

# Astronomy News

## Night Sky 2020 - September

| Sunrise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sunset                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mercury Sets                                                                                                                                                                                                                                                                                                                                                                                                                                       | Venus Rises                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| 1 <sup>st</sup> – 6:25am<br>10 <sup>th</sup> – 6:39am<br>20 <sup>th</sup> – 6:55am<br>30 <sup>th</sup> – 7:10am                                                                                                                                                                                                                                                                                                                                                                                                                         | 1 <sup>st</sup> – 7:56pm<br>10 <sup>th</sup> – 7:36pm<br>20 <sup>th</sup> – 7:13pm<br>30 <sup>th</sup> – 6:50pm                                                                                                                                                                                                                                                                                                                                                                                                                                           | 5 <sup>th</sup> – 8:11pm<br>10 <sup>th</sup> – 8:01pm<br>15 <sup>th</sup> – 7:50pm                                                                                                                                                                                                                                                                                                                                                                 | 1 <sup>st</sup> – 2:27am<br>10 <sup>th</sup> – 2:41am<br>20 <sup>th</sup> – 3:00am<br>30 <sup>th</sup> – 3:23am                                                                                                                                                                                                                                                                                                                                                                                                |
| Moon Rise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Moon Set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Moon Rise                                                                                                                                                                                                                                                                                                                                                                                                                                          | Moon Set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| -----<br>1 <sup>st</sup> – 8:12pm (ESE)<br>2 <sup>nd</sup> – 8:31pm<br>3 <sup>rd</sup> – 8:48pm<br>4 <sup>th</sup> – 9:04pm (E)<br>5 <sup>th</sup> – 9:19pm<br>6 <sup>th</sup> – 9:35pm<br>7 <sup>th</sup> – 9:54pm (ENE)<br>8 <sup>th</sup> – 10:16pm<br>9 <sup>th</sup> – 10:43pm<br>10 <sup>th</sup> – 11:18pm<br>12 <sup>th</sup> – 12:04am<br>13 <sup>th</sup> – 1:03am<br>14 <sup>th</sup> – 2:13am<br>15 <sup>th</sup> – 3:32am<br>16 <sup>th</sup> – 4:56am (ENE)<br>17 <sup>th</sup> – 6:22am<br>18 <sup>th</sup> – 7:49am (E) | 1 <sup>st</sup> – 5:04am<br>2 <sup>nd</sup> – 6:15am (WSW)<br>3 <sup>rd</sup> – 7:24am<br>4 <sup>th</sup> – 8:32am (W)<br>5 <sup>th</sup> – 9:39am<br>6 <sup>th</sup> – 10:45am<br>7 <sup>th</sup> – 11:52am (WNW)<br>8 <sup>th</sup> – 1:00pm<br>9 <sup>th</sup> – 2:07pm<br>10 <sup>th</sup> – 3:14pm<br>11 <sup>th</sup> – 4:16pm<br>12 <sup>th</sup> – 5:12pm<br>13 <sup>th</sup> – 5:58pm<br>14 <sup>th</sup> – 6:35pm<br>15 <sup>th</sup> – 7:05pm (WNW)<br>16 <sup>th</sup> – 7:30pm<br>17 <sup>th</sup> – 7:52pm<br>18 <sup>th</sup> – 8:12pm (W) | 19 <sup>th</sup> – 9:16am<br>20 <sup>th</sup> – 10:43am (ESE)<br>21 <sup>st</sup> – 12:08pm<br>22 <sup>nd</sup> – 1:31pm<br>23 <sup>rd</sup> – 2:47pm<br>24 <sup>th</sup> – 3:52pm<br>25 <sup>th</sup> – 4:44pm<br>26 <sup>th</sup> – 5:24pm<br>27 <sup>th</sup> – 5:54pm<br>28 <sup>th</sup> – 6:18pm (ESE)<br>29 <sup>th</sup> – 6:38pm<br>30 <sup>th</sup> – 6:55pm<br>All times<br>in notes are set<br>for<br><b>Somerton</b><br>unless stated | 19 <sup>th</sup> – 8:33pm<br>20 <sup>th</sup> – 8:56pm (WSW)<br>21 <sup>st</sup> – 9:24pm<br>22 <sup>nd</sup> – 9:57pm<br>23 <sup>rd</sup> – 10:40pm<br>24 <sup>th</sup> – 11:33pm<br>26 <sup>th</sup> – 12:35am<br>27 <sup>th</sup> – 1:43am<br>28 <sup>th</sup> – 2:54am<br>29 <sup>th</sup> – 4:04am (WSW)<br>30 <sup>th</sup> – 5:13am<br>-----<br><b>Moon Phases</b><br>Full Moon – 2 <sup>nd</sup><br>Last Quarter – 10 <sup>th</sup><br>New Moon – 17 <sup>th</sup><br>First Quarter – 24 <sup>th</sup> |
| A useful<br>site: <a href="http://www.heavens-above.com">www.heavens-above.com</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A S Zielonka                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

At midnight on the 1<sup>st</sup> the star Tau Aquarii (4th mag) in Aquarius is 2 degrees to the left of the moon.

