

S P E C T R U M

Northern Cross Science Foundation Newsletter

September 2022



Fall Classic

The autumn season brings longer nights and great views of the nearest major galaxy M31, also known as the Andromeda Galaxy. At 2.5 million light-years away, it's the farthest object you can see with the naked eye. Though it shines at magnitude 3.5, that light is spread out over the width of several full moons. To properly see it, you'll need to be far from city lights. And bring your binoculars, it's spectacular when viewed with both eyes.

Don Woelz took this photo from his West Bend home under fairly dark skies. "I combined the subframes from two different nights, July 21 and 29, for a total integration time of more than 7 hours," said Woelz. He used a 73mm refractor with a 0.8x focal reducer, a ZWO ASI071MC camera, and an Optolong L-enhance filter.



Pluto and the Kuiper Belt

Pluto was "demoted" from a major planet to a dwarf planet by the International Astronomical Union in 2006.

September Program Why did this happen? What even is a dwarf planet? Are there any other similar planetary bodies? What do real scientists think of this (no longer new) label for our favorite extraterrestrial world? Come join

NASA Solar System ambassador [Katie Gansler](#) for this tour of the Kuiper Belt and the other small icy bodies residing in the outskirts of the Solar System.

August General Meeting Minutes

August 4, 2022 General Meeting Minutes

- Joyce Jentges opened the virtual Zoom meeting at 7:30. The meeting was recorded, there were 11 members in attendance.
- Gene Dupree was not in attendance to give the treasury report, but had sent it in prior. There was \$5266.94 in the general fund. The electrical bill of \$18.91 and the insurance bill of \$1,025 had been paid.
- John Fontana, a NASA Solar System Ambassador, gave the presentation *Going to the Moon*.
- John, who is from New York, lives about 50 miles north of New York city. His presentation was well received, lasted about an hour. A discussion with club members then took place, along with a question-and-answer period. John's purpose of his presentation is to keep the memory of the moon mission alive, as well as stimulate further moon exploration in younger generations.
- Katie Gansler will give the September's presentation. Her subject will be,

See page 2

Looking Ahead

Thursday, Sept. 1
General Meeting
via Zoom, 7:30 pm

September 2, Friday
7:30 to 11 pm
Public Viewing,
Harrington Beach
Plunkett Observatory
Volunteers Needed

September 3, Saturday
7:30 to 11 pm
Public Viewing
[Henry Reuss Ice Age Center](#)
N2875 Hwy 67
Campbellsport, WI
Volunteers Needed

September 9, Friday
7:30 to 10:30 pm
[Horicon Marsh Visitor Center](#)
N7725 WI-28
Horicon, Wis. 53032

Upcoming Events, Club Activities and Star Parties

August 26 to 28

[Northwoods Starfest](#)

Hobbs Observatory, 312 S. 130th St. Fall Creek, Wis.

Sponsored by the [Chippewa Valley Astronomical Society](#)

August 29, Monday

8 to 9:30 pm

[Astronomy With Binoculars](#)

Hosted by NCSF member Jim Hahn
Schlitz Audubon Nature Center

1111 E. Brown Deer Road

\$15 for members, \$20 for non-members

September 2, Friday

8 to 11 pm

Public Viewing, Harrington Beach State Park

Plunkett Observatory

Volunteers Needed

September 3, Saturday

7:30 to 11 pm

Public Viewing

[Henry Reuss Ice Age Center](#)

N2875 Hwy 67

Campbellsport, WI

Volunteers Needed

September 9, Friday

7:30 to 10:30 pm

Horicon Marsh Viewing

[Horicon Marsh Visitor Center](#)

N7725 WI-28

Horicon, Wis. 53032

920-387-7893

Volunteers Needed

September 17, Saturday

8 pm to 1 pm

Public Viewing

Pike Lake Unit, Kettle Moraine

State Forest

September 17, Saturday

7 to 11 pm

Binocular Night

NCSF Club Event

Harrington Beach State Park

September 22-25

[21st Annual Illinois Dark Sky Star Party](#)

[Jim Edgar Panther Creek State Fish and](#)

[Wildlife Area](#)

10149 County Hwy 11

Chandlerville IL 62627

217-452-7741

September 30, Friday

7 to 11 pm

Public Viewing,

Harrington Beach

State Park

Plunkett Observatory

Volunteers Needed

Saturday, Oct 1

7 to 11 pm

Public Viewing,

Harrington Beach State Park

Plunkett Observatory

Volunteers Needed

Saturday, Oct. 1

7 to 11 pm

Public Viewing

Pike Lake Unit, Kettle Moraine

State Forest

Volunteers Needed

Saturday, Oct. 29

7 to 11 pm

Public Viewing

Pike Lake Unit, Kettle Moraine

State Forest

Volunteers Needed



*The full moon rises behind the Orion capsule and the SLS launcher earlier this year. The launch of NASA's moon rocket is slated for 8:33 am EDT on [Monday, August 29](#). For an in-depth and unvarnished analysis of this massive project, read [Eric Berger's story](#) in *Ars Technica*.*

August General Meeting Minutes

From page 1

“Why Pluto isn’t a planet, and why it doesn’t matter”.

