

Astronomy News

Night Sky 2019 - February

Sunrise	Sunset	Mercury Sets	Venus Rises
1 st – 7:48am	1 st – 5:01pm	10 th – 5:55pm	1 st – 5:04am
10 th – 7:34am	10 th – 5:17pm	15 th – 6:29pm	10 th – 5:16am
20 th – 7:15am	20 th – 5:35pm	20 th – 7:00pm	20 th – 5:23am
28 th – 6:58am	28 th – 5:49pm	25 th – 7:23pm	28 th – 5:25am
Moon Rise	Moon Set	Moon Rise	Moon Set
1 st – 5:32am	1 st – 1:56pm	15 th – 12:34pm	16 th – 5:02am
2 nd – 6:23am	2 nd – 2:46pm	16 th – 1:31pm	17 th – 6:00am
3 rd – 7:07am	3 rd – 3:42pm	17 th – 2:40pm	18 th – 6:49am
4 th – 7:44am (New)	4 th – 4:42pm (New)	18 th – 4:00pm	19 th – 7:28am (Full)
5 th – 8:14am	5 th – 5:45pm	19 th – 5:24pm (Full)	20 th – 8:00am
6 th – 8:40am	6 th – 6:49pm	20 th – 6:49pm	21 st – 8:27am
7 th – 9:02am	7 th – 7:54pm	21 st – 8:13pm	22 nd – 8:52am
8 th – 9:22am	8 th – 9:00pm	22 nd – 9:34pm	23 rd – 9:16am
9 th – 9:42am	9 th – 10:05pm	23 rd – 10:52pm	24 th – 9:41am
10 th – 10:01am	10 th – 11:12pm	25 th – 12:07am	25 th – 10:07am
11 th – 10:22am	12 th – 12:21am (FQ)	26 th – 1:19am (LQ)	26 th – 10:37am (LQ)
12 th – 10:46am (FQ)	13 th – 1:32am	27 th – 2:26am	27 th – 11:12am
13 th – 11:14am	14 th – 2:44am	28 th – 3:27am	28 th – 11:54am
14 th – 11:49am	15 th – 3:55am		
A useful site: www.heavens-above.com	A S Zielonka		

There is an uncrewed test flight this month of the Commercial Crew Program which 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 will also provide valuable data toward NASA certifying SpaceX's crew transportation system for carrying astronauts to and from the ISS.

Comet 46P Wirtanen will be in the constellation of Ursa Major for this month though not near any bright stars. (For further information please visit the 'Comet section in the website above'.) I did manage to see it with binoculars a couple of evenings in December.

On the 1st at 6:25am a thin crescent Moon is 5 degrees above the horizon and due south east with Venus 6½ degrees to the upper right of it, and Jupiter 9 degrees to the right of Venus. At 7:00am Saturn is 3 degrees above the south east horizon and 11½ degrees to the lower left of the Moon.

An occultation of Pluto by the Moon occurs around 8:00pm on the 2nd. This will be visible from the southern half of Canada, western USA, northern Mexico and Hawaii.

At 7:00am on the 2nd a very thin crescent Moon will be 2 degrees above the south east horizon and less than half a degree above it is the planet Saturn. An occultation of Saturn by the Moon occurs on the 2nd at 7:00am. This happens in the daytime and would have been visible from all of southern Europe, the northern half of Africa and Asia.

The star Mu Sagittarii (3.8 mag) in Sagittarius is less than ½ a degree to the left of Venus on the 6th between 6:00 – 7:00am.

An occultation of Vesta by the Moon during the daytime occurs on the 6th at 8:00am in western Russia.

Comet C/2018 Y1 Iwamoto is at perihelion on the 6th at a distance of 1.280AU from the Sun. On the 14th Jan it was at 10th magnitude and in the constellation of Virgo. Lets hope this brightens up more to be seen. (For further information please visit the 'Comet section in the website above'.)

On the 6th at 6:00pm a very thin crescent Moon will be 6 degrees above the horizon in the WSW. The 3.2 magnitude star Skat in Aquarius is just 4½ degrees to the left of the Moon.

