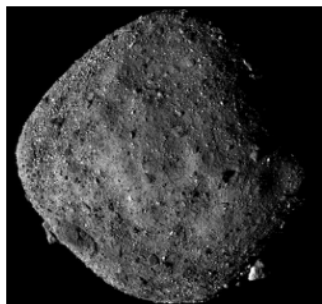


SPECTRUM

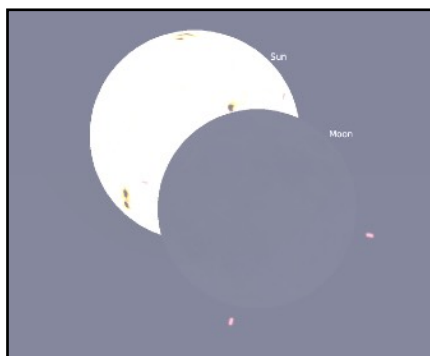
Northern Cross Science Foundation Newsletter

October 2023

Asteroid Sample Returns to Earth



NASA and University of Arizona scientists examine the sample return capsule from the OSIRIS-REx mission shortly after it parachuted to a soft landing at the Department of Defense's Utah Test and Training Range. Inside are 8.8 ounces of rock and pebbles collected from the asteroid Bennu (above) in October of 2020. The material dates to the solar system's beginning. More photos on page 3. - NASA



Stellarium illustration

Eclipse Preview

Jeff Setzer will present the Oct. 5 General Meeting's program titled **All About Eclipses**.

And on Oct. 14, weather permitting, we'll see the Moon partially eclipse the Sun starting at 10:37 on Saturday, Oct. 14. Maximum coverage of 41 percent is at 11:57. The eclipse ends at 1:20. In a narrow band stretching from Oregon to Texas, US viewers will see this as an annular, or [Ring of Fire eclipse](#).

October Program

Coming Up

General Meeting

Thursday, Oct. 5, 6pm
[Jackson Community Center](#)
N165 W20330 Hickory Lane Jackson, WI

Public Observing:

Solar Eclipse:

Harrington Beach, Pike Lake
October 14, 10:30 am to 1:30 pm
Volunteers needed for *Harrington Beach eclipse*

Harrington Beach

October 20 & 21, 8-11 pm
Pike Lake
October 21, 8-11 pm

September General Meeting Minutes

The general meeting for September started at 6 pm, at the Jackson Community Center with the social time, soft start. At 6:30, with about 16 members present, Jeff Setzer called the active part of the meeting to order.

Joyce Jentges presented the program Autumn Asteroids. Her talk centered around asteroids Osiris Rex, Psyche, and the South West Research Institute's Lucy mission to the Trojan asteroids.

Here are some upcoming dates from Joyce's presentation:

- Sample capsule return for Osiris-Rex, September 24.
- Psyche mission launch: October 5.
- Lucy Mission reaches the Trojan asteroids: November 1.

The program was well-received. During the program Joyce mentioned the website

[See page 2](#)

Public Viewing Nights for 2023 wind down after October events

We'll finish the year with an active viewing schedule for for October, including the partial solar eclipse. Solar eclipse volunteers on Oct. 14 are Jeff Setzer at Harrington Beach, and Gene and Charlotte DuPree at Pike Lake. Al Steinberg will be at Pike Lake too, Jeff could use additional help at Harrington on Oct. 14, and volunteers are always needed.

The official Google observatory events calendar of all events public are at the following link. You need to sign-in to Google under your own name.

<https://calendar.google.com/calendar/embed?src=dbert64%40gmail.com&ctz=America%2FChicago>

- **October 14, Harrington Beach and Pike Lake solar eclipse viewing, 10:30 am to 1:30 pm.**
- **October 20 & 21, Harrington Beach, 8-11 pm**
- **October 21, Pike Lake, 8-11 pm**



Solar viewing gear- NCSF board member Kevin Bert stands among several telescopes with solar filters during the Venus transit viewing at Harrington Beach in 2012. The upcoming eclipse won't see a transit, but the solar filters like these will be a must for the Oct. 14 eclipse.
- Ernie Mastroianni photo

September Meeting Minutes

From page 1 [eyes.Nasa.Gov](https://eyes.nasa.gov). Jeff then did go to the site. It was amazing to see what you could actually see. Jim Hahn mentioned a part of the app which showed the communication between earth and the satellites investigating the asteroids, including where they were in relation to earth.

Jeff discussed several events as we wind down the post-solstice year. Tonight, Friday, 8/9 as well as Saturday, there is Public Observing at Harrington Beach. Jeff stressed that public observing at Harrington Beach was a condition of having the telescopes at the park. We have been in need of leaders and assistants all this summer.

Several club members came forward and volunteered for the weekend. There is a public viewing event at Horicon Marsh tomorrow night, 9/9, Saturday. And there is a public viewing at Pike Lake Saturday, 9/9. October is the final public viewing listed for the year.

Jeff mentioned an article in the West Bend local paper by a former member, Carol Clapper. It discussed the club and the observatory at Harrington Beach.

