

Skylights

Newsletter of the Astronomical Society of Northern New England



JAN 2025

Skylights Editor:
Paul Kursewicz



Member of NASA's
Night Sky Network



**Astronomical League
Member**

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 January

By *Bernie Reim*

The month of January is named for the Roman god Janus, who faces both forward and backward at the same time. Janus is the god of beginnings and transitions. As we welcome in the New Year and the first full month of winter, let us reflect on what the past year has taught us and look forward to all the new things that 2025 will teach us if we can remain open-minded enough.

The days are already getting longer since the winter solstice, but this is a very slow process at first. We are only gaining about one minute per day until the middle of this month. The sun is setting a little later than at the solstice, but the sun is also still rising later each morning until the ninth. For us at this latitude of the Portland area that will be 7:14 am. This happens because the earth is tilted at 23.5 degrees to the ecliptic plane and we orbit the sun in an elliptical shape and not a perfect circle.

Despite the long and cold nights, this will be a great month to enjoy and learn more about several interesting celestial events. Four of the five brightest planets will be nicely aligned along the ecliptic and visible in the evening sky. Only Mercury is too close to the sun now and it will make a morning appearance until the middle of the month. Mars will reach opposition on the 16th when it will be at its best in 26 months. Venus and Saturn will have a close conjunction in the evening sky on the 17th, the moon will have two nice conjunctions with Venus this month. We will be closest to the sun on Saturday morning the 4th at 91.4 million miles instead of our average of 93 million miles, which is called one astronomical unit. The moon will not interfere with the Quadrantid Meteor shower this month which has a very short peak on Friday morning, January 3. Then the best highlight of all this month will be the full moon occulting or covering up Mars on the evening of Monday the 13th which will be visible for everyone in the contiguous United States, much of southern and eastern Canada, Mexico, and West Africa.

We begin the planetary parade in the western sky right after sunset with Venus nice and high and bright in Aquarius the water-bearer. It is still getting higher and brighter each evening as it is catching up with Earth in its faster orbit around the sun. It starts the month like a waning gibbous moon at 55% illuminated by the sun and will finish this month considerably larger and shaped like a waning crescent moon only 39% illuminated by the sun.

Keep watching our brightest planet as it is rapidly catching up with Saturn, also in Aquarius. They will be just two and a quarter degrees apart on the evenings of the 17th and 18th. Notice that Venus will be nearly 200 times brighter than Saturn. Also look for the slight difference in color since Saturn will appear more golden than bright white Venus. Then Venus will keep traveling higher into Pisces and get even brighter as Saturn appears to sink lower and get a little fainter as it is getting farther away from earth at nearly one billion miles away. Venus will encounter a thin waxing crescent moon on the 3rd, the night of the Quadrantids, and it will once again encounter a thin waxing crescent moon one hour after sunset on the last day of this month. You could even try to see Venus in the daytime with a pair of binoculars since it will be so close to the moon on those two days.

Then we travel eastward through Pisces the Fish and Aries the Ram to get to Jupiter in Taurus the Bull. Before we get there be aware that we are passing right by Neptune in Pisces and Uranus in Aries. Those two planets are not visible without a good pair of binoculars or a small telescope. So not only are 4 of the 5 brightest planets visible at the same time in the evening sky for the whole month of January and February, the remaining two planets out of our family of 7 planets outside of Earth are also visible now and next month. Only Mercury will be missing from this fairly rare great arc of all of our other family of planets nicely aligned in our evening sky for another month and a half. Mercury will join the group in late February as an evening planet, but we will have lost Saturn by then.

You will get a good sense of the path of the ecliptic plane of our solar system as you follow all of these planets over the next month and a half. When the moon in different phases points out and joins these planets that will make this important path that the defines the shape of solar system as a disk or giant frisbee in the sky even more obvious. Also notice how the angle of this path gets a little steeper in relation to the horizon over the next month and a half. It is always at its most shallow in December at the winter solstice and then gets steeper and steeper until the sun reaches Gemini on June 21 at the summer solstice.

We will start losing this great parade of planets by the middle of February as they start dropping out one by one. Saturn will be the first to exit this great celestial play now taking place in our evening sky. Then we lose Neptune in early March followed by Mercury and Venus in mid-March. Then we lose Uranus in April and Jupiter in May. That will leave only Mars, which will hang around our evening sky until next summer in August.

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What's Up "Continued from page 1"

Jupiter is still nice and high and bright in Taurus since it was at opposition on December 7. The king of the planets is still in its westward or retrograde motion now towards Aldebaran, a red giant star marking the eye of the bull perpetually charging the mighty hunter Orion but never catching him.

We now end our trip along the ecliptic as we encounter Mars in the constellation of Cancer the crab. The red planet began its retrograde loop near the Beehive star cluster on December 7, the same day that Jupiter reached opposition. It is now in retrograde motion looping back into Gemini where it was in November. Watch as Mars nicely aligns with Castor and Pollux by the middle of the month, the two brightest stars in Gemini the Twins. Castor is the upper star and is the mortal twin and Pollux is the one closer to Mars and it is the immortal twin. Notice the slightly orange color of Pollux since it is also a red giant star like Aldebaran.

Mars will reach opposition, which is always the midpoint of the retrograde loop of a superior planet, on January 16. This will not be a particularly high or close opposition, but it will offer us the best views of Mars until its next opposition in 26 months. Mars will reach minus 1.4 magnitude, which is the same brightness as the brightest star in our sky, Sirius in Canis Major, about 30 degrees to the right and below Mars in the winter hexagon. That is still about 20 times fainter than Venus, which now shines at minus 4.8 magnitude. If you have access to a small telescope you can see some of the dark markings and polar ice caps along with some of the tenuous atmosphere.

We will finally get a good meteor shower that the nearly full moon will not interfere with. That shower is called the Quadrantids, named after an obsolete constellation called Quadrans Muralis, near the Big Dipper. The problem is that it has a very narrow peak, only about 6 hours, and that will happen around 10 am on Friday morning the 3rd our time. Alaska and the west coast are better placed for catching more of these meteors just before their dawn. It would still be worth your while to see as many as you can here if it is clear that Friday morning before dawn.

