

Skylights

Newsletter of the Astronomical Society of Northern New England



AUG 2022



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 August

By *Bernie Reim*

The month of August is named for Augustus Caesar, just as July was named for Julius Caesar. This is the last full month of summer already and also the hottest time of the year since it takes about half a season for the land and water to really warm up after the sun reached its highest point back on June 21, the summer solstice. The opposite is true in winter since the coldest days occur about 6 weeks after the sun reached its lowest point in the sky on the winter solstice.

These are known as the "dog days" of summer since the Greeks and Romans falsely thought that the combined heat of Sirius, the Dog Star, along with our sun when they are close together in the sky at this time of year would create a lot of extra heat on Earth at this time of year. We now know that Sirius is 8.8 light years away and could not possibly create any extra heat on Earth at that huge distance of about 50 trillion miles. Sirius is one of the closest stars to us after Alpha and Proxima Centauri at 4.2 light years, but that is still much too far away to create any extra heat on Earth. This was only one of many misconceptions that ancient people had, even though they were potentially as smart as we are, they just did not have the technology to learn what is really happening.

The great planetary alignment broke up early last month, but 4 of our 5 brightest planets are still visible in order in our morning sky along with Uranus and Neptune sprinkled in with the other four. The next time all 7 planets will be visible with the 5 bright ones in sequence from the sun will be 100 years from now, 2122.

The gas giants, Jupiter and Saturn, will once again rule the night sky by the end of this month when Jupiter rises by 9 pm and Saturn will already be up by sunset, since it reaches opposition, when it rises exactly at sunset, on Sunday, August 14. Jupiter will reach its own opposition next month on September 26, soon after fall will start.

The next Mars season is now upon us leading up to its opposition around the winter solstice this year. Mars only reaches opposition every 26 months compared to about every 13 months for Jupiter and Saturn. Mars will double in brightness over that time. The red planet is already brighter than Saturn and Mercury, but it will not get as bright as Jupiter or Venus.

Mercury will be visible low in the western evening sky all month. The Perseid meteor shower peaks on the 12th this month, but the moon is full on the 11th, so most of these meteors will be washed out by moonlight. It will still be worth looking for the

brighter fireballs and remember that this entire shower lasts from July 17 to August 24, so you can catch some of them when the moon is not yet full or after the full moon.

Then Comet C/2017 K2 (PanSTARRS) may brighten to 7th magnitude in Scorpius this month, so look for it with a good pair of binoculars or a small telescope when the moon is not full.

The real highlights for this month are not anything that will happen over our local skies. That is the release of the first few stunning and dramatic images from the Webb Space Telescope unveiled last month. They are the result of over 20 years of hard work by about 20,000 scientists and engineers from all over the world, a true testament of what can be accomplished when we work well together and persevere in the face of extreme odds, inventing amazing new technology on the fly as we went along over that time period that has already borne rich fruit.

The JWST is performing beyond expectations and may continue to produce such incredible images for about 20 more years since its launch went so perfectly that it has plenty of fuel left to continue to make great discoveries for us and answer many questions that we had not even thought to ask yet.

Here is a brief summary what those first 5 images have taught us already. They represent the whole range of what the telescope can see from

"Continued on page 2"

Inside This Issue

Club Contact List	pg. 2
Moon Data Observer's Challenge	pg. 3,4,5
Meteor Showers in 2022 Club Merchandise for Sale	pg. 6
Artemis 1: A Trip Around the Moon and Back!	pg. 7,8,9
Astroimaging with a Point & Shoot	pg. 10,11
Club Meeting Minutes	pg. 12-14
Club Info & Directions to ASNNE	pg. 15
ASNNE Club & Library Resources	pg. 16
Become a Member	pg. 17

Club Contacts

Officers:

President:

Ian Durham
idurham@anselm.edu

Vice President:

Bernie Reim
bernardreim@maine.edu

Secretary:

Carl Gurtman
cgurtman@maine.rr.com

Treasurer:

Ian Durham
idurham@anselm.edu

Board of Directors:

Gary Asperschlager
gasperschlager@gmail.com

Larry Burkett
larrybu32@yahoo.com

Keith Brown
silverado93@twc.com

Star Party

Co-ordinator:

Carl Gurtman
cgurtman@maine.rr.com

Skylights Editor:

Paul Kursewicz
pkursewicz@myfairpoint.net

Website Manager:

Paul Kursewicz
pkursewicz@myfairpoint.net

NASA Night Sky Network

Co-ordinator:

Joan Chamberlin
starladyjoan@yahoo.com

JPL Solar System Ambassador:

Joan Chamberlin
starladyjoan@yahoo.com

E-mail coordinator

David Bianchi
dadsnorlax@yahoo.com

What's Up "Continued from page 1"

our own planets nearby all the way out to the edge of the known universe with the deep field image, taken in just 12 hours with about 10 times more detail than the best Hubble Deep Field, which took 10 days to create. It showed many dramatic red arcs, caused by the gravity of a galaxy cluster located about 7 billion light years away. This is called gravitational lensing, created by all the dark matter in this cluster that is bending the light of many galaxies directly behind this cluster, acting like a giant natural lens in space. We can learn a lot more about the galaxy cluster and its mass along with the distorted galaxies behind it by analyzing it carefully. Notice that all of the arcs are red because those galaxies are so much farther away that they are extremely red shifted as we are seeing much further into the past.

The JWST will be able to see a little further into the universe than the Hubble Space Telescope could because it sees the universe in infrared light and the universe gets more and more red shifted as we get closer and closer to its "edge". So we will gain about 300 million years closer to the Big Bang of 13.8 billion years ago, but we will still not be able to see back to the very beginning. That will take the next generation of space telescopes after JWST, and even then we will only get closer and closer, never actually "seeing" the very beginning and exactly how the very first star or galaxy or black hole really formed. That could forever remain a mystery, but at least we will learn much more about the true nature of our universe with every effort we make.

Then we saw Stephan's Quintet, a group of 4 interacting galaxies located about 300 million light years away, about 50 times closer than the deep field image. They could even see a black hole of 24 million solar masses actively feeding in one of those 4 galaxies, called an AGN or active galactic nuclei. All large galaxies have super massive black holes, but only about 10 percent of them are active right now. The JWST even got spectra of that black hole, which was completely unprecedented with any previous technology.

Then we saw the Carina nebula at about 7500 light years away, one of the largest star-forming regions in our galaxy, in tremendous new detail. Then there was the Southern Ring nebula in Vela about 2500 light years away. They saw two stars in the center; one was the white dwarf which exploded to create all of these intricate shells of material as the star exploded over time and now covers half a light year of space. The other one is still alive and interacting with the white dwarf.

Then they released a picture of a "hot Jupiter", a large planet orbiting a star about 1000 light years away every 3 days. They took a spectrum of it which showed water vapor at several different wavelengths, which means that this strange planet which is a little larger than Jupiter and has a temperature of 1200 degrees F, actually has clouds! They also released some images of our own Jupiter already which showed its rings and some other amazing detail with its moons in infrared light. They proved they could track nearby objects accurately and they plan to spend about 10% of its time studying closer objects like our own planets.

All of this is only the very tip of the iceberg of what the JWST will reveal to us over the next 20 years. Now it is up to us to interpret those images correctly using good science to piece together a little more of the amazing and astounding universe that we all really live in on the much grander scale and to not just get overwhelmed with their artistic beauty.

On a different note, but no less spectacular, there is one more highlight which may occur on the 29th of this month or early next month.

That is the launch of the largest and most powerful rocket in the world every created in our 200,000 history of modern humans or at any other time, the Artemis 1 mission to the moon carrying the new Orion capsule, which can carry up to 6 astronauts, compared to just 3 for Apollo. Artemis is the mythological sister of Apollo, so that is a perfect name for our next lunar missions. I was lucky enough to sit in a mock-up of the Orion capsule and to learn much more about the Artemis mission while I was visiting the Johnson Space Center in Houston a few years ago, which I highly recommend to everyone even remotely interested in space and our place in it and what we have learned so far and how much we can continue to learn as we apply ourselves in this new golden age of space and making it more assessable and understandable for every one of us.

This is an uncrewed mission, but they will have 3 mannequins aboard with the interesting names of Helga, Zohar, and Commander Moonikin Campos, in honor of Arturo Campos, a key player in bringing Apollo 13 and its 3 astronauts back to Earth safely. They will have many sensors on them to check the radiation levels and several other factors. Artemis 2 is already scheduled to launch in May of 2024, just after the April 8, 2024 total solar eclipse visible right here over Maine. That one will have a crew, but they will not land on the moon. Then Artemis 3 will carry the astronauts that will actually land back on the moon sometime in 2025, 53 years after the last humans landed there in December of 1972.

