

The Celestial Observer

October 2014



We had the sky, up there, all speckled with stars, and we used to lay on our backs and look up at them, and discuss about whether they was made, or only just happened.

Mark Twain, *Huckleberry Finn*

From the President



Greetings NSAAC Members!

The fall weather is here and with it more comfortable observing temperatures and fewer mosquitoes.

Club members had their first opportunity to use Strawberry Fields for observing recently. For the most part the site has excellent horizons all the way around the field and the skies are just as good as Veasey Park, if not better due to the fact that there are no lights to turn off. I am looking forward to clear skies for October observing at Strawberry Fields. Please see the club activities calendar for permitted use dates.

The two Essex Heritage Trails & Sails star parties at Battis Farms during the month of September were very well attended this year. We had a great group of volunteers manning telescopes and enthusiastic visitors at both events. We are hoping this may lead to an agreement with the town of Amesbury whereby we can use Battis Farm for observing on a more regular basis.

Armchair astronomy topic for October There has been some exciting interplanetary spacecraft news recently. NASA's Mars Atmosphere and Volatile Evolution (MAVEN) spacecraft successfully entered Mars orbit on 21 September; it will now perform detailed studies of the red planet's upper

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atmosphere. India's first interplanetary spacecraft, Mangalyaan, also arrived at Mars last month on 24 September. This was primarily a "technology demonstration" mission for India's nascent interplanetary program.

Next month the ESA's Rosetta spacecraft, which rendezvoused with comet 67P/Churyumov-Gerasimenko in August of this year, will release the Philae lander for the first controlled landing on a comet. The landing is scheduled for 12 November.

I hope to see members old and new at upcoming meetings or observing sessions this fall.

Clear Skies! Kevin Hocker, NSAAC President

Next Business/Members Meeting Friday, November 7, 8 p.m. at Brooks School in North Andover. A scope clinic will begin at 7 p.m. if one is requested in advance.

Autumn Targets

Dave Aucoin—aka 'Deep Sky Dave'--is among the Club's most experienced visual observers. At the Celestial Observer's request, Dave has contributed the following article, highlighting some of his favorite fall deep sky objects. Thank you, Dave.

Ah, autumn with its crisp days and chilly nights. A young man's (or old man's) thoughts turn to the autumn skies and the ascent of different constellations as those of summer slink away to the west.

Many of you know of my fascination with planetary nebula, so I will highlight few favorites toward which you can aim your telescopes these autumn evenings.

The **Helix Nebula** (NGC 7293) is a nice object to view. It is listed as 7.6 magnitude and is *very* large. To locate the Helix, put Skat, or Delta Aquarius, in your finder scope. Then follow a series of smaller stars forming a crescent smile to the nebula. Look for the star G Aquarius, then move on to u Aquarius. Between u Aquarius and 47 Aquarius lies the Helix. In my eyepiece, it appears as a faint, round smudge. Adding a UHC filter

brings out the nebula while darkening the sky somewhat. In a wide field eyepiece at a moderately low power you can sometimes see the donut shape of the nebula--a slightly brighter ring with a dark center. Owing to its low surface brightness, I suggest nothing smaller than an 8-inch scope, though it can be seen in darker skies with a 6-inch.



The Helix Nebula, NGC 7293

Photo by John Hobbs

Next, there is NGC 7009, the **Saturn Nebula**, in Aquarius. When first observed, it was said to have two ansae, or handles, one on either side, so that when viewed in a smaller aperture telescope it appeared to look like the planet Saturn. This planetary is located 1° west of the star Nu Aquarius. The nebula has a magnitude of 7.8 and is 30×24 arc seconds in diameter. It is small, but because of its size, has a high surface brightness. It is easily visible in scope from 3" on up. Pushing the power on your scope will reveal more of the "rings" of the Saturn Nebula. If our eyes could accumulate photons like a CCD or film camera, you would notice that an outer halo extends out 100 arc seconds. A UHC or OIII will reveal more details in the nebula, especially at high powers.