One of only two of our best meteor showers each year, the Quadrantids are caused by leftover debris from an asteroid named 2003EH1. The other shower is the Geminids that we just had on December 13 that is caused by an asteroid named 3200 Phaethon. Both of them are probably nuclei of extinct comets since an asteroid would not normally leave a trail of debris behind it as it orbits the sun. You can expect up to 100 meteors per hour from a dark sky site for this shower if you catch the peak just right before sunrise on the 3rd. These meteors will be slightly denser than comet dust and they will enter our atmosphere at 91,000 miles per hour, faster than most of the other 10 or so good meteor showers that we encounter each year. They also create bright fireballs. By comparison, the earth orbits the sun at 67,000 mph.

The best major highlight of this first month of the new year will be a fairly rare occultation of Mars by the full moon. That event will start at 9 pm on Monday the 13th. Mars and the full moon will rise very close to each other right at sunset, since they are both at opposition now, which means that they are opposite the earth from the sun. Then watch closely as the full moon gets closer and closer to Mars until it passes right in front of Mars based on our line of sight. That will take 29 seconds to completely cover Mars, so this is the best part of this event. You will need a good pair of binoculars or a small telescope to see this since the moon will be so much brighter than Mars that you can't really see this with the naked eye.

It will take just over an hour for the moon to once again reveal Mars to us in all of its brilliant orange glory,

the best and brightest that our intriguing and mysterious planet will appear for another 26 months. Make sure not to miss this and photograph it if it is clear.

Jan. 1. On this day in 1801 Giuseppe Piazzi discovered the first and largest asteroid, Ceres. It is 600 miles in diameter and is now considered a dwarf planet along with Pluto.

Jan.3. The Quadrantid meteor shower reaches its very shallow peak this Friday morning before sunrise. You can expect up to 100 meteors per hour since there will be no moon to interfere.

Jan. 4. Earth passed through perihelion, the closest distance it will reach to the sun for the year. That is around 91.5 million miles. Our average distance to the sun is 93,000,000 miles. Saturn is near the moon this evening in the south-southwest.

Jan.6. First quarter moon is at 6:58 p.m. EST.

Jan. 7. On this day in 1609 Galileo discovered 3 of the 4 largest moons of Jupiter, Callisto, Europa, and Io. He would discover Ganymede, the largest moon in our solar system at 3200 miles in diameter 6 days later.

Jan. 8. Stephen Hawking was born on this day in 1942.

Jan. 9. The waxing gibbous moon visits the Pleiades, an open star cluster with about 500 stars riding on the back of Taurus the Bull. It is about 400 light years away, which is when Galileo first pointed the first telescope ever made by modern humans up to the sky enabling him to make many astounding and earth-shaking discoveries that many did not believe even though they could see them with their own eyes.

Jan.10. Robert Woodrow Wilson was born on this day in 1936. He won the Nobel Prize in physics along with Arno Penzias in 1978 for their discovery of the original cosmic background radiation from the Big Bang in 1964 using a radio telescope in NJ while working for Bell Labs.

Jan. 13. Full moon is at 5:27 p.m. EST. This is also called the Wolf Moon. The moon will occult Mars tonight starting at 9 pm.

Jan.14. The Huygens probe landed on Titan, the largest moon of Saturn and the second largest moon in our solar system on this day in 2005. This is the only moon of nearly 300 known moons in our solar system that has an atmosphere.

Jan. 16. Jill Tarter was born on this day in 1944. She is an American astronomer that used to head the SETI project. The Search for Extraterrestrial Intelligence.

Jan. 17. Venus and Saturn form a close conjunction in Aquarius one hour after sunset tonight.

Jan. 19. New Horizons was launched to Pluto on this day in 2006, the same year that Pluto was demoted to a dwarf planet or an icy dwarf or just the largest Kuiper Belt object. It arrived at Pluto on July 14 of 2015.

Jan.21 Last quarter moon is at 3:32 p.m.

Jan.25. Joseph-Louis Lagrange was born on this day in 1736 in Turin, Italy. The 5 Lagrangian points of any 2-body system where the gravitational forces balance out are named after him. The James Webb Space Telescope along with several other useful space telescopes are orbiting the L2 point about one million miles from Earth beyond the moon right now.

Jan.29. New moon is at 7:37 a.m.

Jan.30. Saturn and the moon form another nice conjunction in Aquarius with brilliant Venus right above them in Pisces.



Moon Phases

Jan 6
First Quarter

Jan 13
Full

Jan 21
Last Quarter

Jan 29
New

Moon Data

Jan 3
Venus 1.4° north
of Moon

Jan 4
Saturn 0.7° south
of Moon

Jan 5
Neptune 1.1° south
of Moon

Jan 7
Moon at perigee

Jan 9
Uranus 4° south
of Moon

Jan 10
Jupiter 5° south
of Moon

Jan 13
Mars 0.2° south
of Moon

Jan 20
Moon at apogee

Sky Object of the Month – January 2025

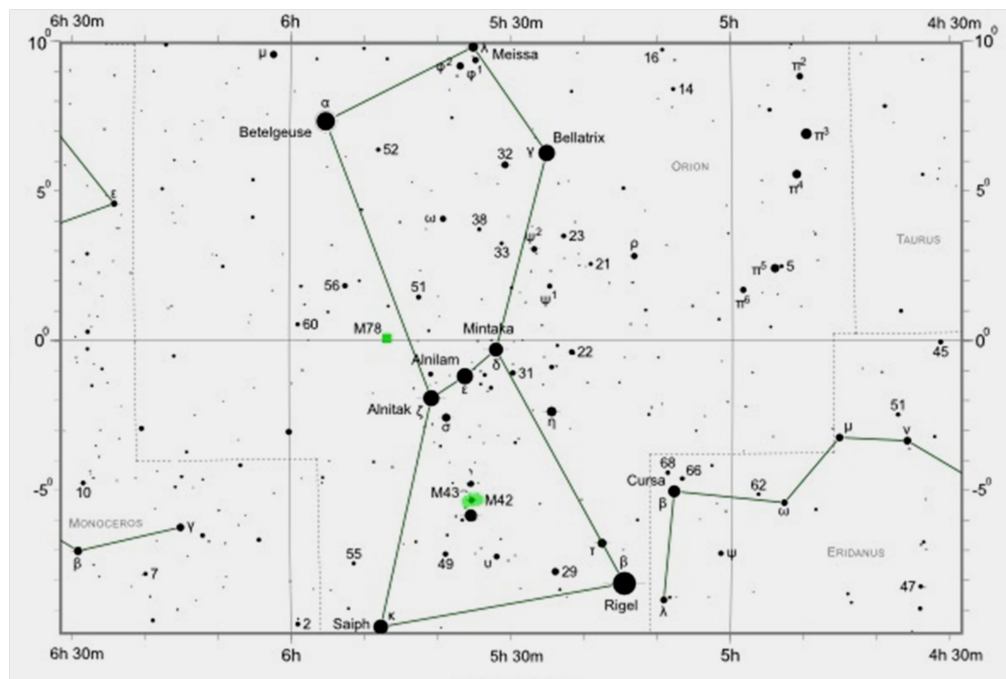
(Courtesy LVAS Observer's Challenge*)

Messier 78 – Diffuse Reflection Nebula in Orion
(Magnitude 8.3, Dimensions 8' X 6')

Submitted by Glenn Chaple

M78, Orion's "other" Messier nebula, has the distinction of being brightest diffuse reflection nebula (one whose light comes from nearby or embedded stars) in the sky. M42 and similar bright luminaries like M8, M17, and M20 are basically diffuse emission nebulas that give off their own light.

