

# Skylights

Newsletter of the Astronomical Society of Northern New England



NOV 2024

Skylights Editor:  
Paul Kursewicz



Member of NASA's  
Night Sky Network



Astronomical League  
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## ASNNE MISSION

ASNNE is an incorporated, non-profit, scientific and educational organization with three primary goals:

- 1) To have fun sharing our knowledge and interest with others.
- 2) To provide basic education in astronomy and related sciences to all who are interested.
- 3) To promote the science of Astronomy.

## What's Up In November

By Bernie Reim

November can be a bleak month here in New England with the fall foliage fading out and the longer and colder nights setting in as the daylight and warmth of the first half of fall slowly ebbs away. However, there is always so much beauty in the night sky to inspire us and this month is no exception.

The highlights for this month include Jupiter getting higher and brighter and closer each night as it approaches its opposition on December 7 next month. This will be the Jupiter's best apparition in a decade. Mars is also getting higher and brighter and larger each evening as we are catching up with the red planet in our faster orbit around the sun. Mars will reach its own opposition early next year. Our other next-door neighbor, Venus, is also getting higher and brighter and closer in our evening sky each night as it is catching up with us in its faster orbit around the sun.

Mercury will join Venus as an evening planet for part of this month and Saturn is slowly fading as it gets farther away, but it is still well placed for viewing in the night sky in Aquarius for the rest of the year. Comet C/2023 A3 (Tsuchinshan-ATLAS) is still visible in Ophiuchus the serpent-bearer and heading into Aquila the Eagle as it passes near some open star clusters. It will probably fade to 8<sup>th</sup> magnitude by the end of the month so you will need binoculars to see it, but now you can still see it without any optical aid since it is glowing at about 5<sup>th</sup> magnitude. It reached 3.7 magnitude at its brightest last month. The last major highlight this month will be the annual Leonid meteor shower which peaks on the 17<sup>th</sup> but is active nearly all month from the 6<sup>th</sup> through the 30<sup>th</sup>.

When you look at Jupiter in Taurus for the rest of this year remember that we just successfully launched a 5-billion-dollar spacecraft called the Europa Clipper. It is the size of a basketball court and has 9 scientific instruments on board that will give us a lot of great new information about the potential for life in its ocean under the 4-mile-thick crust of ice covering Europa. Europa has about twice as much water under its surface as all of the water in Earth's oceans combined. It will get there in 2030 after a 1.8-billion-mile journey. The clipper will get as close as just 16 miles above the surface of Europa as it orbits this moon which is a little smaller than ours. The mission will last at least 4 years, but they often work far longer than expected.

This mission will work nicely with the JUICE mission that was launched on April 14 of last year and will get there in 2031. This mission will cost 1.7 billion dollars and was created by the ESA (European Space Agency) and is the first interplanetary spacecraft to the outer solar system that was not

launched by NASA. It stands for Jupiter Icy Moons Explorer. It will study Ganymede, Callisto, and Europa, all three of which have liquid oceans under their surfaces. It will hopefully determine if any life as we know it is possible on any of these 3 large moons.

Then we still have the JUNO mission orbiting Jupiter which arrived there on July 4 of 2016. Its mission got extended through September of next year. After that it will intentionally crash into the atmosphere of Jupiter similar to crashing Cassini into Saturn. Juno's mission is to better understand the origin and evolution of our largest planet.

If you look at Jupiter with a pair of binoculars you can see all 4 of these large Galilean moons. Three of them, Ganymede, Europa, and Io are in a perfect 1,2,4 resonance. For every one orbit that Ganymede makes, Europa will make 2 orbits and Io will make 4 orbits. Callisto used to be in that resonance also, but no longer is now. Sometimes you will see a transit of a moon across Jupiter in a telescope or even a double transit of two moons or the shadow of a moon on Jupiter. Just watching Jupiter for 20 minutes or so will show you how its moons are always orbiting around the planet. Jupiter now has 95 known moons, but we will discover many smaller ones soon. This is an entire mini solar system and the speed of light was first calculated in 1676 by the Dutch astronomer Ole Romer by carefully observing the eclipses of these moons and knowing the distance to Jupiter.

Mars starts the month rising at 11:30 pm in Cancer the Crab. It will double in brightness by the end of the month and rise at 8:30pm. Then it will double in brightness again next month and reach opposition on January 16 of next year when it will rise exactly at sunset and stay up all night long.

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## What's Up "Continued from page 1"

Notice that the red planet will pass just 2 degrees below the Beehive open star cluster later this month and that a waning gibbous moon will join Mars in Cancer on the 20<sup>th</sup> and 21<sup>st</sup>.

Venus is getting brighter and higher and closer to us in the evening sky every night now as it is catching up with us in its faster orbit around the sun. It is also getting less illuminated by the sun even as it is still getting brighter because it is also getting closer to us. It will be 68 % illuminated and it will not set until 2 hours after sunset by the end of the month.