• Discussion concerning the insurance bill then took place. The question was, is there any way that price could be discounted? Is there an organization that caters to astronomy clubs that would do just as good a job, but at a lower price? How does the bill break down. Is the majority of the bill for liability? Joyce J and Mike B volunteered to take that subject up at the next board meeting that Gene D could explain the coverage.

• Discussion also took place about what to tell the public, at public events, as to who we (NCSF) were? Joyce J mentioned to look us up on Facebook and on the Web. Mike B mentioned that we had business cards printed, and could be distributed. Joyce J also mentioned that a PDF on the Website, giving our web address and public viewing schedule, could be printed and handed out. That discussion would also happen at the next board meeting.

• Public viewing and events are as follows:

- August 5, at Harrington Beach, the weather was going to be the better night for the weekend, Rob Powell and Joyce Jentges would operate the observatory

- August 5, Jim Hahn would be at the campout on the bluff in Port Washington

- August 6 at the Observatory at Harrington Beach, there were no personnel signed up, the weather did look cloudy.

- August 6 at Pike Lake, Al Steinberg and Steve Sweeny would lead, more assistance would be appreciated.

- August 29, 8-9:30, at the Schlitz Audubon Society, Jim Hahn would lead “Astronomy with Binoculars” Tickets for that event were sold out however.

- August 26-28, North Woods Starfest, Fall Creek Wisconsin.

• Discussion was concluded and Joyce J ended the meeting.

• *Submitted by the secretary, Mike Borchert.*

Adventures in Lunar Observing (With Two Eyes)

By Steve Sweeney

Cassini was the hardest.

Hands down.

Trying to find and observe Luna's Cassini crater through 10x50 binoculars was the month-by-month failure that sharpened me most while I pursued the Astronomical League's Lunar Binocular Certification.

That buggo of a crater with interesting craterlets on the inside and outside of its rim should have been easy to spot. It was distinctive on my [moon map](#), but always elusive. For months, I tried to be outside on clear nights on or about Day 7 in the lunar cycle so I could catch the terminator close to Cassini for maximum contrast, but I just wasn't seeing it.

Something Different

A few months after I joined NCSF, I decided that the moon would be the most accessible celestial object to learn more about. The [AL lunar observing program](#) looked like a good challenge.

The rules are simple: record the time of day, date, location in latitude and longitude, seeing, and transparency. Note the crater or feature observed. For the binocular certification, no telescopes are allowed. I printed out form from the AL website and kept my observations in pencil.

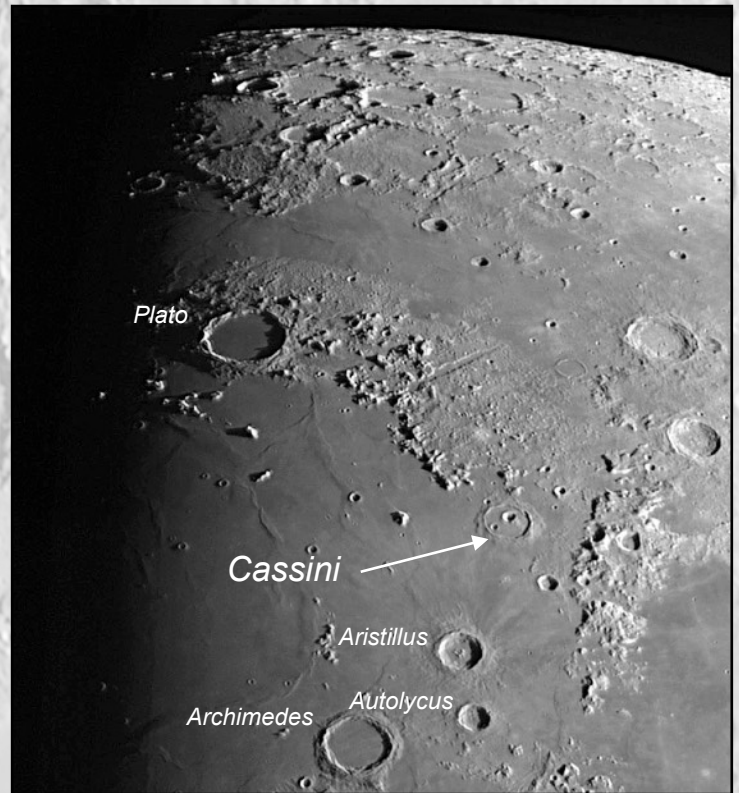
The lunar program is divided into four sections: naked eye, binocular, telescopic, and bonus. For the binocular certificate, just the first two sections are required. Required targets that cannot be found can be substituted by completing bonus tasks.