August 1. Mars passes close to Uranus in the morning sky. Maria Mitchell was born on this day in 1818. She was the first woman professional astronomer and discovered a comet.

August 4. The Phoenix mission to Mars was launched on the day in 2007.

August 5. First quarter moon is at 7:07 a.m. EDT.

August 6. The Curiosity Rover was launched to Mars on this day in 2012.

August 7. Venus passes close to Pollux in Gemini this morning. John Mather was born on this day in 1946. He won the Nobel prize in physics in 2006 for his work with COBE on the cosmic microwave background radiation, proving the Big Bang. He just retired as the chief scientist on the JWST, so we have him to thank (along with thousands of others) for the great images so far.

August 10. The moon is at perigee, or closest to Earth at 223,587 miles today.

August 11. Full moon is at 9:36 p.m. This is also known as the Grain, Green Corn, Sturgeon, or Blueberry Moon.

August 12. The Perseid Meteor shower peaks this morning. Margaret Burbidge, a British-American astronomer, was born on this day in 1919. She developed a theory for stellar nucleosynthesis.

August 14. The moon passes near Neptune this morning. Saturn is at opposition.

August 15. The moon passes near Jupiter this morning.

August 16. The moon passes near Uranus this morning.

August 19. Last quarter moon is at 12:36 a.m. The moon passes just north of Mars this morning.

August 22. The asteroid Vesta is at opposition. The moon is at apogee at 251,915 today.

August 25. The moon passes near the dwarf planet Ceres tonight and near Venus this morning.

August 27. New moon is at 4:17 a.m. Mercury reaches greatest eastern elongation.



Moon Phases

Aug 5
First Quarter

Aug 11
Full

Aug 19
Last Quarter

Aug 27
New

Moon Data

Aug 10
Moon at perigee

Aug 11
Saturn 4° north
of Moon

Aug 14
Neptune 3° north
of Moon

Aug 15
Jupiter 1.9° north
of Moon

Aug 18
Uranus 0.6° south
of Moon

Aug 19
Mars 3° south
of Moon

Aug 22
Moon at apogee

Aug 25
Venus 4° south
of Moon

Aug 29
Mercury 7° north
of Moon

OBSERVER'S CHALLENGE* – AUGUST, 2022

by Glenn Chaple

NGC 6772 Planetary Nebula in Aquila (Magnitude 12.7; Size 70" X 56")

The July Observer's Challenge featured the bright planetary nebula NGC 6210 in Hercules. This month, we visit another planetary nebula- one that, to put it bluntly, isn't so bright. NGC 6772 is about the same size as M57, the Ring Nebula (70" X 56" to 86" X 62"), but is 4 magnitudes fainter (12.7 to 8.8). To see it visually, you'll need a dark sky, reasonably large aperture scope, and (highly recommended) a nebula filter.

NGC 6772 is located in the southwest corner of Aquila at 2000.0 coordinates RA 19^h14^m36.4^s, Dec -2°42'25.0". Star-hoppers can find their way here by beginning 3 degrees southwest at 3rd magnitude lambda (λ) Aquilae (see Finder Chart B).

William Herschel may have overlooked NGC 6210, but his capable eye spotted NGC 6772 on the night of July 21, 1784. He described it as "very faint, round, nearly of equal light throughout, about 1' in diameter, In the midst of numberless stars of the Milky Way,"

This planetary nebula proved to be a challenge when I tackled it on the night of June 25, 2022, with a 10-inch f/5 reflector. A limiting naked eye magnitude of 5 didn't help. I was unable to see anything with an unfiltered view, Placing an O-III filter into a 13mm eyepiece brought out an extremely elusive roundish glow that I could only detect with averted vision. As Herschel had noted 238 years earlier, it was immersed in a field littered with faint stars.

Sources ascribe a distance of 4000-4200 light years to this planetary. Its true diameter may be in the order of 1.5 light years.

