

Put together by
Rich DeMidio

The NHAS Observer

Newsletter of the New Hampshire Astronomical Society



Vol. 2023 No. 7

"All the news that fits in print"

July 2023

View from YFOS



Photo by Matt Paige

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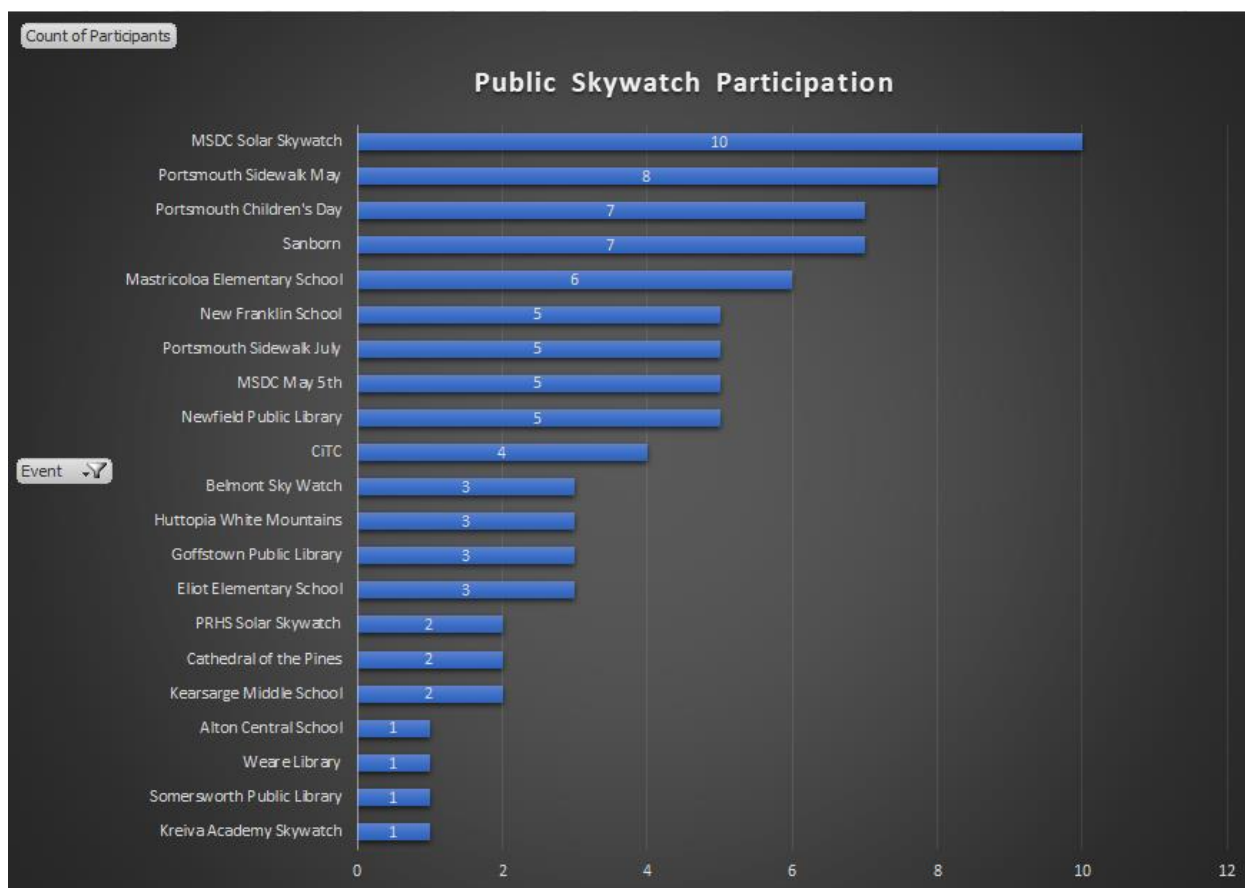
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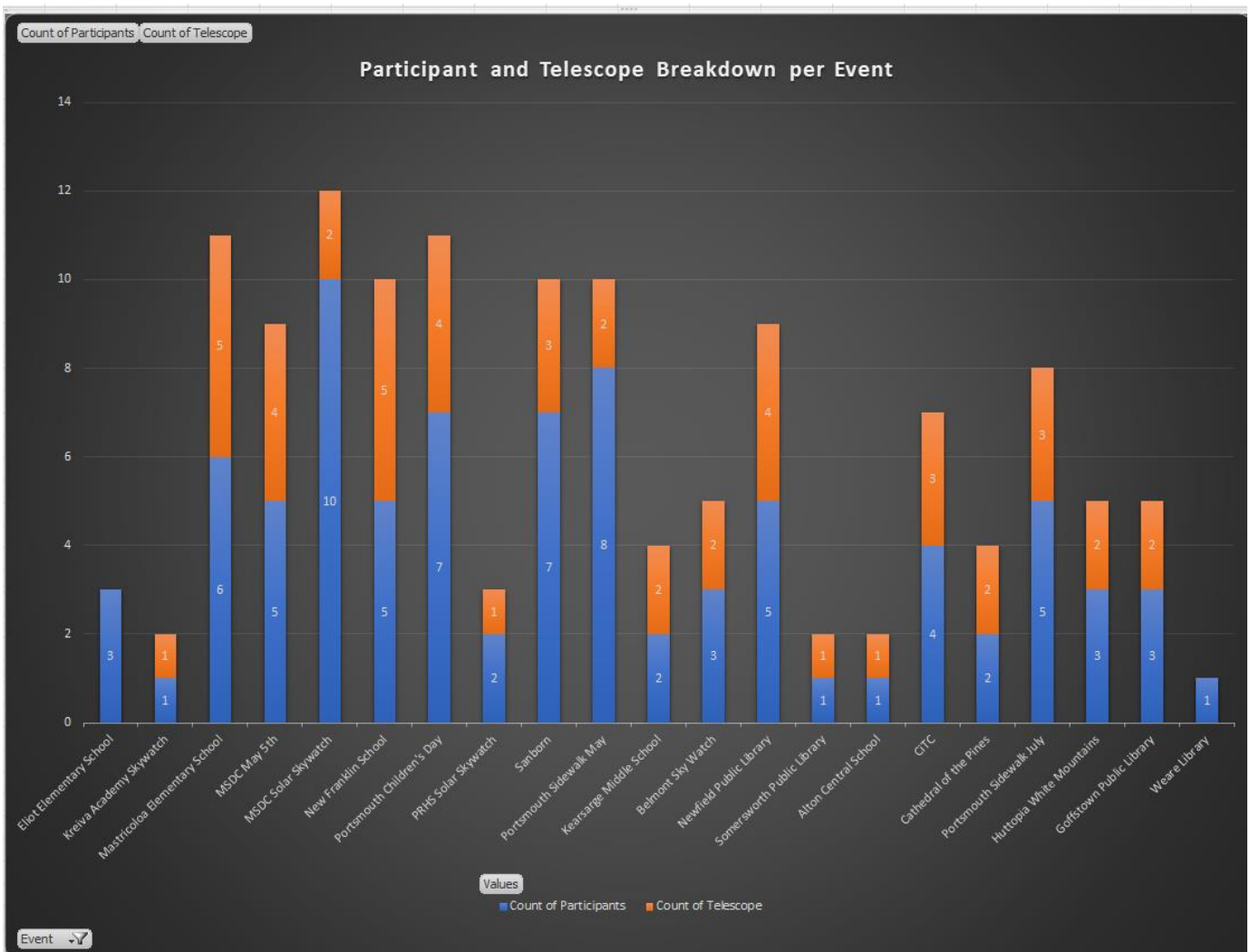
Editor's Message

