

# Sky News

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## ASTRONOMY HIGHLIGHTS FOR 2018

**MOON & ECLIPSES** Three partial solar eclipses cannot be seen from NW Indiana occur on February 15<sup>th</sup>, July 12<sup>th</sup> and August 11<sup>th</sup>. Of the two lunar eclipses, one can be viewed from Northwest Indiana on January 31<sup>st</sup>. The second one on July 27<sup>th</sup> cannot be seen from here. There are TWO blue moons in 2018, on January 31<sup>st</sup> and March 29<sup>th</sup>. There are two “Supermoons” in January, the 1<sup>st</sup> and 31<sup>st</sup>. February will not have a full moon this year.

**METEOR SHOWERS** Meteor showers with favorable viewing conditions during their peaks are: Lyrids on April 22/23<sup>rd</sup>, Perseids on August 12/13<sup>th</sup>, Draconids on October 8<sup>th</sup>, Southern Taurids on November 5/6<sup>th</sup>, Geminids on December 13/14<sup>th</sup>, and the Ursids on December 21/22<sup>nd</sup>.

**PLANETS** Planets in opposition (opposite the sun in our sky) are best for viewing and can be seen from sunset to sunrise. This year they are: Jupiter on May 9<sup>th</sup>, Saturn on June 27<sup>th</sup>, Mars on July 27<sup>th</sup>, Neptune on September 7<sup>th</sup>, and Uranus on October 23<sup>rd</sup>.

**LAUNCHES** India will send *Chandrayaan 2* on a second mission to the moon in March. NASA will launch *Transiting Exoplanet Survey Satellite (TESS)* on a mission to study exoplanets in March. Midyear, the ESA will launch the *Aeolus* satellite to study the winds on a global scale. This summer, NASA will launch *Parker Solar Probe* to enter the Sun’s atmosphere. The Chinese *Long March 5* mission is to return samples from the Moon with an unknown launch date. Launches are scheduled by several countries to go to the ISS throughout the year.

**SPECIAL DATES:** Spring Astronomy Week is April 16<sup>th</sup> to 21<sup>th</sup> and Astronomy Day is April 21<sup>st</sup>. Fall Astronomy week is October 7<sup>th</sup> to 13<sup>th</sup> and Fall Astronomy Day is October 13<sup>th</sup>. Earth Day is April 22<sup>nd</sup>. International Asteroid Day is June 30<sup>th</sup> and

Observe the Moon Night is September 6<sup>th</sup>. Calumet Astronomical Society (CAS) will have FREE Telescopic Viewing Events at Conway Observatory in Lowell from March through November. In September, the event occurs at the Indiana Dunes State Park. For more information and updates, check their website at [www.casonline.org](http://www.casonline.org). During the spring and fall semesters, Valparaiso University (VU) Observatory has OPEN HOUSE nights. Lectures are presented occasionally by scholars from around the world. For updates and lecture information each semester, visit their website at [www.valpo.edu/physics](http://www.valpo.edu/physics) and click on “Astronomy Outreach & Open House Schedule.” All viewing events and lectures are FREE and open to the public.

## VOYAGERS

Voyager 1 is currently 13 billion miles from Earth and still traveling. NASA’s *Voyager 1* spacecraft is the only spacecraft that reached interstellar space. That means it’s out of our solar system, past the effects of the Sun’s gravitational field. *Voyager 1* still sends signals to Earth. To maintain its orientation to Earth, *Voyager 1* must use thrusters to slightly angle or turn to keep the antenna pointed toward Earth. The “attitude control thrusters” that take care of angling have been degrading, so NASA Voyager team came up with a new plan.

After 37 years of being idle, four backup thrusters on the backside of the spacecraft were used to orient the antenna toward Earth. Scientists believe it will allow communication for 2 or 3 more years.

Voyager 2, its twin, will be out of our solar system and into interstellar space in the next few years. It’s thrusters aren’t as degraded as Voyager 1, and it has backup thrusters that can be used later. To see more, go to <https://www.nasa.gov/voyager>.