By contrast to those last 3 planets which are each getting closer and brighter, Saturn is getting a little fainter and farther away each night. It is now nearly 100 times fainter than Venus, but still well placed for viewing as soon as it gets dark at about 35 degrees high in the constellation of Aquarius the water-bearer. It has a slightly golden glow and in a telescope you will notice that its rings are very thin now, only tilted at about 4 degrees to our plane. They will disappear completely for a while in March of next year before they open up again.

Mercury will be visible throughout the first half of this month low in the southwestern sky until an hour after sunset below and to the right of Venus in Sagittarius. Venus provides a good guidepost to finding the comet since it is passing through Ophiuchus and into Aquila the Eagle about 25 degrees up and to the right of Venus.

The Leonid meteor shower peaks on Sunday night the 17<sup>th</sup> into Monday morning the 18<sup>th</sup>. Its maximum rate is only about 10 meteors per hour from a dark sky site, but this year it will be worse because the moon is full on the 15<sup>th</sup> and will rise about an hour after sunset on the 17<sup>th</sup> to spoil the rest of the show. Meteor showers are usually better after midnight, and the moon will be quite high by then.

Caused by Comet 55P/Tempel-Tuttle, this shower can be really spectacular every 33 years when this comet gets near the sun again. This last happened in 1998 and we had several great years of meteors from this shower after that date since there was much more new debris in its orbit now when the earth passed through it right after the comet shed so much more debris into this field from its last pass.

I well remember the November 18, 2001 Leonid meteor shower. We had just built our new observatory in Kennebunk the year before and about 30 of us gathered there on a bitterly cold November night to enjoy this great icy display of nature's power. We saw nearly 1,000 meteors per hour for the entire night, which qualifies as a meteor "storm". I saw up to 7 meteors in one second emanating from Leo and there was not a single lull longer than 10 seconds all night long. That averages out to one meteor every 3.6 seconds! We also saw 15 or so brilliant bolides that lit up the entire night sky with a flash of light so bright that the whole landscape stood frozen in light as if a giant flash bulb on a huge camera in the sky went off to take a picture of this fantastic scene from above. The long slowly twisting smoky trails from these fireballs where then crossed by several shorter meteors, as if we were in the middle of the most powerful fireworks display you could ever imagine. Most of these meteors were smaller than a grain of sand they burned up around 70 miles high in our atmosphere, which is technically where space begins, called the Karman line. Above that the atmosphere is so thin that it will be black in the middle of the day since there are no more air molecules to scatter out the sunlight and give us the blue sky we are so used to.

Watching this incredible meteor shower for over 4 hours that night gave me my first and only time that I could actually sense the continual motion of the earth around the sun which is 18.6 miles per second, or 67,000 miles per hour. You can sense the much slower rotation of the earth on its axis very easily by watching the full moon rise or just looking at something through a telescope that is not tracking, but it is nearly impossible to sense the much faster revolution of the earth around the sun because there is nothing there to give us a sense of this incredibly fast motion through space unless we are running into a huge field of meteors like we did that memorable morning.

To top off that perfect night and morning we also saw the zodiacal light, or false dawn about one hour before the real dawn in the eastern sky around 4 :30 am. That is caused by sunlight reflecting off the trillions of tiny dust particles from comets that are caught in the ecliptic plane of our solar system in a giant torus. They are always there, but only visible when the ecliptic is steeply inclined to our horizon, which happened in October and November in the eastern morning sky and in March an hour after sunset in the evening western sky. They form an eerie and subtle haystack or pyramid of faint, ethereal light extending about 30 degrees up from the horizon. That whole experience was the second most amazing event I have ever witnessed in my 40 years of observing the sky. Even the ever-moving power and majesty of a dancing, pulsing, and colorful aurora borealis does not quite match the sense of the whole earth moving through space with its atmosphere encountering all of those tiny objects at a high rate of speed that you get while witnessing such a powerful and rare meteor storm. There is only one astronomical event more incredible and all-encompassing than being in the middle of such a meteor storm, and that is a total solar eclipse. I am very lucky to have seen two of them now, August 21 of 2017 and April 8 of 2024.

Nov. 1. New moon is at 8:47 a.m. EDT.

Nov. 3. Daylight saving time ends this morning at 2 am. The moon passes 2 degrees south of Mercury this evening. The Russians launched Sputnik 2 on this day in 1957. It was the first rocket to carry a living creature into space, a dog named Laika.

Nov. 4. The moon passes 3 degrees south of Venus this evening.

Nov. 6. On this day in 1572 Tycho Brahe saw a supernova in Cassiopeia without a telescope.

Nov. 8. Edmund Halley was born on this day in 1656. I first saw his comet on this day in 1985.

Nov. 9. Carl Sagan was born on this day in 1934. First quarter moon is at 12:55 a.m. EST.

Nov. 10. The moon passes less than one degree north of Saturn this evening.

Nov. 15. Full moon is at 4:29 p.m. EST. This is also known as the Beaver or Frosty moon. William Herschel was born on this day in 1738. He discovered the planet Uranus on March 13 of 1781.