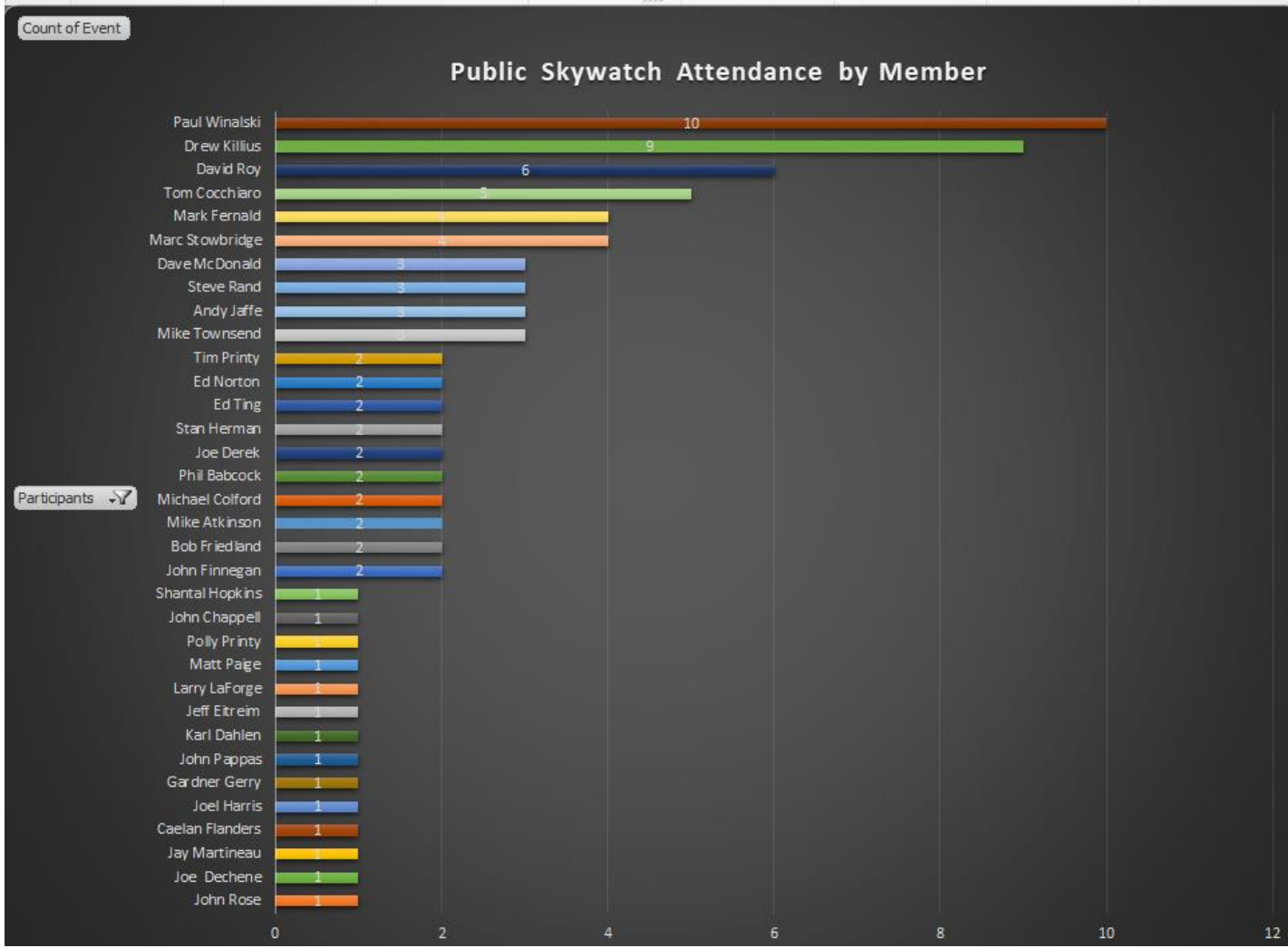
It's refreshing to see some recent nice weather and that folks are getting out to public or private events. For me personally, this is the slow time of year. We spend most of the summer out of town at our lake house and although I have two scopes there (Obsession 12.5 and Orion SkyQuest XT8), I do not get much observing in. It's dark late and I tire easy with all the activities during the day. Nonetheless, I do some periodic observing and wide field astrophotography from time to time.

