

CENTRAL NY OUTDOORS

Stargazing in Upstate NY: What to see in the night skies July 28 to Aug. 4

Posted on July 28, 2017 at 11:52 AM

star 1.jpg

The solar
eclipse
shadow over
southern
Turkey,
northern
Cyprus and
the
Mediterranean
Sea as seen
from the ISS
on March 29,
2006. *(Image
from NASA.)*

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By **Special to nyup.com,** feedback@nyup.com

By Damian Allis, Contributing Writer

This summertime weekly summary for planetary, satellite, constellation, and other observing opportunities covers the last few days of July and first few days of August. Looming high over amateur astronomer plans and social media users alike is the Aug. 21 Solar Eclipse. A number of eclipse articles have already been posted on syracuse.com, including:

- * [A general eclipse overview of when and where to watch](#)
- * [Which libraries will be providing free solar-safe glasses in Central New York](#)
- * Some general observing information about the eclipse from the [May](#) and [June](#) UNY Stargazing series

Below is a list of scheduled lecture and observing opportunities around Upstate New York for the eclipse - this list will be reproduced in the following articles and will hopefully be added to as other locations announce events. If you know of an event not listed, please [send an email with details](#). As always around here, we can only hope for clear skies!

Solar Eclipse Calendar



Organizer	Location	Event	Date	Time	Contact Info
Albany Area Amateur Astronomers & Dudley Observatory	Schenectady	Solar Eclipse	Aug. 21	1:22 - 3:56 PM	email , website
Cazenovia Public Library	Cazenovia	Solar Eclipse Lecture	Aug. 16	7:00 - 8:30 PM	315-655-9322 website
Kopernik Observatory & Science Center	Vestal	Solar Eclipse	Aug. 21	11:30 AM - 4:00 PM	email , website
Liverpool Public Library	Liverpool	Solar Eclipse Party	Aug. 21	1:00 - 4:00 PM	315-457-0310 website
Marcellus Free Library	Marcellus	Solar Eclipse Party	Aug. 21	1:00 - 4:00 PM	315-673-3221 website
Mohawk Valley Astronomical Society	Waterville	Eclipse Lecture, Clinton	Aug. 2	7:00 - 8:30 PM	email , website
Mohawk Valley Astronomical Society	Waterville	Eclipse Lecture, Canastota	Aug. 3	7:00 - 8:30 PM	email , website
Mohawk Valley Astronomical Society	Waterville	Solar Eclipse	Aug. 21	12:00 - 4:00 PM	email , website
Onondaga County Libraries	NOPL North Syracuse	Solar Eclipse Lecture	Aug. 14	6:30 - 8:00 PM	315-458-6184 website
Onondaga County Libraries	Jamesville	Lecture & Solar Eclipse @ DeWitt & Jamesville Library	Aug. 21	12:00 - 4:00 PM	315-446-3578 website
Onondaga County Libraries	Syracuse	Solar Eclipse Party @ Hazard Branch	Aug. 21	12:00 - 4:00 PM	315-435-5326 website
Onondaga County Libraries	Syracuse	Solar Eclipse Party @ Paine Branch	Aug. 21	2:00 - 3:00 PM	315-435-5442 website
Onondaga County Libraries	Syracuse	Solar Eclipse Party @ White Branch	Aug. 21	2:00 - 3:00 PM	315-435-3519 website

Lectures And Observing Opportunities In Upstate/Central New York

New York has a number of astronomers, astronomy clubs, and observatories that host public sessions throughout the year. Announced sessions from several respondent NY astronomy organizations are provided below for the remainder of July and all of August so you



can plan accordingly. As wind and cloud cover are always factors when observing, please check the provided contact information and/or email the groups a day-or-so before an announced session, as some groups will also schedule weather-alternate dates. Also use the contact info for directions and to check on any applicable event or parking fees.

