

# Astronomy News

## Night Sky 2019 - January

Sunrise	Sunset	Mercury Rises	Venus Rises / Sets
1 <sup>st</sup> – 8:14am	1 <sup>st</sup> – 4:14pm	1 <sup>st</sup> – 7:11am	1 <sup>st</sup> – 4:16am
10 <sup>th</sup> – 8:12am	10 <sup>th</sup> – 4:25pm	5 <sup>th</sup> – 7:25am	10 <sup>th</sup> – 4:29am
20 <sup>th</sup> – 8:04am	20 <sup>th</sup> – 4:41pm	10 <sup>th</sup> – 7:41am	20 <sup>th</sup> – 4:45am
30 <sup>th</sup> – 7:51am	30 <sup>th</sup> – 4:58pm		30 <sup>th</sup> – 5:01am
Moon Rise	Moon Set	Moon Rise	Moon Set
1 <sup>st</sup> – 3:20am	1 <sup>st</sup> – 1:35pm	16 <sup>th</sup> – 12:45pm	17 <sup>th</sup> – 3:51am
2 <sup>nd</sup> – 4:30am	2 <sup>nd</sup> – 2:02pm	17 <sup>th</sup> – 1:17pm	18 <sup>th</sup> – 5:05am
3 <sup>rd</sup> – 5:37am	3 <sup>rd</sup> – 2:35pm	18 <sup>th</sup> – 1:58pm	19 <sup>th</sup> – 6:17am
4 <sup>th</sup> – 6:40am	4 <sup>th</sup> – 3:14pm	19 <sup>th</sup> – 2:50pm	20 <sup>th</sup> – 7:22am
5 <sup>th</sup> – 7:37am	5 <sup>th</sup> – 3:59pm	20 <sup>th</sup> – 3:56pm	21 <sup>st</sup> – 8:16am <b>(Full)</b>
6 <sup>th</sup> – 8:26am <b>(New)</b>	6 <sup>th</sup> – 4:52pm <b>(New)</b>	21 <sup>st</sup> – 5:12pm <b>(Full)</b>	22 <sup>nd</sup> – 9:00am
7 <sup>th</sup> – 9:08am	7 <sup>th</sup> – 5:49pm	22 <sup>nd</sup> – 6:34pm	23 <sup>rd</sup> – 9:35am
8 <sup>th</sup> – 9:42am	8 <sup>th</sup> – 6:51pm	23 <sup>rd</sup> – 7:58pm	24 <sup>th</sup> – 10:03am
9 <sup>th</sup> – 10:11am	9 <sup>th</sup> – 7:54pm	24 <sup>th</sup> – 9:20pm	25 <sup>th</sup> – 10:29am
10 <sup>th</sup> – 10:35am	10 <sup>th</sup> – 8:58pm	25 <sup>th</sup> – 10:39pm	26 <sup>th</sup> – 10:52am
11 <sup>th</sup> – 10:57am	11 <sup>th</sup> – 10:03pm	26 <sup>th</sup> – 11:56pm	27 <sup>th</sup> – 11:15am <b>(LQ)</b>
12 <sup>th</sup> – 11:17am	12 <sup>th</sup> – 11:09pm	28 <sup>th</sup> – 1:10am	28 <sup>th</sup> – 11:39am
13 <sup>th</sup> – 11:36am	14 <sup>th</sup> – 12:16am <b>(FQ)</b>	29 <sup>th</sup> – 2:21am	29 <sup>th</sup> – 12:06pm
14 <sup>th</sup> – 11:57am <b>(FQ)</b>	15 <sup>th</sup> – 1:25am	30 <sup>th</sup> – 3:30am	30 <sup>th</sup> – 12:37pm
15 <sup>th</sup> – 12:19pm	16 <sup>th</sup> – 2:37am	31 <sup>st</sup> – 4:34am	31 <sup>st</sup> – 1:14pm
A useful site: <a href="http://www.heavens-above.com">www.heavens-above.com</a>	A S Zielonka		

Comet 46P/Wirtanen was at perihelion last month when it made a close approach to the Earth. It starts the year as a 'potentially' naked eye object in Camelopardalis. The comet circles through the front paws Ursa Major. It remains well placed as it fades into March. It is currently at 6.5 magnitude (For further information please see the 'Comets' section in the website above).