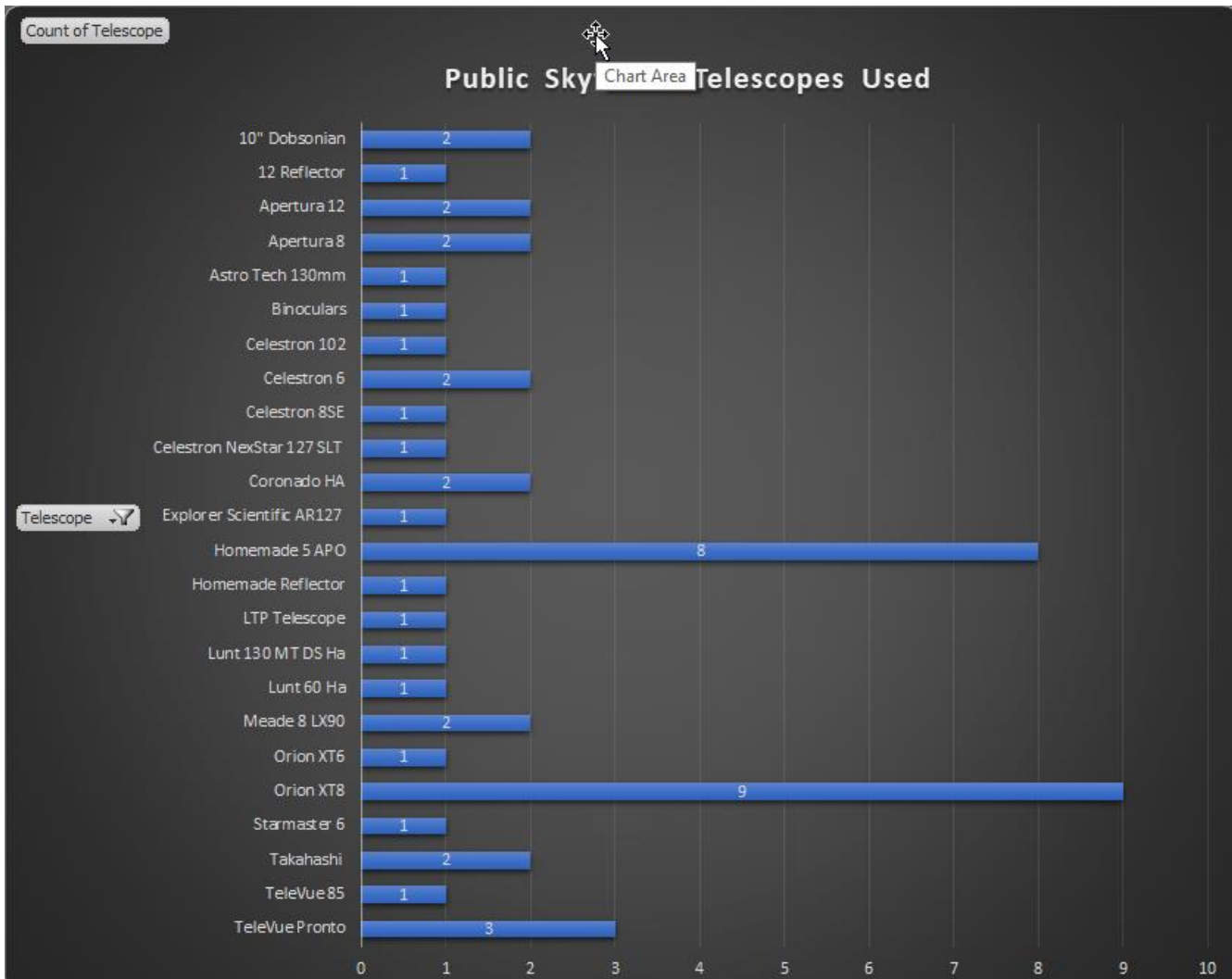
Public Skywatch summary

Latest tally from our events. As a reminder, if you have data for a 2023 sky watch not shown, please send to me so that I can add to the list. Please email me if I missed some entries. I will update for the publication. I may have to rethink some charts as the number of events grows so that they so the charts are not so busy. This is a good problem to have since it means we are engaging 😊









CATHEDRAL OF THE PINES SKY WATCH

From Mike Atkinson: I was there with my 12 Apertura Dobsonian. I had hoped to get a peek at some of the targets from Phil's 'Constellation of the Month' newsletter (as I don't have much of a south view from my backyard). But, with all the public visitors and questions, personal endeavors took back seat.

I spent a good amount of time talking about, and pointing out, constellations and asterisms. Had a nice discussion about apparent magnitude using the distances of the stars in the summer triangle. The public was inquisitive and had questions about temperature, color of the stars, and stellar life cycles.

With the telescope, I focused on *Mizar*, *M4*, *M22*, and *Saturn*, when it finally cleared the trees, just about the time we shut down. About half a dozen folks were still loitering about and very excited to see it. Two folks attempted to get a cell phone photo through my eyepiece (unsuccessfully).

The last comment I will make is that it is so much nicer to set up the telescope where the sky has less light pollution. When I pointed my telescope toward Lyra there were so many more stars visible in the eyepiece. I could not determine which was which, to get pointed to the Ring Nebula. With fewer people

standing around , waiting for a peek, I'm sure I would have been able to take the time to find what I was seeking. The point is that dark skies are far far better than light pollution.

