





December Skies over the Pinnacles

December's four principal phases of the moon

December 8	Last Quarter	
December 14	New Moon	
December 21	First Quarter	
December 30	Full Moon	

A Special Time of Year

When I was very young, I remember attending a planetarium program in Cincinnati at the beginning of our Christmas break from elementary school. Dr. Bert Avera, the director, offered a seasonal presentation titled "The Christmas Star". By the end of the show I was disappointed to learn that there was no evidence, beside what was stated in Matthew, Chapter 2, that there was a 'new' bright star in the eastern sky at the time of the birth of Christ.

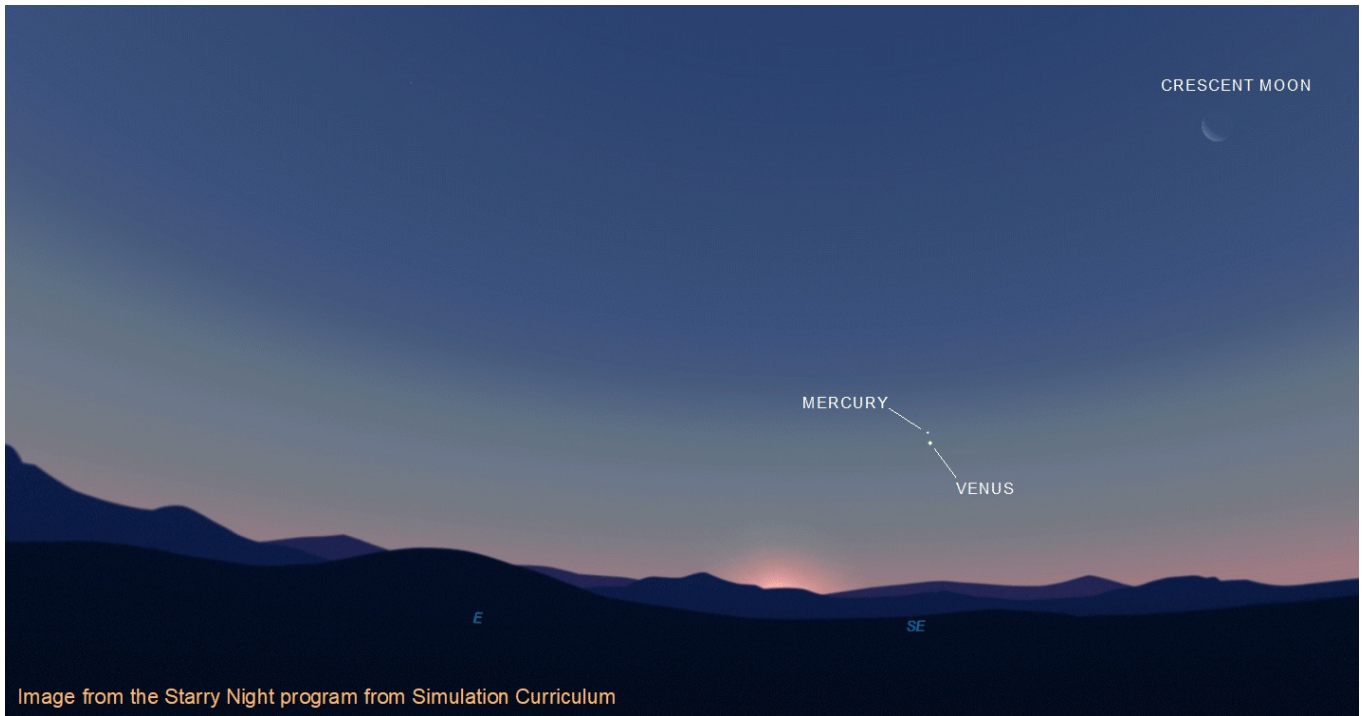


Giotto's *Adoration of the Magi*, painted around 1304
courtesy Wikiart

Around 1304, the Italian artist, Giotto di Bondone painted a unique image of the Adoration of the Magi. Instead of a "Christmas Star", the artist inserted a red comet into the sky over the scene. (Comets aren't red. In fact, if any prominent color is seen, it is **green**.)

