



Charlotte Amateur Astronomers Club
www.charlotteastronomers.org

A look at the Great Wall of Galaxies

The CfA2 Great Wall of galaxies was named after China's Great Wall by Margaret Geller and John Huchra who co-discovered it in 1989 while analyzing data from the second Red Shift Survey conducted by the Center for Astrophysics | Harvard and Smithsonian. It still remains one of the largest known associations in the universe. On the sky The Great Wall of Galaxies is vast, stretching from well west of Leo and east into Hercules, covering around 25% of the night sky in late spring to late summer. We'll have a look at the Great Wall as part of the great cosmic web structure of the universe, as well as what got me into it, followed by thumbnails of observations in and around the seven Abell Galaxy Clusters associated with this massive structure. All the observations were conducted visually with the club's 24" Newtonian reflector.

Speaker: Butch Phaneuf

Butch Phaneuf joined CAAC when he retired from teaching in 2021. He taught high school social studies for 30 years, the last 22 of which were in Union County Public Schools. He also taught Introduction to Astronomy his last five years at Cuthbertson High, when the outgoing science teacher recommended him as his replacement. Butch grew up in central Florida and following the manned space program during the 60s and 70s fired his lifetime love for all things astronomy. His visual astronomy journey began when he retired and could use evenings for observing and sketching with a 10" Sky Watcher Dob in a field near his home in Waxhaw. He's married to his wife of 47 years and they have four grown kids and seven grandkids... so far.



CAAC September 2025 Meeting

| | | |
|---|--|--|
| Next Meeting: Friday September 19th, 2025 Time: 7pm ET | Place: <i>Myers Park Baptist Church Education Building – Shalom Hall (Basement) <u>Or Zoom Virtual Meeting</u> (See info on next page)</i> | Address: 1900 Queens Road Charlotte, NC 28207 |
|---|--|--|

CAAC Virtual Meeting Login Instructions

1. If you have not used Zoom before, go to Zoom.com and download the Zoom program onto your computer.
2. **To Log In:**

Click on the meeting link below:

[https://us06web.zoom.us/j/82489334922?
pwd=dWRsdDFkMjJOWFVNUFIIN1IFL1NoQT09](https://us06web.zoom.us/j/82489334922?pwd=dWRsdDFkMjJOWFVNUFIIN1IFL1NoQT09)

If needed Meeting ID: **824 8933 4922**

Passcode: **893125**

This manual “log in” rather than invitation to everyone prevents all the emails showing up on the invite. This is a security issue for your privacy.

3. When on the Zoom screen to prevent chaos and overloading bandwidth:
 - a. Mute your microphone-icon lower left of screen
 - b. Mute Video icon on the lower left of screen.
 - c. You will be able to see and hear leaders of the meeting when they are speaking
4. If you wish to ask questions of the speaker after the main presentation:
 - a. Submit on the chat feature which is at the bottom of the screen. You will then type out your question and hit enter.
5. Excellent Zoom tutorials are available on You Tube:
 - a. <https://www.youtube.com/user/ZoomMeetings>

From the President:

Greetings Friends,

As the weather gets cooler and the nights get longer, I hope you all get a chance to step out and enjoy the night sky!

A friendly reminder that our annual club membership dues are due in October, so they are coming up fast. Please review on our website and ensure you select the most appropriate option.

Thank you to all who assisted in cleaning up the observatory this past weekend; we got a lot accomplished! We are very blessed to have our observatory and all of the resources it provides.

Clear skies,

Justin
CAAC President

Al Busedu – Notes from Gayle Riggsbee:

Born in Philadelphia Jan. 6, 1924. Al learned the building skills he used for the club by working in his father's construction business as a boy.

During his teen years he became interested in science. Al took a mirror making class led by Ed Bailey at the Franklin Institute. Ed took Al and the mirror making class to Stellafane. While at Stellafane, Al met the founder of the event Russell Porter and had a brief discussion with him.

During WW2 Al hoped to be a pilot and in 1944 enlisted in the Army Air Corp pilot program. At the time, Pilots trainees were no longer needed and Al ended up as a tail gunner on a B24 in the Pacific.