Astronomy Events Calendar



Organizer	Location	Event	Date	Time	Contact Info
Adirondack Public Observatory	Tupper Lake	Lecture and Public Observing	July 28	L - 7:00 p.m., O - 1/2 Hour After Sunset	email , website
Adirondack Public Observatory	Tupper Lake	Public Observing	Aug. 4	1/2 Hour After Sunset	email , website
Adirondack Public Observatory	Tupper Lake	Public Observing	Aug. 18	1/2 Hour After Sunset	email , website
Adirondack Public Observatory	Tupper Lake	Public Observing	Aug. 21	1/2 Hour After Sunset	email , website
Albany Area Amateur Astronomers & Dudley Observatory	Schenectady	Octagon Barn Star Party	July 28	8:00 - 10:00 PM	email , website
Albany Area Amateur Astronomers & Dudley Observatory	Schenectady	Night Sky Adventure	Aug. 15	8:00 - 9:30 PM	email , website
Albany Area Amateur Astronomers & Dudley Observatory	Schenectady	AAAA Meeting	Aug. 17	7:30 - 9:00 PM	email , website
Albany Area Amateur Astronomers & Dudley Observatory	Schenectady	Octagon Barn Star Party	Aug. 18	8:00 - 10:00 PM	email , website
Astronomy Section, Rochester Academy of Science	Rochester	RocheSTAR Fest 2017	July 28 - 29	daytime & nighttime	email , website
Astronomy Section, Rochester Academy of Science	Rochester	Observing At The Strassenburgh	Aug. 5	8:30 - 10:30 PM	Jim S., 585-703-9876
Astronomy Section, Rochester Academy of Science	Rochester	Observing At The Strassenburgh	Aug. 12	8:30 - 10:30 PM	Jim S., 585-703-9876
Baltimore Woods	Marcellus	Bob Piekiet & Perseid Meteor Shower	Aug. 12/13	8:30 - 11:00 PM	email , website
Baltimore Woods	Marcellus	Bob Piekiet & Solar Observing	Aug. 26/27	1:00 - 3:00 PM	email , website
Clark Reservation State Park	Jamesville	Bob Piekiet & Summer Skies	July 28/29	8:00 - 11:00 PM	315-492-1590 website
Green Lakes State Park	Fayetteville	Bob Piekiet & Summer Skies	Aug. 18/19	8:00 - 10:00 PM	315-637-6111 website
Kopernik Observatory & Science Center	Vestal	Friday Night Lecture & Observing	July 28	8:00 PM	email , website
Kopernik Observatory & Science Center	Vestal	KAS Monthly Meeting	Aug. 2	7:00 - 9:00 PM	email , website
Kopernik Observatory & Science Center	Vestal	Friday Night Lecture & Observing	Aug. 4	8:00 PM	email , website



Kopernik Observatory & Science Center	Vestal	Friday Night Lecture & Observing	Aug. 11	8:00 PM	email , website
Kopernik Observatory & Science Center	Vestal	Perseid Meteor Shower	Aug. 12	8:00 PM - 12:30 AM	email , website
Kopernik Observatory & Science Center	Vestal	Friday Night Lecture & Observing	Aug. 18	8:00 PM	email , website
Kopernik Observatory & Science Center	Vestal	Friday Night Lecture & Observing	Aug. 25	8:00 PM	email , website
Mohawk Valley Astronomical Society	Waterville	Meeting	Aug. 9	7:30 - 9:00 PM	email , website
Mohawk Valley Astronomical Society	Waterville	Public Stargazing @ Waterville Library	Aug. 26/27	8:30 - 11:30 PM	email , website

ISS And Other Bright Satellites

Satellite flyovers are commonplace, with several bright passes easily visible per hour in the nighttime sky, yet a thrill to new observers of all ages. Few flyovers compare in brightness or interest to the International Space Station. The flyovers of the football field-sized craft with its massive solar panel arrays can be predicted to within several seconds and take several minutes to complete.

The ISS is out and about several times between 9:00 p.m. and midnight this week, with double flyovers before midnight from the 29th on. You may note that these flyovers are spaced by about 90 minutes - the time it takes for the ISS to go once around the Earth. Properly equipped members of the amateur radio community can



even add audio to their visual experiences by listening to transmissions from the ISS - see ariss.org or issfanclub.com for details.