To find M78, make a low-power scan of the area 3 degrees northeast of Alnitak (the zeta [ζ] star in Orion's belt – see the finder chart below). M78 was discovered by Pierre Mechain in early 1780 and included by Messier in his Catalog later that year. At an approximate distance of 1600 light years, it spans an area some 10 light years across.



freestarcharts.com

(NOTE: Messier 78 was previously featured as the January, 2016 Observer's Challenge)

"Continued on page 4"

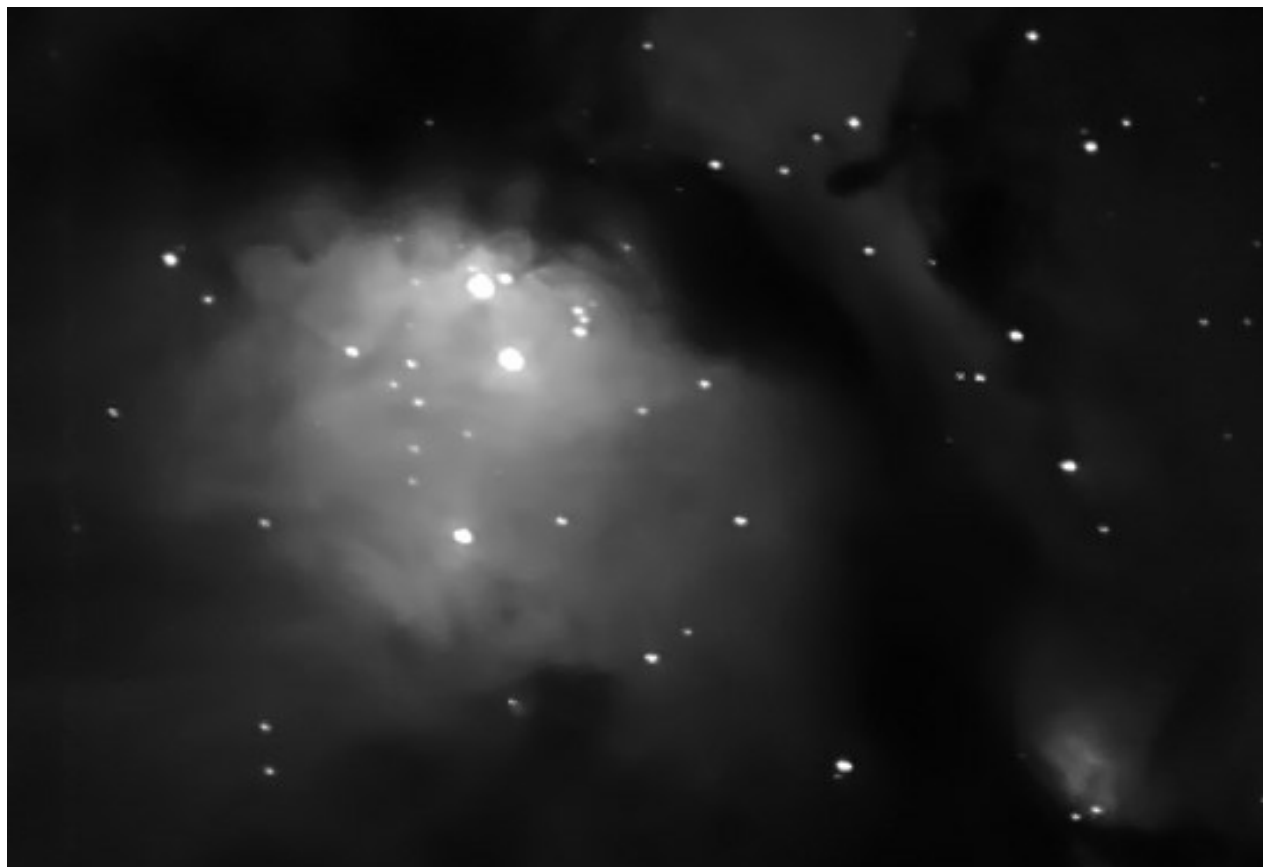


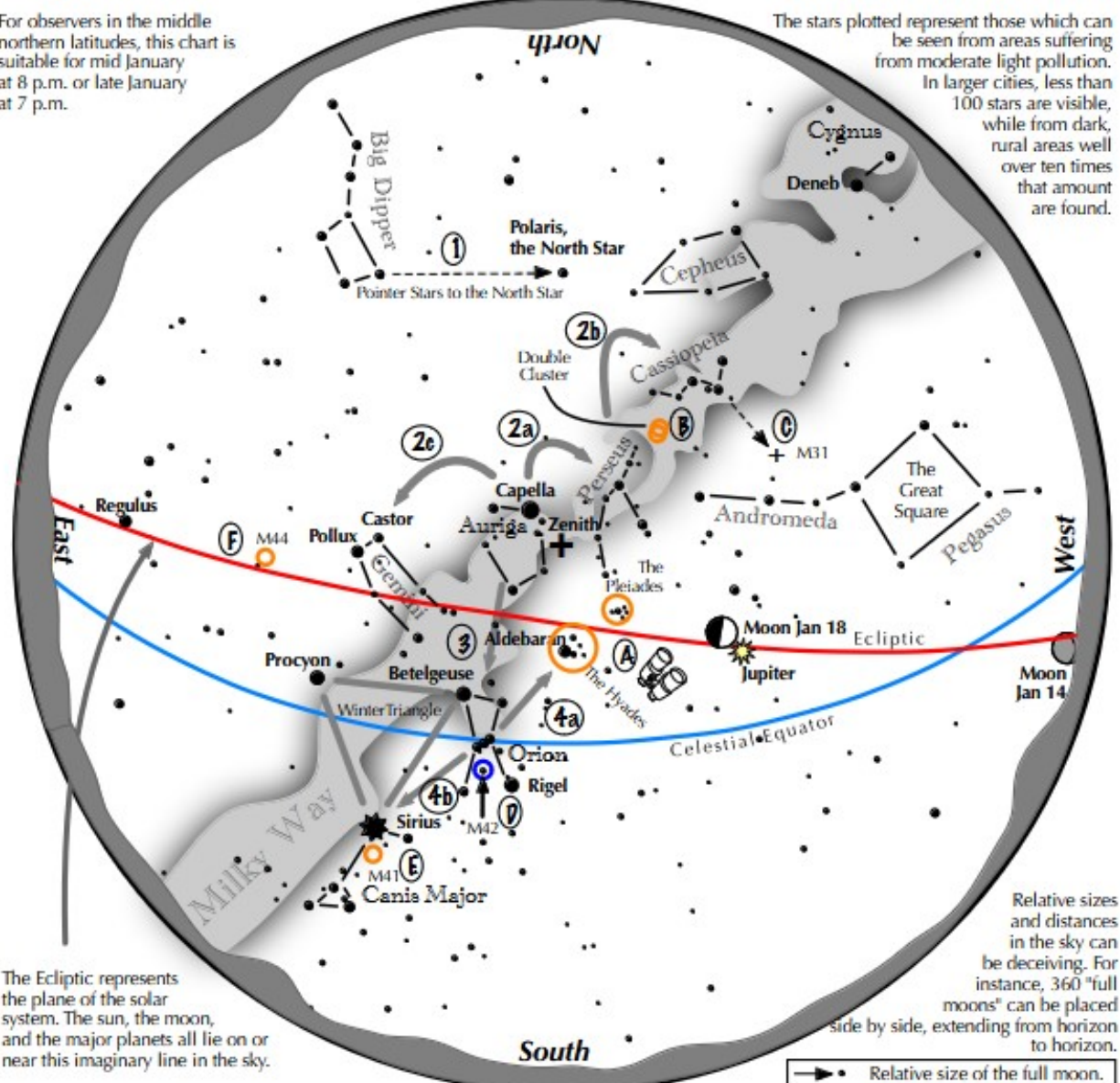
Image by Mario Motta, M.D.

*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.

Navigating the mid January Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid January at 8 p.m. or late January 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 winter night sky: Simply start with what you know or with what you can easily find.

- 1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star.
- 2 Face south. Overhead twinkles the bright star Capella in Auriga. Jump northwestward along the Milky Way first to Perseus, then to the "W" of Cassiopeia. Next Jump southeastward from Capella to the twin stars Castor and Pollux of Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt Stars, its bright red star Betelgeuse, and its bright blue-white star, Rigel.
- 4 Use Orion's three Belt stars to point to the red star Aldebaran, then to the Hyades, and the Pleiades star clusters. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius.