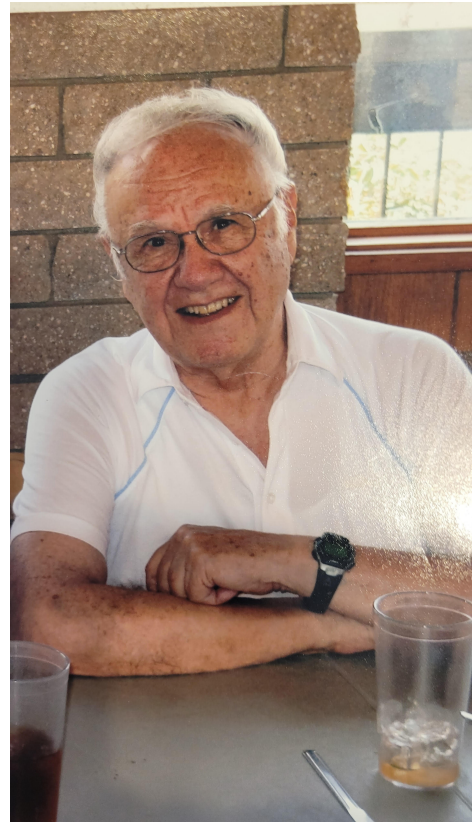
After the war ended, Al attended Oklahoma A&M using the G.I. Bill and graduated with a degree in Geology. After graduation Al conducted solo Uranium prospecting on the Colorado Plateau. With minimal success in finding Uranium ore, Al rejoined the Air Force and became a junior officer in charge of in-flight arming of nuclear weapons.

Al chose to leave the Air Force after his second enlistment and went to work with Honeywell, retiring as a department head.

The date of Al joining the club is uncertain, but his active membership lasted several decades. He held the office of President for 2 years in the late 1990's. He was also a major contributor to outreach, attending any scheduled public star party. One of the biggest contributions to the club was his active participation in the planning and execution of Southern Star. He graciously allowed the Southern Star team to use his home for all the planning meetings. Along with this, Al served as the shuttle service to and from Southern Star for out-of-town speakers.

The biggest contribution Al made to the club was to find the land for the current site of the GHRO. Al set out to locate a dark sky site CAAC could lease. During one of the drives searching for land, Al stopped and spoke to some people in the Taxahaw area, These people pointed him to the Braswell family, the owners of the current GHRO site. Through Al's efforts, the club was initially able to lease 2 acres of land from the Braswells for only \$50 per acre per year. Later the Braswells donated the original 2 acres, plus an additional 2 acres that are the south end of the observatory site. We owe the existence of GHRO as we know it to the hard work Al put in!

Al passed away at the age of 101 on Aug. 17, 2025.



Secretary's Report:

1. The **2026 CAAC annual membership** begins in October and we want to express our gratitude to new joining members and to our renewing members. Your participation is greatly appreciated.
 - Annual individual/family membership, which includes access to the CAAC dark sky **observatory** (GHRO) - \$60.00
 - Dues are collected at the October meeting and are pro-rated for members joining in January or later.
 - Students up to 18 years old - \$15.00 per year.
 - Private Observing Pads - additional \$25.00 per year.
Optional fee for members with private concrete observing pads at the club's dark sky location. Contact the Observatory Director for additional information.

Membership Applications are available through the CAAC Treasurer at monthly meetings. Click <https://charlotte-amateur-astronomers-club-2.square.site/> to navigate to the CAAC online store. Then select "CAAC Membership" to add it to your cart

2. If you are a former CAAC member and have not been keeping up with your membership dues, firstly please come back! We'd love to reconnect you with the love of astronomy through our club, use of GHRO observatory, and the camaraderie of our members.

Please also remember to return your badges on the table near the exit at the end of the meeting before you leave! Doing this will significantly reduce the chances of badges getting lost and reduce the amount of time (and cost) of having to re-create your name tag if it is lost. Thank you!

