

Skylights

Newsletter of the Astronomical Society of Northern New England



APR 2023



Member of NASA's
Night Sky Network



Astronomical League

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 April

By Bernie Reim

The month of April is named after the word aprilis, which means aperture or to open. That is what this part of the earth in the northern hemisphere will start to do later this month, the first full month of spring. The grass will start to get green, some flowers will come out and some trees will blossom and begin to sprout tender young green leaves once again as the cycle of life continues and nature springs forth again in rebirth.

The heavens above are also changing as they do on a regular basis regardless of the seasons. The reappearance of certain constellations along with the loss of others are associated with spring in the northern hemisphere. The winter hexagon is sinking lower into the western sky even as Vega in Lyra at the top of the summer triangle will reappear once again low in the eastern sky by 10 pm. Virgo climbs higher along the ecliptic as Corvus the Crow and Crater the Cup also rise higher below Virgo and just above Hydra the mythical water snake, the largest constellation in the whole sky covering 102 degrees whose head is in the northern celestial sphere and whose tail stretches all the way into the southern sky.

We are now in an eclipse season again. We had a great total lunar eclipse visible in Maine with the moon still deeply immersed in the earth's shadow at sunrise half a year ago on November 8. It was clear that morning as I watched that recent eclipse over a lake. More stars and fainter celestial objects became visible as the light of the full moon was slowly being stolen by our shadow. The beautiful shades of red and orange that became visible on the moon were caused by the atmosphere of the earth bending or refracting the sunlight back onto our only natural satellite. Otherwise the moon would be completely invisible when it is in the umbral shadow of the earth, which lasts about an hour.

What I was really seeing early that cold November morning from a deserted beach along that lake was the combined effect of all the sunrises and sunsets simultaneously on the earth focused and projected onto the moon. As the one sun rose behind me in the east and over powered the sky along with the moon, I watched this effect fade out on the lunar face in the west.

The reverse of this process happens in a much more dramatic fashion during a total solar eclipse. When you are completely immersed in the lunar shadow, which only lasts for 2 to 4 minutes on the average, you can see a 360-degree sunset, sunrise twilight all around you, essentially seeing and becoming aware of the entire atmosphere all around the earth at once, not just limited to the particular spot

on the earth that you may be watching this great event from.

Many other incredible phenomena occur during a total solar eclipse. It gets dark and all the planets in the sky at the time become visible, along with the brighter stars. You are lifted right off the earth into space above our atmosphere. If you travel 60 miles straight up, the sky would be black in the middle of every day because there are not enough air molecules left to scatter the sunlight and make our sky appear blue. Very few of us will ever go to the moon, but you can always let the moon come to you during a total solar eclipse as you experience its shadow washing over you and everyone and everything around you at 2000 miles per hour for a few seconds just before the last bit of sunlight gets extinguished in a brilliant flash of light called the diamond ring effect. All of this and much more will happen right here over Maine and parts of New England in one year, so make sure not to miss it.

There will be no total lunar eclipses anywhere on Earth this year. However, that will be more than made up for with two solar eclipses, a rare hybrid one which will be both total and annular on April 20 over western Australia and an annular one over the U.S. and South America six months later on October 14 of this year that will follow a somewhat similar path over the U.S. that the great American Total Solar Eclipse did on August 21 of 2017 that was viewed and experienced by nearly

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What's Up "Continued from page 1"

100 million people.

The next total solar eclipse over this country, in one year on April 8 of 2024, will start in Mexico and continue over Texas and Arkansas all the way to Maine and into Canada. I will write much more about that great event in the coming months, but it is not too soon to start preparing for that great and memorable event.

Now that the nights are getting shorter and warmer, it will become more inviting to go outside and partake in the many highlights being offered in the sky this month. We will have a nice planetary trio of Mercury, Venus, and Mars in our western sky at dusk, Saturn in the morning sky, and the first good meteor shower since the Geminids way back on December 13 of last year. That will be the Lyrids, on April 22, which is also Earth Day. Caused by Comet Thatcher, you can expect 15 meteors per hour from a dark sky site. That is near the new moon this month, so the conditions will be favorable as long as it is clear.

Venus will climb a little higher each night and set a little later. It will be just a few degrees to the left of the Pleiades star cluster in Taurus on the 11th. The Pleiades are an open star cluster consisting of about 500 stars located about 400 light years away. So the next time you look at this little star cluster, also known as the 7 sisters or Subaru in Japanese, remember that the light you are now seeing actually left its source about the same time that Galileo first pointed his telescope into the sky in 1609 to begin our journey of discovery that has only become more incredible ever since.

Then look about 15 degrees below brilliant Venus and the Pleiades and you will spot Mercury. It is at its greatest elongation from the sun that night on the 11th and it will shine at magnitude minus 0.2. That is 4 magnitudes or about 40 times fainter than Venus just above it. Mercury will set about an hour after sunset. Only one week later our first planet will be much lower in our sky and it will be 5 times fainter.

Watch as a slender waxing crescent moon appears just above Mercury and below the Pleiades on the 21st, and then shows up just above the Pleiades and below Venus on Earth Day, the 22nd. The moon appears to travel 13 degrees eastward through the constellations on the ecliptic each day. It will be about 7 degrees above Venus on the 23rd.

Mars is well past its prime of late last year, but it is still a fairly bright orange object, brighter than most stars at 1.2 magnitude. Look for it moving in direct or eastward motion through Gemini and setting around midnight. The waxing crescent moon will join Mars just below Castor and Pollux, the mortal and immortal twins in Gemini, on the 25th.