Binocular Highlights

A: Examine the stars of the Pleiades and Hyades, two naked eye star clusters. **B:** Between the "W" of Cassiopeia and Perseus lies the Double Cluster. **C:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. **D:** M42 in Orion is a star forming nebula. **E:** Look south of Sirius for the star cluster M41. **F:** M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux.

Astronomical League www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.



Principal Meteor Showers in 2025

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

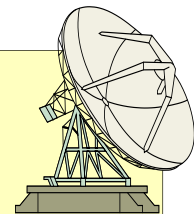
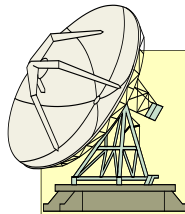
December 22
Ursids

Note: Dates are for maximum

MEMBERSHIP DUES

Membership fees are for the calendar year beginning in January and ending in December. Dues (see page 20 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 20. Or you can use PayPal via 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 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 to find local clubs, events, and more!

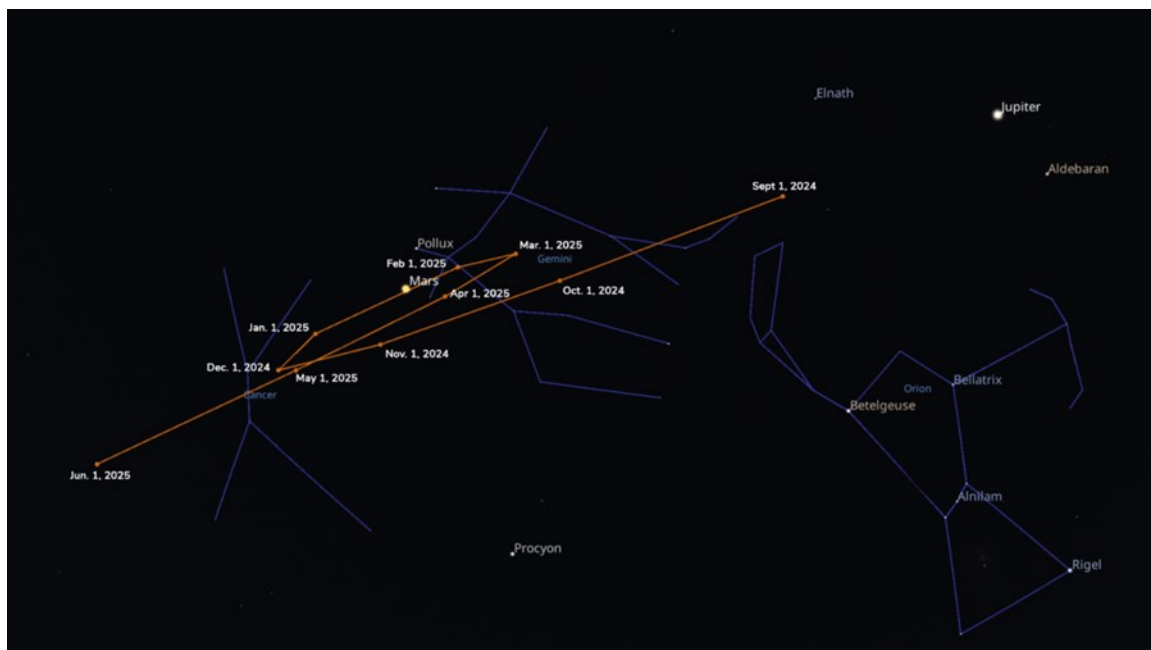
January's Night Sky Notes: The Red Planet

By Kat Troche

Have you looked up at the night sky this season and noticed a bright object sporting a reddish hue to the left of Orion? This is none other than the planet Mars! January will be an excellent opportunity to spot this planet and some of its details with a medium-sized telescope. Be sure to catch these three events this month.