There is a planned launch on the 7th* at 9:20am* from Baikonur Cosmodrome, Kazakhstan. A Russian Soyuz FG rocket will be tasked with lifting the Progress MS-11 cargo spacecraft into orbit for a supplies delivery to the ISS. Progress MS-10 is the 164th overall mission of the Russian cargo vehicle since its first flight in 1978 and the 74th to the ISS.

At 6:00pm on the 7th Neptune will be 5½ degrees to the right of the thin crescent Moon and 2 degrees to the lower right of the 4.2 magnitude star Phi Aquarii in Aquarius.

On the 8th at 7:00pm the 3.5 magnitude star Iota Ceti in Cetus is just 4½ degrees to the lower left of the crescent Moon.

The Alpha Centaurids meteor shower reaches its peak on the 8th at approximately 7:35pm. The direction to look is towards the south east.

At 7:00pm on the 10th Mars will be 6½ degrees above right of the Moon. Uranus is just 2 degrees to the upper left of Mars.

Between the 11th - 14th Mars & Uranus are in close conjunction. On the 13th at 6:30pm Uranus will be 1 degree to the lower left of Mars.... and at the same time on the 14th Uranus will be approximately midway between Mars and the star Omicron Piscium (4.2 mag) in Pisces.

On the 11th at 10:00pm the 4.2 magnitude star Mu Ceti in Cetus is just 2 degrees to the upper left of the Moon.

At 5:00am on the 12th Comet C/2018 Y1 Iwamoto will be in the west and very close to the star Eta Leonis (3.4 mag) in Leo. By 6:00am the comet will have moved approximately ½ a degree to the right. Its also at its closest to us at a distance of 0.298 AU. The majority of astronomical bodies go round the Sun in anti-clockwise direction. A small amount of comets like Comet C/2018 Y1 Iwamoto go round the Sun clockwise.

At 10:00pm on the 12th the star Ain (3.5 mag) in Taurus is 3½ degrees to the lower left of the Moon.

On the 13th at midnight the 0.8 magnitude star Aldebaran in Taurus is just 2½ degrees to the upper left of the Moon.

At midnight on the 14th the 2.9 magnitude star Zeta Tauri in Taurus is 4 degrees above left of the Moon.

On the 15th at midnight the star Mu Geminorum (2.8 mag) in Gemini is just 2 degrees above right of the Moon.

At 9:00pm on the 16th the star Wasat (3.5 mag) in Gemini is just 1 degree above the Moon.

At midnight on the 17th the star Asellus Australis (3.9 mag) in Cancer is 3 degrees to the left of the Moon. Midway between and just above them is the Beehive Cluster (M44).

Between the 17th - 19th Venus and Saturn are in close conjunction. On the 18th at 6:00am Saturn is just 1 degree below Venus which is 4½ degrees above the horizon in the south east. The star Pi Sagittarii (2.8 mag) in Sagittarius is about ¼ of a degree to the right of Venus on the 18th.

There is a close conjunction between Mercury and Neptune on the 18th and 19th at 6:20pm. On the 18th Mercury's position is 254 degrees azimuth (247.5 is WSW) and 4½ degrees above the horizon with Neptune 1 degree to the upper left of Mercury (On the 19th Neptune is 1 degree below Mercury) .

On the 19th at 7:00pm in the east the bright star Regulus in Leo is 4 degrees above right of the Moon.

At midnight on the 21st the star Porrima (2.7 mag) in Virgo is 3½ degrees below left of the Moon... and at 6:00am on the following morning they are just 1½ degrees apart.

On the 22nd at midnight Zeta Virginis (3.3 mag) is 4 degrees to the above left of the Moon and the star is Spica (0.9 mag) (both in Virgo) is 7 degrees to the lower right.

Mercury is at perihelion (closest to the Sun in its orbit) on the 25th.

At 5:45am on the 26th the star Acrab (2.5 mag) in Scorpius is just 2.5 degrees to the lower right of the Moon.

On the 27th at 6:00am Jupiter is 4½ degrees to the lower left of the crescent Moon.

At 6:45pm on the 27th Mercury will be 262 degrees azimuth (in the west) and 7 degrees above the horizon. The star Lambda Piscium (4.4 mag) in Pisces is just 2 degrees to the upper right of Mercury.

Mercury is at maximum eastern elongation from the Sun on the 27th.