On the 2<sup>nd</sup> at 10:00pm Neptune is 4½ degrees above the moon and 2 degrees to the left.

At 10:00pm on the 3<sup>rd</sup> the star Iota Ceti (3.5 mag) in Cetus is 4¼ degrees below the moon in the ESE.

During the early mornings (5:00pm) at the beginning of the month the asteroid Vesta will still be close to the Beehive Star Cluster. On the 4<sup>th</sup> Vesta will be approximately 2 degrees to the lower left of the cluster.

On the 5<sup>th</sup> at midnight Mars is 2¾ degrees to the left of the moon. The star Nu Piscium (4.4 mag) in Pisces is ½ a degree above the moon.

The moon is at Apogee (405,607km from Earth) on the 6<sup>th</sup> at 7:30am.

At midnight on the 6<sup>th</sup> Mars is 9 degrees to the right of the moon and 3 degrees above. Uranus is 5¼ degrees to the upper left of the moon.

From 3:00am on the 7<sup>th</sup> the stars Castor (1.5 mag) and Pollux (1.1 mag) in Gemini point the way to Venus in the east.

On the 7<sup>th</sup> at midnight Uranus is 9½ degrees to the upper right of the moon.

At midnight on the 8<sup>th</sup> the Pleiades star cluster is 7 degrees above left of the moon. The star Aldebaran (0.8 mag) in Taurus is 9 degrees to the lower left of the moon.

On the 9<sup>th</sup> at midnight Aldebaran is 5 degrees to the right of the moon and 1 degree below.

At midnight on the 10<sup>th</sup> the star Zeta Tauri (2.9 mag) in Taurus is 1¼ degrees to the right of the moon.

Neptune is at opposition on the 11<sup>th</sup> in the constellation of Aquarius.

On the 12<sup>th</sup> at 5:00am the star Mebsuta (3 mag) in Gemini is 1¼ degrees above the crescent moon.

At 5:00am on the 13<sup>th</sup> the star Kappa Geminorum (3.5 mag) in Gemini is 1¼ degrees above left of the crescent moon. Venus is 14 degrees to the lower left of the moon. The Beehive star cluster is 2½ degrees to the upper left of the Venus.

On the 14<sup>th</sup> at 5:00am Venus is 4 degrees to the lower right of the crescent moon with the Beehive star cluster just 1½ degrees to the right of the moon.

At 5:00am on the 15<sup>th</sup> Venus is 13 degrees above right of the thin crescent moon.

Around 9:00pm on the 15<sup>th</sup> Pluto is 3½ degrees to the right of Saturn and 3 degrees below.

On the 16<sup>th</sup> at 5:30am the star Regulus (1.3 mag) in Leo is 8 degrees to the upper right of a very thin crescent moon. The moon is 4 degrees above the horizon and at 74 degrees azimuth (ENE).

The moon is at perigee (359,082km from Earth) on the 18<sup>th</sup> at 2:49pm.

At 8:00pm on the 18<sup>th</sup> the thin crescent moon will be 1 degree above the horizon at 265 degrees azimuth (W) and in the constellation of Virgo.

Comet 88P Howell (9.6 mag - 18<sup>th</sup> Aug) lies in the constellations of Libra and Scorpius during the month. On the 17<sup>th</sup> at 8:00pm comet Howell is just 1¼ degrees below the star Dschubba (2.2 mag) in Scorpius. On the 23<sup>rd</sup> & 24<sup>th</sup> its ¾ of a degree from the star Sigma Scorpii (2.9 mag). On the 26<sup>th</sup> its 1 degree from Antares (1 mag).

Mercury reaches aphelion (its most distant from the Sun in its orbit) on the 19<sup>th</sup> in the constellation of Virgo.

From the 19<sup>th</sup> - 21<sup>st</sup> the asteroid Ceres passes close to the star Epsilon Piscis Austrini (4.1 mag) in Piscis Austrinus. At 11:50pm on the 20<sup>th</sup> EPA will be due south and 24 degrees above the horizon with Ceres 4½ degrees to its upper right.

Comet C/2020 F3 Neowise (7 mag – Aug 18<sup>th</sup>) lies in the constellations of Virgo and Libra during this month. On the 20<sup>th</sup> at 8:00pm low in the south west the 3 day old crescent moon is between the star Zubenelgenubi (2.7 mag) and comet Neowise. Zubenelgenubi is 2 degrees to the lower left of the moon with comet Neowise 4½ degrees to the upper right of the moon. (For further information on comets listed in notes or comets not listed, please visit the comet section in the website above)

At 8:00pm on the 21<sup>st</sup> the star Acrab (2.5 mag) in Scorpius is 3¾ degrees to the left of the crescent moon and 1 degree above.