Martian Retrograde

Mars entered retrograde (or backward movement relative to its usual direction) on December 7, 2024, and will continue throughout January into February 23, 2025. You can track the planet's progress by sketching or photographing Mars' position relative to nearby stars. Be consistent with your observations, taking them every few nights or so as the weather permits. You can use free software like Stellarium or Stellarium Web (the browser version) to help you navigate the night as Mars treks around the sky. You can find Mars above the eastern horizon after 8:00 PM local time.



This mid-January chart shows the path of Mars from September 2024 to June 2025 as it enters and then exits in retrograde motion. Mars appears to change its direction of motion in the sky because Earth is passing the slower-moving Mars in its orbit. Credit: Stellarium

“Continued on page 8”

Hide and Seek

On the night of January 13th, you can watch Mars ‘disappear’ behind the Moon during an occultation. An occultation is when one celestial object passes directly in front of another, hiding the background object from view. This can happen with planets and stars in our night sky, depending on the orbit of an object and where you are on Earth, similar to eclipses.



A simulated view of the Moon as Mars begins its occultation on January 13, 2025. Credit: Stellarium

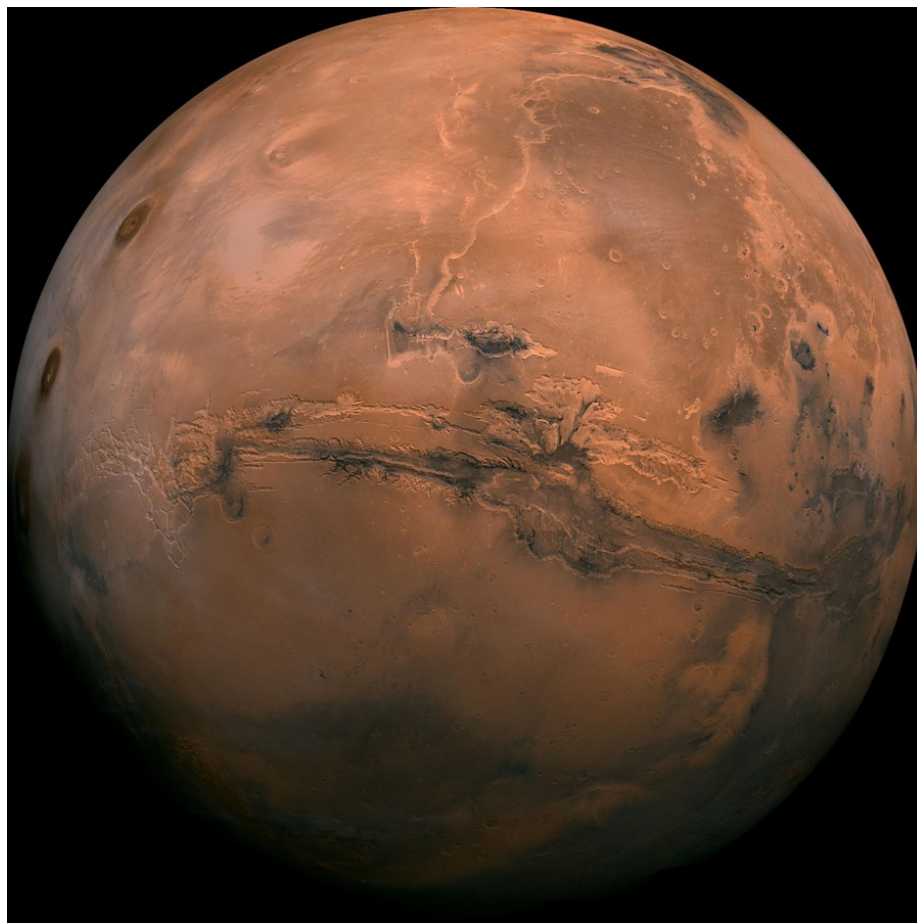
Depending on where you are within the contiguous United States, you can watch this event with the naked eye, binoculars, or a small telescope. The occultation will happen for over an hour in some parts of the US. You can use websites like [Stellarium Web](#) or the Astronomical League’s [‘Moon Occults Mars’ chart](#) to calculate the best time to see this event.

Closer and Closer

As you observe Mars this month to track its retrograde movement, you will notice that it will increase in brightness. This is because Mars will reach **opposition** by the evening of January 18th. Opposition happens when a planet is directly opposite the Sun, as seen from Earth. You don’t need to be in any specific city to observe this event; you only need clear skies to observe that it gets brighter. It’s also when Mars is closest to Earth, so you’ll see more details in a telescope.

“Continued on page 9”

Want a quick and easy way to illustrate what opposition is for Jupiter, Saturn, Mars, or other outer worlds? Follow the instructions on our [Toolkit Hack: Illustrating Opposition with Exploring the Solar System](#) page using our [Exploring Our Solar System](#) activity!



A mosaic of the Valles Marineris hemisphere of Mars projected into point perspective, a view similar to that which one would see from a spacecraft. The mosaic is composed of 102 Viking Orbiter images of Mars. Credit: NASA/JPL-Caltech

Mars has fascinated humanity for centuries, with its earliest recorded observations dating back to the Bronze Age. By the 17th century, astronomers were able to identify features of the Martian surface, such as its [ice caps and darker regions](#). Since the 1960s, exploration of the Red Planet has intensified with robotic missions from various space organizations. Currently, NASA has [five active missions](#), including rovers and orbiters, with the future focused on human exploration and habitation. Mars will always fill us with a sense of wonder and adventure as we reach for its soil through initiatives such as the [Moon to Mars Architecture](#) and the [Mars Sample Return](#) campaign.

