

Harford County Astronomical Society

Bel Air, Maryland
www.harfordastro.org



Volume 34 Issue 7

July 2008

General Meeting:
Thursday, July 17, 2008
7:00pm - Business Meeting

8:00pm – Presentation:
"Meteorites"
Presented by Phil Schmitz
At the Observatory

Public Star Party (Open House):
Saturday, August 9, 2008, At Sunset
At the Observatory

Club Calendar for 2008:

<u>Open House/Public Star Party</u>	<u>Meeting Night</u>
August 9	August 14
September 13	September 18
October 11	October 16
November 8	November 13
December 6	December 11

Please check the website for possible schedule updates and changes:

<http://www.harfordastro.org>



<http://astroleague.org/>



<http://nightsky.jpl.nasa.gov/>

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Carpe Noctem!

HCAS Business Meeting

Minutes of June 19th, 2008

1. President Tom Rusek opened the meeting at 7:03 PM.
2. The minutes of the May 2008 meeting were published in the last newsletter. The group approved the minutes as published.
3. Treasurer: Tim Kamel reported that the club's bank balance was \$4959.29. 20 members have paid their dues for the new membership year already, including 1 new member.
4. Observatory operations:
 - a. Sal Rodano asked Mark Kregel to prepare a proposal for improving the observatory dome, including motorizing it. Mark and Tim Kamel will put a proposal together. The college continues to support HCAS activities, so this proposal may result in their support to this project.
 - b. We now have the capability to project the view from the observatory telescope onto the classroom screen. Jim Garrett successfully did this.
5. Outreach:
 - a. The weather was poor for the June 14th open house. 3 visitors did come by the observatory on that stormy night.
 - b. There was also a storm the night of the June 7th event at Susquehanna State Park. Before the storm arrived, Mark Kregel gave his presentation. It was well received. There were about 50 people present. The group did get to observe a few objects before the storm, including a pass by the International Space Station.
 - c. On June 3rd, Tom Rusek traveled to Cambridge to give a series of presentations at Maple Elementary School. HCAS was invited to participate by the Maryland Department of Education. The students at this school won a presentation as part of a nutrition competition. He

gave 3 slide show presentations that day. A total of 381 students participated. The representatives of the Education Department said that the event went well, and they were happy with the results.

One of the students was blind. Tom Rusek purchased a copy of the "Touch the Universe" book to send to the girl. This book has Braille text and specially formatted tactile photographs for use by the blind. He recommended that the club purchase a set of these books for use as needed during our local events and open houses. Grace Wyatt said that they had a blind child at the Camp Sunrise event last year, and Lucy Albert loaned her a copy of this book. The child was very happy to be able to participate through the use of the book.

d. SwanFest takes place on October 12th at Swan Harbor Farms near Havre de Grace.

e. The Elkton library still wants us to provide a program some time later this year, probably in the fall. Grace Wyatt will send the contact information to Tom Rusek. Karen Carey and Tim Kamel said that they may be able to support this, depending on the date chosen.

6. Observing Reports:

a. Tim Kamel and Roy Troxel attended the Cherry Springs Star Party last month. They had one good night where they saw about 100 objects.

b. Tim Kamel came to the observatory on June 1st to try out his new DSI camera. He got it to work, but the results were not good. He needs to adjust the exposure settings.

c. Roy Troxel went to Broad Creek on June 9th. The local light domes were much smaller after midnight. He had good looks at the Milky Way, Scorpius, and M51.

7. Old business:

a. Tim Kamel noted that no one has expressed an interest to him about lowering the dues for members receiving the newsletter electronically. Phil Schmitz suggested this last month, but no one else appears to support the idea.

b. Karen Carey will send Roy Troxel information on the Astronomical League award program. He will put this in the newsletter.

8. New business:

a. There will be a teleconference about the upcoming Hubble Space Telescope repair mission on June 24th. Grace Wyatt will send out the teleconference information via email.

b. Grace asked that anyone giving a public presentation use some of the Night Sky Network materials. By doing that, the club gets credit and can earn more materials in the future.

c. Mark Kregel noted that Tom Rusek's extensive outreach work is a valuable contribution to the education of the local community. He suggested that we make sure the college and the rest of the community knows about this through newspaper and other media announcements. Tim Kamel said that we already send copies of Thank You notes to Sal Rodano to pass along to the HCC leadership. Grace noted that most of the requests we receive for outreach activities come from the web site. Tom also noted that we are one of the few groups that sends people to groups for outreach events. Most organizations require groups to come to them. Since we do not require this, our services are in great demand and are highly appreciated.

d. Tim Kamel asked if anyone knew who owns and/or moderates the HCAS yahoo group. No one seemed to know for sure.