**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.*

"Continued on page 4"

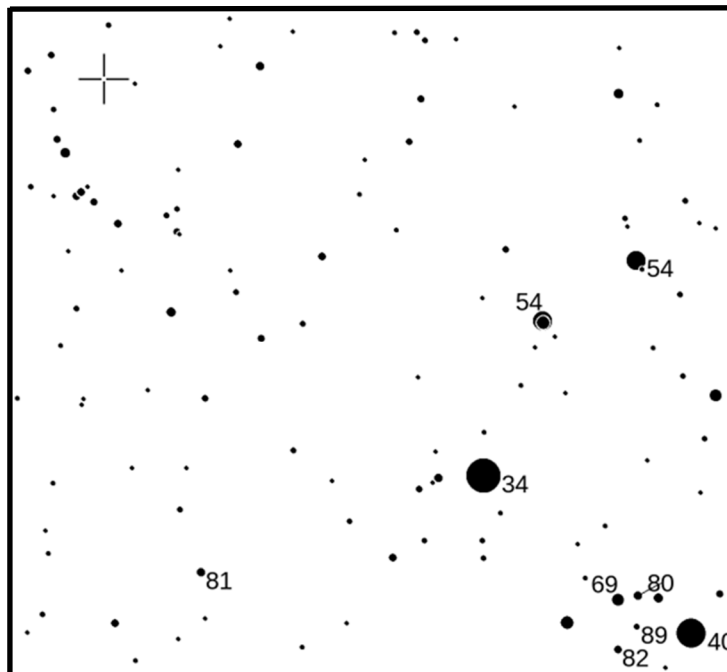
NGC 6772 Finder Charts

A



B

Chart created using the AAVSO's Variable Star Plotter (VSP). The location of NGC 6772 is marked with a crosshair. Numbers are stellar magnitudes, decimals omitted. The 3.4 magnitude star is lambda (λ) Aquilae. Stars plotted to 10th magnitude. North is up in this 3.5 X 3.5 degree field.



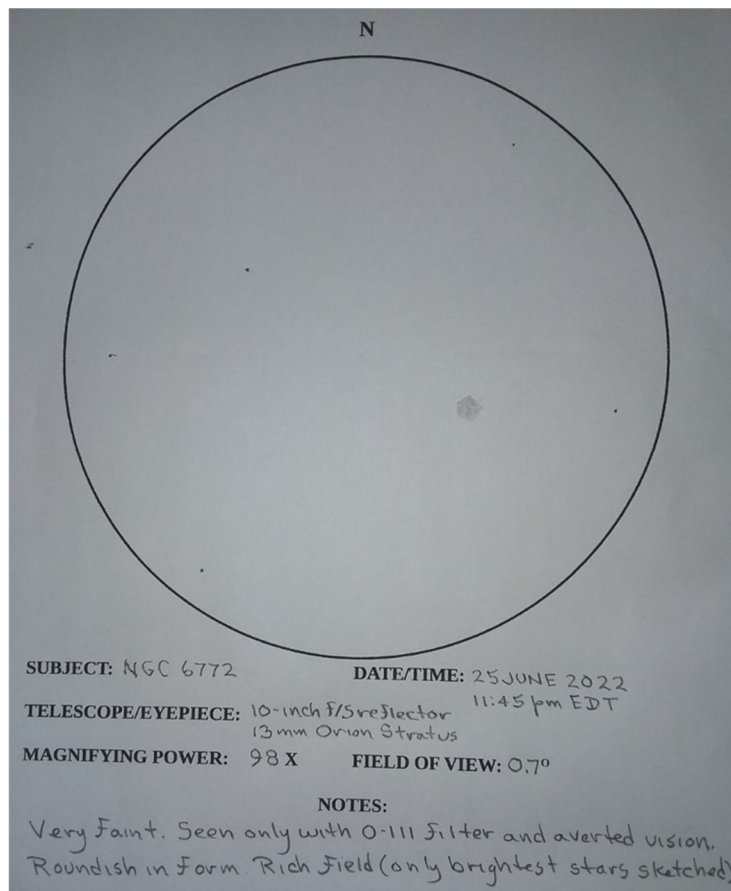
“Continued on page 5”

NGC 6772 Images

Image by Mario Motta, MD (ATMoB) taken with H alpha, S2, and O3 filters
1 hour each. With 32 inch scope, ASI 6200 camera.



Sketch by Glenn Chaple (ATMoB)



Principal Meteor Showers in 2022

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

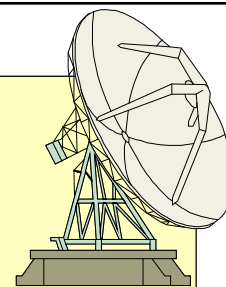
December 14
Geminids

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!

Artemis 1: A Trip Around the Moon – and Back!

