

SPECTRUM

Northern Cross Science Foundation Newsletter

August 2020

Comet NEOWISE: A mid-summer hit

The spectacular Comet C/2020 F3, known as NEOWISE, did not give us much warning before bursting into visibility. It was discovered this year, March 27, by the [NASA space telescope NEOWISE](#) and emerged as a twin-tailed naked-eye treat in the pre-dawn of early July. The acronym stands for Near-Earth Objects Wide-field Infrared Survey Explorer.

Photographs soon flooded social media accounts, drawing the general public's rapt attention in a way not seen since Comet Hale-Bopp graced the skies in 1997.

While NEOWISE was not as luminous, it easily matched nearby star Capella in the pre-dawn on July 11 and hung on as a naked eye object as it moved into the evening sky through the end of July, drawing crowds of viewers to Harrington Beach State Park.

While it gradually dimmed, it remained impressive in photographs through late July. Many NCSF members rose early, stayed late, (or both) and made multiple trips to dark sky sites such to view and photograph the comet. Read their impressions and see their photos beginning on page 3.

- Ernie Mastroianni

After traveling north to celebrate his father's 98th birthday in Manitowish Waters, Nolan Zadra took a side trip to a Tomahawk bog where he captured this remarkably detailed photo of Comet NEOWISE on July 23. He stacked about 15 frames of 30 seconds each made with his Canon DSLR and a 100-400mm lens on a tracking mount.



In memory: Gwen Plunkett, NCSF member and benefactor

Gwen Plunkett, a scientist, philanthropist and benefactor to the Northern Cross Science Foundation, passed away July 22 at her River Hills home.

She was a member of the NCSF at the time when the club was raising money to build its observatory at Harrington Beach State Park.

Robert Powell, who was a board member for the NCSF at the time, recalls her as someone who loved astronomy, so much so, that she and her husband Jim donated \$10,000 to help the club fully fund the observatory which bears their name. He said the donation helped the club get everything the

observatory needed to fully operate even, he said, what was on the B-list and C-list.

Ms. Plunkett was the valedictorian of her high school class and graduated with a degree in biochemistry from Vassar. She worked in medical research in Syracuse, N.Y., before moving to Milwaukee

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July General Meeting report

By *Ernie Mastroianni*

The July 2 General Meeting of the Northern Cross Science Foundation was again held online via the Zoom app. NCSF president Jeff Setzer opened the meeting with an Astronomy 101 presentation on the area of the Milky Way around Sagittarius, toward the galaxy's center. Using Sky Safari 6, he highlighted many of the best deep sky sights that can be easily seen with a 4" telescope. Setzer noted that when a deep sky object has a proper name, it's definitely worth seeing. Among them: the Trifid, Lagoon, Omega, and Eagle nebulae, as well as the Wild Duck Cluster.

Vice President Joyce Jentges presented the main program on NASA's Perseverance mission to Mars. She highlighted the mission's main goals: to determine if life was ever present, to search for evidence of past microbial life, further study the planet's climate and geology, and to lead to way for future human exploration. The mission will also gather samples of Martian soil, place

them in sealed containers and leave them for possible retrieval to earth by some yet-to-be-named future mission.

Also on board is a small drone-sized helicopter (dubbed Ingenuity) that will demonstrate, for the first time, the feasibility of powered flight in the thin Martian atmosphere. As of this writing, the launch was slated for a July 30 launch.

Treasurer Gene DuPree reported \$12,811.27 in the NCSF bank account, paid a We Energies bill for \$19.10, and received a \$500 refund from the convention center after the NCRAL meeting was canceled.

The members then discussed solutions to the very bright exterior lights on the bathrooms at the Harrington Beach State Park observing site. At this time, the lights can be switched off only by accessing a locked fuse box on the building's exterior. A key to the fuse box is stored in the usual place inside the observatory.

Setzer said there was a plan by park officials to add a standard exterior light switch accessible to the public.