On the morning of the 1<sup>st</sup> at 7:00am you will see the Moon in the SSE with Venus 7 degrees to the lower left of it and Jupiter 6 degrees above the horizon in the south east. The asteroid Ceres is 4½ degrees above Venus towards the star Zubeneshamali (2.6 mag) in Libra (For further information please see the 'Asteroids & Sky Chart' sections in the website above).

Saturn is at superior conjunction (with the Sun) on the 2<sup>nd</sup>.

At 6:30am on the morning of 2<sup>nd</sup> Venus will be 4½ degrees to the upper right of the crescent Moon with Jupiter 13 degrees to the lower left and just 3 degrees above the horizon.

On the 3<sup>rd</sup> at 7:00am Jupiter is just 2½ degrees to the lower right of the thin crescent Moon.

The Quadrantids meteor shower reaches its peak during the night of the 3<sup>rd</sup>.

At 7:30am on the morning of the 4<sup>th</sup> a very thin crescent Moon will be 5 degrees above the south east horizon with Mercury 4½ degrees to the lower left of it and barely a degree above the horizon.

There is a partial eclipse of the Sun on the 6<sup>th</sup> which will only be seen from about half of China, Eastern Russia, Japan and the south west corner of Alaska.

Venus is at maximum western elongation on the 6<sup>th</sup> and is 47 degrees from the Sun.

There is a planned launch on the 7<sup>th</sup>\* from Kennedy Space Center, Florida of a Falcon 9 rocket to the International Space Station (ISS). This will be the first uncrewed test flight of the Commercial Crew Program and will provide data on the performance of the Falcon 9 rocket, Crew Dragon spacecraft, and ground systems, as well as on-orbit, docking and landing operations. The flight test also will provide valuable data toward NASA certifying SpaceX's crew transportation system for carrying astronauts to and from the ISS.

On the 7<sup>th</sup> at 4:50pm a very thin crescent Moon will be 6½ degrees above the horizon in the SW.

At 6:00pm on the 8<sup>th</sup> the 4.2 magnitude star Iota Capricorni is just 1½ degrees above the thin crescent Moon in the south west.

On the 9<sup>th</sup> at 6:00pm the 2.8 magnitude star Delta Capricorni is 5 degrees to the lower right of the crescent Moon.

At 6:00pm on the 10<sup>th</sup> the crescent Moon will be midway between the stars Lambda Aquarii (3.7mag) and Skat (3.2 mag) in Aquarius. Neptune is 6¼ degrees above the Moon.

On the mornings of the 10<sup>th</sup> & 11<sup>th</sup> around 6:00am the star Acrab (2.5 mag) in Scorpius will be 2½ degrees to the lower right of the planet Venus.

Pluto is at superior conjunction (with the Sun) on the 11<sup>th</sup>.

On the 11<sup>th</sup> at 6:00pm Neptune is 9 degrees to the right of the Moon and midway between the stars Phi Aquarii (4.2 mag) and Lambda Aquarii (3.7mag) in Aquarius.

At 6:00pm on the 12<sup>th</sup> Mars will be 6½ degrees directly above the Moon.

Saturn and Mercury are in close conjunction on the 13th. At 7:52am they will be both be just above the horizon low in the south east.

On the 13<sup>th</sup> at 6:35pm Mars will be 10 degrees directly to the right of the Moon.

At 8:00pm on the 14<sup>th</sup> Uranus is 5½ degrees to the upper right of the Moon. It's also 1½ degrees above the star Omicron Piscium (4.2 mag) in Pisces.