Nov. 16. Saturn is stationary, ending its retrograde motion in Aquarius and returning to its normal direct or eastward motion again against the fixed background of stars.

Nov. 17. The Leonid meteor shower peaks tonight. The moon passes 6 degrees north of Jupiter.

Nov. 20. The moon passes 2 degrees north of Mars tonight. Edwin Hubble was born on this day in 1889.

Nov. 22. Last quarter moon is at 8:28 p.m.



## Moon Phases

- Nov 1**  
New
- Nov 9**  
First Quarter
- Nov 15**  
Full
- Nov 22**  
Last Quarter

## Moon Data

- Nov 3**  
Mercury 2° north  
of Moon
- Nov 4**  
Venus 3° north  
of Moon
- Nov 10**  
Saturn 0.09° south  
of Moon
- Nov 11**  
Neptune 0.6° south  
of Moon
- Nov 14**  
Moon at perigee
- Nov 15**  
Uranus 4° south  
of Moon
- Nov 17**  
Jupiter 6° south  
of Moon
- Nov 20**  
Mars 2° south  
of Moon
- Nov 26**  
Moon at apogee

## OBSERVER'S CHALLENGE\* – November, 2024

by Glenn Chaple

(Courtesy LVAS Observer's Challenge\*)

**Messier 15 (NGC 7078) – Globular Cluster in Pegasus (Mag. 6.2; Diam. 18')**  
**Pease 1 – Planetary Nebula in M15 (Mag. 14.9[p]; Diam. 1")**

As difficult as last month's LVAS Challenge (NGC 6905) was to locate, this month's target, the globular cluster Messier 15, is a breeze to find. It lies 4° NW of the 2<sup>nd</sup> magnitude star Enif (epsilon [ε] Pegasi) and, at magnitude 6.2, can be glimpsed with the unaided eye from dark-sky locations. It's visible in binoculars as an out-of-focus star and in small-aperture scopes as a small roundish haze.

Telescopes in the 4 to 6-inch aperture range will resolve the outer portions of M15, but even much larger instruments will have difficulty resolving the core. That's because Messier 15 is quite possibly the densest globular cluster in the Milky Way. Half of its estimated 200,000 stars are concentrated within a 10 light year radius from the core. The jury is still out on whether this high concentration is due to the gravitational pull of a massive centrally-located black hole or merely the cumulative gravitation of the stars themselves.

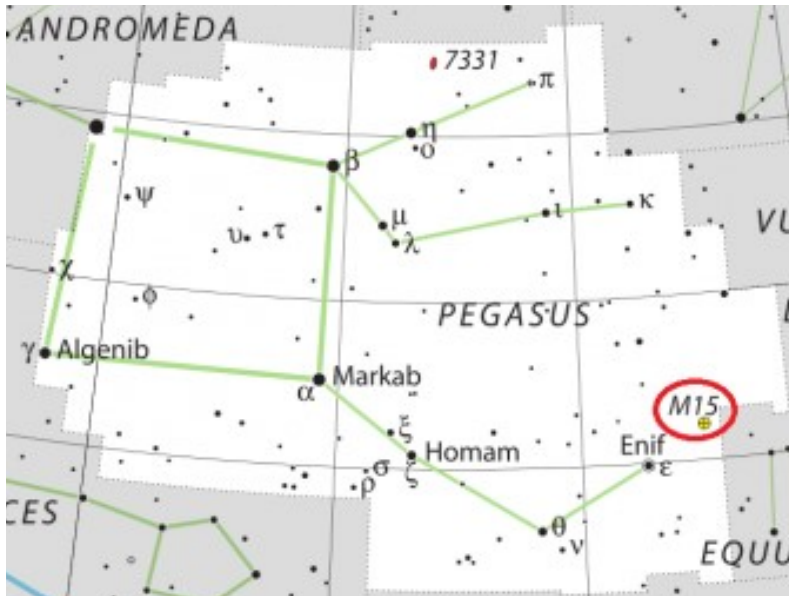
If you own a large-aperture scope, try your luck with the embedded planetary nebula Pease 1. In his book *Cosmic Challenge*, author Phil Harrington includes this planetary in a chapter devoted to "monster-scope" challenges. Discovered in 1928, it's one of just four planetary nebulae inhabiting a globular cluster and the 'easiest' to capture visually. Those fortunate enough to have notched this 15<sup>th</sup> magnitude object have used scopes typically with apertures of 14 inches and up, although Pease 1 has reportedly been sighted in 8-inch instruments. With a diameter of just 1 arc-second, Pease 1 mandates near-perfect seeing conditions and a magnifying power in excess of 300X. An accurate finder chart like the one found on the [messier.seds website \(www.messier.seds.org/more/m015\\_ps1fc.html\)](http://www.messier.seds.org/more/m015_ps1fc.html) is a must, as is an OIII filter to help you confirm the sighting. As you flicker the OIII filter back and forth between eye and eyepiece, Pease 1 will retain its brightness while surrounding stars fade noticeably.