Also discussed were ways to communicate observing plans and share images aside from email. Setzer pointed out that we already have a presence on Slack, an online website that allows group communication in a way that is more nimble than email and less public than Facebook. The Slack site is at NCSFastro.slack.com.

The account is used by the NCSF board for communication, but was not used by NCSF members in the last few years. For those who have not yet joined, signing on requires the user to create an account based on the user's email address. If you have not yet joined the NCSF Slack site, email Jeff Setzer for an invitation.

The reintroduction to Slack proved to be valuable, as Comet NEOWISE made a surprisingly bright appearance just a few days after the meeting, and many pictures, videos and plans were shared by members using the site.

August 6, Thursday General Meeting

Online via Zoom
7:30 pm

September 3, Thursday 2020 General Meeting

Online via Zoom
7:30 pm

General Meeting

Post-pandemic

7:00 p.m. Astronomy 101
7:30 p.m. Main Program
Location:
GSC Technology Center
W189 N11161 Kleinmann Dr.
Germantown, WI

Please email editor Ernie Mastroianni with dates and times of any upcoming NCSF events:

ernie.mastroianni@gmail.com

WOW weekend, other 2021 events

By *Gene DuPree*

I know it's early to think about the Wisconsin Observers Weekend star party in 2021. WOW will be held Thursday, June 10 thru 13, at Hartmann Creek State Park. It is a nice, close, park to go stargazing. Group site #5 is reserved starting Friday, June 4, before the start of WOW. A few of us call this pre-WOW, as we like to spend the extra time camping and stargazing.

Also, if you cannot attend the WOW dates this would give you an extra chance to get your scope(s) out. We need people to commit to camp any of the extra days (Friday to Wednesday) we have reserved before WOW. The cost of the campsite is divided by the number of campers each night. So, if we can get 5 or more people to attend the cost would be between \$8 to \$10 each night.

Charlotte and I would be two, and more would be even nicer. There have been years when we have some nice viewing nights, and the WOW weekend might have one night. We will hold the reservation open till October 31. Then, we will evaluate if there is enough interest keep the reservation for the extra days.

Looking ahead

Pre-WOW

June 4 - 9 2021

Come and go anytime during those dates. Hartmann Creek State Park



Wisconsin Observers Weekend

June 10 - 13, 2021

Hartmann Creek State Park

<http://www.new-star.org/index.php?Itemid=82>

Nebraska Star Party

August 1 - 6, 2021

Merritt Reservoir Snake Campground

<https://www.nebraskastarparty.org/>

NCSF members observe to NEOWISE, the surprise comet of 2020

From Jerry Kohlmann:

My wife Ginny and I first went out to look at NEOWISE at 3:00AM on Saturday, July 11, north of Harrington Beach State Park, overlooking Lake Michigan.

We had 15x60 binoculars and a light duty tripod. The view from the binoculars was spectacular as the near-dawn light changed how the comet looked, making it a bit orange. But alas, the light tripod was not up to the task of taking a decent photograph.

I went back out on Monday, July 13, again at 3:00AM, this time armed with the beefy Optronic tripod I'd used for the Eclipse in 2017.

The morning was very cool and almost at the 60 degree dew point, yet extremely clear.

Again, the comet was faint early, coming alive as pre-dawn twilight increased.

I took a 70mm wide view over Lake Michigan, with the Sheboygan power plant on the left with a Canon 5D MKiii,



Canon 70-200mm f/4L lens. 3.2 second exposure, F4, ISO 2000. No photoshop.

We also looked at the comet on the evening of July 16 from Brookfield.

Needless to say it was bothered by veiling glare, much lower in the sky, and faint. But I got four neighbor families out to see it in the binoculars, nevertheless!

From Joyce Jentges:

I've had several opportunities to go and view Comet NEOWISE. This first one was a Saturday pre-dawn morning when it was still visible in the morning sky. I met Gene and Charlotte DuPree, Rick Kazmierski and Jeff Setzer at Harrington Beach. I got out of the car and one of them told me that before I do anything, I needed to look through Rick's binoculars at the comet.