You can see Saturn low in the eastern morning sky before sunrise, but it will not get much higher and brighter until May and June. We now lost Jupiter into the sun's glare in the evening sky after its wonderful close conjunction with Venus one month ago. Jupiter will reappear low in our eastern morning sky by the middle of May.

The annual Lyrid meteor shower is created by the

earth passing through the debris trail of Comet Thatcher which orbits the sun every 415 years with its next expected return in 2283. All of these meteors will appear to emanate from a point in the sky in Lyra to the right of Vega near Hercules. That is called the radiant. You should look just above and below the radiant to see the most meteors, but you can see them anywhere in the sky and trace them back to this point.

Comet Thatcher was not discovered until 1861, but this shower has been observed and recorded in history for over 2700 years. Lyra is part of the summer triangle and will not be very high until about 2 am. Meteors are generally better after midnight anyway because the earth is spinning into the shower then, similar to the driving into a snowstorm instead of looking out the back window of your car which is what happens before midnight. You can expect 15 meteors per hour from a dark sky site and there will be no moon to interfere with the show.

April 1. On this day in 1997 Comet Hale-Bopp was at perihelion. That was a once-in-a-lifetime comet that was visible in our sky for a whole year, stretching across nearly a quarter of our sky when it was at its best. It was preceded by another once-in-a-lifetime comet named Hyakutake in March of 1996 that was almost as impressive.

April 2. The waxing gibbous moon is near Regulus this morning low in the western sky in Leo.

April 5. Full moon is at 11:36 p.m. EDT. This is also called the Pink, Grass, Egg, or Fish moon.

April 7. On this day in 1991 the Compton Gamma Ray telescope was launched. That was part of a whole family of 4 types of space telescopes that would look at the sky in a wide range of wavelengths from gamma rays, x-rays, visible light, and infrared light.

April 10. The waning gibbous moon is near Antares in Scorpius tonight.

April 11. Venus is near the Pleiades tonight. Halley's Comet was at perigee on this day in 1986. It will next return in 2062. I first saw it on November 8 of 1985, which was exactly 329 years after Edmund Halley's birthday in 1656.

April 12. Yuri Gagarin became the first human to orbit the earth on this day in 1961. John Glenn became the first American to orbit about a year later, on February 20 of 1962.

April 13. Last quarter moon is at 4:13 am.

April 14. Mars is near a bright star in Gemini tonight.

April 16. The moon is just below Saturn this morning low in the east-southeastern sky just before sunrise.

April 19. New moon is at 11:14 pm. A rare hybrid partly annular and partly total solar eclipse will occur today over Australia and Indonesia.

April 22. The moon is near Venus and the Pleiades tonight. The Lyrid meteor shower peaks tonight into the morning of the 23rd.

April 25. The Hubble Space Telescope was deployed on this day in 1990 by the Space Shuttle Discovery. That was STS 31. The whole space shuttle program would end in July of 2011 with STS 135. The HST is still working fairly well 33 years and over 1.5 million great images later. The moon is near Mars in Gemini tonight.

April 27. First quarter moon is tonight at 4:21 pm. It will be just 4 degrees above the Beehive star cluster in Cancer tonight.

April 30. Frances Wright, an American astronomer who taught celestial navigation to naval officers at Harvard and wrote 3 books on that subject was born on this day in 1897. ★

Moon Phases

Apr 6
Full

Apr 13
Last Quarter

Apr 20
New

Apr 27
First Quarter

Moon Data

Apr 15
Moon at perigee

Saturn 3° north
of Moon

Apr 17
Neptune 2° north
of Moon

Apr 21
Uranus 1.7° south
of Moon

Apr 23
Venus 1.3° south
of Moon

Apr 25
Mars 3° south
of Moon

Apr 28
Moon at apogee

OBSERVER'S CHALLENGE* – April, 2023

by Glenn Chapple

NGC 3044 Galaxy in Sextans (Magnitude 12.5, Size 4.6' X 0.7')

When William Herschel compiled his *Catalogue of Nebulae and Clusters of Stars*, he placed a majority of nebulae into three distinct categories – Class I (Bright Nebulae), Class II (Faint Nebulae), and Class III (Very Faint Nebulae). Our April Observer's Challenge, the edge-on barred spiral galaxy NGC 3044 in Sextans, is a Class III Herschel object. It was visually faint to him; it's a faint visual challenge for the modern-day backyard astronomer. Herschel discovered it on the night of December 13, 1784, describing it as "Very bright, large, very much extended 151 degrees, very suddenly much brighter in the middle, equals a star of 10th magnitude."

Too faint to be included in the Herschel 400 list and not plotted in Sky and Telescope's *Pocket Sky Atlas*, NGC 3044 is located 4 degrees west-northwest of the 4.5 magnitude star alpha (α) Sextantis and 4½ degrees northeast of magnitude 3.9 iota (ι) Hydrae at the 2000.0 coordinates, RA 9^h53^m40.9^s and Dec +01°34'46.7". Starhoppers can work their way from either star by referring to the accompanying finder charts.

From dark-sky regions, NGC 3044 can be seen with a 10-inch scope. Observers working under slightly light polluted suburban locations will need nearly twice that aperture. A reasonably high magnification and a broadband nebula filter will help.

According to various sources, NGC 3044 lies somewhere between 65 and 75 million light years away. The light you see when you peer into the eyepiece left this galaxy near the end of the Mesozoic era around the time of the demise of the dinosaurs.

*The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It is open to anyone who is interested. If you'd like to contribute notes, drawings, or photographs, we'd be happy to include them in our monthly summary. Submit your observing notes, sketches, and/or images to Roger Ivester (rogerivester@me.com). To find out more about the Observer's Challenge, log on to rogerivester.com/category/observers-challenge-reports-complete.

