

# Astronomy News

## Night Sky 2022 - May

Sunrise	Sunset	Mercury Sets	Venus Rises
1 <sup>st</sup> – 5:44am	1 <sup>st</sup> – 8:33pm	1 <sup>st</sup> – 10:33pm	1 <sup>st</sup> – 4:39am
10 <sup>th</sup> – 5:29am	10 <sup>th</sup> – 8:47pm	5 <sup>th</sup> – 10:29pm	10 <sup>th</sup> – 4:24am
20 <sup>th</sup> – 5:14am	20 <sup>th</sup> – 9:02pm	10 <sup>th</sup> – 10:10pm	20 <sup>th</sup> – 4:06am
30 <sup>th</sup> – 5:03am	30 <sup>th</sup> – 9:14pm	15 <sup>th</sup> – 9:37pm	30 <sup>th</sup> – 3:50am
Moon Rise	Moon Set	Moon Rise	Moon Set
1 <sup>st</sup> – 6:05am (ENE)	1 <sup>st</sup> – 9:31pm	21 <sup>st</sup> – 2:11am	21 <sup>st</sup> – 10:18am
2 <sup>nd</sup> – 6:24am	2 <sup>nd</sup> – 10:43pm	22 <sup>nd</sup> – 2:39am	22 <sup>nd</sup> – 11:43am
3 <sup>rd</sup> – 6:48am	3 <sup>rd</sup> – 11:52pm	23 <sup>rd</sup> – 3:00am	23 <sup>rd</sup> – 1:05pm
4 <sup>th</sup> – 7:19am	5 <sup>th</sup> – 12:54am (NW)	(ESE)	(WSW)
5 <sup>th</sup> – 8:01am (NE)	6 <sup>th</sup> – 1:47am (NW)	24 <sup>th</sup> – 3:16am	24 <sup>th</sup> – 2:23pm
6 <sup>th</sup> – 8:53am (NE)	7 <sup>th</sup> – 2:28am	25 <sup>th</sup> – 3:30am (E)	25 <sup>th</sup> – 3:38pm (W)
7 <sup>th</sup> – 9:56am	8 <sup>th</sup> – 3:00am	26 <sup>th</sup> – 3:43am	26 <sup>th</sup> – 4:52pm
8 <sup>th</sup> – 11:05am	9 <sup>th</sup> – 3:24am	27 <sup>th</sup> – 3:57am	27 <sup>th</sup> – 6:05pm
9 <sup>th</sup> – 12:17pm	10 <sup>th</sup> – 3:43am	28 <sup>th</sup> – 4:12am	(WNW)
10 <sup>th</sup> – 1:32pm (ENE)	(WNW)	(ENE)	28 <sup>th</sup> – 7:18pm
11 <sup>th</sup> – 2:48pm	11 <sup>th</sup> – 3:59am	29 <sup>th</sup> – 4:29am	29 <sup>th</sup> – 8:30pm
12 <sup>th</sup> – 4:06pm (E)	12 <sup>th</sup> – 4:14am	30 <sup>th</sup> – 4:51am	30 <sup>th</sup> – 9:41pm
13 <sup>th</sup> – 5:26pm	13 <sup>th</sup> – 4:28am (W)	31 <sup>st</sup> – 5:20am	31 <sup>st</sup> – 10:46pm
14 <sup>th</sup> – 6:51pm (ESE)	14 <sup>th</sup> – 4:43am	-----	(NW)
15 <sup>th</sup> – 8:19pm	15 <sup>th</sup> –	All times	-----
16 <sup>th</sup> – 9:51pm	5:01am(WSW)	in notes are set	<b>Moon Phases</b>
17 <sup>th</sup> – 11:18pm	16 <sup>th</sup> – 5:23am	for	First Quarter –
19 <sup>th</sup> – 12:34am (SE)	17 <sup>th</sup> – 5:53am	<b>Somerton</b>	9 <sup>th</sup>
20 <sup>th</sup> – 1:31am (SE)	18 <sup>th</sup> – 6:37am (SW)	unless stated	Full Moon – 16 <sup>th</sup>
	19 <sup>th</sup> – 7:38am		Last Quarter –
	(SW)		22 <sup>nd</sup>
	20 <sup>th</sup> – 8:53am		New Moon – 30 <sup>th</sup>

A useful site: <a href="http://www.heavens-above.com">www.heavens-above.com</a>	A S Zielonka		
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From the 29<sup>th</sup> April - 2<sup>nd</sup> May Venus passes close to Jupiter. On the 1<sup>st</sup> at 5:00am their in close conjunction and barely  $\frac{1}{2}$  a degree apart. They will be 3 degrees above the eastern horizon at 97 degrees azimuth. Neptune is  $3\frac{1}{2}$  degrees to the right of them and 1 degree above.

