is just 1 degree upper right of the Moon.

On the 30th at 4:00am Saturn is 13½ degrees to the left of the Moon and 6 degrees above. The star Theta Capricorni (4 mag) is less than ½ a degree to the left of Saturn.

From the 30th May – 1st June Mars passes close to the star Kappa Geminorum (3.5 mag). On the 31st

Kappa Geminorum will be just under 2 degrees to the upper right of Mars.

At 4:15am on the 31st Saturn is 5 degrees above the Moon in the SS

* = Dates and times are subject to change.

News: NASA is working to land the first woman and the next man on the Moon by 2024. Space Launch System (SLS), along with NASA's Orion spacecraft, the Human Landing System and the Gateway in orbit around the Moon, are NASA's backbone for deep space exploration. SLS is the only rocket that can send Orion, astronauts and cargo to the Moon on a single mission.

China's Chang'e 4 mission is currently exploring Von Karman crater on the Moon. A south pole site will also be the target for NASA's VIPER rover launching in 2023. The crewed Artemis initiative could also pay it a visit in the coming years.

NASA's Ingenuity carries inertial sensors, a laser altimeter, and two cameras: a 13-megapixel colour camera and a 0.5-megapixel black-and-white navigation camera. It also has internal heaters to withstand the cold Martian nights. There's also a piece of fabric from the original 1903 Wright flyer aboard Ingenuity, a swatch about the size of a postage stamp. The cost for design, development and construction of Ingenuity was \$85 million.

Future helicopters could become standard aboard planetary missions to scout terrain ahead, look into shadowed craters, and more. While Ingenuity's mission is a short proof of concept, it's only the beginning. NASA plans on sending a much more ambitious nuclear-powered helicopter named Dragonfly to Saturn's large moon Titan, perhaps launching in 2027.

Facts: George Robert Carruthers (b.1939) was an African American inventor, who passed away at the age of 81 on December 26th 2020, is immortalized on the Moon. There, in the shadow of the abandoned Orion lunar module, sits a 2 foot 7inch gold-plated camera that he designed and built: the first astronomical telescope to observe the heavens from another celestial body. It was launched aboard Apollo 16 in 1972.