3. Register with the **Night Sky Network!** It is imperative that all members of the CAAC join the Night Sky Network (NSN). Many of the club's outreach activities are managed by the NSN, as well as club communications (newsletters, event notifications, general email). The NSN is a wonderful tool specifically designed for amateur astronomy clubs like ours. Membership allows you to contact other members via email, and receive last minute updates for outreach events via text message:

[http://nightsky.jpl.nasa.gov/club-apply.cfm?Club_ID=1468&ApplicantType=Member Pre-Monthly](http://nightsky.jpl.nasa.gov/club-apply.cfm?Club_ID=1468&ApplicantType=Member-Pre-Monthly)

4. **Are you looking for ways to participate in the club?** We would appreciate volunteers for the following standing committees to better serve our members:
 - Room Set Up
 - Refreshments
 - Audio/ Video
 - Web Master/ Social Media. Please be on the lookout in the next couple of weeks for emails with more details and how to participate. Please contact the CAAC Officers and let us know which committee interests you. Thank you for your consideration. The club is adding a new CAAC Astronomy Equipment Sales page to the newsletter. Please check out the offerings at the end of the newsletter.

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6. Sign up for **CAAC Slack / chat!**

Chat with fellow astronomy and astrophotography enthusiasts on our discussion group. This is a free service, we are using the basic plan. See who's going to GHRO, ask questions, or just be sociable. You can access via webpage or native applications on all major platforms and mobile phones. Sign up, introduce yourself, talk to your peers, tell your stories, ask your questions, and share your wisdom!

How do I sign up?

- Visit this link: <http://slack.south40astro.com> or email caac-slack@jamieandamy.com

If you run into issues signing up, email Jamie at caac-slack@jamieandamy.com and he will help you get on the team.

7. The **CAAC website**, <https://charlotteastronomers.org/> has been updated to provide better service to our members with easier navigation, up to date announcements and postings, and accessible communication. Please explore and enjoy your new CAAC website.

Best,

My Do
CAAC Secretary

CAAC Treasurer's Report as of 8/31/2025

Operating Fund

Purpose: Enable the CAAC to pursue our non-profit goals, maintain our facilities, and run our programs.

*Funds are acquired through ongoing receipts of dues, fees, and annual Southern Star income (or expense).

*Funds are expended to meet operating obligations of the club.

| | | |
|---|--|---|
| 1 | Operating Fund Balance: 7/31/2025 | \$13,936.13 |
| 2 | Income: Dues and Fees | \$210.00 |
| 3 | Expenses: Scholarship Award Annual Liability Insurance GHRO Pest Control Outreach GHRO Utilities (alarm, elec, internet) Service fee to accept credit cards | \$1,000.00 \$2,207.00 \$146.00 \$40.00 \$147.30 \$8.82 |
| 4 | Operating Fund Balance: 8/31/2025 | \$10,597.01 |

Non-Operating Funds

Purpose: Administer gifts and donations for designated use.

| | | |
|---|---|---|
| 1 | Non-Operating Funds Balance: 7/31/2025 Scholarship Fund CAAC Self Insurance Fund Contingency Fund | \$6,706.87 \$20,000.00 \$7,432.72 |
| 2 | Income: Interest | \$0.29 |
| 3 | Expenses or Transfers: | |
| 4 | Non-Operating Funds Balance: 8/31/2025 Scholarship Fund CAAC Self Insurance Fund Contingency Fund | \$6,706.87 \$20,000.00 \$7,433.01 |