Jeff also discussed the North Woods observing event this year, and showed several pictures of the event. The club ordered and has received 1,000 certified solar glasses. These are a fund raiser for the club and will be sold for \$2 a piece. These were ordered ahead of the October, 2023 partial eclipse and the April 8, 2024 full solar eclipse. Jeff will make these glasses available to the club at the October meeting. Club members are encouraged to participate in this fund raiser for the club.

The post WOW observing event on Oct. 13-15 (which includes the October partial eclipse), was discussed at the meeting, but has been canceled.

Jeff S did a quick discussion on our "Slack" app for communicating between club members. It is a private site. There will be no Small Scope/Binocular event this year.

The meeting then was called. These minutes submitted for corrections and updates.

- Mike Borchert, Secretary

Spectrum will be a double issue for November and December

Because I have an extremely busy travel schedule in November and December, next month's *Spectrum* will also be December's *Spectrum*. Deadlines for that issue will be Monday, Oct. 23 for all stories, announcements, pictures and observing reports. This assures me some time to publish the issue by October 29, the Sunday before the November 2 General Meeting.

And please keep in mind that if you are a public viewing leader, an observing report is

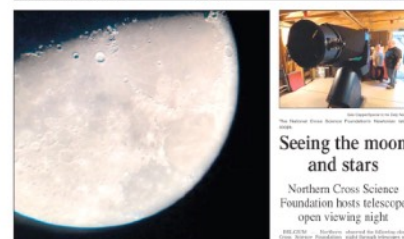
mandatory. Your report does not have to be long or detailed.

Documenting our public outreach is a necessary part of our observatory presence at Harrington Beach State Park. We also gain access to presentations, science kits and online resources that are available to amateur astronomy groups through the [Night Sky Network](https://www.nightsky.org/). So thanks very much for everyone's contributions. - Ernie Mastroianni, Spectrum editor

Observing Report

On Friday, September 8, Rob Powell was the observatory leader for Harrington Beach. He reported clear skies, 26 visitors, and many volunteers in the parking lot.

On Saturday, September 9, Don Voelz was the observatory leader at Harrington Beach State Park and James Neal assisted. They reported that 72 people registered in the guest log, and they enjoyed views of Saturn, M13, M31, M57 and other fall classics.



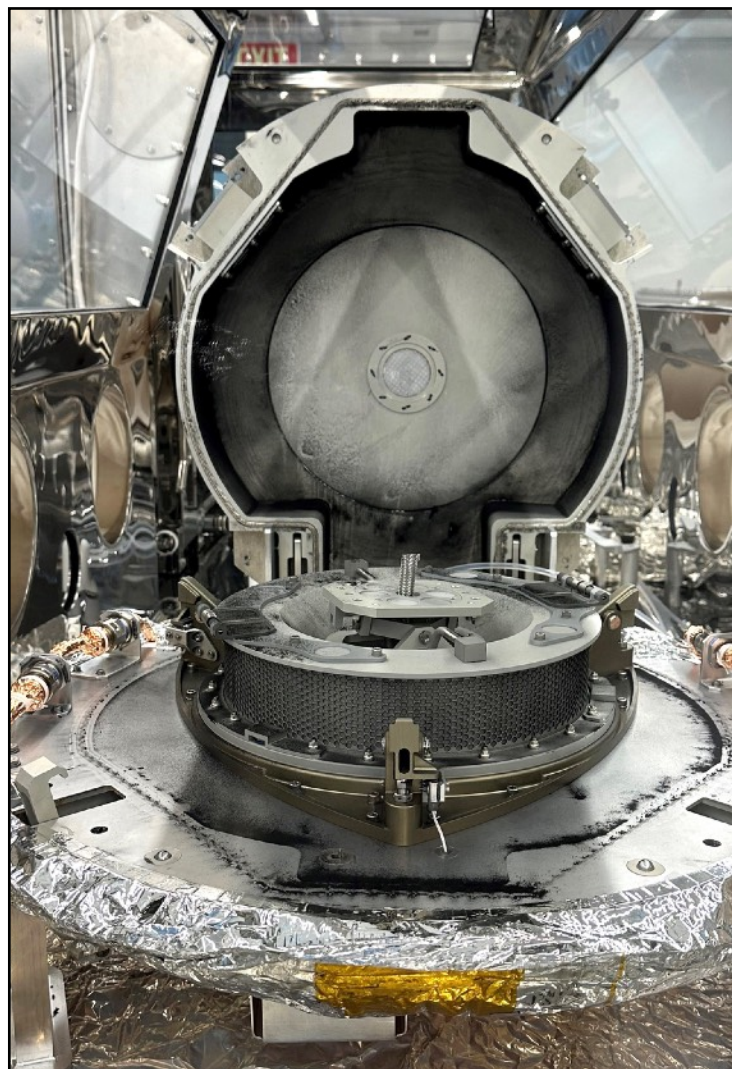
Seeing the moon and stars

Northern Cross Science Foundation hosts telescope open viewing night



Jeff Setzer reported that former NCSF member Gale Clapper came to a Harrington Beach public viewing night on August 25 to report on the event for the [Washington County Daily News](https://www.washingtoncountydailynews.com/). - Ernie Mastroianni