By David Prosper

We are returning to the Moon - and beyond! Later this summer, NASA's Artemis 1 mission will launch the first uncrewed flight test of both the Space Launch System (SLS) and Orion spacecraft on a multi-week mission. Orion will journey thousands of miles beyond the Moon, briefly entering a retrograde lunar orbit before heading back to a splashdown on Earth.

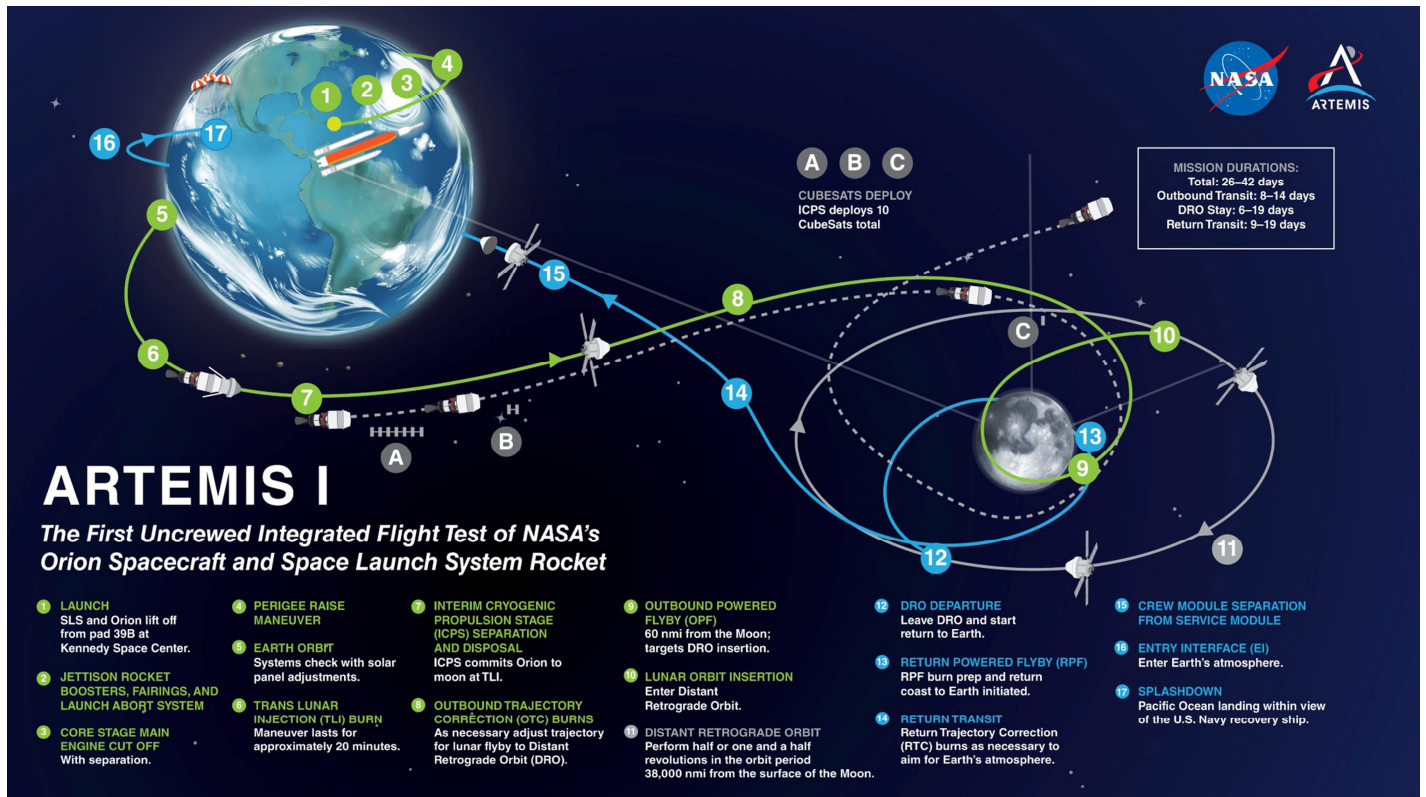
The massive rocket will launch from Launch Complex 39B at the Kennedy Space Center in Florida. The location's technical capabilities, along with its storied history, mark it as a perfect spot to launch our return to the Moon. The complex's first mission was Apollo 10 in 1968, which appropriately also served as a test for a heavy-lift launch vehicle (the Saturn V rocket) and lunar spacecraft: the Apollo Command and Service Modules joined with the Lunar Module. The Apollo 10 mission profile included testing the Lunar Module while in orbit around the Moon before returning to the Earth. In its "Block-1" configuration, Artemis 1's SLS rocket will take off with 8.8 million pounds of maximum thrust, even greater than the 7.6 millions pounds of thrust generated by the legendary Saturn V, making it the most powerful rocket in the world!