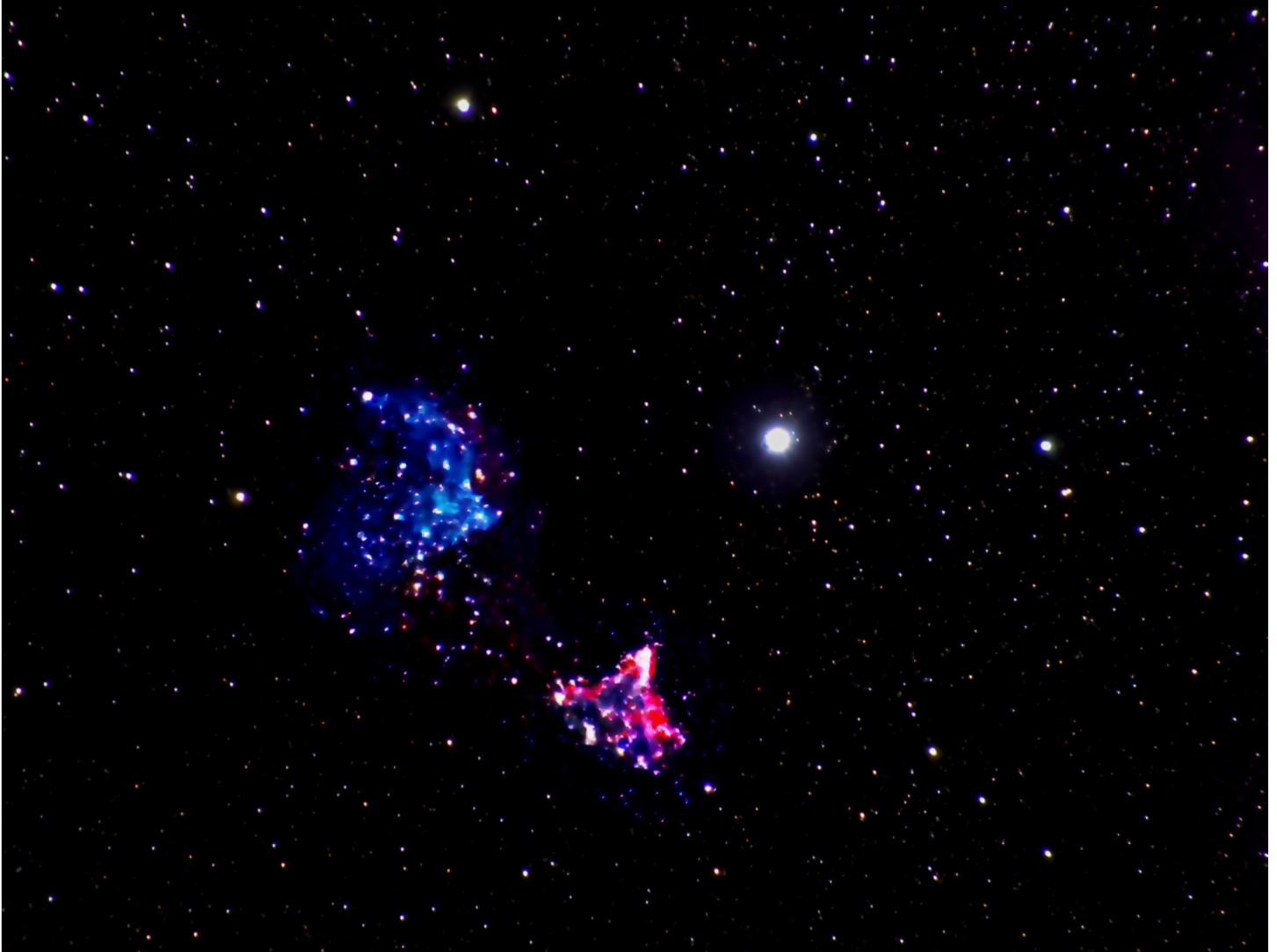
Point and Shoot Camera Astro-Imaging (no telescope)

Canon PowerShot SX50 HS

Submitted By Paul Kursewicz

Ghost of Cassiopeia (IC63 & IC59)

RAW Mode, FL 1200mm, f/3.5, ISO 1200, 37 x 5min, 10-28-24



IC 63 is the red emission nebula and is known as the **Ghost**. IC 59 is the blue reflection nebula. Each are located in the constellation Cassiopeia and are very close to the bright blue-white giant star Navi (Gamma Cassiopeiae). This star forms the middle star in the "W" shape made by the constellation. Both nebulae are about 600 ly away from us and about 3 ly away from Gamma Cassiopeiae. Together they are approximately 10 light-years across. Dark skies are a must to see these nebula through a telescope.

“Continued on page 11 ”

From the pages of “Burnham’s Celestial Handbook” copyright 1978
Ghost of Cassiopeia



This photo was taken with a telescope from the Haute Provence Observatory in France. Navi (Gamma Cassiopeia) is greatly over-exposed. The name "Navi" was given to the star by the American astronaut Virgil Ivan Grissom. He used his middle name (Ivan) spelled backwards to come up with the nickname during a space mission. Navi is 19 times more massive than our sun, and 65,000 times brighter. It is a blue-white subgiant variable star 550 light-years away that spins at speeds of almost 1 million miles per hour. The tremendous rotational speed of this giant star is slowly eroding away the *ghostly* cloud of dust and gas.

“Continued on page 12”

Point and Shoot Camera Astro-Imaging (no telescope)

Canon PowerShot SX50 HS

Submitted By Paul Kursewicz

Beehive Cluster & Mars

RAW Mode, FL 123mm, f/3.5, ISO 1000, Single Exposure, 1 min, 12-3-24



I took this picture of M44 (the stellar “bees”) and Mars on December 3, at 2:13 am. The Beehive is located in the zodiac constellation Cancer the Crab. There are two other proper names given to the Beehive: “The Manger” and “Praesepe.” Bright fiery red-orange Mars will be at its brightest on January 16th when it reaches opposition. This only happens once every two years. Opposition for Mars last fell on December 7-8, 2022.

Christmas/Holiday Party



Hey...what can I say?



It's the Moon! So I had to sit on it!

My wife and I recently visited "Winter Wonders" a World-Class Christmas/Holiday light show located nearby in Eliot, Maine. There are over 2 million lights that are very uniquely and creatively designed on 14 acres. Took an hour to walk through the meandering loop.

