



Charlotte Amateur Astronomers Club  
[www.charlotteastronomers.org](http://www.charlotteastronomers.org)

### CAAC August 2022 Meeting

<p><b><u>Next Meeting:</u></b> Friday August 19th, 2022</p> <p><b><u>Time:</u></b> 7pm ET</p>	<p><b><u>Place:</u></b> <i>Myers Park Baptist Church Education Building – Shalom Hall (Basement)</i></p> <p><b><u>Address:</u></b> 1900 Queens Road Charlotte, NC 28207</p>
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### The Search for Aurora Borealis

In March 2015, Mark Hoecker and his wife Marge -- both long-time members of the Charlotte Amateur Astronomers Club -- traveled to northern Canada to see the Aurora Borealis (a.k.a. the Northern Lights). He will share what they found during this journey in the cold weather of Churchill, Manitoba and help you experience a bit of what it is like to view the beautiful aurora.

**Speaker: Mark Hoecker**

After Mark's first astronomy experience as a youngster with a Tasco telescope, he was able to take two courses in astronomy at a high school equipped with a planetarium. In college, Mark helped lead the on-campus astronomical society and co-taught outreach adult observational astronomy at the campus observatory. Mark is a retired Professional Engineer from Duke Energy where he worked in business and financial management for nuclear, gas-fired, and coal-fired electrical generation. He has served as president of CAAC two different times for a total of five years. Mark also created the GHRO Observatory and the History of the Charlotte Amateur Astronomers Club videos – both on our website as well as co-authoring the Mag 7 Star Atlas - ENHANCED, also available on the website. Mark and Marge have been part of the club's Southern Star astronomical convention support team over the years.

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## **From the President:**

Greetings Friends,

Thank you for your continued support.

The first leg of the auction was a success and I hope you will consider participating in the second installment which will be announced shortly. If you have an outstanding balance, please be sure to pay your invoice as soon as possible.

I am pleased to report that the website committee is making great progress and we look forward to rolling out the new version in the not-too-distant future.

Programming note: The Board has met, and we have decided to suspend live steaming for the remainder of the year (three meetings) however we will continue to record the events and post them online.

If you miss a meeting, you will still be able to watch the recording as we will continue to archive them for your viewing pleasure. We look forward to seeing you in person and will reevaluate in the new year as we evaluate our technological needs and abilities.

Clear skies,

Joel  
CAAC President

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## Secretary's Report:

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!

Register with the **Night Sky Network!** It is imperative that all members of the CAAC join the Night Sky Network (NSN). Many of the clubs 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)

Please note that we have started sending out the newsletters from the club's email address [info@charlotteastronomers.org](mailto:info@charlotteastronomers.org) Please double check if it may have been filtered into your Junk/Spam folder. The newsletter can also be found on the CAAC website, <http://www.charlotteastronomers.org/> under Newsletter Archive. I apologize for any inconveniences this change in newsletter delivery may have caused.

My Do  
CAAC Secretary



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## News from GHRO

1. The next star party is Saturday, August 27 beginning at dusk. The next training is the Saturday before the star party, August 20 beginning at 6PM. If it's clear afterwards, you can use your new skill to practice. Please e-mail me at [jegaiser@gmail.com](mailto:jegaiser@gmail.com) if you plan to attend. Training is canceled ONLY if it is actively raining...we can train on the telescope usage with cloudy skies.
2. Don't forget that the current sky conditions and weather can always be viewed at [www.charlotteastronomers.org/weather](http://www.charlotteastronomers.org/weather). The Clear Sky Clock is found at the bottom of the left side of our home page...[www.charlotteastronomers.org](http://www.charlotteastronomers.org).
3. The new telescope storage building, near the All Members pad is available for rent. The fee is \$10/month for a 3'x3' spot inside, with a 6 month minimum commitment; there are 9 spots available. Users are encouraged to have their contents insured, as CAAC will not be insuring the contents of the building. Please see Jim Gaiser or Rick Bassham if you have any questions.
4. The final part of the GHRO infrastructure overhaul is the extension of the parking lot across Bloomwood Dr. We contracted a local company to clear the woods and that has been completed. Many thanks to those that volunteered to come down with chain saws, see item 7 below before you pack it away. The new parking lot will now settle before its final surface is applied. It should be available for Cosmic Camporee.
5. Speaking of Cosmic Camporee...save the date...October 21-23. Expect crisp, fall air...plenty of good times and good friends...burgers and dogs provided by the club, covered dishes for sides and desserts. This is the only event where a reservation for an RV site is needed, so please contact me if you need one. Tent camping is always available at GHRO, and this is no exception. There will be badminton, cornhole, model rockets and all the fun you want to have. A day trip over to 40 Acre Rock is planned, so come dressed appropriately. Keep your fingers crossed for clear skies. Jupiter and Saturn will rule the evening skies...just saying.
6. For those who have been through telescope training lately, emphasis is placed on proper use of the security system. Specifically, instruction is given about the importance of disarming the system when you arrive and arming it properly when you leave...if you are the last person leaving. I jokingly speak to that last point by saying that "Everyone gets one phone call" in reference to having the alarm company calling me in the wee hours because the alarm is set, but a club member may still be on site...just inside their observatory with the door closed.