9. The meeting was adjourned at 7:51 PM. Roy Troxel gave a presentation on his trip to the American Southwest earlier this year after the meeting.

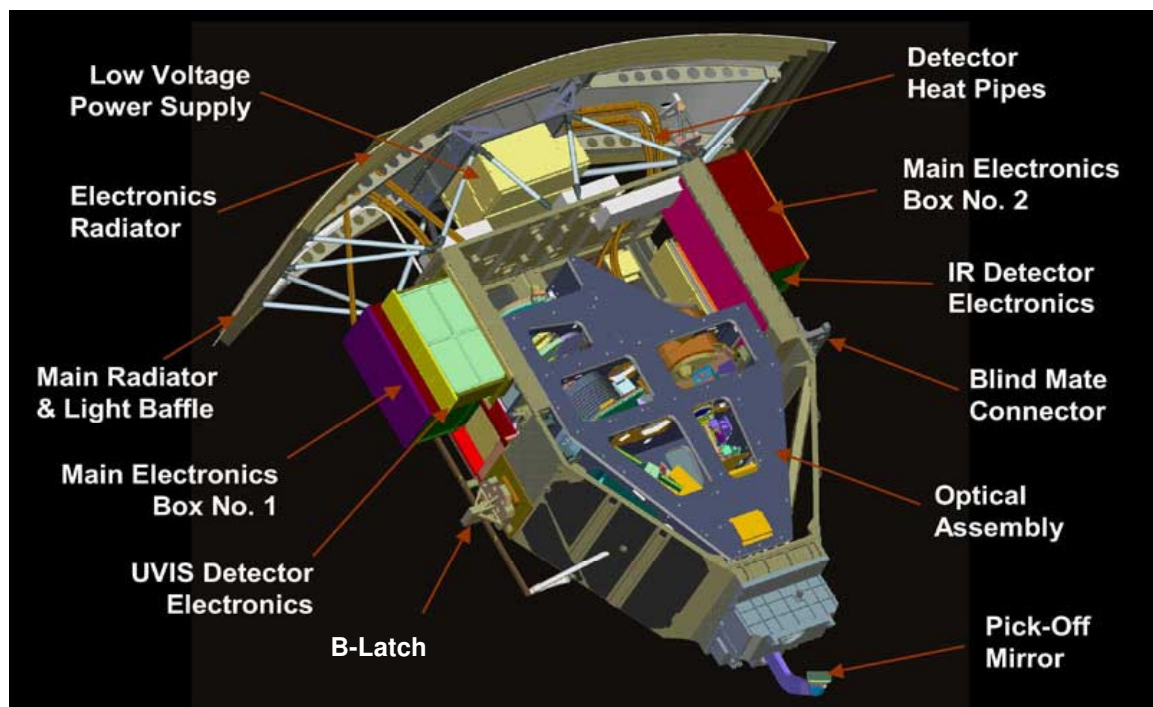
- Monroe Harden

New Members – June 2008

Please welcome new member Mark Starnier, who has been interested in astronomy since his college days. He has four telescopes and is also the current president of the York County Astronomical Society.

Also please welcome the return of two members, Doug Wittich and Larry Hubble.

We are now going through our membership renewal process. If you have not yet renewed your membership for the 2008 to 2009 year, please get them in as soon as possible.



Hubble Telescope's new wide field camera

Night Sky Network Teleconference on Hubble Telescope Upgrades

June 24, 2008

This month the Night Sky Network conducted another of its nationwide teleconferences, this one being a presentation about the in-orbit repair and upgrade of key Hubble Space Telescope instruments during the servicing mission scheduled for August 2008. The repairs, along with the addition of two new instruments, will make Hubble 90 times as powerful as it was after its flawed optics were corrected in 1993.

The first new instrument is the wide-field camera (see diagram above), which includes two channels to cover near-ultraviolet to near-infrared wavelengths. The second instrument is the Cosmic Origins Spectrograph, which utilizes ultraviolet spectroscopy. It will be used to probe quasars.

