

## Sky Highlights for December

- December 1 Full Moon. Names include Moon Before Yule, Cold Moon, Long Night Moon
- December 9 Last quarter moon
- December 14 Peak of the Geminid meteor shower. Moon shouldn't interfere.
- December 16 New moon
- December 21 Solstice (winter solstice in northern hemisphere, summer solstice in southern hemisphere)
- December 22 Mars begins retrograde motion
- December 24 First quarter moon  
Pluto in conjunction
- December 31 Full Moon. This is a **Blue Moon**. (see note)  
Lunar umbral eclipse.

### NOTE:

The second full moon in a month is commonly known as a Blue Moon. Granted, that isn't technically correct, and is based on an error in Sky and Telescope magazine in 1946, but it's a heckuva lot easier than calculating the third of four full moons in a season as based on the dynamical mean Sun and the tropical year. Using the currently accepted definition, "once in a blue moon" refers to something that occurs approximately every 2.5 years.

### Planets Visible This Month

- Mercury**— Reaches its highest point on the 18<sup>th</sup>, but still only 12° above the western horizon after sundown
- Mars**— Brightens in magnitude from 0 to -1 by the last of the month, when it rises by 8PM local time. In Leo.
- Jupiter**— Getting lower in the southwest, the giant planet sets by 10PM. Magnitude -2.2 in Capricornus.
- Saturn**— Saturn shines at +1.0 magnitude in Virgo.

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## **Sky Highlights for January**

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|------------|--|
| January 3  | Peak of Quadrantid meteor shower                         |
| January 4  | Mercury at inferior conjunction                          |
| January 7  | Last quarter moon<br><b>(see note)</b>                   |
| January 11 | Venus at superior conjunction                            |
| January 14 | Saturn stationary, before beginning retrograde motion    |
| January 15 | New moon   |
| January 23 | First quarter moon                                       |
| January 29 | Mars at opposition                                       |
| January 30 | Full moon. Known as Moon after Yule, Old Moon, Wolf Moon |

## **Planets Visible This Month**

- Mercury**— Rising 30 minutes before sunrise at midmonth, brightening to -0.2 magnitude
- Mars**— Rising around sunset at magnitude -1.3, Mars is now at it's brightest in 2 years. Its disk, however, is only 14.1". Moves from Leo into cancer this month.
- Jupiter**— Moving from Capricornus to Aquarius, Jupiter sets 4 hours after sunset on the 1<sup>st</sup>, but only 2 hours after by the 31<sup>st</sup>. Magnitude -2.1
- Saturn**— Rising around midnight at magnitude +0.8 in Virgo. The rings are tilted 5°, their widest since 2008. Low in the pre-dawn sky, by mid-month, Saturn rises 4 hours before sunrise. In Virgo

## **NOTE:**

Astronomical History: January 7<sup>th</sup> marks the 400<sup>th</sup> anniversary of Galileo's discovery of 3 of the moons of Jupiter: Io, Europa and Callisto. He discovered Ganymede a few days later, on the January 13, 1610. Fittingly, all 4 moons are visible this year on January 7<sup>th</sup>, 2 on each side of the planet.

***Thank you, Galileo Galilei !!!***