M15 was discovered by the Italian astronomer Jean-Dominique Maraldi on the night of September 7, 1746 during observations of Comet de Chéssaux and independantly by Messier about 18 years later. It lies about 34,000 light years away and is some 175 light years in diameter. Spectroscopic analysis shows that Messier 15 is approaching us at a rate of 66 mi (107km)/sec.

**(NOTE: Messier 15 was previously featured as the October, 2017, Observer's Challenge)**

*"Continued on page 4"*





[www.universetoday.com](http://www.universetoday.com), IAU, and *Sky and Tele-*

Mario Motta, MD



M15 and Pease 1 (pinkish object near top left) Hubble image



Paul Kursewicz

**EDITOR:** I recently re-edited my image of M15 which I took back in October 2017. Taken with my Canon PowerShot SX50 camera and cropped. Mario's image was taken through a telescope.

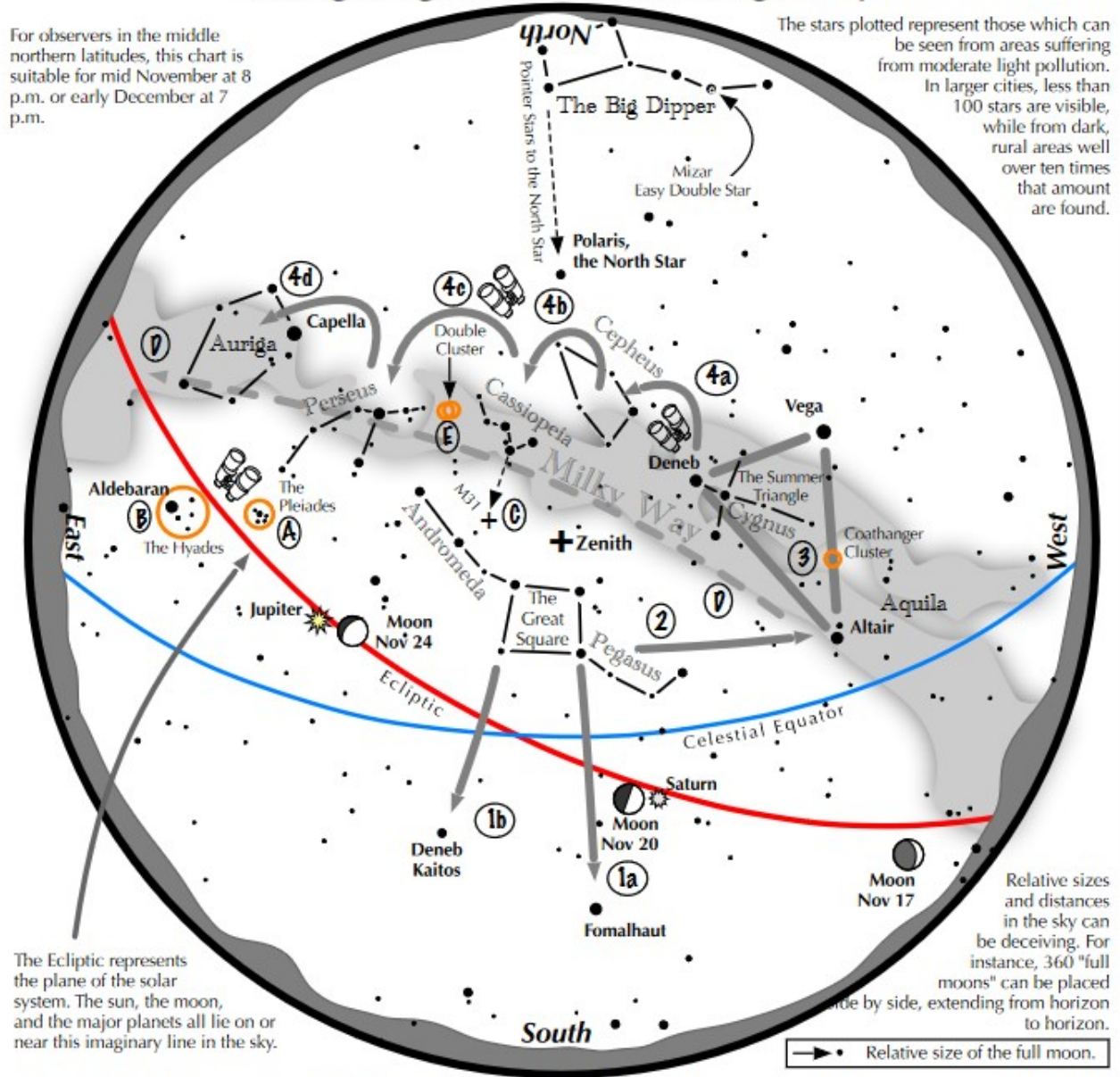
\*The purpose of the LVAS Observer's Challenge is to encourage the pursuit of visual observing. It is open to everyone that is interested, and if you are able to contribute notes, drawings, or photographs, the LVAS will be happy to include them in our monthly summary. If you would like to contribute material, submit your observing notes, sketches, and/or images to either [Roger Ivester \(rogerivester@me.com\)](mailto:rogerivester@me.com) or [Fred Rayworth \(fred@fredrayworth.com\)](mailto:fred@fredrayworth.com). To find out more about the LVAS Observer's Challenge or access past reports, log on to [lvastronomy.com/observing-challenge](http://lvastronomy.com/observing-challenge).