There is a planned launch this month of the Artemis I mission. Artemis I will be the first integrated test of NASA's space exploration systems: the Orion spacecraft, Space Launch System (SLS) rocket and the ground systems at Kennedy Space Centre in Cape Canaveral. The first in a series of increasingly complex missions, Artemis I will be an uncrewed flight test that will provide a foundation for human deep space exploration, and demonstrate our commitment and capability to extend human existence to the Moon and beyond. During this flight, the spacecraft will travel 280,000 miles from Earth, thousands of miles beyond the Moon over the course of about a three-week mission. Orion will stay in space longer than any ship for astronauts has done without docking to a space station and return home faster and hotter than ever before.

The planets Venus Jupiter, Neptune and Mars in that order will be visible between the east and the ENE on the 10<sup>th</sup> stretching 20 degrees across the sky. They will be in this formation for at least the best part of the month with Venus pulling away from the others slowly. They are also virtually in a straight line. Saturn is also in the general area though 20 degrees further to the right.

On the 1<sup>st</sup> at 9:00pm a very thin crescent Moon will be low in the WNW. It will be  $3\frac{1}{4}$  degrees above the horizon at 294.5 degrees azimuth. The Pleiades star cluster is 9 degrees above the Moon and  $1\frac{1}{2}$  degrees to the left with Mercury just  $2\frac{1}{2}$  degrees to the left of the Pleiades and  $\frac{1}{2}$  a degree above.

At 9:30pm on the 2<sup>nd</sup> a thin crescent Moon will be in the WNW. Mercury will be just 3 degrees to the right of the Moon. The Pleiades is just  $2\frac{1}{2}$  degrees to the lower right of Mercury. This will be an excellent chance to find and see Mercury.

From the 3<sup>rd</sup> – 12<sup>th</sup> the asteroid 4 Vesta will be passing close to Saturn. On the 7<sup>th</sup> at 5:00am Vesta is  $\frac{3}{4}$  of a degree to the lower right of Saturn.

There is a scheduled launch between the 3<sup>rd</sup> - 15<sup>th</sup>\* of the CAPSTONE – Cubesat Pathfinder Mission. CAPSTONE will validate new navigation technologies and verify dynamics in Gateway's planned orbit. It will launch aboard a Rocket Lab Electron rocket from New Zealand.

On the 4<sup>th</sup> at 9:30pm the star numbered 28734 (4.1mag) in the Hipparcus Catalogue in Gemini is just 4 degrees to the left of the crescent Moon.

Uranus is at superior conjunction with the Sun on the 5<sup>th</sup>.

The crescent Moon is at apogee (405,285km) on the 5<sup>th</sup> at 1:47pm. At 9:30pm the star Mebsuta (3 mag) in Gemini is just  $1\frac{1}{4}$  degrees to the lower left of the Moon.

The Eta Aquariids meteor shower reaches its peak on the 6<sup>th</sup> though they can be seen from the 19<sup>th</sup> of April - 28<sup>th</sup> May. This is associated with Comet Halley.

On the 6<sup>th</sup> at 11:10pm the Crescent Moon will be midway between the stars Kappa Geminorum (3.5 mag) and Upsilon Geminorum (4 mag). Kappa Geminorum is the nearest, and at  $1\frac{1}{4}$  degrees to the left of the Moon.

At 11:30pm on the 7<sup>th</sup> the Beehive star cluster is  $3\frac{1}{2}$  degrees to the left of the Moon and  $1\frac{1}{2}$  degrees below.

From the 6<sup>th</sup> - 10<sup>th</sup> Comet 22P Koppf (11 mag – April 12th) passes close to Mars. On the 8<sup>th</sup> at 4:30am Koppf will be just  $1\frac{1}{2}$  degrees above Mars. It will also be a  $\frac{1}{4}$  of a degree just above left of the star Phi Aquarii in Aquarius.

On the 8<sup>th</sup> at 10:00pm the star Lambda Leonis (4.3 mag) is  $3\frac{1}{2}$  degrees above the Moon.

At 10:00pm on the 9<sup>th</sup> the star Eta Leonis (3.4 mag) is just 1 degree to the right of the Moon.

On the 11<sup>th</sup> at 10:00pm the star Nu Virginis (4 mag) is just 1 degree above right of the Moon.

At midnight on the 12<sup>th</sup> the star Porrima (2.7 mag) in Virgo is just 1 degree to the left of the Moon. An occultation of the Porrima by the Moon occurs a couple of hours later. Porrima disappears behind the Moon at 1:54:21am and reappears at 2:46:57am. (These times are set for Yeovilton).

On the 13<sup>th</sup> at 10:30pm the star Spica (1 mag) in Virgo is 4 degrees below the Moon and  $\frac{1}{2}$  a degree to the right.

At 10:00pm on the 14<sup>th</sup> the star Kappa Virginis (4.1 mag) is  $3\frac{1}{4}$  degrees above the Moon and  $\frac{1}{2}$  a degree to the right.

