Astronomy and Space News

**Night Sky 2019 - June**

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| **Sunrise** | **Sunset** | **Mercury Sets** | **Venus Rises** |
| 1st – 5:02am  10th – 4:57am  20th – 4:56am  30th – 5:00am | 1st – 9:16pm  10th – 9:24pm  20th – 9:29pm  30th – 9:29pm | 1st – 10:27pm  10th – 11:02pm  20th – 11:02pm  30th – 10:33pm | 1st – 4:19am  10th – 4:11am  20th – 4:08am  30th – 4:12am |
| **Moon Rise** | **Moon Set** | **Moon Rise** | **Moon Set** |
| 1st – 4:23am  2nd – 4:49am **(ENE)**  3rd – 5:20am  4th – 6:00am  5th – 6:51am  6th – 7:53am  7th – 9:05am  8th – 10:23am  9th – 11:43am **(ENE)**  10th – 1:02pm  11th – 2:21pm **(E)**  12th – 3:38pm  13th – 4:55pm  14th – 6:11pm **(ESE)**  15th – 7:25pm  16th – 8:36pm  17th – 9:39pm | 1st – 6:55pm **(WNW)**  2nd – 8:09pm  3rd – 9:22pm  4th – 10:31pm  5th – 11:32pm  7th – 12:22am  8th – 1:03am  9th – 1:35am  10th – 2:02am  11th – 2:25am  12th – 2:47am **(W)**  13th – 3:09am  14th – 3:32am  15th – 3:59am **(WSW)**  16th – 4:30am  17th – 5:08am  18th – 5:53am | 18th - 10:33pm  19th – 11:18pm  20th – 11:55pm  22nd – 12:24am  23rd – 12:49am **(ESE)**  24th – 1:10am  25th – 1:29am  26th – 1:47am **(E)**  27th – 2:06am  28th – 2:26am  29th – 2:49am **(ENE)**  30th –3:17am  - - - - - -  **New Moon** **– 3rd**  **First Quarter – 10th** | 19th – 6:45am  20th – 7:44am  21st – 8:47am  22nd – 9:52am **(WSW)**  23rd – 10:58am  24th – 12:03pm  25th – 1:09pm  26th – 2:15pm **(W)**  27th – 3:23pm  28th – 4:34pm  29th – 5:46pm **(WNW)**  30th – 7:00pm  - - - - - -  **Full Moon – 17th**  **Last Quarter – 25th** |
| A useful site: [www.heavens-above.com](http://www.heavens-above.com/) | A S Zielonka |  |  |

Comet C/2018 W2 Africano this month is in the constellation of Camelopardalis which is to the left of the “W” of Cassiopeia. Its currently at 14.5 magnitude (to faint to be seen with low powered telescopes. On the 1st its 2.596AU from us and on the 30th its 2.319AU. It reaches perihelion on the September 5th. (For further information please visit the 'Comet' section in the website above)

In the WNW from the 30th May - 1st June Mars passes within 1 degree to the lower left of the star Mebsuta (3rd mag) in Gemini. At 10:00pm on the 1st Mars is at 299 degrees azimuth and 8 degrees above the horizon.

At 4:30am on the morning of the 1sta thin crescent Moon is on the horizon in the ESE (74 degrees Azimuth) with Venus 9 degrees to the left and just 1½ degrees above the horizon.

On the 1st low in the north west at 10:00pm, Mercury is 3 degrees above the horizon at 307 degrees azimuth. The star Elnath (1.6 mag) in Taurus is 4 degrees above right of it and at 311 degrees azimuth.

At midnight on the 1st low in the SSE the star Theta Ophiuchi (3.2 mag) in Ophiuchus is just 2½ degrees below Jupiter.

On the 4th at 10:00pm in the WNW a very thin crescent Moon is 3 degrees above the horizon (301 degrees azimuth) with Mercury just 4½ degrees to the upper right of it and 5½ degrees above the horizon. Mars is also 11 degrees above left of the Moon and 12 degrees above the horizon.

At 10:15pm on the 5th a thin crescent Moon is due WNW (292.5 degrees azimuth) and 9 degrees above the horizon. Mars is 3½ degrees to the right of it. Mercury is 11½ degrees to the lower right of Mars and just 4 degrees above the horizon (307 degrees azimuth).

Just before midnight on the 6th the crescent Moon is WNW (300 degrees azimuth) and 2 degrees above the horizon with the Beehive Cluster (M45) 5½ degrees to the upper left of it.

At midnight on the 7th the crescent Moon is in the west with the star Regulus (1st mag) 2¼ degrees below it.

On the 8th at midnight the star Chertan (3.3 mag) in Leo is 6½ degrees to the upper right of the crescent Moon.

Jupiter is at opposition on the 10th.

Low in the WNW on the evening of the 9th and 10th Mercury passes very close to the star Mebsuta (3.0 mag) in Gemini. On the 9th it is 1½ degrees to the lower right of it, and on the 10th it is ½ a degree above left. On the 10th Mars is 6¼ degrees above left of Mercury with the star Wasat 2¼ degrees to the left of Mars.

At 10:30pm on the 11th the star Porrima (2.7 mag) in Virgo is just 2½ degrees to the lower right of the Moon.

On the 12th at 10:30pm the star Zeta Virginis (3.3 mag) in Virgo is 6 degrees above right of the Moon.