Club Meeting & Star Party Dates

Date	Subject	Location
Jan 3	<p><u>ASNNE Club Meeting:</u></p> <p>Business Meeting starts prior to Club meeting.</p> <p>Club Meeting (in house & on Zoom): 7:30-9:30PM</p> <p>Guest Speaker: This month's guest speaker will be Paul Kursewicz. Paul's presentation will be about his visit to <i>NASA's Space Center Houston</i>; to <i>Johnson Space Center</i>; and if time permits his visit to the <i>U.S. Rocket & Space Center</i> located in Huntsville, Alabama.</p> <p>Bernie Reim - "What's UP"</p> <p>Astro Shorts: (news, stories, jokes, reports, questions, photos, observations etc.)</p>	The New School, Kennebunk, Me.
Last Month	Last month we had our Christmas/Holiday Party & Meeting at The New School. Bernie did his What's Up. Astro shorts were also discussed.	
<u>TBD</u>	Club/Public Star Party: TBD	Talmage Observatory at Starfield West Kennebunk, Me.

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

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.



This article is distributed by NASA’s Night Sky Network (NSN).

The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

Celebrating 20 Years: Night Sky Network

By Vivian White and Kat Troche

NASA’s Night Sky Network is one of the most successful and longstanding grassroots initiatives for public engagement in astronomy education. Started in 2004 with the PlanetQuest program out of the Jet Propulsion Laboratory and currently supported by NASA’s Science Activation, the Night Sky Network (NSN) is critical in fostering science literacy through astronomy. By connecting NASA science and missions to support amateur astronomy clubs, NSN leverages the expertise and enthusiasm of club members, who bring this knowledge to schools, museums, observatories, and other organizations, bridging the gap between NASA science and the public. Now in its 20th year, NSN supports over 400 astronomy clubs dedicated to bringing the wonder of the night sky to their communities across the U.S. and connecting with 7.4 million people across the United States and its territories since its inception.



International Observe the Moon Night, September 2024. Credit: Oklahoma City Astronomy Club/Dave Huntz

Humble Beginnings

It all started with an idea – astronomy clubs already do significant outreach, and club members know a lot about astronomy (shown definitively by founder Marni Berendsen’s research), and they love to talk with the public. How could NASA support these astronomy clubs in sharing current research and ideas through informal activities designed for use in the places where amateur astronomers conduct outreach? Thanks to funding through NASA JPL’s PlanetQuest public engagement program, the Night Sky Network was born in 2004, with more than 100 clubs joining in the first year.

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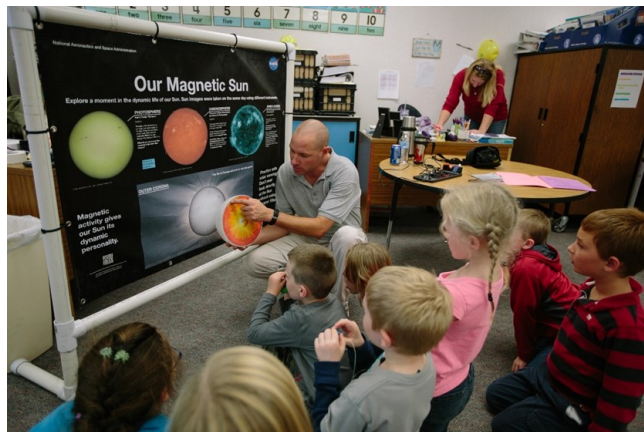


Raynham Public Observing Night, February 2004. Credit: Astronomical Society of Southern New England/Mark Gibson

As quoted from the first NSN news article, "NASA is very excited to be working closely with the amateur astronomy community," said Michael Greene, current Director of Communications and Education and former head of public engagement for JPL's Navigator Program and PlanetQuest initiatives. "Amateurs want more people to look at the sky and understand astronomy, and so do we. Connecting what we do with our missions to the sense of wonder that comes when you look up at the stars and the planets is one of our long-term objectives. We have a strong commitment to inspiring the next generation of explorers. Lending support to the energy that the amateur astronomy community brings to students and the public will allow NASA to reach many more people." Taking off like a rocket, Night Sky Network had over 100 clubs registered on their website within the first year.

The Toolkits

Outreach Toolkits were developed to assist clubs with their endeavors. These kits include educational materials, hands-on activities, and guides for explaining topics in an accessible way. So far, 13 toolkits have been created on topics ranging from the scale of the universe to how telescopes work. To qualify for these free Toolkits, clubs must be active in their communities, hosting two outreach events every three months or five outreach events within a calendar year. Supplemental toolkits were also created based on special events like the solar eclipses and the 50th anniversary of Apollo's Moon landing. A new toolkit is being developed to teach audiences about solar science, and NSN is on track to support clubs well into the future.



Rye Science Day, October 2014. Credit: Southern Colorado Astronomical Society/Malissa Pacheco

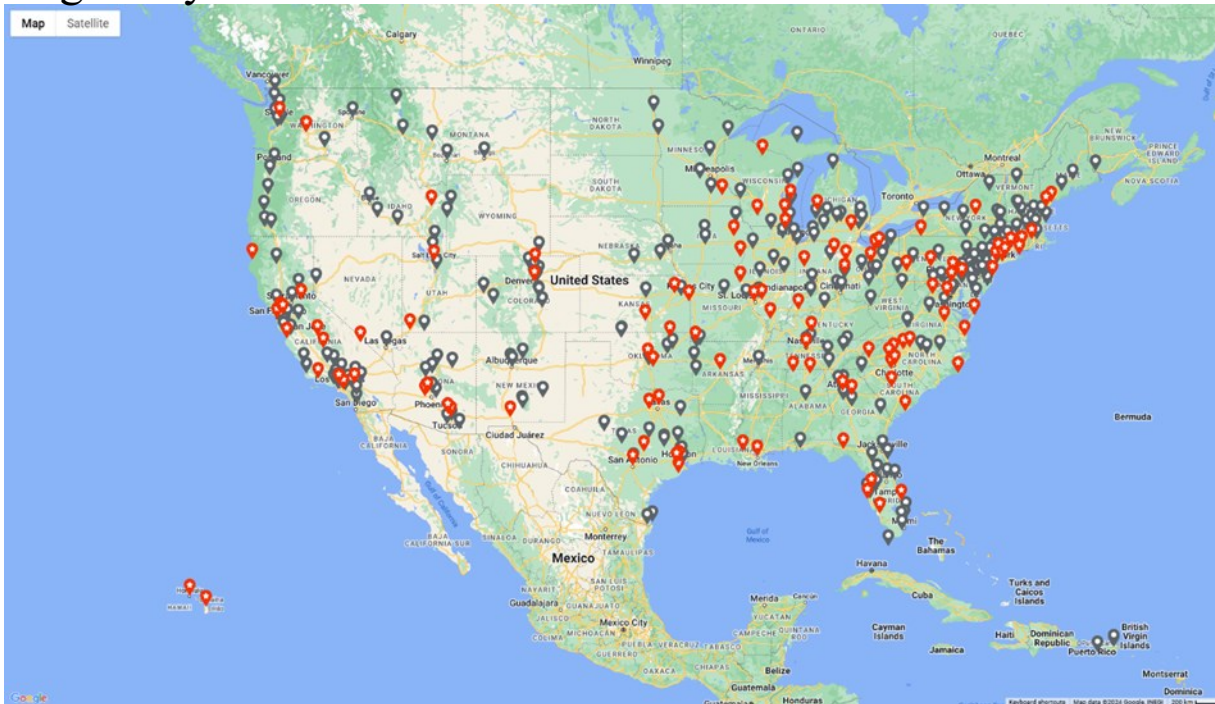
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NSN also hosts archived video trainings on these toolkits and other topics via its YouTube channel and a [monthly webinar series](#) with scientists from various institutions worldwide. Lastly, a monthly segment called [Night Sky Notes](#) is produced for clubs to share with their audiences via newsletters and mailing lists.