Artemis 1 will serve not only as a test of the SLS and the Orion hardware, but also as a test of the integration of ground systems and support personnel that will ensure the success of this and future Artemis missions. While uncrewed, Artemis-1 will still have passengers of a sort: two human torso models designed to test radiation levels during the mission, and "Commander Moonikin Campos," a mannequin named by the public. The specialized mannequin will also monitor radiation levels, along with vibration and acceleration data from inside its mission uniform: the Orion Crew Survival Suit, the spacesuit that future Artemis astronauts will wear. The "Moonikin" is named after Arturo Campos, a NASA electrical engineer who played an essential role in bringing Apollo 13's crew back to Earth after a near-fatal disaster in space.

The mission also contains other valuable cargo for its journey around the Moon and back, including CubeSats, several space science badges from the Girl Scouts, and microchips etched with 30,000 names of workers who made the Artemis-1 mission possible. A total of 10 CubeSats will be deployed from the Orion Stage Adapter, the ring that connects the Orion spacecraft to the SLS, at several segments along the mission's path to the Moon. The power of SLS allows engineers to attach many secondary "ride-along" mission hardware like these CubeSats, whose various missions will study plasma propulsion, radiation effects on microorganisms, solar sails, Earth's radiation environment, space weather, and of course, missions to study the Moon and even the Orion spacecraft and its Interim Cryogenic Propulsion Stage (ICPS)!

If you want to explore more of the science and stories behind both our Moon and our history of lunar exploration, the Night Sky Network's **Apollo 11 at 50 Toolkit** covers a ton of regolith: bit.ly/nsnmoon! NASA also works with people and organizations around the world coordinating **International Observe the Moon Night**, with 2022's edition scheduled for Saturday, October 1: moon.nasa.gov/observe. Of course, you can follow the latest news and updates on Artemis 1 and our return to the Moon at nasa.gov/artemis-1

“Continued on page 8”



Follow along as Artemis 1 journeys to the Moon and back! A larger version of this infographic is available from NASA at: nasa.gov/image-feature/artemis-i-map

“Continued on page 9”



Full Moon over Artemis-1 on July 14, 2022, as the integrated Space Launch System and Orion spacecraft await testing.

Photo credit: NASA/Cory Huston Source: <https://www.nasa.gov/image-feature/a-full-moon-over-artemis/>

Point and Shoot Camera Astroimaging (no telescope)

Canon Powershot SX50 HS

Image & write-up submitted by Paul Kursewicz

Comet C/2017 K2 (PanSTARRS)

SPECS: RAW mode, f/3.5, FL 291mm, ISO 1600, 38 x 30 sec, Baader Moon & Skyglow Filter, 7-15-22



This is not the best comet to grace our skies in a while, but it is the best comet of the summer. What makes this picture impressive is the comet's position between two bright globular clusters and the additional bonus of having a bright green meteor pass nearby. In my picture the comet is just at the upper right of globular cluster M10 (the lower globular). It has a blue hue to it. The other globular (top right) is M12. Both are in the constellation Ophiuchus. The comet was not that hard to hunt down because it was near a bright object (M10). I couldn't see the comet in bino's, but had good looks at it through my 12.5-inch Dob. The comet came closet to us on July 14th. It will still be visible throughout summer.

“Continued on page 11 ”

Comet C/2017 K2 (PanSTARRS)
Cropped Image



Astronomers estimate that Comet C/2017 K2 (PanSTARRS) has been traveling from the Oort Cloud for some 3 million years in a hyperbolic orbit. It first became visible in small telescopes (Northern hemisphere) in May. After mid-September, it'll be close to the southwestern horizon. Afterwards, it'll be best for observers in the Southern Hemisphere. Comets are mostly rock and ice. They become active when warmed by the sun. However, this comet was already active in 2017.



The Hubble Space Telescope took an image of the comet looking like a fuzzy snowball while it was still in the outer solar system, 1.5 billion miles from the Sun, just beyond Saturn's orbit. The comet appears to have a large nucleus, and it shows a huge cometary atmosphere or coma. Even at that remote distance, sunlight is warming the frigid comet, producing an 80,000-mile-wide coma that envelops a tiny, solid nucleus. The image was taken in June 2017 by Hubble's Wide Field Camera 3.