I was blown away! It's been a very long time since we've had a comet that bright. I got out my binoculars and a chair and my friends showed me where the comet was. I was amazed by how bright it was. I did snap a photo of the comet through Rick's binoculars and I think those are my best pictures to date.

I have been out several other evenings to see the comet, sometimes on work nights. I was getting up the next morning bleary eyed, with images of comet tails dancing in my head. It was totally worth it. Every time I go out to see it, I am mesmerized by the tail.

I've been telling just about everyone around me to go out and look for the comet. The last three times I was at Harrington Beach it was naked eye. My only real regret with the comet is that due to Covid-19, we were not able to show the comet to the public with our telescopes. But thankfully with our own social media presence, we've been able to help a lot of people find the comet on their own.



From Mike Borchert:

I thought it was quite a show, quite an unexpected highlight to add to an otherwise year of surprises. I started to hear so much about NEOWISE, the first night I went out and saw nothing. Once I learned the clues of time and direction, I was soon delighted with not only beautiful binocular views but actually on good seeing days, could see it naked eye.

I was surprised how quickly, in the beginning, it appeared and disappeared, into the morning sun. Photographing the comet was another challenge. After some trial and error, the pictures started coming. Actually got a time lapse video. Luckily, the comet persisted for some time every day, and repeated daily for some time. I did get some excellent weather days. What will be the next surprise?



From Ernie Mastroianni:

I woke early on July 8, 11 and 13 to see the comet from the bluff in Whitefish Bay's Klode Park overlooking Lake Michigan. It was an easy naked eye object and grew brighter on successive days, matching nearby Capella on July 13.

What impressed me most was the setting. The comet and long tail in the northwest, bright Venus resting in the middle of the V-shaped horns of Taurus, then above all the bright Pleiades cluster. A string of brightly-lit boats on the distant horizon completed the pre-dawn spectacle,

I was alone on the 8th, my wife accompanied me on the 11th, and friends, both experienced photographers, joined me on the 13th. On that final morning, word was out and a few more early risers also joined us on the lakefront.

**From Jeff Setzer:**

NEOWISE Time Lapse

This video was created from a series of 224 images taken from 8:58pm to 10:46pm on Thursday, July 16 at Harrington Beach State Park.

To take these images, I used a Canon M6 Mark II mirrorless camera coupled to a Canon EF-M 32mm f/1.4 lens, mounted on a tripod. I shot at ISO 3200, and in aperture priority mode set to f/1.4 and allowing the camera



to automatically set the exposure.

Exposure times varied from 1/4 second in the beginning to 4 seconds at the end, with a 30-second delay between each exposure. A wired remote Canon TC-80N3 intervalometer was used to set the interval time and run the exposure series.

The series of camera RAW files were brought directly into Apple iMovie, without any post-processing, and the length of display time per image was adjusted to create a video nine seconds long.

This time lapse has been viewed roughly twelve thousand times on social media over the first week it was posted, including over eight thousand times on Facebook alone. I have a direct link to the video on my personal website, www.astrosetz.com for those who would like to see it without the compression that social media sites impose.

**From Richard Sell:**

Comet NEOWISE displayed a clear double tail in this photo taken at Harrington Beach State Park on the evening of July 16. I used 85mm lens, a 30-second exposure and a tracker.

From Jim Hahn:

I first saw the comet the morning of July 11. I told myself that, if I woke up early, I would go out and look for it. Stellarium gave me the predicted position: in a line with Capella and Menkalinan (Beta Aurigae). I woke up at 4:20, went out to my front yard in Milwaukee with binoculars, and found it immediately. Once found, it was easy to see without binoculars, too.

