



"We make science fun!"

*Text by Dr. Bob Hayward
Astronomer/Educator
Graphics by TheSky
Software Bisque*

Mountain Skies

November 5, 2018

THREE WEAK METEOR SHOWERS IN NOVEMBER

The planets: Slowly, over the past few months, the planets have been disappearing one by one. Well, not exactly. They are still out there but only one, Mars, remains easily visible in the early evening, although Saturn can still be spotted without too much effort low in the southwest. Technically, Mercury is visible after sunset, but this is an unfavorable apparition for this elusive planet; it can be found only with deliberate effort and probably with the assistance of a pair of binoculars or a telescope. The casual observer watching the sunset from one of the overlooks on the Blue Ridge Parkway will probably not notice it. Of the four planets that formed such a beautiful arch across our southern sky in the early evening back in the summer, only the red planet Mars remains obvious to the naked eye and even it has faded drastically from its almost record-breaking brilliance of late July. Look for it a bit west of due south as the sky darkens.

Well, what has happened to the others? The brightest of the lot, the beautiful Venus, passed by the sun on October 26 and has now emerged in the pre-dawn skies as our beautiful "Morning Star." Jupiter is lost in the evening twilight and will pass behind the sun three weeks from today. Topping off all this celestial geometry, Mercury passes by the sun in the wee hours of the next morning.

The stars: The central constellation of the autumn skies is Pegasus, the flying horse. Looking to the east about an hour after sunset, we can spot Pegasus by finding a square made up of four stars, the "Great Square of Pegasus." Pegasus is seen upside down from our latitude and, while we can trace out his neck, nose and front legs in some fainter stars, his hind legs and tail are missing. No, he didn't meet with some terrible accident. As the legend goes, Pegasus rose out of the sea. We see him emerging from the waves with his hindquarters still below the surface of the water.

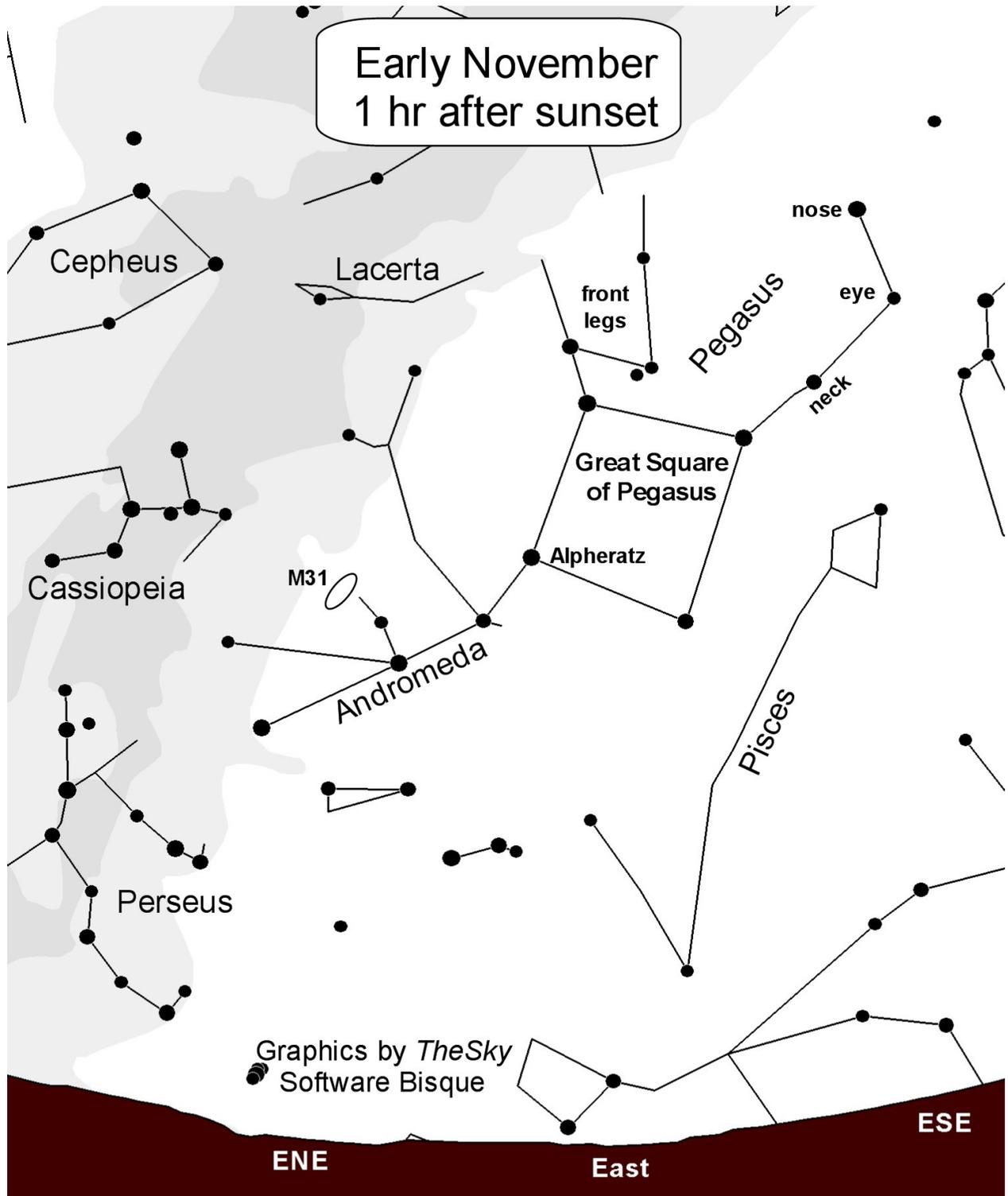
The star Alpheratz, which marks one corner of the Great Square of Pegasus, is technically not in the constellation of Pegasus. Rather it marks the head of Andromeda the "chained princess." Her body is marked by a succession of pairs of stars, each farther apart, stretching off to the northeast. While Andromeda herself is a lovely constellation, she is probably most famous for one very faint object barely visible to the unaided eye under clear, dark skies. This is the Great Galaxy in Andromeda, known as Messier 31 (M31) to those who