The Saturn Nebula, NGC 7009

Photo by John Hobbs

Another favor it object is NGC 246 in the constellation of Cetus. It is sometimes referred to as the **Skull Nebula** because of the apparent face of a skull in pics. It lies about 6° north of the star B Cetus. A trained observer can see this with a scope as small as a 4-inch, but for the uninitiated, use at least a 6-inch scope to find this faint object. It is listed as magnitude 10.39 and an apparent size of 4×3.5 arc minutes. This means that it has a low surface brightness, i.e., it's light is scattered over a large area. A couple of 12th magnitude foreground stars and the 12th magnitude central star almost wash out the nebula in smaller scopes as well as three other stars on the periphery of the nebula. There appears to be a notch taken out of the nebula's SE side. An OIII filter brings out the nebula nicely, especially in larger scopes.

If you're out past midnight or up before the sun this month, a nice object to view is NGC 1535 in the constellation Eridanus. Sometimes known as **Cleopatra's Eye**, it shines

at magnitude 9.4 and has an apparent size of 48 x 42 arc seconds. You will find it about a third of the way between Zaurak (Gamma Eridani) and I Eridani. With an OIII filter you can just make out a smoky ring with a darker central concentrated area. It has a bluish look. This is a nice planetary nebula to view before hitting M42 in Orion.

In Taurus, there is **NGC 1514**. Listed as 10.9 magnitude and an apparent size of 2.3 x 2.0 arc minutes, this large nebula appears to encircle a central star with a luminous outer shell. NGC 1514 responds well to both UHC and OIII filters. Try pushing the power and observe the result!

One more object to view is **IC 2003** in Perseus. It has a magnitude of 11.6 and an apparent size of 6 x 6 arc seconds. Owing to its relatively small diameter, it has a high surface brightness. Blinking with your filter will show the nebula brighten, but dim the field stars, revealing the nebula. There is a field star right next to the nebula, giving the appearance of a double star. But applying the filter will show one star brighten while the other dims. You can find this nebula between Zeta Persii and Xi Persii, which also happens to be just below the California nebula.

Here's little tip when viewing faint planetaries. A PN may be too faint to observe, given on your telescope's aperture. However, if the object's apparent size is small or tiny, its surface brightness will increase the chance of your seeing it because the brightness will be more concentrated.

Good luck in your searches and let me know what you find. Your observations will encourage others to give it a try with their telescope!

Clear Skies! Dave Aucoin

Scope Clinic Reminder: Need help with using your telescope or accessories? Are your mirrors out of alignment? Have a broken part? Then sign up for the next "scope clinic." Clinics are held at 7:00 PM, one hour prior to the Club's monthly business meetings (first Friday of the month). Go to <http://nsaac.org/telescope-clinic/> for complete details.

Three clinic requirements:

1. **Register** at scopeclinic@nsaac.org at least one week prior to the meeting date and describe your scope and whatever problems you are having with it. That will give us time to round up the people who can help with your problem.

2. **Confirm 24 hours prior** that you will be there. Our volunteer “fixers” knock themselves out to be there an hour early. They are bummed out when the people who ask for help fail to show up without notice.

3. Tell us your **home address**. Brooks School requires us to provide the names and addresses of all attendees to our on-campus meetings, clinics and observing sessions.

Duck and Cover: October’s Meteors

The **Orionid** meteor shower returns 20-22 October, peaking in the early hours of the 21st. Those are especially good nights because the moon will be a thin crescent and too near the rising sun to interfere. If it’s a normal Orionid, we should see about 30 meteors per hour as our planet plunges through the debris trail of Comet Halley. If it’s an exceptional year, twice that number may be seen.

This being coastal New England, however, pesky clouds could be a spoiler! Therefore, prayers to the gods of weather by NSAAC members are encouraged.

Sky Object of the Month: Messier 30 in Capricorn

Glenn Chaple has chosen M30 as October’s object. During October, Ophiuchus, Scorpius, and Sagittarius depart the evening sky, taking with them their cargo of globular clusters. A few stragglers remain accessible to backyard telescopes – among them, Messier 30 in Capricorn. Chaple’s article, along with a useful star chart and excellent image of M30 by Mario Motta, is now on the Club website (<http://nsaac.org/2014/10/sky-object-of-the-month-october-2014/>). Check it out.