# Navigating the November Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid November at 8 p.m. or early December at 7 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

## Navigating the November night sky: Simply start with what you know or with what you can easily find.

- 1 Face south. Almost overhead lies the "Great Square" with four stars about the same brightness as those of the Big Dipper. Extend a line southward following the Square's two westernmost stars. The line strikes Fomalhaut, the brightest star in the south. A line extending southward from the two easternmost stars, passes Deneb Kaitos, the second brightest star in the south.
- 2 Draw a line westward following the southern edge of the Square until it strikes Altair, part of the "Summer Triangle."
- 3 Locate Vega and Deneb, the other two stars of the Summer Triangle. Vega is its brightest member, while Deneb sits in the middle of the Milky Way.
- 4 Jump along the Milky Way from Deneb to Cepheus, which resembles the outline of a house. Continue jumping to the "W" of Cassiopeia, then to Perseus, and finally to Auriga with its bright star Capella.

### Binocular Highlights

**A and B:** Examine the stars of the Pleiades and Hyades, two naked eye star clusters. **C:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. **D:** Sweep along the Milky Way from Altair, past Deneb, through Cepheus, Cassiopeia and Perseus, then to Auriga for many intriguing star clusters and nebulous areas. **E:** The Double Cluster.



Astronomical League [www.astroleague.org/outreach](http://www.astroleague.org/outreach); duplication is allowed and encouraged for all free distribution.

## Principal Meteor Showers in 2024

January 4  
Quadrantids

April 22  
Lyrids

May 6  
Eta Aquarids

July 30  
Delta Aquarids

August 12  
Perseids

October 9  
Draconid

October 21  
Orionids

November 9  
Taurids

November 18  
Leonids

November 26  
Andromedids

December 14  
Geminids

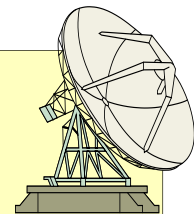
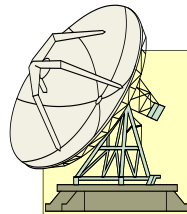
December 22  
Ursids

*Note: Dates are for maximum*

## MEMBERSHIP DUES

Membership fees are for the calendar year beginning in January and ending in December. Dues (see page 23 for prices) are payable to the treasurer during November for the upcoming year. New members who join during or after the month of July shall pay half the annual fee, for the balance of the year. Checks should be made payable to the Astronomical Society of Northern New England (A.S.N.N.E). If you would like to mail in your dues, use the form on page 23. Or you can use PayPal via [asnne.astronomy@gmail.com](mailto:asnne.astronomy@gmail.com)

A Member who has not paid current dues by the January meeting will be dropped from membership, (essentially a two-month grace period.) Notice of this action shall be given to the Member by the Treasurer. Reinstatement shall be by payment of currently due dues.



Got any News?

Skylights Welcomes Your Input.

*Here are some suggestions:*

*Book reviews -- Items for sale -- New equipment --  
Ramblings -- Star parties -- Observing -- Photos.*

Our club has Merchandise for Sale at: <https://www.cafepress.com/shop/ASNNE/products>



*ALL money raised goes to our operating fund.  
Any design can be put on any item.*

Contact David Bianchi [dadsnorlax@yahoo.com](mailto:dadsnorlax@yahoo.com) for further details.



This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit [nightsky.jpl.nasa.org](https://nightsky.jpl.nasa.org) to find local clubs, events, and more!

## November's Night Sky Notes: Snowballs from Space

By Kat Troche

If you spotted comet C/2023 A3 (Tsuchinshan-ATLAS) in person, or seen photos online this October, you might have been inspired to learn more about these visitors from the outer Solar System. Get ready for the next comet and find out how comets are connected to some of our favorite annual astronomy events.

### Comet Composition

A comet is defined as an icy body that is small in size and can develop a 'tail' of gas as it approaches the Sun from the outer Solar System. The key traits of a comet are its **nucleus**, **coma**, and **tail**.

The **nucleus** of the comet is comprised of ice, gas, dust, and rock. This central structure can be up to 80 miles wide in some instances, as [recorded by the Hubble Space Telescope in 2022](#) – large for a comet but too small to see with a telescope. As the comet reaches the inner Solar System, the ice from the nucleus starts to vaporize, converting into gas. The gas cloud that forms around the comet as it approaches the Sun is called the **coma**. This helps give the comet its glow. But beware: much like Icarus, sometimes these bodies don't survive their journey around the Sun and can fall apart the closer it gets.