NSN's presentation included downloadable graphics from the NSN web site and was conducted by Dr. Ken Sembach of the Space Telescope Science Institute. A question-and-answer session followed.

For more information on the new instruments and upgrades, see: <http://space.newscientist.com>

The Night Sky Network's web site is at: <http://nightsky.jpl.nasa.gov/>

Observation Reports

Broad Creek

July 2/3, 2008

9:00pm to 4:00am

We began setting up around 8:30 and by 9:00pm, the sky had darkened enough to observe the brighter objects in the sky, beginning with Jupiter, which was then rising in Aquarius. Using my 8mm Stratus eyepiece (197x) and an #80A medium blue filter, I was finally able to see the Great Red Spot, appearing brown through the filter. Still, that was a great way to begin the evening. (The next day, I checked some recent photos of the planet to make sure the Spot was what I had seen.)

Saturn was disappointing, however. Low in the southwest, near Mars and Regulus, the planet's image appeared a rusty orange and wobbled considerably. Switching to a lower power eyepiece (13mm Nagler, 121x), the image appeared crisper and flatter and I did glimpse the Cassini division for a few seconds, but that was all.

By 11pm, the sky was dark enough for deep sky viewing. The southern sky at that time was unusually clear for Broad Creek, with Scorpius, Sagittarius and even Ophiuchus in plain view. It was at this time that all three of us – Tim, Phil and myself - were able to obtain excellent views of two of Sagittarius' prime objects, the clusters M8 and M20, with their attached nebulae, the Trifid and the Lagoon. Both of these objects were made even clearer by using an UltraBlock filter, which cuts all the mercury and sodium light coming from the Bel Air light dome. The rifts through the nebulae appeared very dark, and the two stars in the center rift of the Lagoon provided a nice sight, as well. Encouraged by these better-than-usual nebula views, I aimed the scope upward to M17 (The Swan) and M16 (The Eagle) – with the same good results! The Swan appeared in such detail, that it didn't appear as a Swan anymore, but a round mass with an elongated central portion and a clear dark "slice" in its left side. As for M16, I had seen the star cluster several times before at BC, but had never viewed the Eagle Nebula that appears to surround the cluster. This night I easily saw both. However, I couldn't detect any detail in the nebula's bright central area, which includes the famous "pillars of creation."

I returned to the southern sky several times during the night, concentrating on its numerous star clusters, most of which are located toward the center of the Milky Way galaxy. One interesting cluster I hadn't seen before was IC4665 in Ophiuchus. It is a very sparse open cluster, which was included in neither Messier's catalog nor the NGC. It forms a bright asterism, accessible in any telescope.

Encouraged by these views, I decided to try some more difficult objects; i.e., the nebulae in Cygnus. Using the club's 22mm Lanthanum eyepiece on the Veil, I was able to see three of its

parts – NGC6960, 6992 and 6995, remnants of an exploded star. The North America Nebula was visible as well, though not too clearly defined.

Next, I attempted to view some of the nebulosity – light and dark – around the star Rho Ophiuchi. This required the use of the RA/Dec feature on the ArgoNavis. John Burnham describes this area as a “region of strangeness and beauty. The star itself is enmeshed in a vast diffuse nebulosity...from this region a number of dark narrow lanes flow out toward the east, appearing like black tentacles obscuring the starry background.” Alas, the skies weren’t clear enough that night to reveal anything like that, but it’s a sight I hope we can view some time at Cherry Springs.

Then it was off to more star clusters, beginning with the numerous ones in Cygnus and Ophiuchus. I spent the next hour or so, roaming the skies for these brilliant objects. The seeing that night was unusually good for clusters, with the skies revealing an unusual amount of stars of varying magnitude in each cluster. This was especially true with M11 (Wild Duck, high in the sky near Aquila and Scutum.

After midnight, with all eyes being dark-adapted, we pursued the galaxies. Pegasus had risen, so I trained my scope on NGC7331, hoping also to view the nearby galaxies in the Stephan’s Quintet cluster, but that particular group eluded detection. The Virgo galaxies, as well as M83 in Hydra, were all too low on the southwest horizon, so this wasn’t the best night for galaxies. Even M51 and M101 could barely be seen. M33 in Triangulum was a round gray cloud, with no spirals visible, at least not through my 12.5” reflector.