Well, it's happened again. On Saturday night/Sunday morning, August 13-14 we had a really good turnout at GHRO, in spite of the almost full moon. Many imagers were working away and several visual observers were around as well. A nameless club member was leaving and set the alarm at 3:00 AM Sunday morning. At 3:15 AM, one of the imaging members walked out of their building...resulting in a 3:16 AM phone call to

me from the alarm monitoring company. When I was told the zone, I knew exactly what had happened, so I told them not to send the sheriff. In reviewing the security camera footage it is clear that the nameless individual set the alarm was diligent in that they turned off the AC in the warmup room...so thank you for that!

So please, if you are leaving GHRO in the dark of night and are preparing to set the alarm, please check to ensure that you are indeed the last one out. This may call for you to not only scan the upper parking lot, but also to check by the imaging buildings to the south. Often times, these folks will park next to their building. A quick lap around GHRO prior to setting the alarm will give the director uninterrupted sleep. He thanks you in advance.

7. Finally, it's time for another fan favorite...WORK DAY at GHRO. Let's shoot for September 17, close to the last official day of summer and the day after the September CAAC meeting. Drainage work east of the RV sites, brush pile clearing, and parking lot smoothing are all on the agenda...plus or minus as the needs arrive. An early start (8 AM) makes for working in cooler weather, bring your own lunch...drinks are on the house!!

## **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.

Jim Gaiser, Director GHRO.

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 \*\*\*

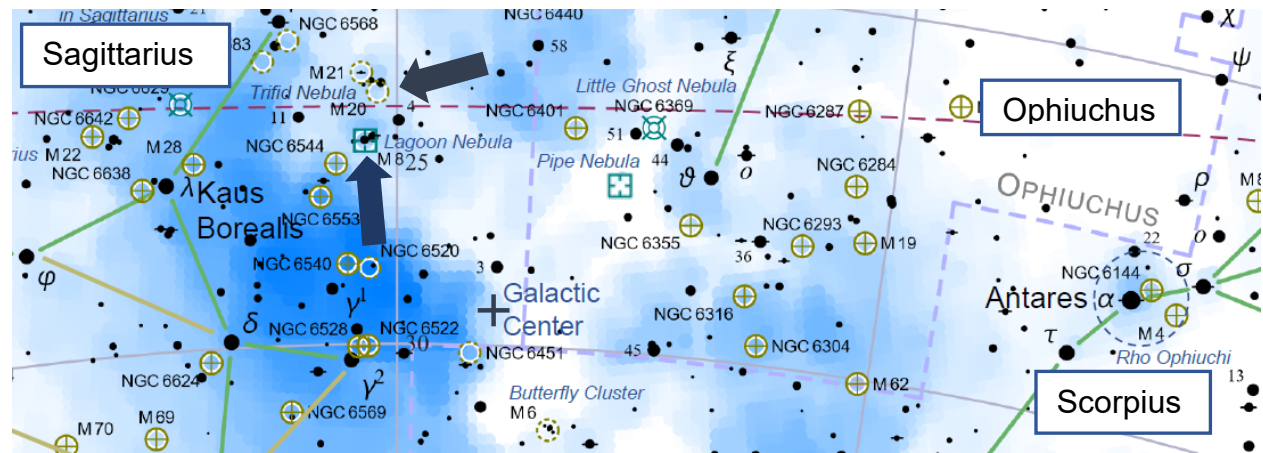
This facility (GHRO) and adjoining area may contain uneven terrain, dangerous wildlife, low light conditions, and dangerous man-made obstacles.