Sharing the Universe

In 2007, a National Science Foundation grant funded further research into astronomy club needs. From that came three club resources: the [Growing Your Astronomy Club](#) and Getting Started with Outreach video series, an updated website with a national calendar, and club and event coordination. Now, you can find [hundreds of monthly events](#) nationwide, including virtual events you can join from anywhere.

Night Sky Network: Current and Future

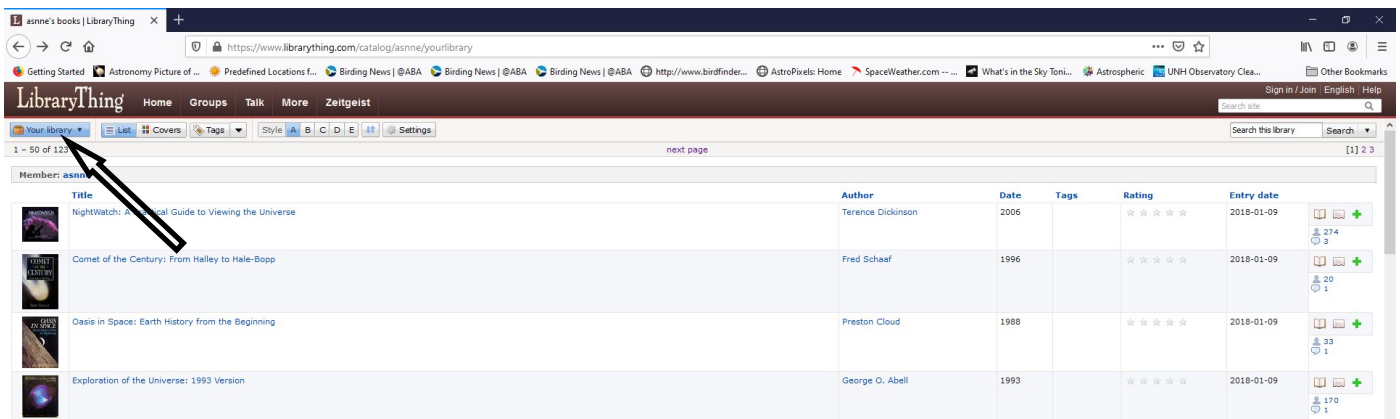


Map of Night Sky Network clubs within the United States as of November 2024

As of November 2024, NSN has over 400 clubs as far north as Washington State, west as Hawaii, and south as far as Puerto Rico. Astronomy clubs worldwide share the wonder of the day and night sky with their communities, and the Night Sky Network is happy to support US clubs with public engagement tools. Through their outreach efforts, member clubs have reached more than 7 million people to date, and the community is still going strong. Find an upcoming star party near you on our [new public website](#).

Astronomy Club & Library Resources

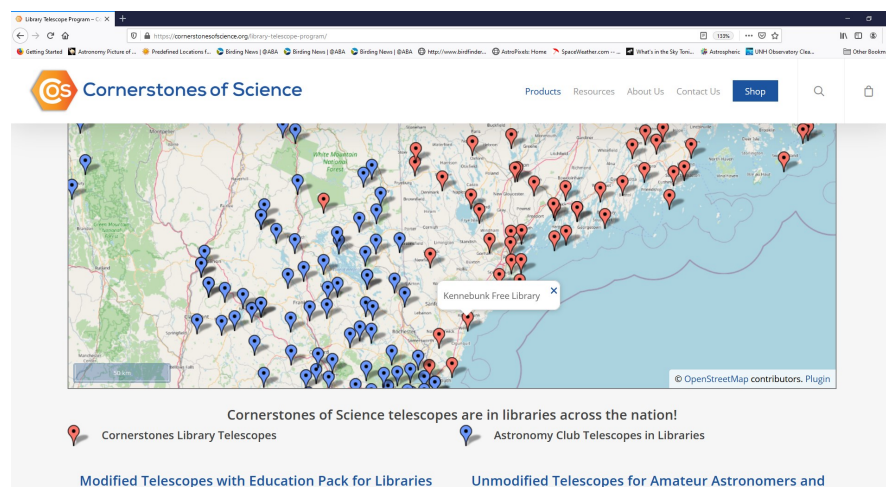
Our club has a library of astronomy books which are stored at The New School in Kennebunk, Maine (our monthly club meeting location). To request a book(s), contact one of the club officers. A listing of books is provided here: <https://www.librarything.com/profile/asmne> . After clicking on the link, 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.



Title	Author	Date	Tags	Rating	Entry date
NightWatch: A Practical Guide to Viewing the Universe	Terence Dickinson	2006		☆☆☆☆☆	2018-01-09
Comet of the Century: From Halley to Hale-Bopp	Fred Schaaf	1996		☆☆☆☆☆	2018-01-09
Oasis in Space: Earth History from the Beginning	Preston Cloud	1988		☆☆☆☆☆	2018-01-09
Exploration of the Universe: 1993 Version	George O. Abell	1993		☆☆☆☆☆	2018-01-09

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/>



Cornerstones of Science telescopes are in libraries across the nation!

- Cornerstones Library Telescopes
- Astronomy Club Telescopes in Libraries

Modified Telescopes with Education Pack for Libraries Unmodified Telescopes for Amateur Astronomers and

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

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 _____