Around 3am, I decided it was time to look for Uranus and Neptune. I definitely needed the ArgoNavis to do this. Neptune is currently in Aquarius, and it appeared as a fine blue dot, while Uranus (in Capricornus) was a larger greenish-blue dot. I couldn’t detect satellites near either one, but it’s always fun to view these two distant planets, knowing what they are.

Conclusion: It was a fine evening for nebulae, star clusters and planets. Galaxies weren’t too visible, which suggests low transparency in the atmosphere. (Also, there was very little dew.)

- Roy Troxel

Broad Creek

July 2/3, 2008 (continued)

Telescope used was a 16" Dobsonian. The night started out very well with the transparency at about a four and the seeing was about a three (on a scale of 1 - 5). The seeing did drop to a 2, but that was around 3:30 AM! The main eyepiece used was a 2 inch 12mm Televue. The temperature cooled off after midnight, going down to 64 degrees by the time we stopped.

Planets seen in the early evening were Saturn with Titan. Saturn's Cassini's division was not seen as the rings are closing up. Mars, a small reddish disk, showed no surface details. Finally Jupiter was seen with Io, Ganymede and Callisto, but later on, at 10:15, Europa could be seen at the edge of Jupiter making all four Galilean satellites visible.

The only object seen in Lyra was M57, viewed with both the 40mm Televue and the 12mm Televue.

In Canes Venatici, I was disappointed with the view of M51 and NGC5195, some spiral structure was seen in M51, but I expected it to be better than it was. Also seen was NGC5198 a rather faint elliptical galaxy not too far from M51. M3, a globular cluster, was spectacular as always.

In Ophiuchus, I visited IC4665, a very brilliant open star cluster of at least two to three dozen stars. How the NGC catalog missed this one is a mystery. This cluster is probably visible in any pair of binoculars.

Spent some time in Sagittarius since the teapot was mostly visible. Started off with the Lagoon Nebula, M8 and the associated open cluster NGC6530, which helps to illuminate the nebula. I don't think I have ever seen this Nebula better! Used all four of my eyepieces that I had with me

as well as my O-III filter. Also used a couple of Tim Kamel's eyepieces. After M8, I looked at the Trifid Nebula, M20, a diffuse nebula, that was rather disappointing, the rifts were seen with the O-III filter but I have seen this nebula much better elsewhere. The small open cluster M21 is an easy target near M20. Moving on, M22, one of the best globular clusters in the sky did not disappoint. The stars of this cluster filled over half of the view in the 2-inch 12mm eyepiece field. In contrast, M28 another globular near M22 did not resolve much. The small globular cluster NGC 6544, which is southeast of M8, was distinct, but I wasn't able to resolve any stars in the cluster. At the spout of the teapot lies a pair of globular clusters, NGC6522 and NGC6528, both visible in the 2-inch 12mm eyepiece field. NGC6522 is the brighter of the two, although neither resolves. M24, the small Sagittarius star field was easily seen in the 9x60 finder as a large fuzzy patch of light and a beautiful sight in the scope. M24 is actually a part of the Norma spiral arm. M25 is a nice loose open star cluster. M23 is an open star cluster. It is well worth visiting as it contains well over 100 stars. Also seen was the open cluster M18 and the Omega Nebula, M17, a very nice diffuse nebula, which is enhanced by the 0-111 filter.

In Scutum, the Wild Duck cluster, an open cluster, M11 was a treat as always.

In Scorpius, the loose globular M4, near Antares was seen. Also the open clusters M6 and M7 were both nice. If you want to see a nice small bright globular cluster, center on the star named G Scorpii, and you will see NGC6441, a rather bright 7th magnitude globular cluster that does not resolve.

In Serpens, M16, the Eagle Nebula was seen with quite a bit of nebulosity visible around the open star cluster while using the 0-111 filter.

Back up north, the double cluster in Perseus (NGC869 and NGC884) was, as usual, an excellent sight. I also saw the planetary nebula, the Little Dumbbell, M76.

I did check out the optical double Albireo in Cygnus and M27, the Dumbbell planetary nebula in Vulpecula. In Andromeda, the gold and blue double star Almach was seen. As was M31, a spiral galaxy, M32, an elliptical galaxy and M110, another elliptical galaxy, along with NGC404, a small 10th magnitude spiral galaxy that is hard to see due to its proximity to Beta Andromedae.