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NGC 3044 Finder Charts

Chart from theskylive.com

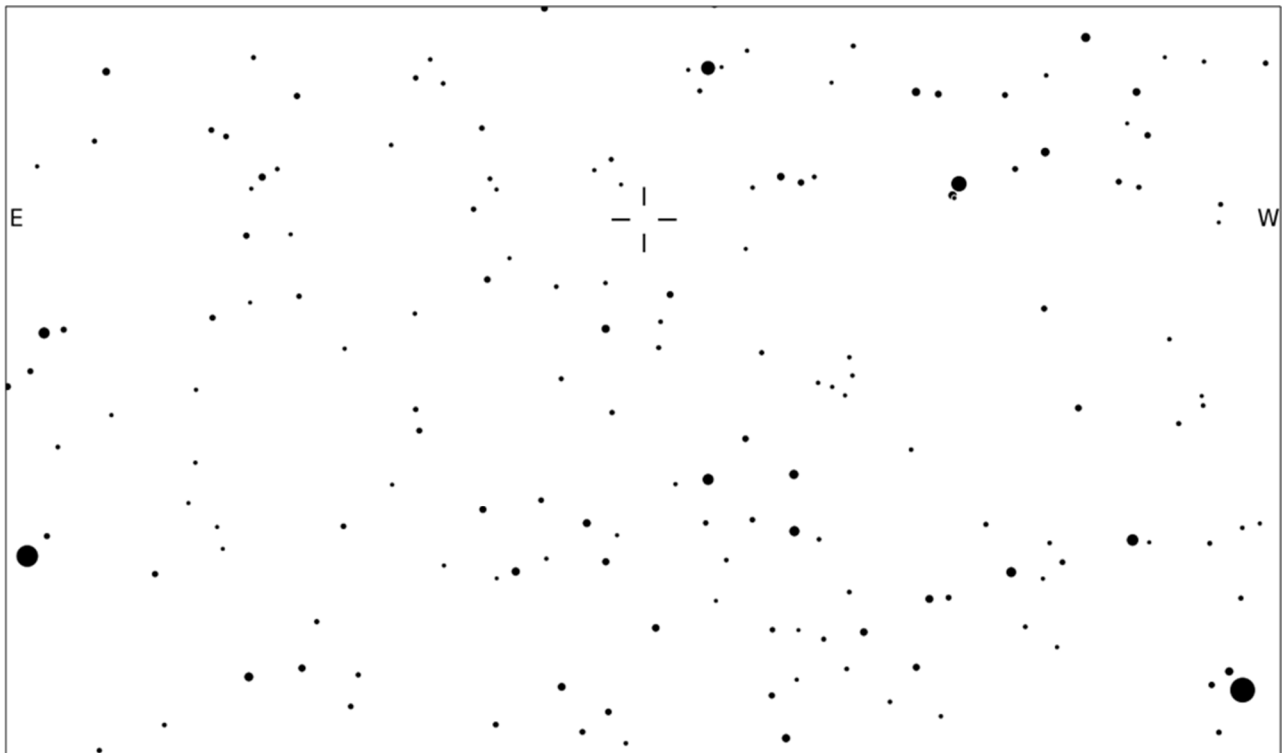


Chart from AAVSO Variable Star Plotter (VSP). The bright star near lower left is alpha (α) Sextantis; the one at lower right is iota (ι) Hydrae. Stars shown to 10th magnitude in this 7 by 4 degree field. North is up.

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NGC 3044 Image

Mario Motta, MD. (ATMoB) "Taken with my C14 from Florida, 50 min of Lum subs, then processed."



Principal Meteor Showers in 2023

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

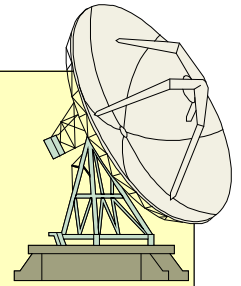
December 14
Geminids

December 22
Ursids

Note: Dates are for maximum

Got any News?

Skylights Welcomes Your Input.



Here are some suggestions:

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

Benefits of Membership

- Attend our monthly meetings and club star parties
 - Our Monthly Newsletter: *Skylights*
 - Discounts on *Sky & Telescope*. and *Astronomy* magazine subscriptions
 - Automatic subscription to the Astronomical League's quarterly newsletter, *The Reflector*
 - With proper training, access to the equipment at ASNNE's Talmage Observatory at Starfield.
 - By special arrangement, free admission to the Southworth Planetarium at USM in Portland
- Enjoy sharing your interest and have fun learning about Astronomy!

Our Club has Merchandise for Sale at: www.cafepress.com/asnne



*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!

Solar Eclipses Are Coming!

By David Prosper

Have you ever witnessed a total solar eclipse? What about an annular solar eclipse? If not, then you are in luck if you live in North America: the next twelve months will see two solar eclipses darken the skies for observers in the continental United States, Mexico, and Canada!

Solar eclipse fans get a chance to witness an **annular eclipse** this fall. On **Saturday, October 14, 2023**, the Moon will move exactly in front of the Sun from the point of view of observers along a narrow strip of land stretching across the United States from Oregon to Texas and continuing on to Central and South America. Since the Moon will be at its furthest point in its orbit from Earth at that time (known as *apogee*), it won't completely block the Sun; instead, a dramatic "ring" effect will be seen as the bright edge of the Sun will be visible around the black silhouette of the Moon. The distinct appearance of this style of eclipse is why it's called an annular eclipse, as *annular* means *ring-like*. If you are standing under a tree or behind a screen you will see thousands of ring-like shadows projected everywhere during maximum eclipse, and the light may take on a wan note, but it won't actually get dark outside; it will be similar to the brightness of a cloudy day. This eclipse must only be observed with properly certified eclipse glasses, or other safe observation methods like pinhole projection or shielded solar telescopes. Even during the peak of the eclipse, the tiny bit of the Sun seen via the "ring" can damage your retinas and even blind you.