ISS Flyovers

Date	Brightness	Approx. Start	Start Direct.	Approx. End	End Direct.
28-Jul	moderately	12:56 AM	NW	12:57 AM	N/NW
28-Jul	moderately	10:26 PM	W/NW	10:31 PM	NE
29-Jul	moderately	12:03 AM	NW	12:06 AM	N/NE
29-Jul	moderately	9:33 PM	W/NW	9:39 PM	NE
29-Jul	moderately	11:11 PM	NW	11:15 PM	NE
30-Jul	somewhat	12:47 AM	NW	12:48 AM	NW
30-Jul	moderately	10:18 PM	NW	10:23 PM	NE
30-Jul	moderately	11:55 PM	NW	11:57 PM	N
31-Jul	moderately	9:26 PM	W/NW	9:31 PM	NE
31-Jul	moderately	11:03 PM	NW	11:06 PM	NE
1-Aug	somewhat	12:39 AM	NW	12:39 AM	NW
1-Aug	moderately	10:10 PM	NW	10:15 PM	NE
1-Aug	moderately	11:47 PM	NW	11:48 PM	N/NW
2-Aug	moderately	9:18 PM	NW	9:22 PM	NE
2-Aug	very	10:54 PM	NW	10:58 PM	NE
3-Aug	moderately	10:02 PM	NW	10:07 PM	E/NE
3-Aug	moderately	11:38 PM	W/NW	11:40 PM	NW
4-Aug	moderately	9:10 PM	NW	9:14 PM	E/NE
4-Aug	extremely	10:46 PM	NW	10:49 PM	N/NE

Predictions courtesy of heavens-above.com. For updated nightly predictions, visit spotthestation.nasa.gov.

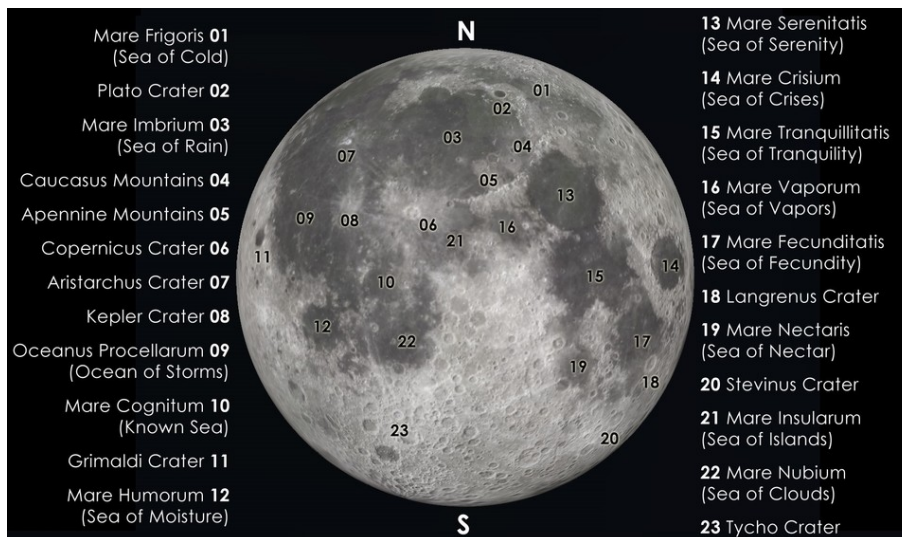
Lunar Phases

First Quarter:	Full:	Third Quarter:	New:
Jul. 30, 11:23 AM	Aug. 7, 2:10 PM	Aug. 14, 9:14 PM	Aug. 21, 2:30 PM

The Moon's increasing brightness as Full Moon approaches washes out fainter stars, random meteors, and other celestial objects - this is bad for most observing, but excellent for new observers, as only the brightest stars (those that mark the major constellations) and planets remain visible for your easy



identification. If you've never tried it, the Moon is a wonderful binocular object. The labeled image identifies features easily found with low-power binoculars.