Upcoming NSAAC Activities

Collins Observatory Club-sponsored public viewing are held at Salem State University with Dennis Gudzevich at the controls of the 12-inch Meade. The observatory is closed on school holidays and cloudy nights, so stay tuned to announcements on the website, <http://nsaac.org/about-the-club/salem-state-university-collins-observatory/>

Mendel Observatory Merrimack College’s observatory is open every Wednesday from dusk until 10 p.m. when the sky is clear, with Kevin Ackert and Fred Sammartino operating the scope and dome. Check <http://nsaac.org/about-the-club/merrimack-college-mendel-observatory/> before driving out.

Star Parties Led by Brewster LaMacchia, the Club recently hosted two well-attended star parties at Battis Farm in Amesbury MA. These were part of the

Essex Heritage "Trails & Sails" event series. See event photos on the NSAAC website. Brewster sends a huge thanks to everyone who helped.

Next up in October are:

Tuesday, October 14 at Glen Urquhart School, Beverly. Cloud date: October 16.

Tuesday, October 21 at Sanborn School, Andover. Cloud date: October 23.

Tuesday, October 28 Pollard School, Plaistow, NH. To be held at the new observatory at Timberlane Regional High School. Cloud date: October 30.

Stay posted for more information on NSAAC star parties at <http://nsaac.org/events/> as it becomes available.

Let Brewster know if you'd like to volunteer your time and scope for these or future star parties. He will put you on his list and contact you when help is needed. You can reach him at starparty@nsaac.org

Other Upcoming Astro Activities

New England Fall Astronomy Festival

Friday October 17 and Saturday October 18. Get the details at <http://www.physics.unh.edu/observatory/NEFAF>

Volunteers Needed!

NSAAC depends on member volunteers to keep its many astronomy-related activities going. The Club is particularly in need of anyone who can:

Assist Brewster LaMacchia with star parties and presentations, the Club's foremost outreach/education initiative. Contact: starparty@nsaac.org

Help out at Merrimack College Observatory on Wednesday evenings. Contact: Kevin Ackert at treasurer@nsaac.org

Take responsibility for bringing snacks/drinks to the monthly meetings. Perhaps 2-3 members could divide up the year. Contact: president@nsaac.org

Help Ed Burke with the website. He needs someone to take charge of posting one or more of the site's regular features such as this newsletter, book reviews, the calendar, etc.. Contact: webmaster@nsaac.org

Meeting Minutes 3 October 2014

President Hocker called the October Business Meeting of the NSAAC to order at 8:10 PM. There were ten members present plus five Board

members. There were two guests, Mike Lalumiere and Warren Egesliem. There was a quorum. Meeting was official.

Secretary Minutes of the September business meeting were approved by acclamation.

Treasurer Kevin Ackert gave a brief report including the loss and profit statement for the month.

Membership There are currently 100 members in good standing.

Early Meeting Announcements:

Open forum on the agenda after New Business

Committee Reports

Merrimack College: Kevin Ackert opened on Wednesday the 24th and the observatory was in poor shape due to a fire. Kevin had about 18 visitors.

Salem University: Dennis Gudzevich opened the 8th with 28 visitors mostly students, on the 15th with 33 students, and on the 22nd with 64 students. He does not know why so many students are showing up.

News, Correspondence, and Upcoming Activities: Kevin Ackert received a letter from the IRS relating to the IRS postcard which he returned earlier. Apparently, the postcard arrived too late and they have sent a more detailed form for him to fill out and send back. He will take care of it immediately.