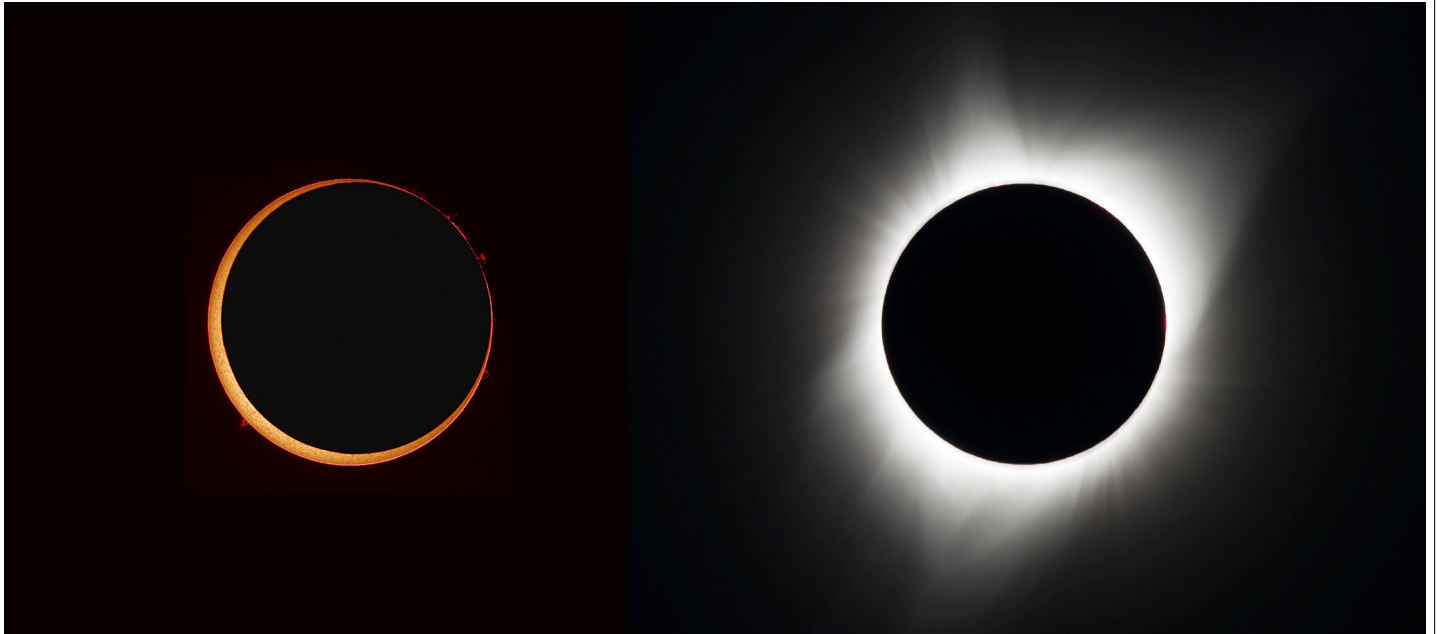
Just six months later, a dramatic **total solar eclipse** will darken the skies from Mexico to northeast Canada, casting its shadow across the USA in a strip approximately 124 miles (200 km) wide, on **Monday, April 8, 2024**. While protection must be worn to safely observe most of this eclipse, it's not needed to witness totality itself, the brief amount of time when the Moon blocks the entire surface of the Sun from view. And if you try to view totality through your eclipse viewer, you won't actually be able to see anything! The Moon's shadow will dramatically darken the skies into something resembling early evening, confusing animals and delighting human observers. You will even be able to see bright stars and planets - provided you are able to take your eyes off the majesty of the total eclipse! While the darkness and accompanying chilly breeze will be a thrill, the most spectacular observation of all will be the Sun's magnificent *corona*! Totality is the only time you can observe the corona, which is actually the beautiful outer fringes of the Sun's atmosphere. For observers in the middle of the path, they will get to experience the deepest portion of the eclipse, which will last over four minutes - twice as long as 2017's total solar eclipse over North America.

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While some folks may be lucky enough to witness both eclipses in full – especially the residents of San Antonio, Texas, whose city lies at the crossroads of both paths – everyone off the paths of maximum eclipse can still catch sight of beautiful partial eclipses if the skies are clear. The Eclipse Ambassadors program is recruiting volunteers across the USA to prepare communities off the central paths in advance of this amazing cosmic ballet. Find more information and apply to share the excitement at eclipseambassadors.org. NASA has published a fantastic Solar Eclipse Safety Guide which can help you plan your viewing at bit.ly/nasaclipsesafety. And you can find a large collection of solar eclipse resources, activities, visualizations, photos, and more from NASA at solarsystem.nasa.gov/eclipses



This detailed solar eclipse map shows the paths of where and when the Moon's shadow will cross the USA for the upcoming 2023 annular solar eclipse and 2024 total solar eclipse, made using data compiled from multiple NASA missions. Where will you be? This map is very detailed, so if you would like to download a larger copy of the image, you can do so and find out more about its features at: <https://svs.gsfc.nasa.gov/5073> Credits: NASA/Scientific Visualization Studio/Michala Garrison; eclipse calculations by Ernie Wright, NASA Goddard Space Flight Center.