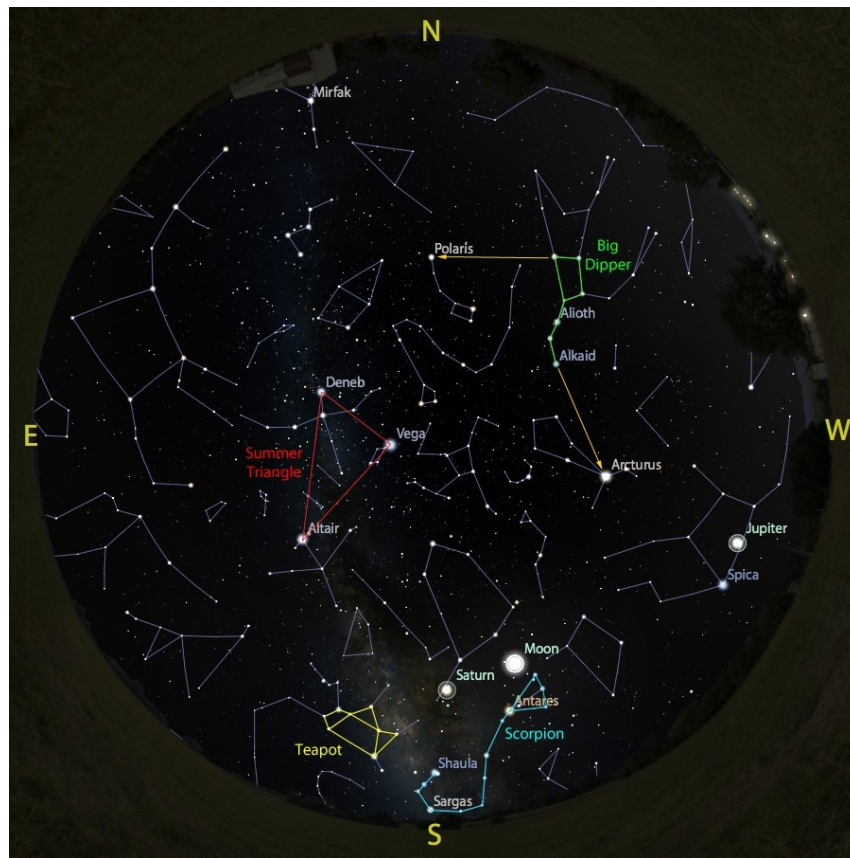


Lunar features prominent in low-power binoculars.

Observing Guides

Items and events listed below assume you're outside and observing most anywhere in New York state. The longer you're outside and away from indoor or bright lights, the better your dark adaption will be. If you have to use your smartphone, find a red light app or piece of red acetate, else set your brightness as low as possible.





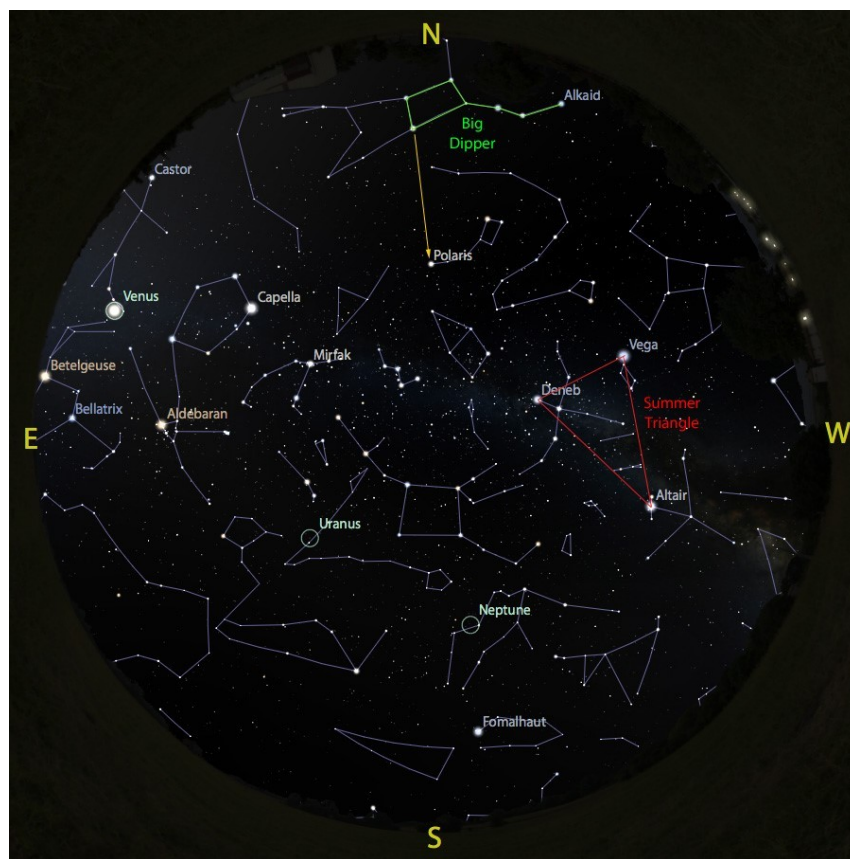
The sky at 10 p.m. from July 28 to August 4, accurate all week except for the changing Moon position.