As the Sun sets on the 22<sup>nd</sup> Mercury is in close conjunction (½ a degree apart) with Spica in Virgo.

On the 22<sup>nd</sup> at 8:00pm the star Antares (1 mag) in Scorpius is 6 degrees to the lower right of the crescent moon. There is an occultation of the star Acrab (2.5 mag) in Scorpius on the 22<sup>nd</sup>. This will be visible from Canada, Mexico and the United States.

Comet C/2017 T2 Panstarrs (11.2 mag – Aug 18<sup>th</sup>) lies in the constellation of Virgo & Libra during the month. On the 23<sup>rd</sup> at 9:00pm comet Panstarrs is approximately ½ a degree from the star Mu Virginis (3.8 mag) in Virgo.

At 8:00pm on the 24<sup>th</sup> Jupiter is 7 degrees to the upper left of the moon. The stars Nunki (2 mag) and Phi Sagittarii (3.1 mag) in Sagittarius form a rightangle with the moon. They are each just 2 degrees from the moon. There is an occultation of the star Kaus Borealis (2.8 mag) earlier in the day which is visible from China, Japan, Korea and eastern Russia.

On the 25<sup>th</sup> at 8:00pm Saturn is just 3½ degrees to the upper left of the moon with Jupiter 7 degrees to the upper right of the moon. They too make a rightangle with the moon.

At 8:00pm on the 26<sup>th</sup> Saturn is 12¼ degrees to the upper right of the moon. The star Psi Capricorni (4.1 mag) in Capricorn is 2¾ degrees below the moon.

From the 26<sup>th</sup> - 29<sup>th</sup> Mars is just 1 degree from the star Nu Piscium (4.4 mag) in Pisces.

On the 27<sup>th</sup> at 11:00pm the star Nashira (3.6 mag) in Capricornus is 2¾ degrees above the moon.

At 11:00pm on the 28<sup>th</sup> the star Skat (3.2 mag) in Aquarius is 6½ degrees to the left of the moon.

There is a planned launch on the 29<sup>th</sup> \*. Northrop Grumman will launch its 14<sup>th</sup> commercial resupply mission of cargo to the International Space Station (ISS).

On the 29<sup>th</sup> at 11:00pm the star Psi Aquarii (4.4 mag) in Aquarius is just 1½ degrees to the upper left of the moon. Neptune is 5½ degrees above the moon and 1 degree to the left.

At midnight on the 30<sup>th</sup> Neptune is 10 degrees to the right of the Moon and 1½ degrees above. The star Iota Ceti (3.5 mag) in Cetus is 5½ degrees to the lower right of the moon.

From the 30<sup>th</sup> September - 4<sup>th</sup> October Venus passes close to the star Regulus (1.3 mag) in Leo. On the 2<sup>nd</sup> Oct at 5:00am they are just ½ a degree apart.

Comet C/2019 U6 (11 mag – Aug18th) lies in the constellations of Serpens and Hercules during the month. On the 30<sup>th</sup> at 9:00pm it will be approximately 1½ degrees from the star Kornephoros (2.7 mag) in Hercules in the west.

This month Jupiter and Saturn are now slowly getting closer together for their close conjunction in December. On the 30<sup>th</sup> their 7½ degrees apart.

\* = Dates and times are subject to change.

News: **Solar Orbiter:** The science payload is composed of 10 instruments.

6/10) The EUV - Extreme Ultraviolet Imager (Belgium): Images the solar atmospheric layers above the photosphere, thereby providing an indispensable link between the solar surface and outer corona that ultimately shapes the characteristics of the interplanetary medium. Also, EUV provides the first-ever UV images of the Sun from an out-of-ecliptic viewpoint (up to 33° of solar latitude during the extended mission phase)

News: Thousands of scientists, engineers and technicians from 14 countries, 29 U.S. states and Washington D.C contributed to build, test, and integrate the **James Webb** telescope. In total, 258 distinct companies, agencies and universities participated – 142 from the United States, 104 from 12 European nations and 12 from Canada. “ Webb is a tremendous feat of engineering, built through the collaborative work and great dedication of a vast international community,” said Gregory L Robinson, the Webb program director at NASA Headquarters. “once launched, astronomers worldwide will be able to study the world-class science it will deliver and give us a broader understanding of the origins of our universe, inspiring future generations.”

It will launch in 2021 onboard an Ariane 5 rocket from the European Spaceport located near Kourou, French Guiana, on the northeast coast of South America.

Facts: The first person to apply for a patent for a telescope was a Dutch eyeglass maker named **Hans Lippershey** (or Lipperhey). In 1608, Lippershey laid claim to a device that could magnify objects 3 times. His telescope had a concave eyepiece aligned with a convex objective lens.

Unfortunately comet Neowise hasn't stayed a bright object which is probably due to the Earth and Neowise currently going in opposite directions. (Please note: I will only put comets in notes which are brighter than 12th magnitude).