At 6:00am on the 28th Jupiter is 8 degrees to the right of the crescent Moon in the SSE with Venus and Saturn 10½ degrees apart in the south east.

Between the 25th - 28th at 6:00am in the SSE Jupiter will be passing close to the star Theta Ophiuchi (3.2 mag) in Ophiuchus. They will be just 2½ degrees apart. Jupiter will be above left of the star.

On the 28th at 6:30am Venus is due south east and 8 degrees above the horizon.

There is a planned launch on the 28th* from the Baikonur Cosmodrome in Kazakhstan to the International Space Station (ISS). NASA astronauts Nick Hague and Christina Hammock Koch and Alexey Ovchinin of the Russian space agency Roscomos are to launch aboard a Soyuz spacecraft as members of Expeditions 59 and 60. (See below)

* = Dates and times are subject to change.

Fact: The Full Moon on the 19th is also known as a Supermoon. This full moon was known by early Native American tribes as the Full Snow Moon because the heaviest snows usually fell during this time of year. Since hunting is difficult, this moon has also been known by some tribes as the Full Hunger Moon, since the harsh weather made hunting difficult. This is the second of three supermoons for 2019. The Moon will be at its closest approach to Earth and may look slightly larger and brighter than usual.

News: On January 12th, a cotton sprout poked out of a planter on the far side of the Moon. This comes 9 days after the Chinese lander, the Chang'e 4, made history with the first soft landing in the South Pole-Aitken Basin, one of the largest known impact craters in the solar system. The lander's rover, dubbed Jade Rabbit 2, started watering the seeds on January 3rd to see whether the plant could survive in a low-gravity, high-radiation environment. It appeared the success was short lived when Beijing's 'Xinhua News Agency announced that the experiment had already come to an end less than 24 hours later. The 18 centimeter lunar greenhouse also contained potato and rock cress (related to cabbage and mustard) seeds, as well as fruit fly eggs. China's ambitious list of missions include the late 2019 launch of Chang'e 5 to collect samples from the near side of the Moon (the first since the Soviet Luna samples back in 1976) and a 2020 mission to Mars. It becomes clear that China intends to position itself at the forefront of 21st-century space exploration.

Nick Hague (b.1975) is married to Lt. Col. Catie Hague and have two sons. On October 11th 2018 Hague and Aleksey Ovchinin boarded Soyuz MS-10 on the way to the ISS, but the launch was aborted mid-flight due to a booster failure; the crew landed safely after a ballistic descent, minutes from launch. During his flight the Soyuz spacecraft aborted at an altitude of 31 miles. He earned astronaut wings for the aborted flight even though he never reached the Karman Line. He is also a Doctor Who fan.

Christina Hammock Koch (b.1979) has experience both in space science instrument development and remote scientific field engineering. She worked as an Electrical Engineer at NASA Goddard Space Flight Center's Laboratory for High Energy Astrophysics, where she contributed to scientific instruments on several NASA missions. She has completed a winter-over season at the Admunsen-Scott South Pole Station. While in Antarctica, she was a member of the Firefighting Teams and Ocean/Glacier Search and Rescue Teams. From 2007 – 2009 at the Johns Hopkins University Applied Physics Laboratory's Space Department she contributed to instruments studying radiation particles for NASA missions, including Juno and the Van Allen probes. In 2010, she returned to remote scientific field work with tours including Palmer Station in Antarctica and multiple winter seasons at Summit Station in Greenland.

Aleksey Ovchinin (b.1971) has a wife, Svetlana, and a daughter, Yana. In September 2013, he took part in the CAVES (Cooperative Adventure from Valuing and Exercising human behaviour and performance Skills) mission in the Sa Grutta caves on the island of Sardinia. During the mission, five astronauts and cosmonauts (Michael Barratt, Jack Fisher, Jeremy Hansen, Paolo Nespoli and Satoshi Furukawa) from different space agencies worked in a multicultural and multi-ethnic team in extreme conditions underground. In the Autumn of 2015, Ovchinin and Cosmonaut Oleg Skripochka tasted 160 culinary dishes, designed for astronauts on board the ISS, over an 8-day period. His hobbies include hunting, fishing and music.