Photos of an annular total solar eclipse (left) and a total solar eclipse (right). Note that the annular eclipse is shown with a dark background, as it is only safe to view with protection – you can see how a small portion of the Sun is still visible as the ring around the Moon. On the right, you can see the Sun's wispy corona, visible only during totality itself, when the Moon completely – or totally - hides the Sun from view. A total solar eclipse is only safe to view without protection during totality itself; it is absolutely necessary to protect your eyes throughout the rest of the eclipse! Credits: Left, Annular Eclipse: Stefan Seip (Oct 3, 2005). Right, Total Eclipse, NASA/Aubrey Gemignani (August 21, 2017)

Point and Shoot Camera Astroimaging (no telescope)

Canon Powershot SX50 HS

Image & write-up submitted by Paul Kursewicz

Seagull Nebula (IC 2177)

RAW mode, FL 175mm, f/3.5, ISO 2000, 26 x 1min 30 sec, Baader Filter, 2-11-23

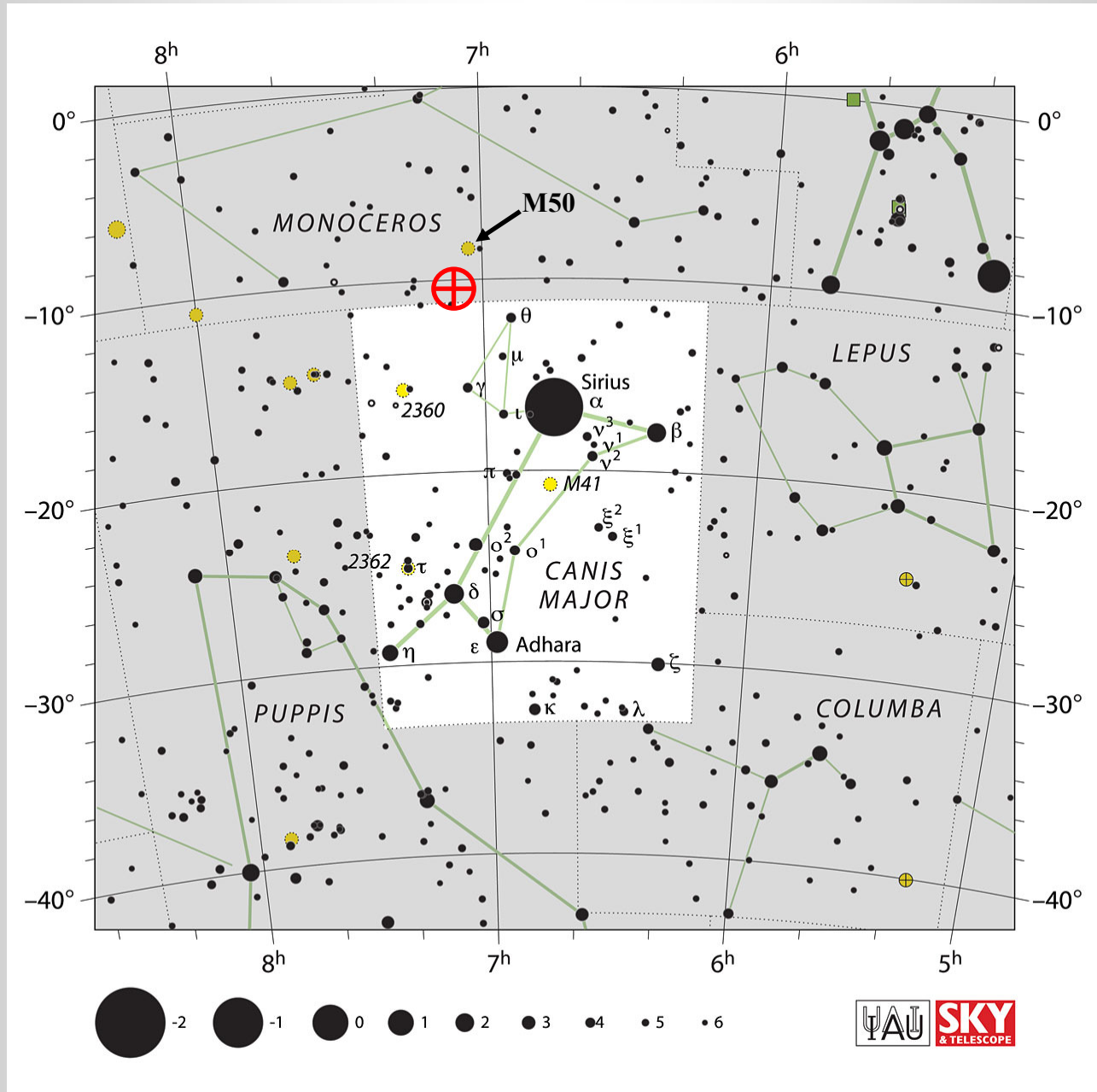


The **Seagull Nebula** is a large emission nebula found low in the sky between the constellations Monoceros and Canis Major. It is relatively faint in moderate dark skies. The full extent of the nebula's wings spread out over 100 light-years. It is located 3,800 light-years away from Earth, inside the Orion spur -- the same partial spiral arm of the Milky Way where our solar system is located. The Seagull is located about 5 degrees above the bright star Sirius. The black silhouette in the lower right hand corner of my picture are some tree tops in my yard. Sirius was well below these trees. With the trees included in my image you can see just how large the nebula is. My image also contains two open clusters. M50 is the larger and brighter cluster of stars that is located above the Seagull, while NGC 2343 (the smaller cluster of stars) is located under the Seagull's left wing near its torso.