## JANUARY PLANETS

**Mars** rises in the predawn southeastern sky moving from the constellation Aquarius (the Water-Bearer) into Pisces (the Fish). Mars appears lower every night. Mars looks like a ruddy-colored star.

**Jupiter** rises earlier every morning in the southeastern sky in the constellation Virgo (the Maiden). Jupiter is bright and easy to see. Jupiter looks like a bright, yellow-colored star.

**Saturn** can be seen rising just before the Sun in the predawn southeastern sky in the constellation Ophiuchus (the Serpent Bearer). Saturn will rise earlier and appear higher in the sky through the month. Saturn looks like an amber-colored star.

**Mercury** can be seen only in the beginning of January rising in the predawn southeastern sky in the constellation Sagittarius (the Archer). Mercury looks like a small white star.

**Venus** cannot be seen this month as it passes behind the Sun as seen from Earth on January 9th. Venus will return as the “Evening Star” throughout the spring and summer months. Venus looks like a very bright white star.

## JANUARY SUNRISE AND SUNSET (times are for mid-month)

sunrise: 7:14 a.m.

sunset: 4:44 p.m.

length of daylight: 9 hours, 30 minutes

length of darkness: 14 hours, 30 minutes

The following sources were used

for this issue of *Sky News*:

[www.spaceflightnow.com](http://www.spaceflightnow.com), [www.esa.int](http://www.esa.int),  
[www.jpl.nasa.gov](http://www.jpl.nasa.gov), <http://www.astropixels.com>  
[www.physics.valpo.edu](http://www.physics.valpo.edu), [www.casonline.org](http://www.casonline.org),  
*Astronomy*, and *Sky and Telescope*.

This edition of the  
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## SKY DATES

### January

- 1 - Mercury at greatest western elongation at 22.7° at 2:00 p.m.
- Moon at perigee (closest point to Earth) at 224,636 miles at 3:54 p.m.
- **Full moon** called Winter, Wolf, Cold, Old, Holiday, Cooking, Quiet, Ice, and Frost in the Tepee Moon at 8:24 p.m.
- **Supermoon** (2<sup>nd</sup> of 3 in a row)
- 2 - Asteroid Flora in opposition
- Uranus is stationary at 3:00 p.m.
- 3 - Earth at perihelion (closest point to the sun) at .98329 AUs or 91,404,322 miles
- Moon passes 2.3° S of Beehive cluster
- **Quadrantid** meteor shower peaks under poor conditions; look to Bootes after midnight for 40 or more fast blue meteors
- 4 - Latest sunrise for 40° N latitude
- 5 - Moon passes 0.9° N of Regulus
- 7 - Mars passes 0.2° S of Jupiter
- 8 - Last quarter moon at 4:25 p.m.
- 9 - Venus at superior conjunction
- 10 - Moon passes 4.3° N of Jupiter
- 11 - Moon passes 4.6° N of Mars
- Moon passes 0.4° S of asteroid Vesta
- 13 - Mercury passes 0.7° of Saturn
- 14 - Moon at apogee (farthest point from Earth) at 256,070 miles at 8:10 p.m.
- Moon passes 2.6° N of Saturn
- 15 - Moon passes 3.4° N of Mercury
- 16 - New moon at 8:17 p.m.
- 20 - Moon passes 1.6° S of Neptune at 2:00 p.m.
- 23 - Venus at aphelion
- Moon passes 0.5° S of Uranus at 7:00 p.m.
- 24 - First quarter moon at 4:20 p.m.
- 25 - Mercury at aphelion
- 27 - Moon passes 0.7° N of Aldebaran
- 30 - Moon at perigee (closest point to Earth) at 226,166 miles at 3:54 a.m.
- 31 - Moon passes 2.3° S of Beehive cluster
- Dwarf planet Ceres in opposition
- **Full Moon (BLUE MOON!)** called Snow Moon, Hunger Moon, Trapper’s Moon, or Raccoon Moon at 7:27 a.m.
- Supermoon (3<sup>rd</sup> of 3 in a row)
- **Total lunar eclipse** at 7:30 a.m.