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.

# August Sky Challenge

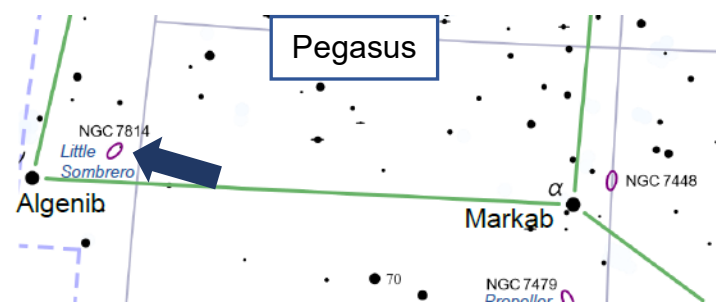
Are you looking for something to discover in the night sky? Try these with a modest size telescope, with some patience and persistence! Or come down to the GHRO and get a really fine look! This month, a nebula with dark lanes, an emission nebula and a cluster – all in one constellation, Sagittarius.



Dark nebulae, sometimes called absorption nebulae, are dust clouds free of nearby stars that rather than emitting or reflecting light absorb it and block our view of objects that lie beyond. They range from small black voids only a few arcminutes across to the Great Rift which spans more than 100 degrees and is easily visible with the naked eye in the summer Milky Way. Now it is time to test your observing skills on a beautiful dark nebula that lies inside a well-known Messier object, **M20 the Trifid Nebula**.

This nebula is a popular object among deep sky observers, but few realize that the Trifid's celebrated dark lanes are catalogued as **Barnard 85**. These dark nebulae are well seen in a 6-inch telescope at moderate power, and appear detailed in instruments of 8 inches or more aperture. Some observers report detecting them even with 3-inch scopes on clear nights with steady seeing.

If you don't manage to see the three dark lanes on the first try, come back another night. Observing dark nebulae takes patience and sky darkness is critical regardless of your telescope.



In Pegasus is an edge-on galaxy, **NGC 7814**, also commonly referred to as the **Little Sombrero Galaxy**. It has a bright central bulge and a bright halo of glowing gas extending outwards into space. The dusty spiral arms appear as dark streaks. They consist of dusty material that

absorbs and blocks light from the galactic center behind it. NGC 7814 has a similar appearance to its namesake, the Sombrero Galaxy, M104. It is about 40 million light-years distant which is why it appears to be slightly smaller than the similar sized M104.

Acknowledgements:

NightSkyInfo [www.nightskyinfo.com/archive](http://www.nightskyinfo.com/archive) for target descriptions, adapted.  
Mag Star 7 Star Atlas Project © 2005 Andrew L. Johnson for star maps (clipped)

*Edited by Mark Hoecker*

# What's Up in the Sky?

**Highly Recommended** Download and print a good *FREE* star map (including interesting objects to look for) monthly from:

Skymap <http://www.skymaps.com/downloads.html>

[You'll also find a good monthly sky map in each issue of \*Sky & Telescope\* or \*Astronomy\* magazines.](#)

## New to the Night Sky?

Are you puzzled by folks in the club who point up in the sky and say “There’s Gemini... and you can see Leo rising over there...and doesn’t Regulus look clear tonight”? Are you trying to figure out where those darn constellations are? Those large star atlases are pretty intimidating... confusing... and expensive.

A good starting point could be called, *My First Star Atlas*... but in reality it is 4 simple but very helpful *FREE* star chart pages from the Stephen F. Austin State University – called **SFA Star Charts**. Pages 2 & 3 show you about 90% of everything you need to get started. There are even a couple pages that explain how to use a star chart. Clear and straight-forward.

Go to this link and print out the pdf file on the largest paper you have available, though standard letter paper is fine:

<http://observe.phy.sfasu.edu/SFAStarCharts/SFAStarChartsAll.pdf>

While these charts do not show the myriad of deep sky objects, they DO show the constellations and brightest stars – a good introduction to the night sky!

**Happy Observing!**

## 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:

### Qualified Charitable Distributions

If you are 70½ or older, you may make a tax-free gift directly from your IRA. That gift does not count as taxable income but does count toward your annual Required Minimum Distribution (RMD). This is a great way to direct your RMD to a good cause and to avoid the income tax normally incurred.

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

Ken Steiner, Chair, CAAC Stewardship Foundation

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