Viewing Experiences

I do most of my viewing through [Oberwerks 10x50](#) Ultra binoculars mounted on an old camera tripod. No matter how hard I tried, I could not see lunar features very well while hand-holding these binoculars, let alone comparing them to the map. Even with easy features like Eratosthenes, lunar rays, and Copernicus, I would typically look at the moon, confirm a feature on the map and its relative position to other features, then look again to confirm I had actually made a correct identification.

Of the naked eye experiences, viewing the lunar maria was a challenge because I tended to stare at a full moon. I also doubted for a long time that I saw the [rabbit in the moon](#). I observed the shape, but I didn't have an "aha" moment.

Overall, I think the best moon viewing is in late afternoon and twilight, but before it is truly dark. One of my most productive nights was Jan. 9, 2022 with the moon at half



Above left: Sweeney with his 10x50 binoculars. **Above:** Cassini as viewed just past half phase. **Below:** The official certificate. Photos by Lisa C. Sweeney, Ernie Mastroianni, Steve Sweeney.

phase. I observed Piccolmini, Theophilus, Cyrillus, Catharina, Posidonius, Fracastorius, Aristoteles, Eudoxus, Hipparchus, Albategnius, and Maurolycus from 4:16 and 4:44 p.m. – all around sunset

Langrenus, Vendelinus and most of the rest of the Day 4 features were easier to see a little after 9 p.m. on Feb. 5. I had tried to observe those for some time. Unless the weather and terminator cooperate for good viewing, they're little more than smudges or light spots through binoculars. And without the moon map to help me visualize angles and relative positions, they would have been impossible to identify. Persistence is key.

Over time, I steadily whittled the list down to the final five or so observations. Getting so close was the motivation I needed, marking the calendar for the best viewing dates, arranging to be outside for at least 20 minutes on clear evenings, and, yes, keeping close watch on the [weather forecast](#).

But weeks rolled by and Cassini was elusive as ever.

July 6, 2022

I had missed Cassini (again) in June and planned to view it over Fourth of July weekend. The weather was poor, but decent for lunar observing by July 6. Through my 10x50s I identified nearby craters Aristillus and Autolycus and could see other nearby features that I'd already observed. But where I thought Cassini should be, I was uncertain.



See next page

Small Scopes Under Clear Skies

About a dozen NCSF members enjoyed a balmy evening during the annual Small Scope Star Party at Harrington Beach on August 21. Telescopes larger than six inches of aperture were not allowed. The night's highlights included a cluster of about 50 bright Starlink satellites passing through the northern sky.



Kevin Bert aims his home-built six-inch reflector toward the south.



Observers enjoyed clear skies throughout the night. Bright Jupiter rises low in the east, just below the streak of a passing plane. Look closely to spot the Andromeda Galaxy and the Double Cluster.



Jeff Setzer brought his classic Celestron six-inch Newtonian. **Right:** Rick Kazmierski tested a new mount with a 4-inch refractor.



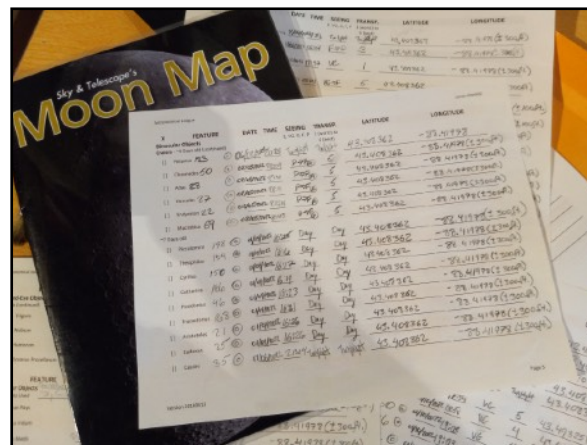
Ann and Ken Vallier brought their Orion six-inch Newtonian reflector. Photos by Ernie Mastroianni

Adventures in Lunar Observing (With Two Eyes)

Just a few weeks earlier, I **From previous page**

took custody of one of the club's telescopes, a 10-inch Dobsonian, and brought it out to have a look. After a little searching and focusing (now upside down), I found Cassini. I thought something like, "That's all?"

And then I returned to the binoculars. Cassini is supposed to be a sharp and well contrasted crater. It looks that way on a professionally produced moon map. But my field experience was different. I might have been able to faintly see the crater's rim, but it wasn't much more than a light-and-dark feature.