*Editor's Note: The first time I observed at Moose Head lake in Maine, it took me nearly 30 minutes to recognize some constellations because the sky was so dark; **Cassiopeia** for instance. I had my 18 dob and when I looked at NGC457 with my 31mm Nagler, I eyepiece was literally filled with stars and it took a few minutes to recognize the cluster.*

From Paul Winalski: We had clear skies for the 8/11 sky watch at Cathedral of the Pines in Rindge NH. We used the parking lot, which has an excellent southern view (west and east) and an acceptable northern horizon. Dew was not a problem. Our hosts were able to get all but two lights turned off, and they were able to cover those with opaque plastic bags. So we had a nice, dark observing field.

About 50 people showed up, many of them with chaise lounges or blankets, in anticipation of observing Perseids. We only saw a couple of meteors, though.

We had at least five NHAS members show up with scopes. We got to see quite a variety of objects. I showed Mizar, Albireo, 61 Cygni, M3, M31/32, and NGC 457.

I know some of the NHAS members who were there but not all of them. If you were at the Cathedral of the Pines sky watch, please email me so that I don't miss you out in my records.

Little River Park Lee, NH (multiple sessions)

8/13/2023 Ed Norton: While the conditions were not as nice as Friday, we've had so few clear nights it was worth the short trip. Due to the earlier rain and high humidity, I drove through some near zero visibility fog on the way there. And some remained on the field when I arrived.

It was nice meeting Mike and Mary Ellen, and thank you for sharing the views through your dob. I didn't set up my imaging scope due to the fog, haze, and moisture. I spent most of my time looking through my binoculars or my spotting scope or chatting.

It is a nice location and was great Friday. Thanks Phil for organizing this locale for us.

8/14/2023 Michael Colford: The evening started off with less than stellar skies, but once the clouds broke, the views were worth the wait. In total three people attended, *Ed Norton, my wife, Mary Ellen, and I.*

The afternoon thunder storms created a lot of ground fog and the dew was heavy as the temperature dropped. Once the large clouds passed as the evening twilight was upon us, the stars started to pop. Shortly after 9:00 the sky opened and became darker. We observed *M13, M92, M31, The Ring Nebula*, and about 10 to 12 Perseid meteors with their long bright streaking tails. The darkness became so deep the constellations were harder to see, but that made for a great observations experience.

A thank you to Ed Norton for attending and sharing great conversation and your past astrophotography pictures.

A thank you to **Phil Babcock** for creating the opportunity to view from Little River park. It is a great place to view from with a pavilion, playground, basketball court, pickle ball courts and open spaces for other playful activities. It also has a couple porta-potties. I encourage all to come to this NHAS southeastern observation sight. It is worth the trip.

8/11/2023: Phil Babcock: After what seems like months without a clear night, last night was a real treat. Four members gathered at Little River Park in Lee under a very clear sky. The Milky Way was easily visible, and all 7 stars of the Little Dipper could be seen (which is one way to test the transparency of the sky). This park has low horizons, and if you want a really low horizon you just pick your area in the parking lot, on the tennis courts, or out on the fields.

Andy Jaffe has his Star Master 11" Dobsonian there. He was hunting for faint objects in Camelopardalis (the Giraffe) to nab a few more of the remaining 29 objects he needs to complete the "Herschel 400" project for the Astronomical League. He picked a location on the field for a good view to the north, as Camelopardis is low, above the northern horizon. I set up near him so I could get a look at the objects he was finding. He also did some viewing of the Veil Nebula, North American Nebula, the Double Cluster, and the Ring Nebula (M57).

Joel Harris brought his traditional, orange Celestron C-8 that he has done some modifying to. He was set up on the tennis court to get a good view of the east. Initially he was having a look at Saturn after it rose. He also did some wide-field photos to try to capture some of the Perseids as Perseus was rising.

Ed Norton brought his Astro Physics 110 refractor, set up for astrophotography. He set up in the parking lot for a good view to the south, to be able to image in the region from Scorpius up through the area above Sagittarius. He had some nice images of the Swan (or Omega) Nebula (M17) and the Eagle Nebula (M16).

I had my Tele Vue TV-85 and Cannon 10x42 IS binoculars. I spent some time on the Wild Duck Cluster (M11), the neighboring Scutum (the Shield) Star Cloud (thanks to Paul Winalski for mentioning this Star Cloud to me – I hadn't heard of it before), some tiny clusters in Cepheus (the King), and plotting out the next "Constellation of the Month-ish".

Little River Park is a great site. We had a good time observing, wandering around to see what others were looking at, and just general socializing. Hopefully we will get some more clear, moonless nights for members to experience this park in Lee.

Observing Suggestions

Paul Winalski put this list together from a member request. Thought it would be good to also document it here:

Lots of good things to see in the early night sky this time of year:

Double stars:

Mizar (Zeta Ursae Majoris)
Albireo (Beta Cygnis)
61 Cygni
Epsilon Lyrae (the double-double)

Open star clusters:

M6, M7 (Scorpius)
M11 (Scutum, Wild Duck Cluster)
M18 (Sagittarius)

Globular star clusters:

M3 (Canes Venatici)
M4, M80 (Scorpius)
M5 (Serpens)
M9, M10, M12, M14 (Ophiuchus)

Nebulae:

M57 (Lyra, Ring Nebula)
M27 (Vulpecula, Dumbbell Nebula)
M8 (Sagittarius, Lagoon Nebula)
M16 (Serpens, Eagle Nebula)
M17 (Sagittarius, Swan or Omega Nebula)
M20 (Sagittarius, Trifid Nebula)

Galaxies:

M51 (Ursa Major, Whirlpool Galaxy)
M101 (Ursa Major, Pinwheel Galaxy)

Original request from Steve DiPirro: I'm currently on Cape Cod with dark skies and a great view to the eastern and southern horizon in particular over the water. I brought a 6" Mak with me and a collection of Ethos eyepieces, but with this particular combination and my lacking night sky knowledge, I struggled to find interesting things to showcase for family and friends last night. So I'm looking for ideas. We got good views of Saturn even though it was near the horizon. M31 was extremely dim. M13 was a little better. Everything else I could think of with some nebulosity didn't really show any. Given the dimness of Andromeda, I wasn't expecting to see other galaxies any better. I tried a few of the brighter nebula I could think of but couldn't see much. I showed some double stars, but my audience wasn't blown away. The moon came up later in the evening, but I'm wondering what folks might recommend for a 6" Mak that might impress folks who don't tend to look up at the night sky (sky party stuff). We did see some bright meteors at least! Thanks in advance.