Venus reaches aphelion on the 15<sup>th</sup>.

A Total Lunar Eclipse occurs on the 16<sup>th</sup> and will be seen over much of North and South America in full. For us in Somerset a penumbral phase begins at 2:32:07am then a partial phase of the eclipse will be visible for us, though this doesn't start till 3:37:53am. The Total eclipse will be from 4:29:03am. The greatest eclipse is at 5:11:28.5am. The Moon sets at 5:23am.

On the 16<sup>th</sup> at midnight the star Antares (1 mag) in Scorpius is  $3\frac{1}{4}$  degrees below the Full Moon and 1 degree to the left. The star Sigma Scorpii (2.9 mag) is 2 degrees below the Moon and  $\frac{1}{2}$  a degree the right.

The Moon is at perigee (360,298km) on the 17<sup>th</sup> at 4:28pm. At midnight the star Theta Ophiuchi (3.2 mag) is 2 degrees above the Moon low in the south east.

There is a Boeing Orbital Flight Test-2 scheduled for the 19<sup>th</sup>\*. NASA's Boeing Orbital Flight Test-2 mission to the International Space Station (ISS) is the second uncrewed flight test of the company's CST-100 starliner spacecraft for the agency's Commercial Crew Program. Liftoff on the United Launch Alliance Atlas V rocket with Starliner is from Space Launch Complex-41 at Cape Canaveral space Force Station in Florida.

At 4:00am on the 19<sup>th</sup> the star Phi Sagittarii (3.1 mag) is  $1\frac{1}{2}$  degrees above left of the Moon.

On the 20<sup>th</sup> at 4:00am the star numbered 98688 (4.4 mag) in the Hipparcus catalogue in Sagittarius is 3 degrees to the left of the Moon and 1½ degrees below.

Mercury is at inferior conjunction on the 21<sup>st</sup>.

At 4:00am on the 21<sup>st</sup> the star Psi Capricorni (4.1 mag) is 1½ degrees to the lower right of the Moon.

On the 22<sup>nd</sup> at 4:00am Saturn is 5 degrees above the Moon and 3 degrees to the left. The star Delta Capricorni (2.8 mag) is just 2¼ degrees to the lower right of Saturn.

At 4:00am on the 23<sup>rd</sup> Neptune is 6 degrees to the left of the crescent Moon and 3½ degrees above.

On the 25<sup>th</sup> at 4:00am the crescent Moon is 3½ degrees above the horizon at 100 degrees azimuth. Jupiter is 4 degrees above the Moon and ½ a degree to the left. Mars is 2½ degrees to the right of Jupiter. Neptune is 7 degrees to the right of Jupiter and 2 degrees above.

At 4:30am on the 26<sup>th</sup> Venus is 11 degrees to the left of the crescent Moon and 1¼ degrees below.

Mercury reaches aphelion on the 27<sup>th</sup>.

An occultation of the planet Venus from the Moon occurs on the 27<sup>th</sup>. It will be seen from South eastern Asia, Indonesia and the lower half of Madagascar.

From the 27<sup>th</sup> - 31<sup>st</sup> Mars passes close to Jupiter. On the 29<sup>th</sup> at 4:30am they will be just ½ a degree apart low in the ESE. They will be 14 degrees above the horizon and 108 degrees azimuth.

On the 27<sup>th</sup> at 4:30am Venus is 1¼ degrees above the crescent Moon in the east. Venus is 5½ degrees above the horizon at 82.5 degrees azimuth.

At 4:30am on the 28<sup>th</sup> a thin crescent Moon is 2 degrees above the horizon at 71 degrees azimuth. Uranus is 5¼ degrees to the left of the Moon. Venus is 11 degrees to the right of the Moon and 3½ degrees above.

On the 31<sup>st</sup> at 9:45pm the star Elnath (1.6 mag) in Taurus is 4 degrees to the right of a very thin crescent Moon and 1 degree above. The Moon is 6 degrees above the horizon and at 303.5 degrees azimuth.

\* = Dates and times are subject to change.

News: Even though Neptune is entering its version of summer, it's actually cooling down – except for its poles, which are mysteriously warming up. The team concluded in the Planetary Science Journal that the globally average temperature in Neptune's stratosphere – the region above the planet's active weather layer – has plummeted by 8 degrees celsius since 2003.

Nearly 1,000 brilliant fireballs – big meteors that (mostly) burn up in Earth's atmosphere – have hit our planet since 1988. We know this because the U.S. Department of Defense has been tracking them.

Facts: The IceCube Neutrino Observatory (IceCube) was constructed at the Amundsen-Scott South Pole Station in the Antarctica over a period of 6 years. The project is a recognized CERN experiment. Its thousands of sensors are located under the Antarctic ice, distributed over a cubic kilometre. In November 2013 it was announced that IceCube had detected 28 neutrinos that likely originated outside the Solar System.