On the 15<sup>th</sup> at 6:00pm the star Mu Ceti (4.2 mag) in Cetus is less than a degree to the right of the Moon.

At 6:00pm on the 17<sup>th</sup> the star Aldebaran (0.8 mag) in Taurus is 1 degree to the lower right of the Moon.

On the 18<sup>th</sup> at 8:00pm the star Zeta Tauri (2.9 mag) in Taurus is just 1½ degrees above the Moon.

At midnight on the 19<sup>th</sup> the 4th magnitude star Mekkuda in Gemini is just 2½ degrees to the left of the Moon.

There is a Total Eclipse of the Moon during night of the 20<sup>th</sup> which will be seen in full from the UK. The Penumbral phase begins – 2:36:30am. Partial phase – 3:33:54am, Totality – 4:41:17am, Partial phase 5:43:16am, Penumbral phase – 6:50:39, Penumbral phase ends – 7:48:00am. Its at greatest eclipse at 5:12:16am. Hope some of you manage to see some of the eclipse even though I don't expect you to see all of it.

On the 22<sup>nd</sup> at 10:00pm the bright star Regulus in Leo is 3 degrees below the Moon in the east.

Between the 21<sup>st</sup> - 24<sup>th</sup> Venus & Jupiter pass close by to one another. On the 23<sup>rd</sup> at 6:00am Jupiter is just 2½ degrees to the lower right of Venus low in the south east.

At 10:30pm on the 23<sup>rd</sup> the 2.7 magnitude star Porrima is just 3 degrees to the upper right of the Moon in the east.

On the 26<sup>th</sup> at 6:00pm the star Epsilon Piscium (4.2 mag) in Pisces is just 1 degree above right of Mars... and two days later at the same time Mars will be 1½ degrees to the left of the star.

On the 28<sup>th</sup> at 7:00am the star Zubenelgenubi (2.7 mag) in Libra is 4½ degrees below the Moo

Mercury is at superior conjunction (with the Sun) on the 30<sup>th</sup>.

At 7:00pm on the 30<sup>th</sup> Jupiter is 10 degrees to the lower left of the crescent Moon with Venus 8½ degrees to the left of Jupiter in the SSE. Saturn is 23 degrees to the lower left of Venus and just 3 degrees above the SE horizon.

On the 31<sup>st</sup> at 7:15am the thin crescent Moon will be midway between Venus and Jupiter and 5 degrees from one another. Saturn is 22 degrees to the lower left and 5½ degrees above the horizon. An occultation of Venus by the Moon occurs today over the central equatorial region of the Pacific Ocean and some of the countries in north west South America.

\* = Dates and times are subject to change.

Facts: The first man-made object to escape the gravitational pull of the planet Earth was First Cosmic Ship that was renamed Luna 1. On the 4th January 1959 it passed by the Moon and entered a 450 day orbit around the Sun somewhere between Earth and Mars.

News: NASA's Origins, Spectral Interpretation, Resource Identification, Security-Regolith Explorer (OSIRIS-REx) spacecraft completed its 1.2 billion-mile journey to arrive at the asteroid Bennu on Monday 3<sup>rd</sup> December. The spacecraft executed a maneuver that transitioned it from flying toward Bennu to operating around the asteroid. At about 11.8 miles from Bennu's Sun-facing surface, OSIRIS-REx will begin a preliminary survey of the asteroid. The spacecraft will commence flyovers of Bennu's north pole, equatorial region, and south pole, getting as close as nearly 4 miles above Bennu during each flyover. The spacecraft will enter orbit around Bennu on December 31<sup>st</sup> - thus making Bennu, which is only about 1,600 feet (492 metres) across - or about the length of five football fields - the smallest object ever orbited by a spacecraft. It's a critical step in OSIRIS-REx's years long quest to collect and eventually deliver at least two ounces (60 grams) of regolith - dirt and rocks - from Bennu to Earth.