The following evening, I set up my telescope where I had the best northwest horizon: the sidewalk in front of the water treatment plant on the south side of Milwaukee. I had good views through the scope and the comet was again visible to the naked eye. A security guard confronted me, but seemed satisfied that I was not a threat!



From Nolan Zadra:
Comet NEOWISE appears over Mauthe Lake in Fond du Lac County on Thursday evening, July 16. He used a Canon DSLR and a 14mm wide angle lens to capture this 20-second exposure in the fading evening light.

From Gene and Charlotte DuPree

Our first attempt to find Comet NEOWISE was early one morning. We tried to find somewhere close to home that had a good horizon. We went out based on the time people had said they were first able to spot the comet. But it was already too bright. A few days later, Saturday, July 11, we arrived at Harrington Beach around 3 a.m. Gene set up the 8" scope. While aligning the sky commander, he took a look towards the northeast and the comet was right there low on the horizon. The next day, we went to Harrington in the evening. Gene was able to see the comet in the scope by 9:15. By 9:45 it could be seen naked eye. By 10:30 it was going into the Sheboygan glow.

On Friday, July 17, we were gone on a sail boat ride and returned home around 11:30. We walked down to our garden area that has a small, low, opening towards the North. Gene spotted the comet quite easily, and it was looking pretty good. Charlotte used her binoculars to get a better look. On Saturday the 18th, we had another great evening view at Harrington Beach. We decided to stay home on Sunday, and waited for dusk. Before setting up the scope, he looked between two of the tall pine trees and the comet was there, just waiting for him to see! We couldn't believe how great it looked, the best view yet. It was good to finally have a nice comet to watch and follow.

From Steve Olsen:

We saw NEOWISE on Sunday July 19th. We tried at dusk but it was still too bright out, but at 10 p.m. it was completely obvious to my naked eagle eye.

My wife Miho has been an NCSF member for several years and has visited the observatory a few times, but she was so amazed by this comet it has increased her interest in the heavens ten-fold.

Now she is pushing me to "buy whatever to get your astro-photography skills better". We viewed it with regular binoculars and it was stunning.



From Mark Weber:

I used a Nikon D800 set at ISO 1600 with a 24mm lens. This was taken at Eagle Lake, near Delta, in northwest Wisconsin. A satellite on the top, and a meteor (green) went from left to right.

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



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

Binocular tour at Audubon Nature Center

Member Jim Hahn will give an astronomy presentation at the Schlitz Audubon Nature Center on Monday, August 17, beginning at 8 pm. Here's a link to the event on the website. The Audubon center is at 1111 E. Brown Deer Road in Bayside. <https://www.schlitzaudubon.org/event/summer-astronomy/>

The entire event will take place outdoors, with social distancing. While it's getting dark, he'll give a short presentation on the ecliptic and the zodiac.

At nightfall, participants will relax in lawn chairs and take a guided binocular tour of the summer sky, taking in sights such as the Dumbbell Nebula, Epsilon Lyrae, and the Coathanger asterism.

The talk is \$15 for members, \$20 for non-members.

**Gwen Plunkett, a major donor to the NCSF observatory**

with her husband Jim, who headed a prominent Milwaukee architectural firm. According to her [legacy.com](#) obituary, she served on the boards of many Milwaukee institutions, including the Milwaukee Public Museum, Family Service of Milwaukee, the North Shore Public Library, Maple Dale/Indian Hill School district, and the Medical College of Wisconsin Board for Women's Science.

Powell said she would call him every year or so to arrange a viewing session look through the club's Panarusky telescope. Her enthusiasm for astronomy, Powell said, was such that she traveled to South America to view the July 2, 2019 total solar eclipse.

Her interests went beyond astronomy and science. According to her obituary,



Gwen Plunkett looks at the sun in 2009 through the solar telescope her donation helped fund. Rob Powell photo

she was a supporter of the visual and performing arts, an advocate for women in science careers, and a champion for nature and the preservation of natural habitat.

- Ernie Mastroianni

SPECTRUM newsletter

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