

Astronomy Calendar of Celestial Events for Calendar Year 2011 (July – Dec)

July 1 - New Moon. The Moon will be directly between the Earth and the Sun and will not be visible from Earth. This phase occurs at 08:54 UTC.

July 1 - Partial Solar Eclipse. This partial eclipse will only be visible off the coast of Antarctica. (NASA Map and Eclipse Information) <http://eclipse.gsfc.nasa.gov/OH/OHfigures/OH2011-Fig04.pdf>

July 15 - Full Moon. The Moon will be directly opposite the Earth from the Sun and will be fully illuminated as seen from Earth. This phase occurs at 06:40 UTC. This full moon was known by early Native American tribes as the Full Buck Moon because the male buck deer would begin to grow their new antlers at this time of year. This moon has also been known as the Full Thunder Moon and the Full Hay Moon.

July 28, 29 - Southern Delta Aquarids Meteor Shower. The Delta Aquarids can produce about 20 meteors per hour at their peak. The shower usually peaks on July 28 & 29, but some meteors can also be seen from July 18 - August 18. The radiant point for this shower will be in the constellation Aquarius. This year the thin, crescent moon will be hanging around for the show, but it shouldn't cause too many problems. Best viewing is usually to the east after midnight from a dark location.

July 30 - New Moon. The Moon will be directly between the Earth and the Sun and will not be visible from Earth. This phase occurs at 18:40 UTC.

August 12, 13 - Perseids Meteor Shower. The Perseids is one of the best meteor showers to observe, producing up to 60 meteors per hour at their peak. The shower's peak usually occurs on August 13 & 14, but you may be able to see some meteors any time from July 23 - August 22. The radiant point for this shower will be in the constellation Perseus. The full moon will definitely be a problem this year, hiding the fainter meteors with its glare. But with up to 60 meteors per hour possible, it could still be a great show. Find a location far from city lights and look to the northeast after midnight.

August 13 - Full Moon. The Moon will be directly opposite the Earth from the Sun and will be fully illuminated as seen from Earth. This phase occurs at 18:57 UTC. This full moon was known by early Native American tribes as the Full Sturgeon Moon because the large sturgeon fish of the Great Lakes and other major lakes were more easily caught at this time of year. This moon has also been known as the Green Corn Moon and the Grain Moon.

August 11 - Neptune at Opposition. The blue planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. This is the best time to view Neptune. Due to its distance, it will only appear as a tiny blue dot in all but the most powerful telescopes.

August 29 - New Moon. The Moon will be directly between the Earth and the Sun and will not be visible from Earth. This phase occurs at 03:04 UTC.

September 12 - Full Moon. The Moon will be directly opposite the Earth from the Sun and will be fully illuminated as seen from Earth. This phase occurs at 09:27 UTC. This full moon was known by early Native American tribes as the Full Corn Moon because the corn is harvested around this time of year. This moon is also known as the Harvest Moon. The Harvest Moon is the full moon that occurs closest to the September equinox each year.

September 23 - September Equinox. The September equinox occurs at 09:05 UTC. The Sun will shine directly on the equator and there will be nearly equal amounts of day and night throughout the world. This is also the first day of fall (autumnal equinox) in the northern hemisphere and the first day of spring (vernal equinox) in the southern hemisphere.

September 25 - Uranus at Opposition. The blue-green planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. This is the best time to view Uranus. Due to its distance, it will only appear as a tiny blue-green dot in all but the most powerful telescopes.

September 27 - New Moon. The Moon will be directly between the Earth and the Sun and will not be visible from Earth. This phase occurs at 11:09 UTC.

October 1 - Astronomy Day Part 2. Astronomy Day is an annual event intended to provide a means of interaction between the general public and various astronomy enthusiasts, groups and professionals. The theme of Astronomy Day is "Bringing Astronomy to the People," and on this day astronomy and stargazing clubs and other organizations around the world will plan special events. You can find out about special local events by contacting your local astronomy club or planetarium. You can also find more about Astronomy Day by checking the Web site for the [Astronomical League](http://www.astroleague.org/al/astroday/astroday.html).
<http://www.astroleague.org/al/astroday/astroday.html>

October 12 - Full Moon. The Moon will be directly opposite the Earth from the Sun and will be fully illuminated as seen from Earth. This phase occurs at 02:06 UTC. This full moon was known by early Native American tribes as the Full Hunters Moon because at this time of year the leaves are falling and the game is fat and ready to hunt. This will also be the smallest full moon of the year because it will be near apogee, its farthest point from the Earth.