Editor's Note: If anyone needs observing maps for any target, you can reach out to me. I have Skytools4 and create a custom observing list compete with finder, naked eye view, and eyepiece view.

JULY SIDEWALK ASTRONOMY IN PORTSMOUTH (TOM COCCHIARO)

Several NHAS members gathered in Portsmouth July 22 for one of the first sidewalk astronomy events in months given the seemingly endless parade of raindrops especially on the weekends closest to the quarter moon. Despite a young waxing moon and not a lot of "dark" this time of year we managed to "touch" hundreds of visitors to Portsmouth with views of the moon. When I say "touch," we were surprised by the number of people that evening that looked up after viewing our closest celestial neighbor with tears literally in their eyes commenting on how amazing the moon was that night. The crowd was much larger than usual given the "Saturday Portsmouth Summer in the Street" music festival just feet away from our location. When the group set up at 7 PM. the sky was still bright but clear blue so there was time before darkness to catch the moon which we tracked until it dipped behind the buildings on the north side of the street behind us. Around 9 PM, several astronomers moved across Market Square (next to the Chamber Collaborative's information booth) to continue the evening. Festivities ended around 10PM but Mark stayed behind offering views of the double star Albireo. Astronomers for the evening *were Mark Fernald, Dave Roy, Drew Killius and Tom Cocchiaro.*

From John Finnegan: Weather was great, light breeze. Everyone initially set up on the Northwest corner of Market Square, facing west. We had several scopes set up by 7:30, but unfortunately didn't have time to greet everyone and catch all the names of those who attended. This spot worked well for us and attracted a lot of foot traffic; it was a busy night in Portsmouth. I would say on my scope alone I had about 60-80 people take a look. From families with young kids, couples on date night, bachelorette and birthday parties, we really got to show off the moon to a wide demographic. The air was stable enough for me to show the Southern craters of the waxing crescent at 170x magnification. Around 8:30 we began to lose the moon behind the trees and streetlights, but repositioning to the Southern side of the square by the church solved this for a handful of us. We'd anticipated dealing with some clouds but were lucky to have only minimal interruptions in our view prior to 9pm/dusk. I've attached another couple of pictures a friend took below, though the quality isn't the best.



Photo by Adele Burton



Photo by Adele Burton



Photo by John Finnegan



Photo by John Finnegan

REPORT ON HUTTOPIA WHITE MOUNTAINS SKY WATCH (PAUL WINALSKI)

The sky watch for Huttoopia White Mountains in Albany NH took place last night (7/26) as planned. *Joe Derek, Marc Stowbridge, and I* were there from NHAS with scopes (Joe brought his magnificent GEM-mounted 12.5" reflector). Transparency was not good; both due to humid haze and to smoke from the Canadian wildfires (I could smell the smoke faintly). Mostly we observed the Moon. Things improved later in the evening and we were able to show *Mizar, Albireo, 61 Cygni, M13, and M57*. The site is close to ideal--an easy-to-get-to observing field (basketball court) with decent horizon views. The nearby lights can all be turned off. I'm looking forward to our sky watch there next month. Hopefully we'll have more transparent skies.

GOFFSTOWN PUBLIC LIBRARY 7/19 (PAUL WINALSKI)

The sky watch took place as planned on 7/19. Skies were mostly clear but it was a bit damp and hazy. At one point I had to break out the 12-volt hair dryer to de-fog my finder scope. Public turnout was disappointing. For logistical reasons the library had to hold Steve Rand's indoor presentation at 7 PM, which meant a lot of folks showed up for the observing before sunset. By the time it was dark enough to

use the scopes effectively nearly all of them had gone home.

There was a good turnout from NHAS. I know many who were there, but during twilight I was helping new member Michael Atkinson collimate his 12" dob and didn't get to say hello to everyone who had set up.

Please email me if you were there.

From Steve Rand: Goffstown Library had 31 people present for my presentation. As we discussed one problem was they wanted to fit the presentation with in their normal hours of operation, which left an hour and a half time gap before observing at the park. Also, the library had no HDMI set up, screen, or projector (projector was being used in another meeting)! They managed to find a second projector and removed artwork from a wall so the presentation could take place.

Historical Note: This sky watch is also known as the "Goffstown Mosquito Fest". Many years ago, a club member discovered the "Thermo Cell" which ended up becoming the astronomer's choice for mosquito countermeasures. I remember one year, we had a line of about 6 to 10 scopes each table equipped with one. You could see the bugs at the barrier created by the thermo cells. I still use these today and have them at home, camp, and my remote gear.

Weare Library (Steve Rand)

Weare Library had 33 people present for my presentation. They had an HDMI set up with a large screen TV. As it turned out, the sky was not cloud covered but was a little hazy. A few bright stars were visible at 9:15. One thing I was reminded of was laser pointers work very well on projection screens / walls etc., but not so much on TV screens.

Sun in White Light from CiTC 18 July 2023 - Sunspots Galore!

Stan Herman took this marvelous photo of the sun while participating at the weekly Castle in the Clouds Solar observing session.

Here is a highly compressed image of the photosphere taken at CiTC on 17 July 2023. This was at one of our Monday public sessions throughout the summer at CiTC. Sky was very smoky, hence the soft image. Scope was an AT-102ED, and imager was a ZWO 178MM. Gain was at zero, and exposure was 10 ms.