Star Party Committee: Star Party Coordinator Brewster LaMacchia reported that we had a great star party at Battis Farm in Amesbury on Friday night, September 19th [Trails & Sales]. As people were coming and going a head count was tough to get, but he tried to greet each group of people as they walked down the path and he tallied about 60, but probably missed some when running his scope. Saturn and Mars were both low in the west at dusk. Saturn's rings were clearly visible, if fuzzy. Mars was a flaming color ball, but in the fleeting moments of stillness you could see it was a reddish disk that wasn't quite round looking (it's 87% illuminated now). After those objects scopes were placed on a range of items for the attendees, just about every faint fuzzy that shows well. Though the light pollution to the south was bad, the Milky Way and a faint impression of the dust lanes could be seen overhead in Cygnus. Kevin Ackert should get a prize for finding the Dumbbell Nebula in less than 5 seconds. Conditions were clear up until about 9:30, when high clouds starting coming in and by 9PM a combination of dew and frost started attacking us. The plus side was there were no bugs. Scopes were provided by Kevin Ackert, Richard Luecke, Brewster LaMacchia, Kevin Hocker, and John Hobbs.

Another clear Friday night at Battis Farm followed on Friday, 26 September with even better viewing conditions than the first star party the week before led to another great night. Despite a smaller number of sign-ups we had a crowd at least as big, if not bigger than the 60+ people who came the prior week. The ages of attendees ranged from 4 to 70. Attendees were very enthusiastic; people probably stayed on average for an hour or more. More

than a few kids had to be dragged away by their parents.

Like the week before, we started on Saturn and Mars early, before they set (Battis has clear horizon to the west). Though fuzzy due to atmospheric turbulence, Saturn's rings were clearly visible, along with Titan. From there scopes were put on a large assortment of double stars, open clusters, globular clusters, nebula, and galaxies. A number of bright meteors were also seen between 8:30 and 9:00. Brewster spotted 4, which was surprising given the early hour and we weren't specifically watching for them, though we were looking up a lot.

Brewster set up his solar system model along the dirt road from the parking lot to the observing area to provide a scale of the solar system, but a number of planet batteries ran out not long after dark. A low fog settled into parts of the field and by 10 p.m. the dew was pretty heavy. Unlike the prior Friday, there wasn't a layer of frost/ice on everything, and again there were almost no bugs.

A huge thanks goes out to club members Dan Smoody, Kevin Hocker, Dick Luecke, John Brucker, and Mark Salvetti for supporting this event.

YAP Program: No report. [See "New Business" below]

Old Business The club still would like to find other volunteers to do star party presentations. If anyone is interested please contact Brewster LaMacchia. Also, we need more volunteers for the operation of the telescope at Merrimack College. If interested contact either Kevin Ackert or Fred Sammartino.

The town of Groveland has given us permits for Strawberry fields for October 17th, 18th, 24th and 25th. No additional permits will be given for the rest of the year. Bryan Stone provided a report on the observing qualities of the field. Big advantage was low horizons, can go into middle of field and avoid car lights. Cars did raise some dirt that can get on scopes, the ground is sloppy in that the heavier scopes and mounts tended to sink and needed to be re-calibrated. The light dome at Strawberry Fields is better than at Battis Farm..

Ron Sampson has the banner info and was trying to get it made. Because of the lack of interest the club decided to table this item until later.

Kevin Ackert and Dennis Gudzevich gave a report on their last visit to Starport. There was very good viewing. Saw NGC 891, 253, and the Able galaxy group in Perseus. Also looked at the usual bright Messier objects.

Richard Luecke used Dark Park and found it to be good except for the light

dome to the southeast, which is normal for this area.

New Business Kevin Ackert announced that he is resigning as YAP coordinator. He says he dropped the ball and did not get out the announcements in a timely manner last year. He is hoping that someone would take it over and use the internet more effectively to get the word out about the program. So the club is looking for someone to take over this activity. He recalled that he liked Dan Smoody's suggestions on how to run the program. Dan Smoody declined to be the head of the program. Kevin suggested maybe a YAP committee. Ed Burke suggested that we get a database for science teachers in the area and do a fancy email to all of them. Ed Burke suggested looking at the Mass Science Teachers.org. The YAP committee includes Kevin Ackert, Ed Burke, and Kevin Hocker. Claudia Keller indicated she has contacts with other science teachers.

The May Board meeting date will be Friday Oct 17th at time and location TBD.

Meeting adjourned 9:30 PM.

Respectively submitted, John Hobbs, Secretary NSAAC