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Finder Chart

The Seagull Nebula is located in the lower portion of the constellation Monoceros, bordering Canis Major. Its proximity to the bright star, Sirius, makes this deep-sky object much easier to find. I placed red cross-hairs in the chart to mark its exact location. Although the Seagull shines brightly in a long exposure photograph, a telescope with an aperture of at least 8 inches is recommended to view the brightest portion of the nebula. I also flagged M50 for reference.



Canis Major: IAU Constellation Map

Girl Scouts Learn Astronomy

Images and write-up submitted by Gary Asperschlager

This month [March] I conducted 2 classes with Sanford Girl Scout troop 1110 for their astronomy merit badge. The troop leader took a couple photos for me for the newsletter. It was a lot of fun and the girls are really sharp and interested. They will try to visit the observatory later in the year.



Editor: I asked Gary where the girls got their Planispheres. He told me that the leader made paper Planispheres from the internet and that it was great fun.

Astronomy Presentation & Star Party for Biddeford Pool Community Center

Photos submitted by Carl Gurtman

On Friday, March 24th, Carl gave a talk for the Biddeford Pool Community Center, and Gary led an observing session with one of his telescopes. Members Bernie, Bern, Chuck and his wife Shawna, helped. Carl and Gary reported that the night turned out wonderful with the addition of clear skies. Gary estimated that around 30 – 40 people attended the presentation. Also, Carl and Gary would like to thank Diane Nobel for organizing this event. And, hope that the attendees will visit our observatory sometime in the future.



[Astronomical Society of Northern New England \(ASNNE\) Membership Meeting Minutes of 3 March 2023](#)

Business Meeting: The Business Meeting was called to order at 7:15 pm by Vice-President Bernie Reim.

Directors Present: Ian Durham, President (After Business Meeting start.)
Bernie Reim, Vice-President
Carl Gurtman, Secretary
Gary Asperschlager, Director
Bern Valliere, Director

Plus: David Bianchi, ASNNE E-Mail Manager
Paul Kursewicz, *Skylights* Editor

Others Present: There were an additional thirteen people physically present. An additional four people participated on Zoom. **NOTE:** More people are now showing up earlier than the 7:30 pm start of the Regular Meeting. They are, of course, welcome. This accounts for the larger-than-expected number of people present at the Business Meeting.

Treasurer's Report: Ian and David handed out more CLYNK bags, some already tagged. When people turn in bottles in these special bags, the bottle return amount is credited to ASNNE. Alyson Durham, who has spear-headed this effort, reports that the returned bottles have, so far, put \$165 into ASNNE's treasury.

Secretary's Report: The Secretary's Minutes of the February Meeting were accepted.

Old Business:

Summer Presentations: Gary made another plea for more people to volunteer to help with ASNNE's presentations. Right now, one of the regular "glamp-grounds" from last summer, Huttopia, has contacted Gary, and is interested in our doing the presentations next summer. He has yet to hear from Point Sebago. Gary, Bern, Bernie, and Carl have agreed to do presentations again. Rick Tockman also volunteered to help at Huttopia.

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Other Presentations: Gary has also taken the lead for a presentation for the Biddeford Pool Community Center, at their location. This will take place either on Friday, 24 March, or Saturday, 25 March. Good weather on the 24th; both presentation and observing. Not good weather, wait for the 25th. Good weather on the 25th, both elements; bad weather that date, only the presentation. Gary will scout the dark sky aspects of that venue. Presenters; Gary & Bernie with scopes; Carl. This event will include an opportunity for people to make donations to the club.

Bernie has taken the lead for a similar presentation at the Ecology School, at the end of April.

Gary successfully made a presentation to Girl Scouts. When they offered to make a contribution, Gary declined to take money from those young girls. Gary did suggest, however, that he would be willing to accept Girl Scout cookies.

New Business:

Auctioned Presentations: We were approached by two non-profit organization, who requested that we offer a Star Party at our Talmage Observatory at Starfield, to be auctioned off as part of a fund-raising effort for those organizations. The organizations are the Ocean Avenue Elementary School Parent-Teacher Organization, and the Kennebunk Land Trust. The dates of the Star Parties would be by mutual agreement between ASNNE and the successful bidder. ASNNE would not get any portion of the auction price - that's appropriate - but we would have our open "Donation Telescope" prominently displayed. Carl noted that we've done this before, and it's in our charter, and we agreed to do it.

New Speaker: Our President, Dr. Ian Durham, is a Professor and Chair of Physics at Saint Anselm College, and a member of the Foundational Questions Institute (FQXi). Dr. Durham is the member FQXi asks to pick the five most important physics stories of the year. He will talk about his choices at our April Meeting.

The Business Meeting was adjourned at 7:30 pm.

Regular Meeting:

Regular Meeting: The Business Meeting was called to order at 7:35 pm by President Ian Durham.

Directors Present: Ian Durham, President
 Bernie Reim, Vice-President
 Carl Gurtman, Secretary
 Gary Asperschlager, Director
 Bern Valliere, Director

Plus: David Bianchi, ASNNE E-Mail Manager
 Paul Kursewicz, *Skylights* Editor

“Continued on page 16”

Others Present: There were an additional thirteen people physically present. An additional seven people participated on Zoom.

There were quite a few new people at our Meeting tonight. Of course, we're delighted to see them! Ian had everyone present introduce themselves. People shared their backgrounds, astronomical history, and interests. Interestingly many people, regardless of their involvement with astronomy clubs, revealed a long-term interest in astronomy.