observe the sky regularly. M31 has the distinction of being the only object visible to the unaided eye in the Northern Hemisphere that is NOT part of our home galaxy, the Milky Way. Rather M31 is a great spiral galaxy and a member of the Local Group of galaxies of which the Milky Way is a member. Look for M31 above the middle pair of stars that mark the body of the chained princess. By the way, please be quick about this! Astronomers calculate that in about four billion years M31 will collide with the Milky Way, possibly forming a giant elliptical galaxy or an even larger spiral galaxy. We'll just have to be patient and wait to see which one.

Meteor Showers: Three meteor showers of some note occur this month. The South Taurids peak this afternoon, while the North Taurids reach their peak a week from today. Both showers are active for a week both before and after their peaks; however, they display very low rates, maybe 15 per “falling stars” per hour. They do tend to produce bright, sometimes spectacular, meteors. And, since Taurus is rising in the early evening, they can be seen well before midnight. A third shower radiates out of the constellation of Leo the lion with a peak at 7 p.m. EST on November 17. But, the duration of the Leonids is only a day, so the best time to see them will be on the mornings of the 17th and 18th. A waxing gibbous moon will set after midnight affording us dark skies for viewing the fainter Leonids. The Leonids have been known to flare up into spectacular showers but, unfortunately, no such “meteor storm” has been predicted for 2018. As with all meteor showers, the Taurids and Leonids are best observed between midnight and dawn from a clear, dark location with a good horizon.

Celestial Calendar:

November 5, 1 p.m. EST – South Taurid Meteor Shower peaks
November 7, 11:02 a.m. EST – New Moon
November 12, 12 Noon EST – North Taurid Meteor Shower peaks
November 15, 9:54 a.m. EST – First Quarter Moon
November 17, 7 p.m. EST – Leonid Meteor Shower peaks.



* * * * *

About the Learning Center at PARI: The Learning Center at PARI is a public not-for-profit 501 (c) (3) organization established in 1998. Located in the Pisgah National Forest 30 miles southwest of Asheville, NC, the Learning Center provides STEM educational programs at all levels, from K-12 through post-graduate research. For more information about the Learning Center at PARI and its programs, visit www.pari.edu. Graphics produced by permission with *TheSky* Astronomical Software, Software Bisque.