Scott Goforth
CAAC Treasurer

News from GHRO

1. The next **Star Party is Saturday, September 20** beginning at dusk.
2. The next training date is **September 27 at 5:30pm**.
3. If you have a pad or building at GHRO that you are no longer using, please consider selling to another member or donating it back to the club. We have a large number of people interested in their own pads at the observatory. Please reach out to Jim Gaiser if you are interested in giving up or selling your pad or building.
4. When observing at GHRO please ensure you minimize the amount of light you produce. Especially for imagers, **please take care to hide lights from your equipment and computers**. Plastic bins are available for use to put your laptop in.
5. Please follow the posted startup and shutdown procedures for any club owned scopes. This helps other members when they go to use our equipment.
6. Don't forget that the current sky conditions and weather and the Clear Sky Clock is found at the bottom of our homepage... <https://charlotteastronomers.org/>
7. Anyone interested in helping out with grounds maintenance, please contact Jim Gaiser. It currently takes about 5 hours for one person to mow and trim the full grounds, and any help would be appreciated. Special thanks to Dale Poole for doing a lot of mowing at GHRO.
8. 10 members joined me on Saturday September 13 for a mini workday at GHRO. A top to bottom cleaning of the Outreach Center was done, the 24" got a good bath (the mirror will be cleaned at a later time), the tools got sorted and consolidated and general cleanup took place. Many thanks to those that helped.
9. Make plans now for Cosmic Camporee, the annual pot luck dinner and weekend observing party at GHRO. It is currently planned for October 25, with only a 4 day old moon starting the evening off right. Those who spend the night on Saturday get pancakes cooked by the Observatory Director to start their Sunday morning.
10. We are planning to add a new binocular observatory this fall...stay tuned for further developments.
11. The club owned utility trailer was stolen on July 31 at 2:45 AM from GHRO by a couple that apparently is well known to the Sheriff's office. The event (as well as earlier footage showing them on the grounds the previous afternoon) was captured on our security cameras and that video was turned over to the Lancaster County Sheriff's Department. Two arrests have been made and the trailer's VIN is in the nationwide database of stolen items. The trailer has not been located. Both suspects are out on bail and a court date has not been set.
12. Finally, I am pleased to announce that the Image Intensifier use in the club owned night vision goggles has been found during the Outreach Center cleaning and is functional. Gayle Riggsbee has it and will be putting it through its paces.
13. The complete GHRO calendar for 2025 is on the next page.

2025 Star Party and Training Schedule

| Month | New Moon Date | Star Party Date | Moon Illumination | Moon Rise | Training Date | Training Start Time (PM) |
|-----------|---------------|-----------------|-------------------|-------------|---------------|--------------------------|
| January | 29 | 25 | 16% waning | 4:18:43 AM | No training | |
| February | 27 | 22 | 31% waning | 3:06:53 AM | 8 | 5:00:00 PM |
| March | 29 | 29 | New Moon | 7:12:18 AM | 1 | 6:00:00 PM |
| April | 27 | 26 | 2% waning | 5:41:56 AM | 12 | 6:00:00 PM |
| May | 26 | 24 | 9% waning | 4:11:22 AM | 3 | 6:30:00 PM |
| May | | | | | 31 | 6:30:00 PM |
| June | 25 | 21 | 19% waning | 2:43:06 AM | 28 | 6:30:00 PM |
| July | 24 | 26 | 4% waxing | 8:17:51 AM | No training | |
| August | 23 | 23 | New Moon | 7:08:31 AM | 2 | 6:30:00 PM |
| August | | | | | 30 | 6:30:00 PM |
| September | 21 | 20 | 1% waning | 5:58:38 AM | 27 | 5:30:00 PM |
| October | 21 | 25 | 15% waxing | 11:36:38 AM | No training | |
| November | 20 | 22 | 5% waxing | 9:22:37 AM | 1 | 5:30:00 PM |
| November | | | | | 29 | 4:30:00 PM |
| December | 19 | 20 | 0.5% waxing | 8:06:18 AM | No training | |

What would you like to see at GHRO?

Please provide any suggestions on things you would like to see at GHRO! I want to make sure this facility is providing the maximum benefit to all of our members, and I can't do that without your feedback. GHRO is already a world class amateur astronomy location, but it can always be improved. You can always contact the GHRO director, Jim Gaiser at ghro@charlotteastronomers.org.

Jim Gaiser
CAAC Observatory Director

GHRO Information

GHRO is located at [1427 Bloomwood Drive, Lancaster, SC](#). (some GPS show city as Pageland). Gravel road leading to the observatory is located 5.22 miles east of the "522 Grill" on Taxahaw, Rd.

Facebook FAQ

<https://www.facebook.com/CharlotteAstronomers/> scroll down to NOTES, then Frequently Asked Questions page for more information about GHRO. Be sure to share your astronomy photos and observing tips.