Low in the WNW on the evening of the 12th - 14th Mars passes close to Wasat in Gemini. On the 13th Mars is just 1¼ degrees to the upper right of the star. On the 14th Mercury is 2½ degrees to the right of Mars.

At midnight on the 13th the star Zubenelgenubi (2.7 mag) in Libra is 5½ degrees to the lower left of the Moon.

An occultation of Ceres by the Moon occurs on the 15th. It will be visible across central Russia, China and Japan.

Low in the WNW on the evenings of the 15th - 22nd Mercury passes to within 2 degrees of Mars. On the 18that 10:00pm Mercury is less than ½ a degreee above Mars. On the 22nd the star Kappa Geminorum (3.5 mag) is just 2 degrees above right of Mars.

On the 15th at midnight the star Nu Scorpii (4th mag) in Scorpius is just 2¾ degrees right of the Moon. Jupiter is 10½ degrees above the south east horizon and 11½ degrees to the lower left of the Moon.

At 10:30pm on the 16th Jupiter is just 2 degrees to the right of the Moon. The star Theta Ophiuchi (3.2 mag) is just 3½ degrees from and below the Moon and Jupiter.

From the 16th - 22nd at around 11:00pm Ceres passes to within 1½ degrees of the star Acrab (2.5 mag) in Scorpius. (For further information please visit 'Asteroids' in the website above).

On the 17th at midnight the star Mu Sagittarii (3.8 mag) in Sagittarius is 2 degrees above the Moon.

At midnight on the 18th low in the south east Saturn is 2½ degrees to the left of the Moon. The star Pi Sagittarii is 2¼ degrees from the Moon and 2¾ degrees from Saturn above them.

An occultation of Saturn by the Moon occurs on the 19th. This will only be visible from the southern half of South America and southern Africa. It starts here at 3:46am when the Moon here is just 1½ degrees from Saturn.

There is also an occultation of Pluto by the Moon on the 19th. This is only visible over the equatorial region of the Pacific Ocean.

On the 19th at midnight the Moon is low in the south east with Saturn 10 degrees to the upper right.

At 4:00am on the 21st the star Theta Capricorni (4th mag) in Capricornus is 4 degrees above the Moon.

On the 22nd at 4:00am the star Delta Capricorni (2.8 mag) is just 1¾ degrees above right of the Moon.

There is a planned launch on the 22nd\* from Kennedy Space Center of a SpaceX's Falcon Heavy rocket. It will carry nearly two dozen satellites into space for the Department of Defense's Space Test Program-2. Among the payloads are NASA technologies including a small satellite to test the performance of non-toxic spacecraft fuel, and an advanced atomic clock to improve how spacecraft navigate.

At 4:00am on the 23rd the star Tau Aquarii (4th mag) in Aquarius is just 2½ degrees to the left of the Moon.

On the 24th the Expedition 59 crew members Anne McClain of NASA, David Saint-Jacques of the Canadian Space Agency and Oleg Kononenko of Roscomos return to earth from the International Space Station (ISS) aboard their Soyuz spacecraft to land in Kazakhstan.

Mercury is at maximum eastern elongation from the Sun on the 24th.

On the 24th at 4:00am Neptune is 4¾ degrees above the Moon and just 1½ degrees to the left of the star Phi Aquarii (4.2 mag).

At 4:00am on the 25th the star Iota Ceti (3.5 mag) in Cetus is 4 degrees below the Moon.

On the 27th at 4:00am the star Nu Piscium (4.4 mag) in Pisces is 1½ degrees above left of the crescent Moon.

The Bootids meteor shower reaches its peak in the early hours of the 28th.

From the 27th to the 28th at 10:00pm Mercury will be 3½ degrees to the left of Mars. Mars is 6 degrees above the WNW horizon and at 297.5 degrees azimuth.

At 4:00am on the 28th Uranus is 5½ degrees directly above the Crescent Moon. The star Mu Ceti (4.2 mag) is 4½ degrees to the lower left of the Moon... and the asteroid Vesta is less than ¼ a degree below the Moon at 3:30am.

At 4:30am on the 30th you may see Aldebaran (1st mag) in Taurus low in the ENE and 6 degrees to the lower left of the thin crescent Moon. Venus is 16 degrees to the left of Aldebaran and just 2 degrees above the horizon at 55 degrees azimuth.

On the 30that midnight low in the SSE is Saturn. Two degrees above right of it is the star Pi Sagittari (2.8 mag).

This month from 2:00am low in the south east Neptune is 1½ degrees to the lower left of the star Phi Aquarii (4.2 mag) in Aquarius.

\* = Dates and times are subject to change.

News: Blue Origins billionaire founder, Jeff Bezos, revealed the company's plans to land a spacecraft named “Blue Moon” on the lunar surface. Blue Moon is a relatively large lunar lander that's designed to deliver science payloads, moon rovers and even astronauts to the lunar surface. It can also deploy small satellites into a lunar orbit as a “bonus mission”. It bears some resemblance to NASA's old Apollo lunar modules with two main differences; an enormous spherical fuel tank with the words Blue Moon on its side and it has smaller landing pads at the bottom of its landing legs.

Facts: Apollo 1, initially designated AS-204, was the first crewed mission of the United States Apollo Program, that was planned to launch on February 21st 1967. During a rehearsal test at Cape Kennedy Air Force Station on January 27th a cabin fire broke out killing its crew; Virgil Ivan “Gus” Grissom, Ed White and Roger B Chaffee.