Asteroid Sample Lands Safely on Earth, Ready for Study



Top: Curation teams process the sample return capsule from NASA's OSIRIS-Rex mission in a cleanroom at the Department of Defense's Utah Test and Training Range. **Above:** On Oct. 20, 2020 during the mission's Touch-And-Go sample collection, this image shows the actual moment as the spacecraft touches down on Bennu. **Right:** Once the OSIRIS-Rex science canister arrived in its clean room at Johnson Space Center's Astromaterials Curation Facility, NASA scientists found dark powder and sand-sized particles on the avionics deck when they removed the lid.

NASA's OSIRIS-REx, the first U.S. mission to collect a sample from an asteroid, returned to Earth on Sept. 24, 2023, with material from asteroid Bennu. The 8.8-ounce sample will offer generations of scientists a window into the time when the Sun and planets were forming about 4.5 billion years ago. With an array of team members on deck, scientists and engineers at Johnson will work together to complete the disassembly process and reveal the sample to the world in a special live broadcast event on Oct. 11 at 11 a.m. ET, streamed at

[NASA.gov/live](https://www.nasa.gov/live). The Bennu sample was transported in its unopened canister by aircraft to NASA's Johnson Space Center in Houston on Sept. 25. Curation scientists will disassemble the canister, extract and weigh the sample, create an inventory of the rocks and dust, and, over time, distribute pieces of Bennu to scientists worldwide. Bennu, a near-earth asteroid, is just 1600 feet in diameter made of loose rock and was first detected in 1999. [Learn more about the OSIRIS-REx mission.](#) - Story, photos and captions by NASA

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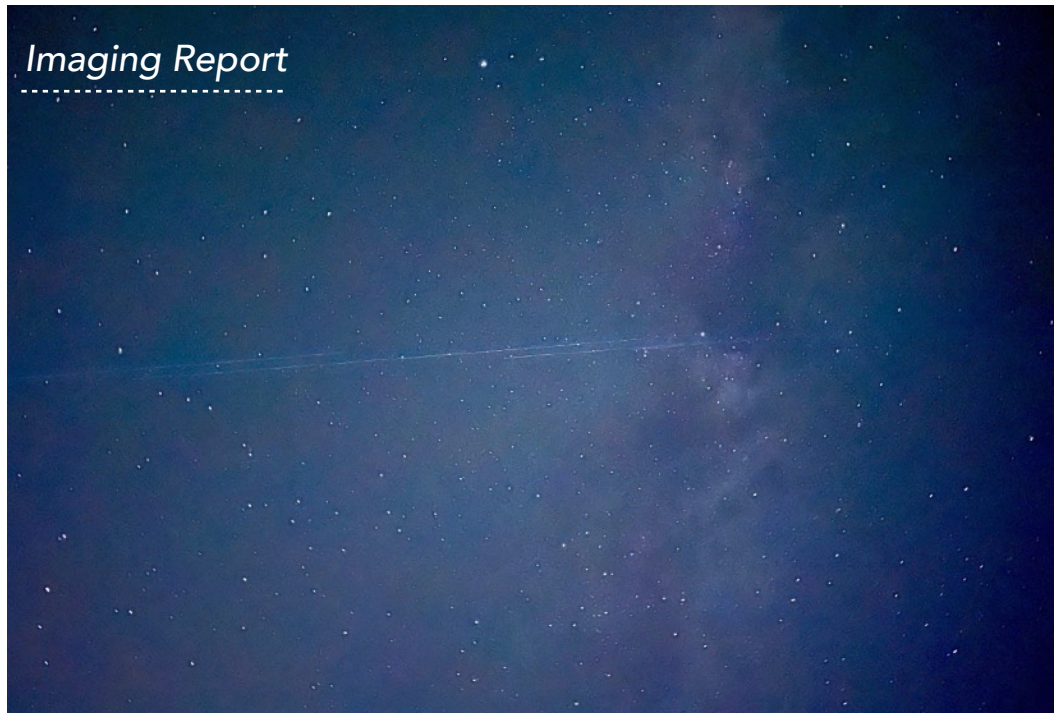
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NCSF is a member of the [North-Central Region of the Astronomical League.](#)



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

Imaging Report

New member James Neal took this photo of Starlink satellites crossing the Milky Way while observing at Harrington Beach State Park on Sept. 17. He used his iPhone 12 Mini, handheld, for this 3.2-second exposure.

Ernie Mastroianni photographed Jupiter, the Great Red Spot and its moon Europa casting a dark shadow just below and to the right of the Red Spot. He used a Celestron 9.25-inch telescope and eyepiece projection for an effective focal length of 4200 millimeters.

**Spectrum newsletter**

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