Night Sky Network -- "Heading to GHRO"

For updates on GHRO, be sure to join the <https://nightsky.jpl.nasa.gov/index.cfm> "Heading to GHRO" message group.

As always, we care about the safety and security of all visitors to our observing facility, the GHRO. To keep us all mindful for the need to keep alert while visiting the observatory, we provide the following reminder. Please share this with your family and any visitors who may join you at the observatory. Thank you.

***** WARNING *****

This facility (GHRO) and adjoining area may contain uneven terrain, dangerous wildlife, low light conditions, and dangerous man-made obstacles.

By using this facility, users assume the risk of personal injury, and loss or damage to personal property. All persons should use extreme caution at all times.

Users of this facility agree to hold harmless the Charlotte Amateur Astronomers Club, its Directors, and its members for any and all injuries sustained while participating in club activities or using this facility.

CAAC Outreach Report September 2025

Scheduled:

09/27/2025 Solar Program - Mint Hill Autumn Jubilee

[7601 Matthews-Mint Hill Rd, Mint Hill, NC 28227](https://www.google.com/maps/place/7601+Matthews+Mint+Hill+Rd,+Mint+Hill,+NC+28227)

Setup: 8:00 AM

Program: 9:00 AM - 2:00 PM

09/27/2025 Lunar Program - Huntersville Parks & Rec. - R.C. Bradford Park

[17005 Davidson - Concord Rd. Huntersville, NC](https://www.google.com/maps/place/17005+Davidson+Concord+Rd,+Huntersville,+NC)

Setup: 7:00 PM

Program: 8:00 PM - 9:30 PM

10/04/2025 Solar Program - NC Wildlife Federation - Squirrel Lake Park

[1631 Pleasant Plains Rd, Matthews, NC 28105](https://www.google.com/maps/place/1631+Pleasant+Plains+Rd,+Matthews,+NC+28105)

Setup: 9:00 AM

Program: 10:00 - 1:00 PM

11/07/2025 Planetary Program - Patriots Elementary School

[1510 Holden Avenue Southwest, Concord, NC 28025](https://www.google.com/maps/place/1510+Holden+Avenue+Southwest,+Concord,+NC+28025)

Setup: 5:00 PM

Program: 6:00 - 7:30 PM

11/14/2025 Boy Scout Troop 99 Overnight Camp Program - GHRO Heritage Learning Center

[1427 Bloomwood Dr, Lancaster, SC 29720](https://www.google.com/maps/place/1427+Bloomwood+Dr,+Lancaster,+SC+29720)

Setup: 5:00 PM

Program: 6:00 - TBD PM

11/24/2025 Homeschool Group Program - GHRO Heritage Learning Center

[1427 Bloomwood Dr, Lancaster, SC 29720](https://www.google.com/maps/place/1427+Bloomwood+Dr,+Lancaster,+SC+29720)

Setup: 3:30 PM

Program: 4:30 - TBD PM

If you would like to volunteer with any of these outreach programs, please contact Tom Blevins at, publicoutreach@charlotteastronomers.org

Clear Skies,

Tom Blevins
CAAC Public Outreach Coordinator

CAAC Astronomy Ad Listings

Welcome to the CAAC classifieds. If you would like to post an ad in the newsletter, please let us know at the beginning of each month and we will list your items. Please provide a brief description and your contact information.

- Item 24-001:** *Obsession 15 Classic f4.5 with Argo Navis, Custom Equatorial Platform, etc.* for sale in Chapel Hill. \$2700. Local pick up or seller is willing to drive for meet up. Ad can be viewed on AstroMart [here](#), or contact:
- Bob Clemen, rtclemen@gmail.com



Item 24-002: Sold

Item 24-003: Sold

- Item 24-004:** *Star Tracker for sale: iOptron SkyGuider Pro EQ camera & the optional iOptron SkyTracker Ball Head camera mount, lightly used & in excellent condition.* for sale in Charlotte
Included:

1. *iOptron SkyGuider Pro EQ camera (mount model #355)*

- internal rechargeable lithium battery, good for 20 hours of operation

- illuminated internal polar scope for polar alignment & built in bubble level

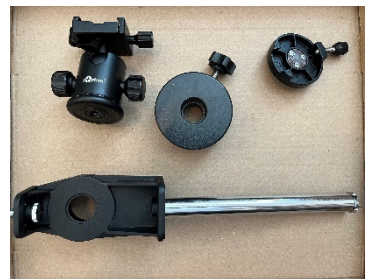
- built in camera trigger port & ST-4 guiding port

- Detachable counterweight shaft & 3-pound counterweight

2. *Includes the separately purchased iOptron SkyTracker Ball Head camera mount (model #3305A)*

- ball head mount allows for 360 degree panning & makes it easy to tilt a camera into position

- can support a heavy camera lens, bubble levels on each axis & also has a dovetail mounting bracket



List price for this package brand new with the optional ball head mount is \$463 today. Asking \$325 for the full package. Can be picked up in Charlotte or other arrangements may be accommodated, contact:

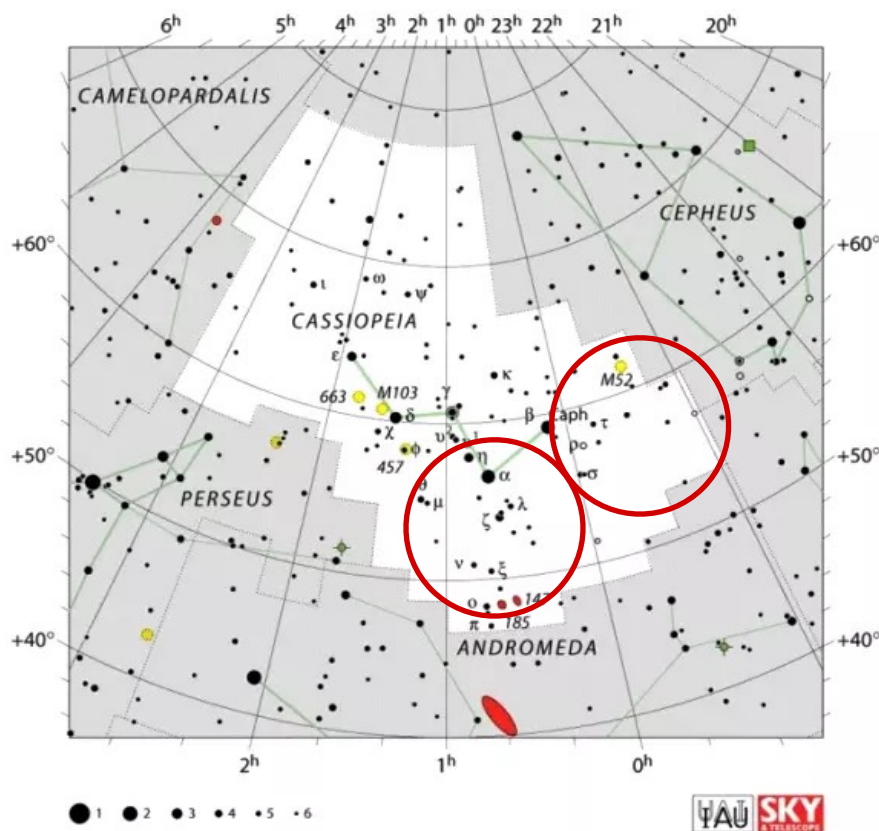
- David Harris, 704-577-8977, davidharris11@yahoo.com

- Item 23-001:** *1958 Criterion Newtonian reflector*, 6" f/8 for sale with original mount. Asking \$600 with free delivery within the Charlotte area.
- David Friday, wdfriday@twc.com 704-579-1778.

- Item 23-002:** **New SkyQuest Intelliscope XT8.** List Price \$ 1,300.00.
All manuals with it-including initial purchase paperwork
- **Make An Offer.**
 - Contact Jim Gaiser



The Night Sky in September 2025



NGC 7789

NGC 7789 is an open cluster in Cassiopeia that was discovered by Caroline Herschel in 1783. Her brother William Herschel included it in his catalog as H VI.30. This cluster is also known as "**The White Rose**" Cluster or "Caroline's Rose" Cluster because when seen visually, the loops of stars and dark lanes look like the swirling pattern of rose petals as seen from above. All the stars in the cluster were likely born at the same time but the brighter and more massive ones have more rapidly exhausted the hydrogen fuel in their cores. These have evolved from main sequence stars like the sun into the gaggle of red giant stars.