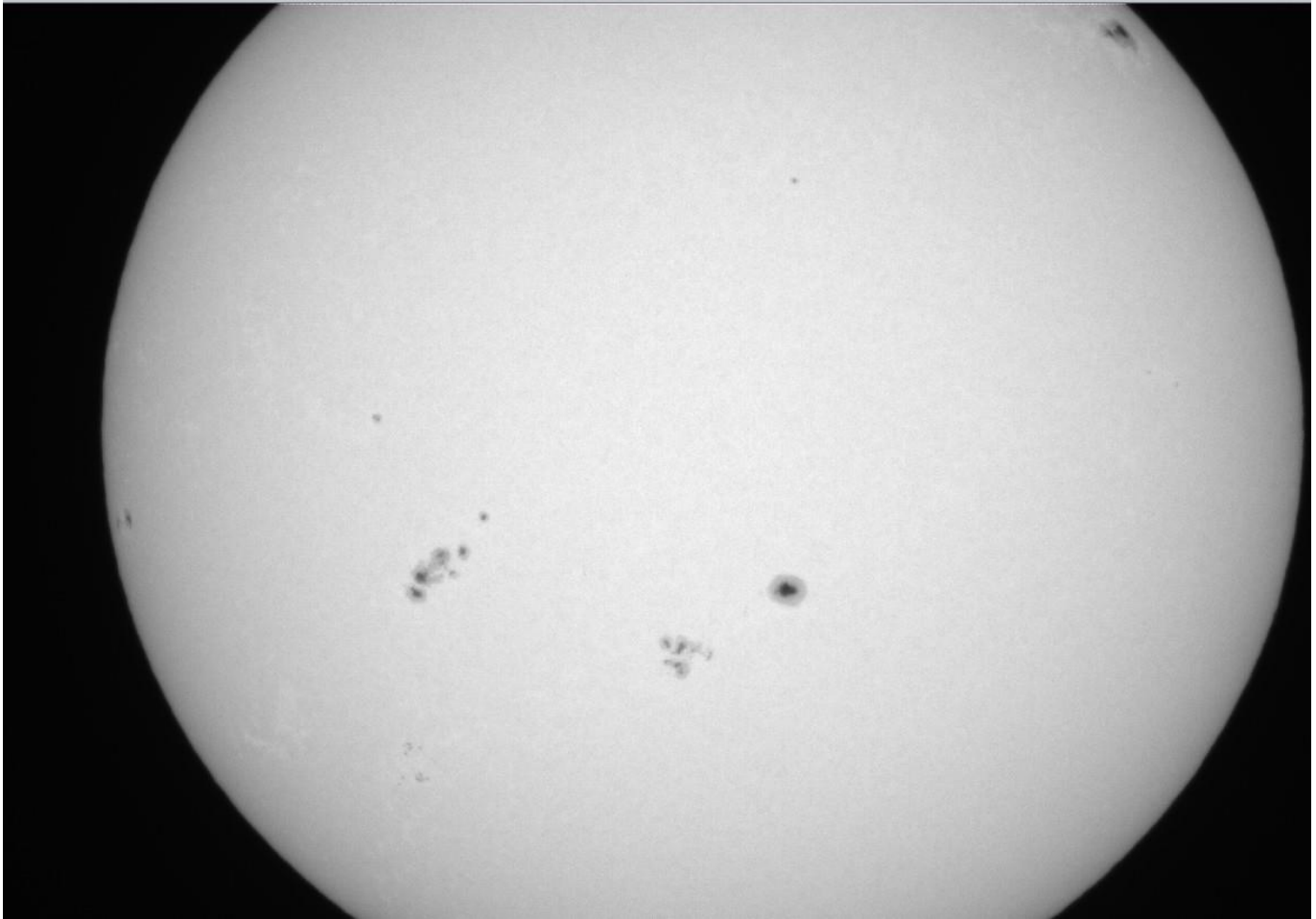


Photo by Stan Herman

IN-REACH REPORT (PHIL BABCOCK)

NHAS In-Reach Report, August 16, 2023

Once again, we have had a somewhat quiet month on the In-Reach front. Late evening darkness and seemingly endless clouds have restricted observing opportunities. But we had a pretty good weekend for observing last weekend, so perhaps things are improving. And there are always more In-Reach activities to come!

Over the last month:

- This last Friday, 8/11 was a cloudless, moonless, and pretty transparent sky. A group gathered at Little River Park in Lee for observing, doing astrophotography, and socializing. YFOS was also being used that evening, with astrophotography being the focus. And a public Sky Watch in Rindge had a new member join in and a member brought a telescope for his first Sky Watch.
- On the next Sunday, there was more observing at Little River Park in Lee. The conditions were not quite as good as the preceding Friday, but there was still productive observing and socializing going on.

- Some reminders were sent to the membership of what events are coming up that are places to bring questions and to get help. These opportunities are very much focused on members that are new to amateur astronomy.
- Three more Episodes of “The Constellation of the Month-ish” were released. Episode 4 covered Scorpius and the globular cluster Messier 4 (M4). The 5th Episode focused on Sagittarius and Messier 8 (M8), the Lagoon Nebula. These 2 episodes culminated in Episode 6: “A Messier Hop”. Usually, each episode describes how to find a prominent and useful constellation, and how to find, with star hopping, a deep sky object (cluster, nebula, galaxy) or other object of interest in or near the constellation, using binoculars, a finder scope and a telescope. This 6th episode did not introduce a new constellation or even do any star hopping. Rather, it picked up from where Episode 5 left off in Sagittarius and “Messier Hopped” from Messier object to Messier object, the next one always visible in the Field of View (FOV) of the previous one.
- Our second survey of the membership is under review by the Officers. It is focused on determining which members can contribute what skills to meet the desires (uncovered in the first survey) for Astro 101 seminars and education topics, along with who can be a mentor.