The most prominent feature is the **tail** of the comet. Under moderately dark skies, the brightest comets show a dust tail, pointed away from the Sun. When photographing comets, you can sometimes resolve the *second* tail, made of ionized gases that have been electronically charged by solar radiation. These ion tails can appear bluish, in comparison to the white color of the dust tail. The ion tail is also always pointed away from the Sun. In 2007, NASA's STEREO mission [captured images of C/2006 P1 McNaught and its dust tail](#), stretching over 100 million miles. Studies of those images revealed that solar wind influenced both the ion and dust tail, creating striations – bands – giving both tails a feather appearance in the night sky.

*“Continued on page 8”*





Comet McNaught over the Pacific Ocean. Image taken from Paranal Observatory in January 2007. Credits: ESO/Sebastian Deiries

## Coming and Going

Comets appear from beyond Uranus, in the Kuiper Belt, and may even come from as far as the Oort Cloud. These visitors can be **short-period** comets like Halley's Comet, returning every 76 years. This may seem long to us, but **long-period** comets like Comet Hale-Bopp, observed from 1996-1997 won't return to the inner Solar System until the year 4385. Other types include **non-periodic** comets like NEOWISE, which only pass through our Solar System once.

But our experiences of these comets are not limited to the occasional fluffy snowball. As comets orbit the Sun, they can leave a trail of rocky debris in its orbital path. When Earth finds itself passing through one of these debris fields, we experience meteor showers! The most well-known of these is the Perseid meteor shower, caused by Comet 109P/Swift-Tuttle. While this meteor shower happens every August in the northern hemisphere, we won't see Comet Swift-Tuttle again until the year 2126.

*“Continued on page 9”*



A view of the 2023 Perseid meteor shower from the southernmost part of Sequoia National Forest, near Piute Peak. Debris from comet Swift-Tuttle creates the Perseids. Credit: NASA/Preston Dyches

See how many comets (and asteroids!) have been discovered on [NASA's Comets page](#), learn how you can [cook up a comet](#), and check out our mid-month article where we'll provide tips on how to take astrophotos with your smartphone!

**Point and Shoot Camera Astro-Imaging (no telescope)**  
**Canon PowerShot SX50 HS**

Submitted By Paul Kursewicz

**Comet C2023 A3**

**RAW Mode, FL 50mm, f/3.5, ISO 1250, Single Image 10 sec, 10-15-24**



I took this image of the comet on October 15th, at 7:45 pm. On this night the comet was close to M5 a Globular Cluster in the constellation Serpens. Even with a bright Moon in the sky, and the comet close to the horizon, I still managed to capture much of its tail (even through the clouds!).

*“Continued on page 11 ”*



## Comet C2023 A3

RAW Mode, FL 119mm, f/3.5, ISO 1600, 6 x 10 sec, 10-15-24



I took this closer image of the comet at 7:15 pm when the comet was a bit higher in the sky. It's a stack of six images which allowed me to flesh out the comet's anti-tail (the faint skinny tail preceding the head of the comet). For the anti-tail to be seen the Earth must pass through the comet's orbital plane. The Sun then illuminates dust left behind by the comet in its orbit, making it appear as a second tail. The anti-tail is rare and is not always seen. M5 is seen here but over exposed (star-like).

*“Continued on page 12 ”*

## Comet C2023 A3

RAW Mode, FL 160mm, f/3.5, ISO 1600, 3 x 10 sec, 10-15-24



This is a closer image of the comet than the previous picture. It's only a stack of three (time was short and I had to wait for the clouds to pass by the comet). This picture does not do it justice. My original file image on my computer shows things brighter, and shows more of the colors in the comet's tail. You probably cannot see here the dark blue ion gas tail (which is pretty wide) appearing at the tail's end (about the last quarter of the tail) and going off the edge of the image. However, the anti-tail just shows up. And, a little better view of Globular Cluster M5. If I had more time I would of taken a much closer image of the trio (M5, the coma, and the anti-tail in the same field of view).

*“Continued on page 13 ”*

## Comet C2023 A3

RAW Mode, FL 165mm, f/3.5, ISO 1250, 12 x 40 sec, 10-22-24



I took this picture on October 22nd at 7:15 pm. On this date the comet was fainter. However, there was no Moon in the sky. And, the comet was sitting higher in the sky in the constellation Ophiuchus. You can still just make out the anti-tail. However, it is no longer in line with the dust tail but angled about 15 degrees to the left.

*“Continued on page 14 ”*



## Comet C2023 A3

Taken with my cell phone on 10-17-24



I took this picture on October 17th at 7:15 pm. The comet (which is in the west) is being seen over the ocean. I got this sea scape picture while on vacation with my wife. We were situated at Cape May, NJ. This southern most point of land in NJ is a peninsula. That allowed me to take the sea scape photo.

# Northern Lights Oct 10 - 11, 2024

Submitted by Paul Kursewicz

**All photos were 3 sec exposures and were taken from my yard with a cell phone**



An extreme geomagnetic storm hit Earth on Friday evening October 10th and into the 11th. The auroras were so bright that there was no need for me to use my camera. Only a cell phone was needed.

