

### Offered Title: Autumn Sky Highlights

Autumn is a weird time. Sure, there's football, leaves turning color and falling (well, not so much color here), temperatures getting nice. But there's the early dark, and after daylight savings ends (November 4) it's dark by 6pm, and until winter solstice it gets dark earlier and earlier. You'd think I'd love this and sure, it's great for astronomy, but it has always felt strange to me.

Well, that's just me. Let's look at the transitioning sky, leaving summer behind and bringing in winter.

Not so fast. The Summer Triangle is still high in the sky, but it moves past the meridian (an imaginary line crossing the sky north to south) this month toward the western horizon. It is still pretty, so catch it before it sets. The Summer Triangle is an asterism, made up of three very bright stars, Deneb (in Cygnus), Altair (in Aquila), and Vega (in Lyra).

All of the constellations I mention here are good for scanning with binoculars. They will have clusters and/or nebulae treats. Go out after 8 pm.

I'll limit this tour to the sky east of the meridian. Let's start with an easy catch, Cassiopeia, the Queen. She is positioned in the northeast currently and looks like a misshapen W or M. Cassiopeia has several star clusters visible in binoculars.

With binoculars scan a little northeast, away from Cassiopeia. You will find yourself facing the double cluster, two open clusters (NGC 869 and NGC 884) close together and full of stars. They are in the constellation Perseus and one of my favorite sights.

Another favorite, just coming into the autumn sky, is the Pleiades open star cluster (M45). It's in Taurus, the bull but you can't see Taurus yet. It's just above the northeastern horizon, visible with your naked eyes and stunning in binoculars. How many stars in the Pleiades can you see with your naked eyes? If you can make out more than five you have good vision.

Heading south, the great square of Pegasus, the winged horse will be high in the sky. Coming off the square's southernmost corner star is a line of stars that makes an abrupt turn to the northwest. Go a little northwest from the last star until you see a smudge. This is M15, a globular cluster.

Using Pegasus as a landmark, find Andromeda, and our next treat. This one is not quite as easy but find two lines of stars going northeast from Pegasus's northeast corner star. Count two stars out on either line from Pegasus's northeast corner star and scan northwest. Look for a bright smudge...that's the Andromeda galaxy, M31. It's the galaxy our Milky Way will crash into in 3.75 billion years.

Halloween is a "cross-quarter" day, a day between an equinox and a solstice. The ancient Celts and Druids made October 31 their *cross-quarter* day to celebrate the festival of *Samhain*, even though it's not exactly between autumn equinox and winter solstice.