Coming soon are:

- Reminders for the members of the membership benefits of belonging to NHAS.
- Alerts for all the various opportunities for the members newer to amateur astronomy to get the help they need.
- More Astro 101 and beginner-focused observing nights.
- Scheduled open observing evenings at Little River Park in Lee, Joppa Hill in Bedford, and YFOS.
- The next exciting episode of “The Constellation of the Month-ish”. This one will cover the Summer Triangle, the double star Albireo, and M27, the Dumbbell Nebula.
- Work on securing observing focal points (like we did in Lee) for the northern and western members.

Surveys:

- Distribution of the survey mentioned above, focused on which members can contribute what skills to meet the desires for Astro 101 seminars and education topics, along with who can be a mentor.
- Another survey to collect information on observing sites across the state that members can use freely.

As always, if you have any suggestions or want to volunteer to help out with some aspect of this, please let me know at psbiv4@gmail.com.

Phil Babcock
8/16/23

CONSTELLATION OF THE MONTH (PHIL BABCOCK)

Fellow Astronomers:

Here is the 6th Episode of “The Constellation of the Month-ish”. I promise this is the last one to come out so close to the previous one.

In Episode 4 we looked at Scorpius, an easy constellation to find. In Episode 5 we used Scorpius to find Sagittarius, the moderately bright “Teapot”, but it has no really bright “1st magnitude” stars. In this Episode we will use Sagittarius as a starting point to go Messier hunting.

This Episode breaks all the rules of “The Constellation of the Month-ish” . It hasn’t been anything like a month since the last Episode, there is no new constellation in it, and we don’t do any star-hopping (a skill “The Constellation of the Month” is supposed to focus on).

Rather, we rushed through Scorpius and Sagittarius to get HERE: A place in the sky where, using just one star of Sagittarius, we can use binoculars or a finder scope to hop from one Messier object to the next! No using stars for the hopping. We are going “Messier Hopping”.

We will go from one Messier object to the next, each hop being from one Messier object that can be seen in binoculars or a finder scope, to the next Messier object that is already in the field of view of the former object. We will bag 11 Messier objects in this series of hops. That’s 10% of the 110 (or 109, depending how you count) Messier objects. This hop can be done in one evening.

We will see globular clusters, open clusters, a star cloud, emission nebulae and some objects that have both a cluster and an emission nebula in them.

In these episodes, binoculars are mentioned pretty regularly. This isn’t to imply that you should only look at these objects with binoculars. Rather, in support of the mission of “The Constellation of the Month-ish”, which is to help beginners learn how to find things in the sky, the message here is that a lot of amateur astronomy can be done with just binoculars. Also, by focusing on objects that can be seen in binoculars, they can just as easily be seen in a finder scope, and that gets the telescope pointed there and the telescope will provide a different view and experience of the object. We build the skills of finding things in the sky with these easier, but rewarding, targets.

While “The Constellation of the Month-ish” is mostly for the members that are in the earlier parts of their journey, more experienced members can join in by sharing their favorite objects in this region in and above Sagittarius, or share photos of these objects that they have taken.

And, of course, I welcome the always interesting and educational corrections people offer.

Happy hunting!


Location of file:

<https://drive.google.com/file/d/1if8eQ-XH0FIczJHHdOHuyCUm83Hk46AS/view?usp=sharing>

In the News (Steve Rand)

In the News

7-14-23



Steve Rand,
Education Outreach
Committee Chair

IN THE NEWS...

- **Gravitational Waves**
 - Grav. Wave Background found at last thanks to Pulsar Timing Arrays
- **Planet Formation and Survival**
 - Oort Cloud Planets?
 - “Sandwich” Planets
 - Planet survives it’s star’s Red Giant phase
- **Potpourri**
 - Asteroid Day 6/30
 - Keck II gets direct image of large Exo
 - Enceladus geysers contain Phosphorus
 - New volcanic activity on the Moon
 - Distance Ladder refined by RR Lyrae