[Astronomical Society of Northern New England \(ASNNE\) Membership](#)

[Meeting Minutes of 8 July 2022](#)

Business Meeting:

Directors Present:

Bernie Reim, Vice President - Acting President

Carl Gurtman, Secretary

Gary Asperschlager, Director

Bern Valliere, Director

Others Present:

There were 7 additional people present.

Acting President Bernie Reim called the Business Meeting to order at 7:05 pm.

He then turned the Meeting over to David, our ASNNE E-mail coordinator.

David first reported on **three** special Star Parties that will be held at the Talmage Observatory at Starfield. They are:

Saturday, 30 July, 2022. At 8:30 pm. Held for the Kennebunk Land Trust. All ASNNE Members are welcome.

Wednesday, 24 August, 2022. At 8:30 pm. Held for the Wells Library.

Approximately 30 people expected. All ASNNE Members are welcome.

Wednesday, 21 September. At 8:30 pm. Held for the Wells Library.

Approximately 30 people expected. All ASNNE Members are welcome.

ASNNE Members are also needed to host the Event.

David then reported on our two next regularly-scheduled upcoming Public Star Parties at the Talmage Observatory at Starfield. They are:

Friday, 22 July, 2022. At 8:30 pm. Rain date 23 July.

Friday, 26 August, 2022. At 8:30 pm. Rain date 27 August.

We then set the date/time/location for our regular August Meeting. This Meeting will be our Summer Bar-B-Q. At the Talmage Observatory at Starfield. Please bring your own food and beverages. ASNNE will provide the grills and fuel. At this August Meeting, Mark will be our Presenter. Subject: Astrophotography.

Friday, 5 August, 2022. **5:00 pm.**

“Continued on page 13 ”

The last item we discussed at the Business Meeting was Starfest, 2022. This will occur from Friday, 23 September through Sunday, 25 September, at the Talmage Observatory at Starfield. There will be day and night observing. Members are welcome to camp out - tenting or vehicles, throughout the Event. Bern will be our Presenter. There will also be a cookout. More details will follow.

Regular Meeting: There were 14 people, (total), present, 12 in person, and 2 people present on Zoom.

Acting President Bernie Reim called the Regular Meeting to order at 7:35 pm.

What's Up:

Bernie first informed us that he will have a guest on his radio show, *Scientifically Speaking*. His guest will discuss climate change.

Bernie then gave his usual thorough, comprehensive, and complete discussion of what's in store for us in the skies of July, named for Julius Caesar. It is our full month of summer, and the days are already getting shorter. The morning Planetary parade continues only for July's first week, then the next time you can see it is in 2040.

There will be a good meteor shower, peaking on Saturday morning, 30 July, the Southern Delta Aquarid shower. You can only expect about 12 meteors per hour emanating from western Aquarius, near Capricorn.

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>

"Continued on page 14"

ASNNE Astronomy Presentations:

Carl noted that all of us in ASNNE owe a vote of thanks to Gary, who is doing all the heavy lifting as we present astronomy talks at two campgrounds, Huttopia, and Point Sebago. The first Point Sebago talk (by Carl) only had an audience of one family of four; but the second (by Gary), was better publicized and had an audience of about 30. The presence of young people, asking and answering questions, provided great interaction, and the talks were very well received.

The Huttopia talks (by Gary and Bernie) were similarly well received. **At both campgrounds, while one ASNNE Member did the majority of that night's presentation, the entire team of Gary, Bernie, Carl, Bern, and Bob, provided support, filled in facts and provided context, carried the theme as necessary, and made the entire presentation better, and, easier to present.**

Gary received a round of applause.

AstroShorts:

Several Members presented Astroshorts.

The next ASNNE Meeting, will be at 5:00 pm, on Friday, 5 August, 2022, at the Talmage Observatory at Starfield. This is our outdoor Bar-B-Q Meeting; it's potluck. Bring your own food and beverage. Mark will be our Presenter.

Subject: Astrophotography. There will be observing. If cloudy, the Meeting will proceed as planned. If rainy, a regular Meeting will be held at the New School; regular time; no cook-out.