October 21, 22 - Orionids Meteor Shower. The Orionids is an average shower producing about 20 meteors per hour at their peak. This shower usually peaks on the 21st, but it is highly irregular. A good show could be experienced on any morning from October 20 - 24, and some meteors may be seen any time from October 17 - 25. The nearly last quarter moon may hide some of the faintest meteors this year. Best viewing will be to the east after midnight. Be sure to find a dark location far from city lights.

October 26 - New Moon. The Moon will be directly between the Earth and the Sun and will not be visible from Earth. This phase occurs at 19:56 UTC.

October 29 - Jupiter at Opposition. The giant planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. This is the best time to view and photograph Jupiter and its moons. The giant planet will be a big and bright as it gets in the night sky. A medium-sized telescope should be able to show you some of the details in Jupiter's cloud bands. A good pair of binoculars should allow you to see Jupiter's four largest moons, appearing as bright dots on either side of the planet.

November 8 - Asteroid 2005 YU55 Flyby. An asteroid known as 2005 YU55 will make a close approach to the Earth. The large space rock, about 1,300 feet in diameter will pass closer than the Moon at 0.85 lunar distances. While it is not expected to pose a threat to the Earth, this extremely rare event presents a unique opportunity for amateur astronomers to observe the asteroid as it makes its closest approach to our planet. Many astronomy groups are planning to observe the event. Asteroids this large only pass close to the Earth about every 30 years.

November 10 - Full Moon. The Moon will be directly opposite the Earth from the Sun and will be fully illuminated as seen from Earth. This phase occurs at 20:16 UTC. This full moon was known by early Native American tribes as the Full Beaver Moon because this was the time of year to set the beaver traps before the swamps and rivers froze. It has also been known as the Frosty Moon.

November 17, 18 - Leonids Meteor Shower. The Leonids is one of the better meteor showers to observe, producing an average of 40 meteors per hour at their peak. The shower itself has a cyclic peak year every 33 years where hundreds of meteors can be seen each hour. The last of these occurred in 2001. The shower usually peaks on November 17 & 18, but you may see some meteors from November 13 - 20. The nearly last quarter moon may hide some of the faintest meteors this year, but this should still be an excellent show. Look for the shower radiating from the constellation Leo after midnight.

November 25 - New Moon. The Moon will be directly between the Earth and the Sun and will not be visible from Earth. This phase occurs at 06:10 UTC.

November 25 - Partial Solar Eclipse. This partial eclipse will only be visible over Antarctica and parts of South Africa and Tasmania. ([NASA Map and Eclipse Information](#))
<http://eclipse.gsfc.nasa.gov/OH/OHfigures/OH2011-Fig05.pdf>

December 10 - Full Moon. The Moon will be directly opposite the Earth from the Sun and will be fully illuminated as seen from Earth. This phase occurs at 14:36 UTC. This full moon was known by early Native American tribes as the Full Cold Moon because this is the time of year when the cold winter air settles in and the nights become long and dark. This moon has also been known as the Moon Before Yule and the Full Long Nights Moon.

December 10 - Total Lunar Eclipse. The eclipse will be visible throughout most of Europe, eastern Africa, Asia, Australia, the Pacific Ocean, and the North America. ([NASA Map and Eclipse Information](#))
<http://eclipse.gsfc.nasa.gov/OH/OHfigures/OH2011-Fig06.pdf>

December 13, 14 - Geminids Meteor Shower. Considered by many to be the best meteor shower in the heavens, the Geminids are known for producing up to 60 multicolored meteors per hour at their peak. The peak of the shower usually occurs around December 13 & 14, although some meteors should be visible from December 6 - 19. The radiant point for this shower will be in the constellation Gemini. The gibbous moon will definitely interfere this year by hiding the faintest meteors, but with up to 60 meteors per hour possible, this should still be an excellent show. Best viewing is usually to the east after midnight from a dark location.

December 22 - December Solstice. The December solstice occurs 05:30 UTC. The South Pole of the earth will be tilted toward the Sun, which will have reached its northernmost position in the sky and will be directly over the Tropic of Capricorn at 23.44 degrees south latitude. This is the first day of winter (winter solstice) in the northern hemisphere and the first day of summer (summer solstice) in the southern hemisphere.

December 24 - New Moon. The Moon will be directly between the Earth and the Sun and will not be visible from Earth. This phase occurs at 18:06 UTC.

**Reference: <http://www.seasky.org/astronomy/astronomy-calendar-2011.html>