● Stop the Presentation Recording
Start a new recording for NHAstro secretary

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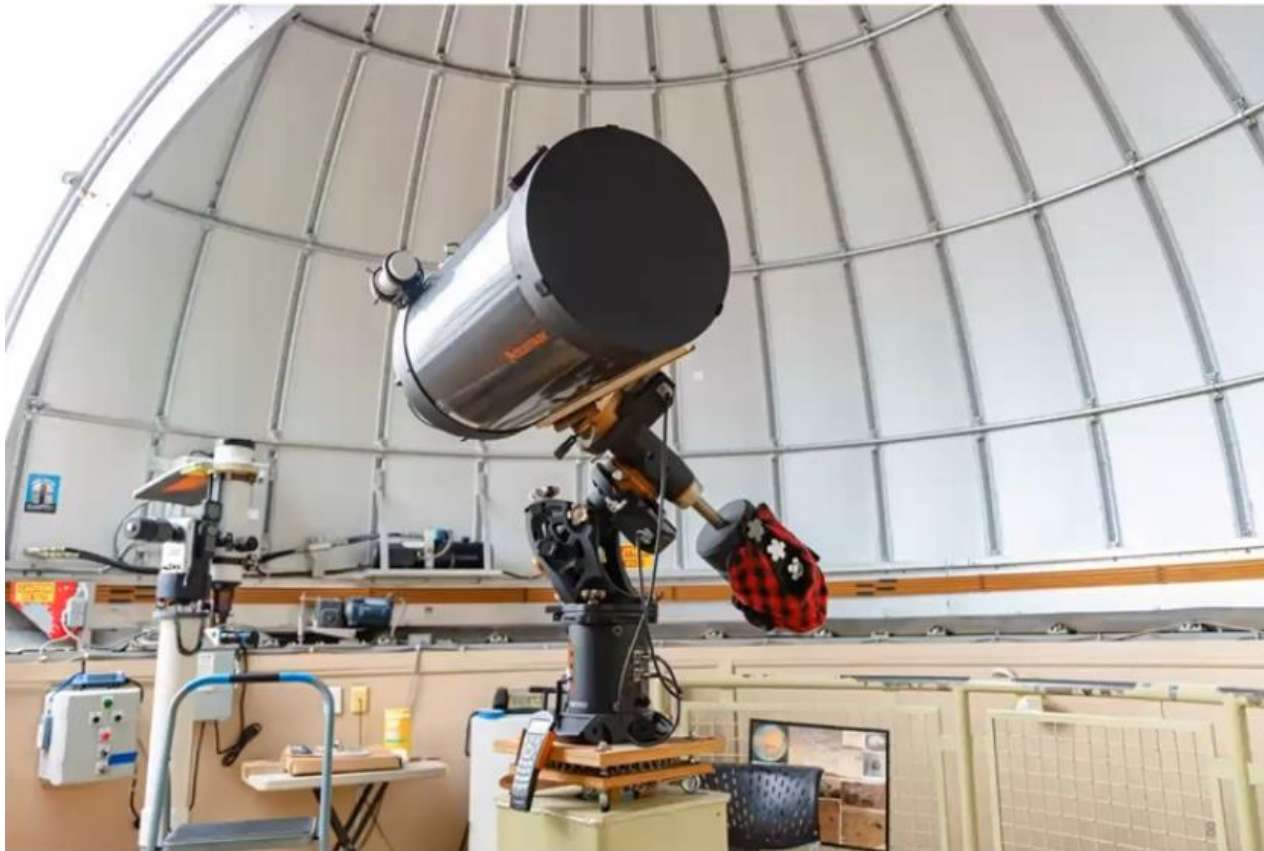
Ripples in Space time: Predicted by Einstein, but with no way of proving it is the notion of “Gravitational Waves”, which have extremely long wavelengths (on the order of light years). Scientists are now using arrays of pulsars as an interferometer to detect them. The process is analogous to photographing black holes using the Earth as an interferometer.

Editors note: I did some research and found this link on John Blackwell’s site. It is deep and way over my head, but perhaps not for others.

https://academic.oup.com/mnras/article/525/1/L50/7220711?utm_source=etoc&utm_campaign=mnrasl&utm_medium=email&nbd=15670181009&nbd_source=campaigner&fbclid=IwAR2GKH8py24nGg6KchWT_-jtfJblwcJZITV7nLJ46Y_M68-hlRcc6GtIC8E&login=false

VOLUNTEERS REQUESTED AT MSDC

Volunteering at MSDC



Dave McDonald talked about a few programs and the need for additional resources. MSDC has a Lunt for Solar and C14 for evening. MSDC has requested NHAS members not to fix or clean any equipment without first notifying MSDC staff. They have protocols and more importantly, they see it as an opportunity to leverage NHAS mentoring for their staff. The sweet spot is between 11am – 3pm for solar observing but no specific time requirement is required.

As a reminder, NHAS provides a sky watch the first Friday of each month during the MSDC hosted event in the planetarium. This has been a long, historical event going back to when I first joined in 1999. Turn outs are typically in the dozens.

They are appreciative anytime folks wish to offer. If anyone is interested, they can reach out to MSDC directly or contact Dave MacDonalld at dmcDonald@starhop.com

HILLSBORO DISCUSSION

Hillsboro Discussion

Hillsborough City dark sky area

- Education tie-in and SQM measurements
- Potential NHAS dark sky site
- Adam Charrette
- NHAS: Joe D, Tom C, Dave R, Pete

Tom Cocchairo provided an update. Not too much to report likely due to people being busy in the summer months. The committee continues to work with the town.

DONATION RECEIVED

Donation Received

- We received a 25,000.00 grant from the Fidelity Charitable Donor-Advised Fund.
- We are considering an EV scope, library binocular program, and improvements to site.
- Tablet computer for EV outreach
- YFOS repairs



5



As reported at a prior meeting, NHAS received a donation that was used to fund several activities. Purchases have been made on all items and we are in the process of acquisition and use.

PIXINSIGHT

Several club members including myself use this product and a new release was just made available. I have read on the forums that some things broke and are not working properly. This includes Starnet2 and EZ Processing Suite. I suggest that you check the forums before deciding to upgrade. I have a test machine in which I have it installed but am not going to upgrade to my production machine. I am going to wait a bit. There is nothing compelling in this release that I need. In my research, there were some required architectural changes necessary to support major feature planned in future releases.

ASTRO PHOTONS

Many club members have been showcasing their astrophotography talents on the Astro-pictures channel in Slack. Please go there to review photos as it would be terribly redundant to include them here. In addition, Herb Bubert takes a sampling from that channel posting them on the club's Facebook page on a monthly basis.

CLUB AND OTHER LINKS OF INTEREST

Facebook Page:

<https://www.facebook.com/search/top?q=new%20hampshire%20astronomical%20society>

NHAS YouTube including some enablement education:

<https://www.youtube.com/@newhampshireastronomicalso1786>

NHAS Club Calendar:

<http://www.nhastro.com/calendar.php>

Did you know that Slack offers analytics? It's pretty cool if you are a metrics nerd like me 😊

<https://nhastro.slack.com/stats#overview>

LTP YouTube channel

<https://www.youtube.com/@librarytelescope>

Phil Babcock In-Reach materials (let me know if you cannot see the folder)

https://drive.google.com/drive/folders/1eVm896w7E_cGyLEdYP4QSRJIZGI8RPU3?usp=share_link

SUMMARY

This is your newsletter so please let me know of content you might like to see. Anyone is also welcome to submit articles of your choosing. For example, an observing session report, a field trip or some event, etc.

Clear Skies!

Rich DeMidio