I recorded the observation, submitted my paperwork, and received a certificate within a week. The skills I built up observing other craters (comparing map-view with eyepiece-view, double-checking crater positions, waiting for better conditions) all led me to one conclusion. That is, I saw Cassini about as best as I'm going to see it through 10x50 binoculars in a humid Wisconsin summer with corrected astigmatism.

So while I may not see the stars as well as I'd like, I can observe them and use the [AL programs](#) as guides to learning and a challenge. And that is fun.

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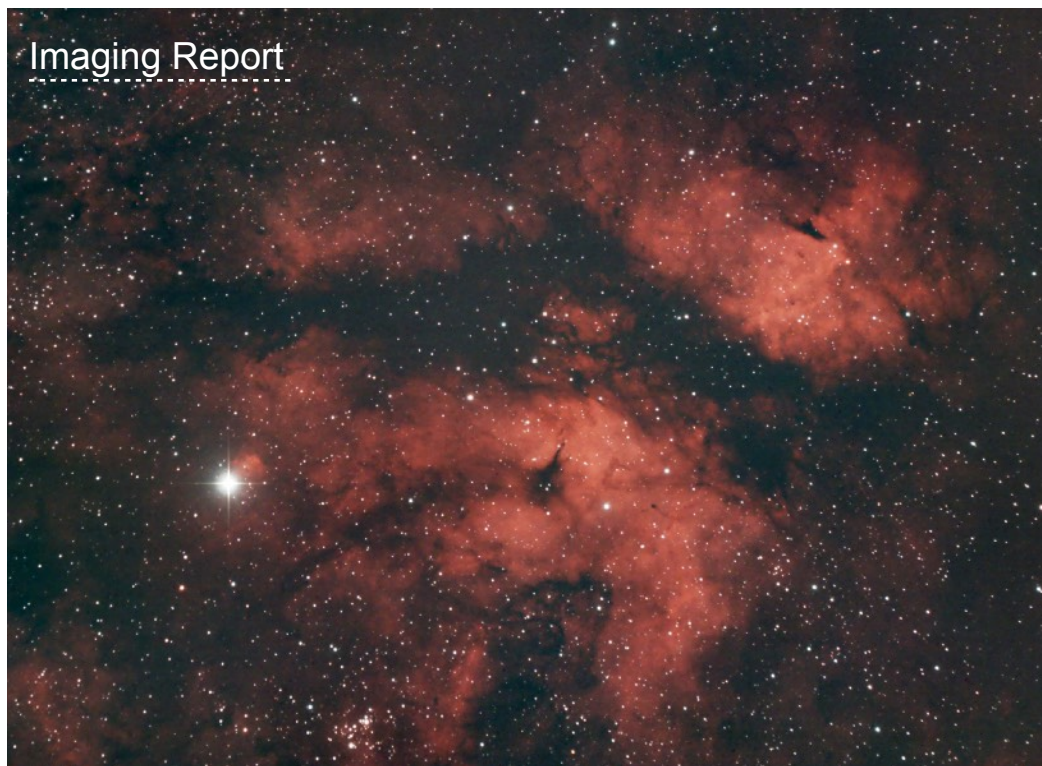
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NCSF is a member of the [North-Central Region of the Astronomical League](#).

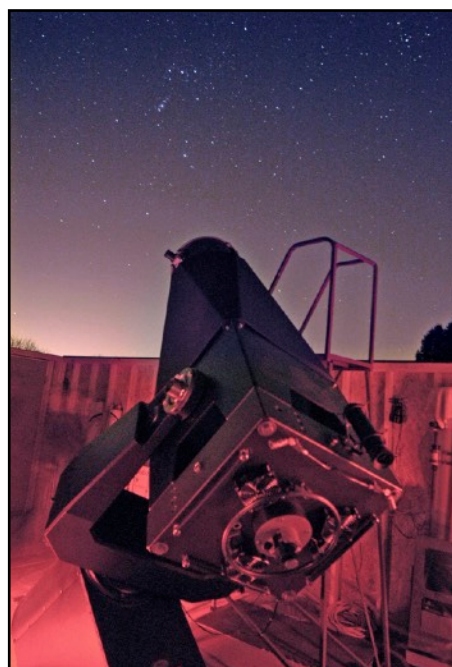


NCSF supports the [International Dark Sky Association](#)

Imaging Report

Even the light of the full moon did not foil **Rick Kazmierski's** efforts to capture the rich nebulosity around Sadr, the central star in the constellation Cygnus. He used a William Optics refractor and a narrow band filter to remove 90 percent of the moon's glare. He captured the image from his backyard observatory.

Carl Hively was thrilled to capture the Dumbbell Nebula and the crater Copernicus using his [Revolution 2](#) video imaging system attached to his 11-inch Celestron. The system comes with a 7-inch video screen for real-time views.

**Spectrum newsletter**

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