Evening Skies: The two most prominent shapes in the sky are the Big Dipper and the Summer Triangle, with the Sagittarius Teapot highlighted in several previous articles. Whether or not you can see the Teapot, another very distinctive shape is as high as it will get in the southern sky right now just to the west. The body of Scorpius, easily identified by the bright red-orange star Antares and now residing below Saturn in the nighttime sky, hooks down and back up around the southern tree



line at our latitude in a shape that nearly every civilization has recorded as being a celestial scorpion. Like the Teapot, the Scorpion tail is between us and the galactic center - a scan with binoculars will reveal a number of objects that do not come into focus like their surrounding stars.

The Big Dipper is a bright and easy guide for finding Polaris, the north star. From its handle, you can "arc" down to Arcturus. Jupiter, which stands out soon after sunset, is close to the bright star Spica in Virgo and to the southwest of bright Arcturus in Bootes. Saturn is also visible as dusk approaches, rising soon after the bright orange star Antares in Scorpius.



The sky at 4 a.m. from July 28 to Aug. 4, accurate all week except for the changing Moon position.



Morning Skies: Venus is unmistakable in the early morning sky, second only to the Moon in brightness before sunrise. The torso of Orion is increasingly peaking above the pre-dawn skies behind Taurus the Bull. As dawn approaches, Venus and the bright stars Betelgeuse, Aldebaran, and Capella may be the last few celestial objects you see.

Planetary Viewing

Mercury: While technically visible after sunset this week, Mercury is very low on the horizon and awash in scattered sunlight. Observers with binoculars might consider scanning the western horizon before 9:15 p.m. to find it, but DO NOT risk doing so until after the sun has set, as even a moment of magnified sunlight will permanently damage your vision. For the patient, Mercury becomes a good early morning target with Mars in late August/early September.

Venus: Venus remains unmistakable in the early morning and even into sunrise, rising before 4:00 a.m. all week. With good, steady binoculars, you should be able to see that Venus is currently more than half-lit - and you can follow the changing phases of Venus as it and the Earth make our way around the Sun. Venus is currently flying over the club of the great winter constellation Orion along a line away from Aldebaran in Taurus and towards the foot of Pollux's twin Castor in the constellation



Gemini. Over the course of the week, you'll see the Venus-Betelgeuse-Aldebaran geometry change from a right triangle to a slightly obtuse one.