NGC 7635

NGC 7635, also known as the **Bubble Nebula**, Sharpless 162, or Caldwell 11, is an H II region emission nebula in the constellation Cassiopeia. It lies close to the direction of the open cluster Messier 52. The "bubble" is created by the stellar wind from a massive hot, 8.7 magnitude young central star, SAO 20575. The nebula is near a giant molecular cloud which contains the expansion of the bubble nebula while itself being excited by the hot central star, causing it to glow. It was discovered in 1787 by William Herschel. The Bubble Nebula has an apparent magnitude of 10 and is about 10 light years in diameter. The central star has a magnitude of 8.71 and a mass about 44 times that of the Sun

NGC 7380

The Wizard Nebula, NGC 7380 whose catalog number actually refers to the open cluster of stars within the nebula. The nebula is a complex of emission, reflection, and dark nebulas referred to as SH2-142. It is about 7,200 light years away in the constellation of Cepheus and was discovered by Caroline Herschel in 1787. The nebula's apparent magnitude is 7.2. Although the nebula may last only a few million years, some of the stars being formed may outlive our Sun.

We welcome and encourage our CAAC members to come and visit the **GHRO Observatory** to enjoy, learn, and observe these and other celestial wonders.

Cassiopeia Constellation Map courtesy of IAU and Sky&Telescope, <https://www.constellation-guide.com/constellation-map/northern-constellations/>

We would like to acknowledge the content for this report was edited from information courtesy of NightSkyInfo and www.wikipedia.com *Please note that NightSkyInfo has merged with Starlust.org and the original NightSkyInfo content has been migrated to the new site. [Tom Urbain \(Starlust.org\) Acquire NightSkyInfo.com](http://TomUrbain.com)

If you would like to download a map of each month's night sky, use this link, <https://www.skymaps.com/skymaps/tesmn2308.pdf> to download, print, and navigate the Evening Sky Map.

An **ENHANCED** Star Atlas – FREE!

Our CAAC member, Mark Hoecker, has used the *Mag 7 Star Atlas – Color Milky Way version* (available on the internet) and added some enhancements including:

- A star map index to quickly identify the individual star chart you are looking for.
- Blue directional arrows at the edge of each chart guiding you to the adjacent chart. Also large page numerals were added in the lower right corner, helpful when thumbing through the charts.
- Finally, he manually added common star names and a selection of deep sky object names to the star charts, helpful in finding your way around the sky.

Such enhancements are allowed under the Creative Commons License by Andrew L. Johnson, author of the original charts.

SUGGESTION: While printing at the largest paper size you have available is helpful, a great alternative if you have a “letter size” color printer with a manual auxiliary feed slot, is to print on “legal size” (8½ x 14-inch) heavy paper or even “card stock”. You could also punch holes and place in a legal-size report cover available at office supply stores. You would then have a wonderful star atlas to help you through the night skies!

If you have access to a color printer that can print on 11 x 17-inch paper (or card stock), you can print a magnificent copy whose readability will rival that of very nice, commercially available atlases.

To download your ***Mag-7 Star Atlas Milky Way version – ENHANCED***, go to the CAAC website and scroll down the left column to “Mag 7 Star Atlas” and follow the link.

Happy Observing!

Endowment Corner

Gifts for the Present: Cash

A gift of cash is simple, has immediate impact, and provides tax savings due to the charitable deduction that you can receive. The easiest way to make an outright gift is to write a check to the CAAC Stewardship Foundation.

To make a contribution or learn more, please visit
<https://charlotteastronomers.org/endowment/>

Ken Steiner
Chair, CAAC Stewardship Foundation

CAAC CONTACTS

| | | |
|-----------------------------|-----------------|--|
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| Observatory Director | Jim Gaiser | ghro@charlotteastronomers.org |
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