*“Continued on page 16”*

## Northern Lights October 10-11, 2024



Aurora watchers here in the U.S. and across the globe got to witness the magnificent light show. The geomagnetic storm resulted from Earth being struck by an eruption of charged particles that came from a sunspot burst (AR 3848) in the evening of Tuesday, October 8th).

*“Continued on page 17”*



## Northern Lights October 10-11, 2024



Clouds did not detract from the beauty that was occurring in the night sky. The plasma eruption from the solar flare traveled to Earth at speeds of 2.9 million mph. Even at this incredible speed, the CME still took a few days to travel the 93 million miles between Earth and the Sun.

*“Continued on page 18”*

### Northern Lights October 10-11, 2024



When the charged particles struck Earth's magnetosphere, the resultant geomagnetic storm reached G4 levels on the SWPC's geomagnetic storm scale. G4 is the second highest grade on the scale, which considers both potential impacts and severity.

*“Continued on page 19”*

**Northern Lights October 10-11, 2024**



Rural areas weren't the only ones treated to Northern Lights. Sky-watchers also caught images of the light show over the entire skyline of New York City (although fainter).

*“Continued on page 20”*



**Northern Lights October 10-11, 2024**



What a wonderful show!

## Club Meeting & Star Party Dates

Date	Subject	Location
<b><u>Nov 1</u></b>	<p><b><u>ASNNE Club Meeting:</u></b></p> <p><b>Business Meeting starts prior to Club meeting.</b></p> <p><b>Club Meeting (in house &amp; on Zoom): 7:30-9:30PM</b></p> <p><b>Guest Speaker: (pending).</b> We may have a guest speaker for the November meeting. If it is a go <b>Amy Keesee</b>, PhD Associate Professor from UNH, Department of Physics and Astronomy, will give us a talk.</p> <p><b>Bernie Reim</b> - "What's UP"</p> <p><b>Astro Shorts:</b> (news, stories, jokes, reports, questions, photos, observations etc.)</p>	<b>The New School, Kennebunk, Me.</b>
<b>Last Month</b>	<p><b>Last month we had our meeting at The New School. A Zoom meeting was also conducted. Carl Gurtman's wife and daughter attended the meeting. They graciously shared some personal things about Carl. Thoughts about Carl were also shared by many club members. Our president read Bernie's What's Up article. And some astro shorts were shared. Also, our president mentioned again that he would like someone to volunteer to be secretary. He desperately needs the help!</b></p>	
<b><u>TBD</u></b>	<b>Club/Public Star Party: TBD</b>	<b>Talmage Observatory at Starfield West Kennebunk, Me.</b>

### Directions to ASNNE event locations

#### Directions to The New School in Kennebunk [38 York Street (Rt1) Kennebunk, ME]

For directions to The New School you can use this link to the ASNNE NSN page and then click on "get directions" from the meeting location. Enter your starting location to generate a road map with complete directions. It works great. [http://nightsky.jpl.nasa.gov/club-view.cfm?Club\\_ID=137](http://nightsky.jpl.nasa.gov/club-view.cfm?Club_ID=137)

#### Directions to Talmage Observatory at Starfield [Alewife Road, Kennebunk, ME]

##### **From North:**

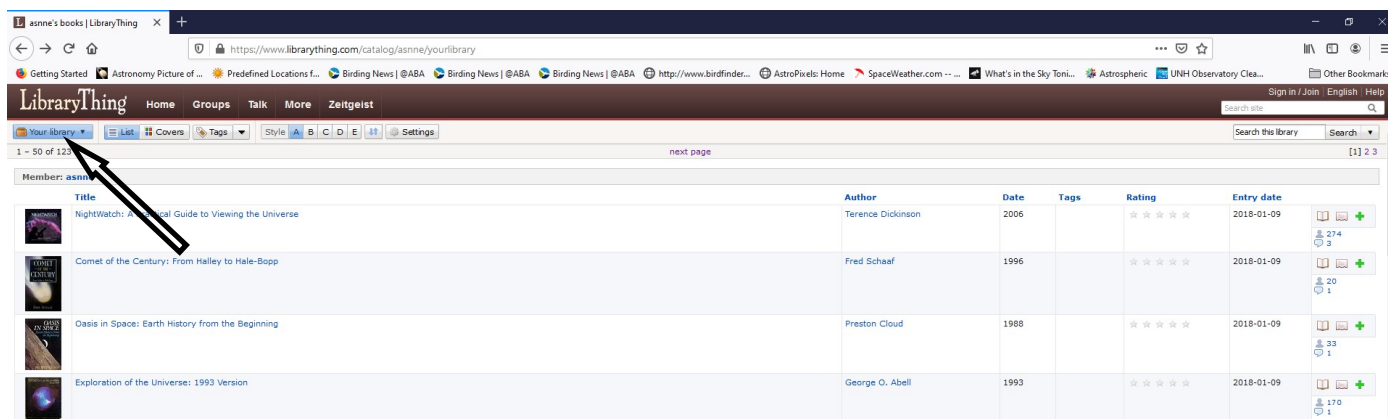
Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for the ASNNE sign on the pole.