In Hercules, M13 was seen, probably the nicest globular in the northern hemisphere, and the small spiral galaxy NGC6207, which is just NW of M13 was seen. Also seen was M92, another globular that almost rivals M13.

In Cassiopeia, NGC278, a small 11th magnitude spiral galaxy was seen. Also seen was NGC 185, one of the nearest galaxies to our galaxy. Although shining at magnitude 9.2, this galaxy is very difficult to see as it is very large (14.5' x 12.5'). This galaxy is a satellite galaxy of M31 in the neighboring constellation of Andromeda. Another satellite of M31 is NGC147, a little fainter (mag 9.5), about as big as NGC185, but was not seen (though I tried!). (If you have Volume 1 of the Night Sky Observer's guide check out an actual photo of these two galaxies on page 115.)

M15, a globular cluster in Pegasus was an excellent sight. Moving on to fainter objects in Pegasus, were two galaxies that I haven't visited in a couple of decades. NGC7332 and NGC 7339, both are visible in the same high power eyepiece field. NGC7332, an elongated spiral galaxy, is the brighter at magnitude 11.2. NGC7339, another elongated spiral galaxy that is pointing at NGC7332, radiates at magnitude 12.2. Also looked at the spiral galaxy NGC7331, the brightest galaxy in Pegasus, at magnitude 9.5. This galaxy has four companion galaxies, but I didn't have a detailed enough chart to search for them. Check out the Volume 1 of the Observer's Guide, page 284 to see a photo of all five galaxies. Page 285 shows a photo of NGC7332 and NGC7739. Also searched for Stephen's Quintet, which is near NGC7331, but to no avail, oh well. Did find NGC16, a faint spiral galaxy at magnitude 12.

Looked at Polaris, its 9th magnitude companion seemed brighter than usual. The high beam headlight double Mesarthim, in the constellation of Aries, displays two 5th magnitude stars, and is one of the finest doubles in the sky.

This was definitely the best observing session that I have had at Broad Creek this year.

- Phil Schmitz

Broad Creek
July 11, 2008
12:30am to 4:30am

I arrived at BC around 11:30pm, with the first quarter moon near the western horizon. Phil Schmitz arrived shortly afterward with his 16" reflector. The southern sky was quite hazy at this time and remained that way for the rest of the night. Likewise, the northern sky underneath Polaris was hazy as well. The good news was that the eastern and western skies were unusually clear, as was the area near the zenith for a 30-degree radius.

I decided to concentrate on objects I hadn't observed before, partly to test the limits of the 12.5" Obsession, as well as Phil's 12mm 2" TeleVue eyepiece. As things turned out, the two devices worked well together.

I began with M54, one of the few objects visible in Sagittarius that night. This is a tight, faint and fuzzy globular cluster that lies 87,400 light years from earth. Some studies have suggested that this is actually the nucleus of a galaxy that was destroyed by the Milky Way's gravitational pull.

Other objects viewed that night included:

M69: One of the dozens of visible globular clusters in Sagittarius. Magnitude: 7.5.

M2: A Sixth-magnitude globular cluster in Aquarius

NGC7009: The "Saturn" planetary nebula in Aquarius. Appeared as a tight bluish ball. Supposedly resembles Saturn in appearance, but I couldn't tell because of the poor transparency that night in the southern sky.

M30: An eighth-magnitude globular cluster in Capricornus.

NGC7331 and Stephan's Quintet in Pegasus: I was definitely surprised when I was able to see the Quintet, a galactic cluster about 300 million light years distant. This was only the second time I have seen this group at Broad Creek. Couldn't distinguish all five galaxies (NGC7317 to 7320), but just detecting them was a unique experience. NGC7331 appeared like M31, but much fainter.

NGC7662 in Andromeda: A tight planetary nebula, sometimes called the "blue snowball". Most of the original star still exists. The nebulosity is the outer atmosphere drifting away from the star's gravitational pull.

NGC891: Edge-on galaxy in Andromeda, shining at 10th magnitude

NGC6826 in Cygnus: The "blinking" planetary nebula. If you stare at this nebula for a few seconds, it will disappear from view. Then, if you avert your eye slightly, it will reappear. Odd.
M103, NGC103, NGC457 and NGC7789 - Splendid star clusters for amateur scopes, in Cassiopeia.

M56: Open cluster in Lyra. Often overlooked in favor of M57, but certainly deserves observation.