Anyway, Giotto may have been amazed by a bright comet he saw in the sky shortly before this painting was completed. Later, that comet was named Comet Halley. Today, this beautiful work of art may be seen in the Scrovegni Chapel in Padua, Italy.

Here's an image of how science and history suggest the sunrise looked in the East on that great morning. Mercury and Venus made a beautiful site together.



The stars as they actually appear in the sky are inspiration enough for me. Below is a creche I built that depicts the eastern sky as it would actually appear from Bethlehem in late December.

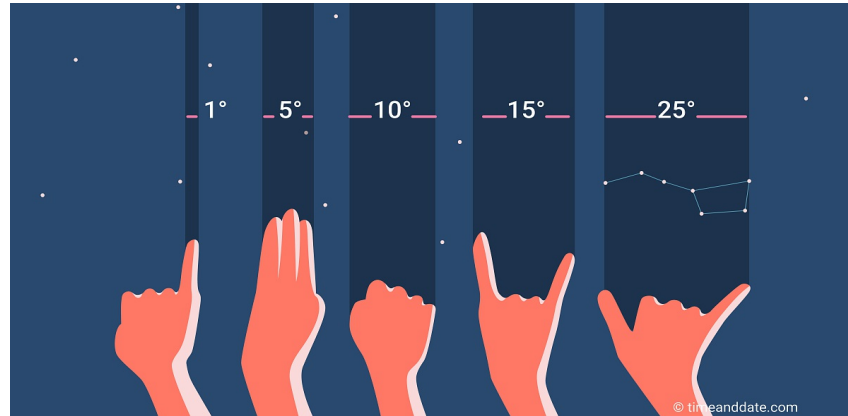


The constellation ,Gemini, is just above the structure with Leo to the left. And, yes, I borrowed Giotto's comet idea here, depicted in crystal.

Attractions in December

After the Sun and Moon, the brightest object seen in the sky in early December continues to be orange Mars, now high in the southern sky still in the constellation Pisces. Mars is among the smallest of planets but was especially close in fall as we, on spaceship Earth swung near the red planet. The “show-offs” this month will be Jupiter and Saturn. If you’ve been watching them since June you’ll know that they have been ‘hanging-out’ together all summer and fall.

Below is a handy gauge you can use to tell how far apart objects appear in the sky.



Stretch your arm out full length and put your hands in the poses shown above.

Now, at the beginning of December Jupiter and Saturn will be 2 degrees apart. By December 12 this pair will be one pinkie-width, er, one degree apart in the sky. Here’s the cool part. By December 21 they will appear to be one single object. You’ll need binoculars or a telescope to see that this single “star” is actually 2 planets! This pair will appear to be really close for several days so if it’s cloudy on the 21st just know that you can enjoy this event several days before and after that date.

- December 1** Start watching Jupiter and Saturn in the evening while they are low in the south west. This pair will appear to be getting closer each night.
- December 10** Before sunrise the waning crescent moon will be within 7 degrees of the bright blue star, Spica, brightest star in Virgo. (Use your hand scale!)
- December 12** (Also for you early risers.) Venus and the Moon make a pretty pair in the east.
- December 13** The Geminid Meteor Shower can be enjoyed in the wee hours between midnight and dawn. You might get lucky and see at least one meteor per minute.
- December 16** The trio of Saturn, Jupiter and the Moon again stage a, sort-of, repeat performance of November’s close approach. Only this time the two planets will be getting *really* close.
- December 21** Two causes to celebrate! Jupiter and Saturn will be super close and, starting tomorrow, the time of daylight will start getting longer. We call this date the Winter Solstice.
- December 25** Merry Christmas!