Respectfully submitted,

Carl Gurtman

Club Meeting & Star Party Dates

Date	Subject	Location
<u>Aug 5</u>	<p><u>ASNNE Club Meeting:</u></p> <p>Our August meeting will be held at Talmage Observatory, weather permitting. This will begin around 5:00 pm with a BBQ. It's a potluck so bring your own food and a beverage. The club has two grills. You might want to bring a chair also. Our meeting will start after the BBQ. If it is clear we can do some observing. If it rains we will meet at The New School (same time as usual) and no potluck.</p> <p>Guest Speaker: Club member Mark Hamilton will be our presenter. Mark will be giving a talk about Astroimaging.</p> <p>Bernie Reim - What's UP</p> <p>Astro Shorts: (news, stories, jokes, reports, questions, photos, observations etc.)</p>	<p>Talmage Observatory at Starfield West Kennebunk, Me.</p> <p style="text-align: center;">OR.....</p> <p>The New School, Kennebunk, Me. (if it is raining).</p>
Last Month	<p>We had our club meeting at The New School. Two members joined us on Zoom. There was no keynote speaker. Bernie did his "What's-Up" presentation and certain club members contributed to Astroshorts.</p>	
<u>Aug 5</u>	Club/Public Star Party: Weather permitting. Check before heading over.	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:

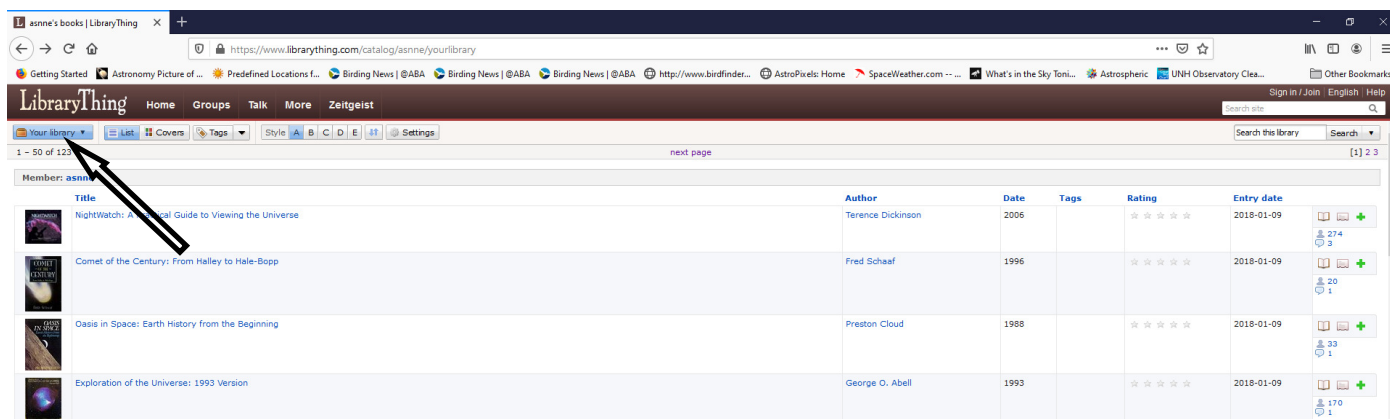
Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for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

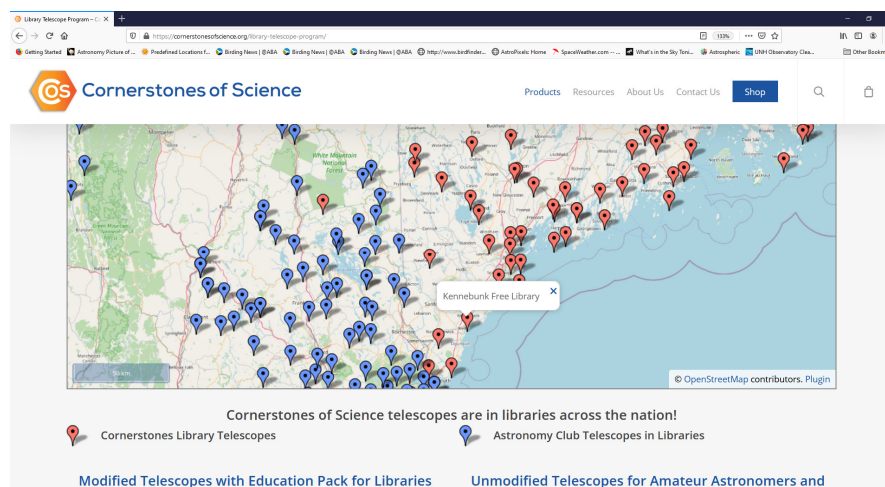
Astronomy Club & Library Resources

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

2022 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 _____