##### **From South:**

Get off the turnpike at exit 25 in Kennebunk. After toll both turn right on Rt 35. Go up over the turnpike and immediately turn right on Rt 35. About 4 miles along you will crest a hill and see a large field on your right. Continue until you reach the end of the field. Turn right into the Starfield Observatory site at the last telephone pole along the field. Look for the ASNNE sign on the pole. If you come to a very sharp 90 degree right turn you have just passed the field.

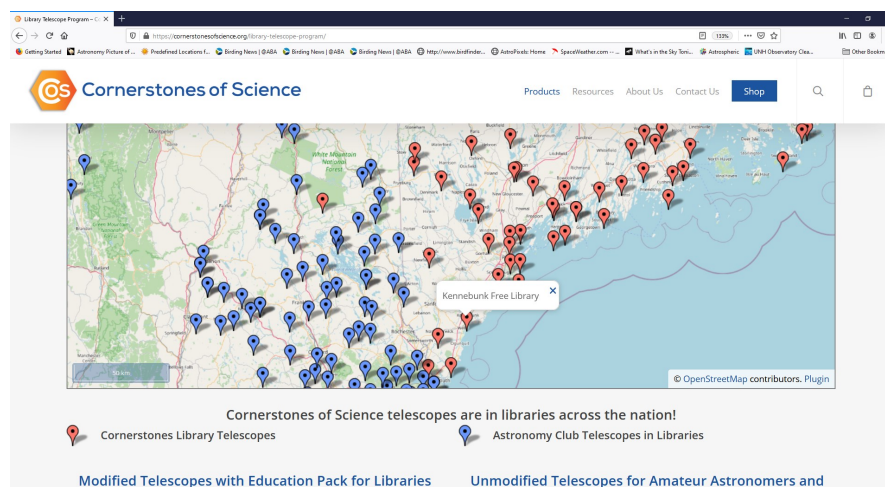
# Astronomy Club & Library Resources

Our club has a library of astronomy books which are stored at The New School in Kennebunk, Maine (our monthly club meeting location). To request a book(s), contact one of the club officers. A listing of books is provided here: <https://www.librarything.com/profile/asmne> . After clicking on the link, a window will open. Click on “Your library” near the upper left corner (as shown by the arrow below). Then scroll down to the end of the page to go to the next page.



Would you like to borrow a telescope? While many astronomy clubs may have a scope to lend out, there are also many libraries which have telescopes for their guests to use. Here are a couple of links.

The following link will bring up an active map (see screen shot below) of the USA showing the libraries which have telescopes to lend out: <https://cornerstonesofscience.org/library-telescope-program/>



The below link will show a list of known participating library locations for the state of Maine. <https://www.librarytelescope.org/locations/usa/maine>



To join **ASNNE**, please fill out the below membership form. *Checks should be made payable to: Astronomical Society of Northern New England (A.S.N.N.E).* For more details, please visit our website: <http://www.asnne.org>



Astronomical Society of Northern New England  
 P.O. Box 1338  
 Kennebunk, ME 04043-1338

**2025 Membership Registration Form**

(Print, fill out and mail to address above) or Use PayPal via [asnne.astronomy@gmail.com](mailto:asnne.astronomy@gmail.com)

Name(s for family): \_\_\_\_\_

Address: \_\_\_\_\_

City/State: \_\_\_\_\_ Zip code: \_\_\_\_\_

Telephone # \_\_\_\_\_

E-mail: \_\_\_\_\_

Membership (check one):

Individual \$50 \_\_\_\_\_ Family \$ 60 \_\_\_\_\_ Student under 21 years of age \$10 \_\_\_\_\_ Donation \_\_\_\_\_

Total Enclosed \_\_\_\_\_

Tell us about yourself:

1. Experience level: Beginner \_\_\_\_\_ Some Experience \_\_\_\_\_ Advanced \_\_\_\_\_

2. Do you own any equipment? (Y/N) And if so, what types?  
 \_\_\_\_\_

3. Do you have any special interests in Astronomy?  
 \_\_\_\_\_

4. What do you hope to gain by joining ASNNE?  
 \_\_\_\_\_

5. How could ASNNE best help you pursue your interest in Astronomy?  
 \_\_\_\_\_

6. ASNNE's principal mission is public education. We hold many star parties for schools and the general public for which we need volunteers for a variety of tasks, from operating telescopes to registering guests to parking cars. Would you be interested in helping?

Yes \_\_\_\_\_ No \_\_\_\_\_

7. ASNNE maintains a members-only section of its web site for names, addresses and interests of members as a way for members to contact each other. Your information will not be used for any other purpose. Can we add your information to that portion of our web site?

Yes \_\_\_\_\_ No \_\_\_\_\_