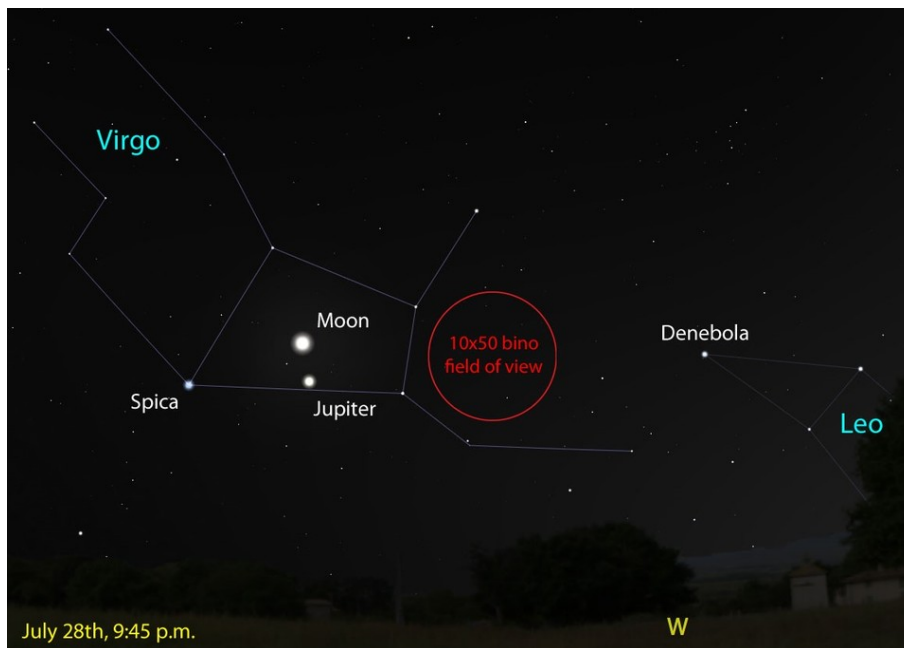
The Venus-Betelgeuse-Aldebaran Triangle this week.

Mars: Mars will not return to our pre-midnight skies until this time next year, but will become a morning target in late August/early September.

Jupiter: If you look south soon after sunset, Jupiter will be the brightest object you'll see this summer (or second-brightest if the Moon is out). Low power binoculars are excellent for spying the four bright Galilean moons - Io, Europa, Ganymede, and Callisto - and several online guides will even map their orbits for you. Jupiter is to the west of the bright star Spica in



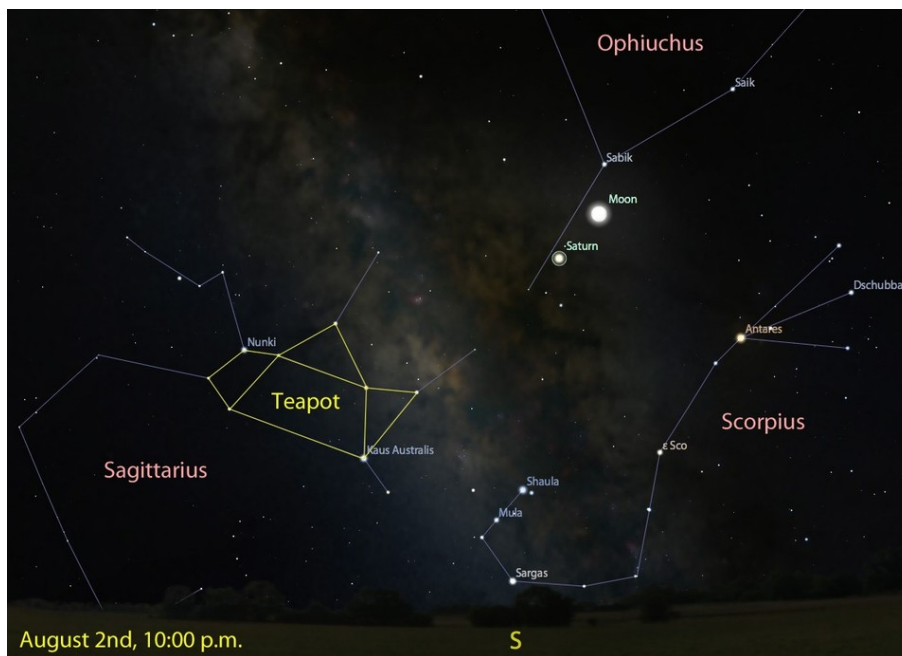
Virgo, roughly a full fist-width if you measure with your arm fully-extended. As reported in last week's article as well, the Moon will nearly graze the top of Jupiter in the late-evening sky on July 28th. This will make for an excellent pairing this week - one that will look even better in binoculars.