Presentation: David had arraigned for this Presentation. The two Presenters were on Zoom; David turned the floor over to them, and they introduced themselves. Lauren Rock is the owner of Dynamic Escapes, a custom travel agency. She loves to travel, do research on the travel, and meticulously plan. Her husband, Jared Shiffer, has been an avid amateur astronomer since 1993. His telescope is a 12" f4.5 Dobsonian, which he has modified for easy portability.

Lauren and Jared talked about the safari that they're planning for August, 2023, to Tanzania, in south-east Africa. The safari is planned for a limited number of people, and will be focused on wildlife observation by day, and astronomy by night.

Lauren and Jared showed slides from past safaris to illustrate the points they made. From a wildlife perspective, Tanzania, (the home of Mount Kilimanjaro), is the site of the Ngorongoro Crater, and the Serengeti National Park, which hosts the great migration of wildebeest. Lions, elephants, giraffes, and countless other species are there.

At night, the sky is Bortol Class 1; a classification which indicates the very darkest skies. And a visit from the Perseid Meteor Shower is expected.

Guests stay in "tents"; the equivalent of a very high class hotel. All food and drink are provided; everyone gets a window seat **in the** safari jeeps used to observe the animals during the day.

Lauren and Jared presented photograph after photograph, alternating between wildlife, the sky, and some of the safari itself.

The presentation was very well received.

You can get more information, if you are interested in going, from laurenrock@dynamic-escapes.com, or 404-372-4303.

"What's Up?":

Before "What's Up?" Bernie mentioned that on his radio show, he had reviewed *The Milky Way*, by Moiya McTier.

Bernie gave his usual thorough, comprehensive, and complete discussion of what's in store for us in the skies of March.

The month of March always marks the beginning of spring in the northern hemisphere. Spring starts exactly 5:24 p.m. EDT, on Monday, 20 March.

The vernal equinox marks the minute that the sun on the ecliptic crosses the celestial equator on an upward trajectory. Everyone on Earth, except those at the poles will experience the sun rising due east and setting due west on that day. Within a few days of that day the days will also be exactly 12 hours long. The discrepancy is because the sun is not a point light source.

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Highlights this month include a very close conjunction of our two brightest planets, Venus and Jupiter on March 1, a close conjunction of Jupiter and Mercury on the 27th, and Saturn returning to the morning sky, Comet C/2022 E3 (ZTF) still being visible as it passes through Taurus, Eridanus the River, and Orion. There will be an opposition of the dwarf planet Ceres, the first asteroid to be discovered. Pallas, the second asteroid to be discovered will be at its best near Sirius in Canis Major on the 1 March.

Venus has been catching up with Jupiter at the rate of one degree per day all of last month. They will be just half a degree apart on 1 March, in Pisces the Fish. After, that Venus will continue to climb higher even as Jupiter sinks lower, separating them at the rate of one degree per day for all of March.

Mercury returns to the western evening sky late this month and it will form a nice conjunction with Jupiter on the 27th, half an hour after sunset. Uranus will be just over one degree to the left and above Venus, but you would need at least a pair of binoculars to see it. Then Mars continues to get a little fainter and smaller each night.

Notice that the red planet will still shine brighter than the nearby orange star, Aldebaran, marking the eye of Taurus the Bull, at 0.9 magnitude.

Mars will fade to match Aldebaran by the end of March. Mars crosses eastward into Gemini on the 26th. It will be just 1.1 degrees north of the nice open cluster M35 on the 29th. That will be a nice view of that cluster and the conjunction in binoculars.

Saturn returns to our morning sky around the middle of this month and it will rise 75 minutes before dawn by the 31st.

Comet C/2022 E3 (ZTF) is getting fainter but is still visible in binoculars or a telescope this month when the moon is not too bright, between the 10th and the 23rd.

The dwarf planet Ceres, the first asteroid to be discovered in 1801, will reach opposition on the 21st.

You can still see the faint glow of the zodiacal light this month from the 10th to the 23rd with no moonlight to interfere. Look for it about an hour after sunset in the west. This torus of dust along our ecliptic plane is always there, but it is best seen when the angle of the ecliptic is the steepest with our horizon. It will appear as a very subtle ghostly glow forming a haystack or pyramid about 20 degrees into the sky. It is caused by sunlight bouncing off trillions of tiny dust particles from eon's worth of debris from passing comets which settled into the orbital plane of our solar system.

The annual International Earth Hour happens on Saturday, March 25th this year from 8:30 to 9:30 pm local time. Started in 2007 in Sydney, Australia, it has now grown to 190 countries and thousands of cities and millions of people. Many major cities will shut non-essential lights off during that hour. That makes it a great time to look at the sky from normally light-polluted areas for that one hour. The point is to unite in solidarity people across the globe and become more aware of how we can solve many of the major problems facing us now much more effectively as we work together on them with a common goal in mind. You can participate by just shutting off the lights in your homes and workplaces along with all non-essential appliances for that hour or you can extend your participation well beyond that by learning to eat more sustainably, travel more responsibly, saving more water and food, becoming more energy efficient, and many more long term habits that you can develop by starting during that one hour of enhanced awareness.

Bernie then covered "What Happened on this Day. . .", and the names of this month's moon.

Bernie's excellent presentation, in its entirety, can be found, this month, and every month, in *Skylights*, ASNNE's professional-quality newsletter; editor, Paul Kursewicz. Skylights may be found at: <http://www.asnne.org/newsletter.php>

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Astroshorts: Several Members provided a very few Astroshorts.