By 3:00am, dew began forming on everything, including the Telrad and secondary mirror, but with my trusty hair dryer, I was able to blow most of it away – several times.

As daylight approached and the sky became lighter, we began to concentrate on double stars. Among the doubles observed were:

Eta Cassiopeiae: A beautiful yellow and pale purple pair, although some observers see slightly different colors.

Delta and Zeta Lyrae: Both of these pairs are easily resolved at low power.

Boötes: Almost every star in this constellation's "kite" formation is a double!

Almach (Gamma Andromedae): This system is actually a double-double, but was resolvable as only a two-star system, with both stars of equal magnitude, giving the appearance of headlights.

16 and 61 Cygni: These two pairs are easily resolved. 61 Cygni is of special interest to professional astronomers because of its high proper motion and because of its third companion star, which might be a planet or brown dwarf. The system is only 11 light years from earth.

By 1:00am, and through the rest of the night, Jupiter was well-placed for observation. Two of the planet's moons appeared near the upper latitudes of the planet, giving the droll appearance of "ears". By dawn, however, the left "ear" had disappeared behind the planet.

- Roy Troxel

Observatory Operations

July, 2008

In our efforts to continue keeping you informed of our activities, there are three items to report this month.

First, we have sheared one of the bolts that holds the lower door of the dome roof to the hinge. This gate now does not close properly and needs to be repaired. Luckily, it is an easy fix and we should be able to get it fixed at the next club function, the club meeting on the 17th.

We are still hoping to get the desktop and laptop computers operating and have asked that the College provide a clean XP install on the two computers, with no security.

Lastly, we are putting together a proposal to see if we can get the dome motorized. We are in the early stages of doing this.

- Tim Kamel

Outreach Programs

Open House

July 12, 2008

Finally, we had a break from the weather. Our July session was well-attended and we had very good participation by club members.

Weather was warm and it was downright hot in the dome. The ventilation fan gave some relief but the noise it made did not justify its use and we eventually shut it off. Skies had thin clouds that eventually cleared at about 10:45 and we had some spectacular views of Jupiter.

We started off the session by arriving early to get set up. I synchronized on the moon and then used the mount to find Venus. Though the sun had just set, it was still fairly bright and we were able to see Venus. Using 100, 160 and 220 power, Venus was a full disk that was fairly small. We then kept the moon in the scope for our early arrival guests. Once it was dark enough, we were able to put Saturn and Mars in the scope. Both are now fairly low in the sky but we were lucky enough to see them from the dome through a space between two trees. Not much to see on Mars except a disk and a ruddy color. Saturn was, as always, spectacular with the rings

approaching edge on. We had many good reactions from our visitors, despite the disappointment that we won't again see the rings till 2010.

After that it was time for Jupiter. Originally, in the clouds and haze near the horizon, it eventually climbed high enough to offer some excellent views. Air was still and the views with an 18mm eyepiece were spectacular. Four bands were readily observable and the Jovian moons looked like tiny disks.

We were also able to show Alberio and did bring in M11 later in the night. However, attempts at DSOs were unsuccessful. Between the light dome, the 11-day-old moon and some haze, we had little luck with M27 (M57 was almost overhead, too high for our dome) and gave up on DSOs.

We wrapped up the session at about 11:30 and closed the observatory. We counted 44 guests this session. Participation by members included Jim Hajek, Karen and Maggie Carey, Phil Schmitz, Mark Kregel, Tim Kamel, Tom Rusek, Roy Troxel, Larry and Ricky Hubble, Gary George, Sal Rodano and Grace Wyatt. This was an excellent turnout.

- Tim

Meteorites!

Phil Schmitz will be giving a presentation entitled "Meteorites" at the July meeting. Phil will bring some of his personal samples for club members to view. If you want to touch a meteorite, be sure to attend the July 17 meeting.

This newsletter is the official publication of:

Harford County Astronomical Society

**P.O. Box 906,
Bel Air, MD 21014.**

*Items for the newsletter are due to the editor by the 13th of the month
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Please send all contributions (electronic format is strongly
encouraged) to:

Roy Troxel at:

rtroxel@comcast.net.

Address regular mail to:

HCAS Newsletter

c/o Roy Troxel

301 Tiree Court #403,

Abingdon, MD 21009.

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Webmaster: Charles Jones