Jupiter and the Moon on July 28th in Virgo.

Saturn: Still on the western edge of the brightest part of the Milky Way, Saturn is going to spend the next 17 months making its way to the eastern edge, all the while giving us an excellent observing target from late Spring to mid-Autumn. On the evening of August 2nd, the Moon will make its closest approach to Saturn before spending the 3rd and 4th flying over the "Teapot" that makes up the body of Sagittarius.





The Moon and Saturn on Aug. 2, with tea time happening the next two nights.

As a refresher from the June 30th to July 7th article, those looking in the direction of Saturn with binoculars are treated to a host of Messier ("M") Objects - all residing between ourselves and the center of the Milky Way galaxy above the spout of the Sagittarius teapot. A good star chart and some guide stars will help you determine just which object you're looking at.

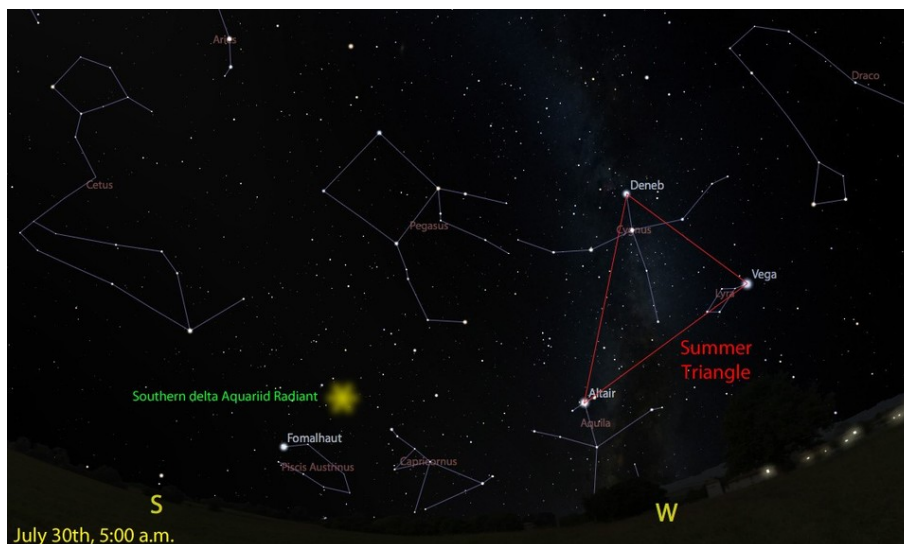
Meteor Showers And Other Phenomena

The last few days have been very busy in the amateur astronomy community, with a newly reported comet, nova, and supernova all discovered after July 19th. These are very dim objects at present, but they may all be targets for large telescopes and seasoned amateurs at upcoming observing sessions in your area - consider seeking them out! Those without any observing equipment also have some great observing opportunities



in the few weeks before the solar eclipse, with an Aquariid Meteor Shower peaking on July 30 and the usually-excellent Perseid Meteor Shower peaking on Aug. 12.

Southern delta Aquariid Meteor Shower: The constellation Aquarius hosts several meteor showers each year, although none of them reach the activity of the Perseids or Geminids. The Southern delta Aquariids are generally the second-busiest of these showers during the year, peaking in the very early morning of July 30th from the southwest. It will be easy to orient yourself towards the radiant if the skies are clear - look for the Summer Triangle, find the bright corner star Altair, and slide south to the bright star Fomalhaut. Expect up-to 15 shooting stars per hour. For your best chance at seeing the most meteors, lie down with your feet facing southwest.



The radiant of the Southern delta Aquariids near the bright star Fomalhaut.

Perseid Meteor Shower: The Perseids are arguably the best, and best-timed, meteor shower of the year. For a preview of where and when to look before next week's article, see the Perseid section of the [UNY Stargazing from August 2016](#) article.

[Dr. Damian Allis](#) is the director of [CNY Observers](#) and a NASA Solar System Ambassador.



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