Astrophotography Presentation: David projected a series of astrophotographs taken by Paul Kursewicz. Paul explained each photograph. Paul takes his photographs, not with a telescope, but with a "point-and-shoot" camera mounted on a tracking device. Long exposures are not taken, but a series of short exposure photographs, which are "stacked " by a computer program, along with some completely dark photos to minimize visual noise. There were many beautiful photographs, and clearly Paul has become an expert in his camera's use. If you are interested, contact Paul, who is always looking for new converts.

Process Note: After the Meeting, several Directors discussed ways in which the Meetings can be tightened up, and how we can better interact with new members, and visitors. We do not want to act in such a way that we unintentionally cause new Members to think that there's a closed group of old-timers, that they are effectively excluded from.

Next Meeting:

ASNNE's next Meeting will be on Friday, 7 April, 2023 at 7:30 pm at the New School in Kennebunk, Maine. **[My 80th Birthday. Girl Scout cookies welcome!]** There will be a short Business Meeting prior to the Regular Meeting, at 7:00 pm, at the same location. As always, all Members are always welcome at the Business Meeting.

As noted above, our President Ian Durham will give a Presentation in April

Respectfully submitted,

Carl Gurtman

Club Meeting & Star Party Dates

Date	Subject	Location
<u>Apr 7</u>	<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: Club President Dr. Ian Durham will be our guest speaker. Since Ian will be in New York on that day, his talk will be via ZOOM. Ian is a member of the Foundational Questions Institute (FQXi), and is asked to pick the 5 top physics stories of last year. He will share his choices.</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	<p>Last month we met at The New School and had several members attending via Zoom. Our guest speakers were Lauran Rock & her husband Jared. Lauran owns a tour company which offers astronomy related tours. Bernie presented his What's Up article. David showed some of Paul Kursecwicz's Astroimaging photos. And, several astro shorts were shared with the club.</p>	
<u>TBD</u>	Club/Public Star Party: Dependent on the weather and if there is any interest in Winter (cold nights) observing.	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:

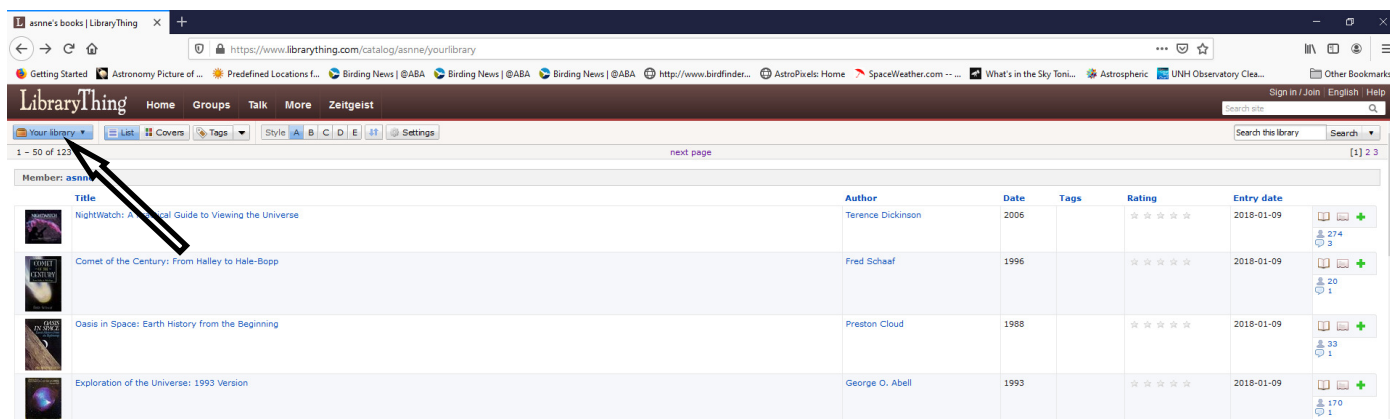
Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for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

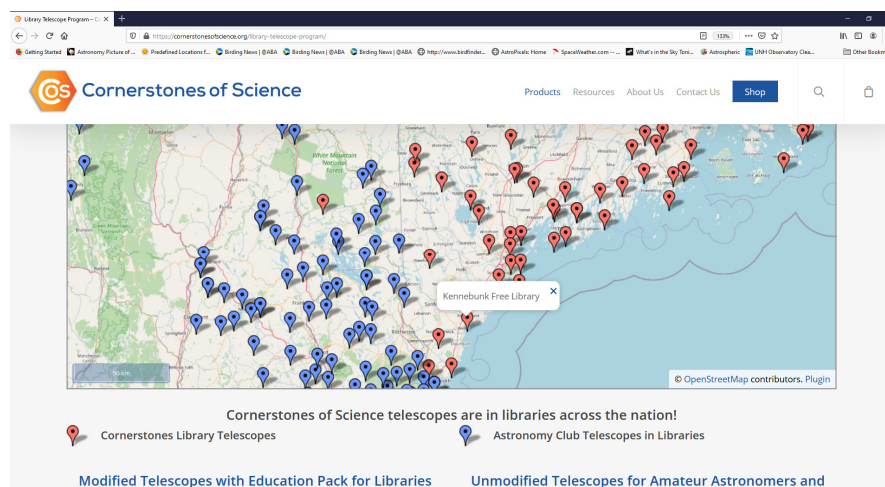
Astronomy Club & Library Resources

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

2023 Membership Registration Form

(Print, fill out and mail to address above)

Name(s for family): _____

Address: _____

City/State: _____ Zip code: _____

Telephone # _____

E-mail: _____

Membership (check one):

Individual \$35 _____ Family \$ 40 _____ 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 _____

