



## Charlotte Amateur Astronomers Club

[www.charlotteastronomers.org](http://www.charlotteastronomers.org)

### CAAC November 2023 Meeting

<p><b><u>Next Meeting:</u></b> Friday November 17th, 2023</p> <p><b><u>Time:</u></b> 7pm ET</p>	<p><b><u>Place:</u></b> <i>Myers Park Baptist Church</i> <i>Education Building – Shalom Hall (Basement)</i> <i>Or Zoom Virtual Meeting</i></p> <p><b><u>Address:</u></b> 1900 Queens Road Charlotte, NC 28207 <i>Or Zoom web conference link (See newsletter info below)</i></p>
---	--

### Solar System Photography in Sidereal Time

Dr. Gaiser will take us through his adventure of capturing the retrograde motion of Mars as the Earth swung by it as we both orbit the sun. With the advent of digital cameras, it is relatively simple to do...but back in the 1990's it was a bit more difficult.

#### Speaker: Dr. Jim Gaiser



Dr. Jim Gaiser earned his Bachelor's degree in Physics in 1976 and followed that with a Masters and PhD in Atomic physics from Auburn in 1981. After a stint as a physics Professor at East Carolina University in the 80's, where he taught both physics and astronomy, he transitioned into Medical Physics. He is currently a clinical medical physicist with Aspekt Solutions, a physics consulting company. His lifelong interest in astronomy began when he looked up to see Echo I in 1961. His first telescope was a 75mm, f15 Unitron refractor which has just been refurbished by Tom Blevins...where his grandchildren will enjoy it. His astronomical interests include asteroid occultations and astrophotography.

## 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>

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,

It is traditional at this time of year to look inward and give thanks...thanks for those who have helped us, thanks to those who help others in need...thanks that we have the opportunities we've all been presented with that has brought us together today. With this in mind, I'd like to take this opportunity to express my thanks to all in the community that allows me to lead such a great group of individuals that share a passion for observing the skies.

It is also tradition that the club does not have a formal meeting in December, but instead we join one another in celebrating the season at the home of Charlie and Gwen Clayton for a potluck dinner. The Claytons have opened their home to the CAAC family for over 20 years and a good time is always had by all. Please join us on **December 9th, beginning at 6:30 PM at 306 Riverton Road in Matthews**. As is customary, please contact Charlie or Gwen to see what is needed to make dinner the success it's always been. They can be reached at (704)821-9891.

Clear skies,

Jim  
President, CAAC

---

## Secretary's Report:

1. The 2024 CAAC annual membership began in October:
  - 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. Our gratitude to new joining members and to our renewing members. Your participation is greatly appreciated.
3. 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!

4. 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)
5. 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.
6. 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.

7. 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](mailto:caac-slack@jamieandamy.com)

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

8. Become a NASA Partner Eclipse Ambassador

In April 2024, a solar eclipses will be crisscrossing the US. In an exciting new NASA partnership, undergraduate students and eclipse enthusiasts will partner to engage their local communities in advance of the eclipses to enjoy the awe and wonder of this unique alignment. Eclipse Ambassadors will bring outreach programs to underserved audiences in local libraries, colleges, schools, and other community organizations. Training, partnerships, and resources are provided, and all engagement can be done before the eclipses - there's no commitment when the shadows arrive. Undergraduates will also receive a stipend, plus opportunities to further their involvement in NASA programs.

Apply today! [www.eclipseambassadors.org](http://www.eclipseambassadors.org)

Find someone near you on our [Eclipse Ambassador Map](#)

We make it easy to share about the program:

[Share a Facebook Post](#) or share [NASA STEM's FB Post](#)

[Tweet about it!](#)

[Share it with colleagues on LinkedIn](#)

9. 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**  
**10/31/2023**

<b>Revenue Projections:</b>	
Southern Star income	\$29,650.00
CAAC member dues	\$14,835.00
Donations	\$2,500.00
Sale of club owned equipment/apparel	\$1,555.00
	<b>\$48,540.00</b>

<b>Projected Expenses:</b>	
Southern star expenses	\$24,549.80
Meeting room	\$3,146.00
CAAC insurance GHRO	\$1,535.00
GHRO maintenance	\$1,500.00
Pest treatment GHRO	\$1,052.00
Internet GHRO	\$959.40
Electricity GRHO	\$850.00
Planewave scope project	\$650.00
Refreshments, meetings	\$500.00
Alarm Monitoring GHRO	\$419.40
Credit card fees	\$418.86
Zoom expenses	\$325.00
Director's insurance	\$315.00
Cosmic camporee	\$300.00
Refunds	\$250.00
Officer supplies	\$250.00
Christmas party	\$120.00
	<b>\$37,140.46</b>

<b>Projected Revenue</b>	<b>\$48,540.00</b>
<b>Total Expenses</b>	<b>\$37,140.46</b>
<b>Self Insurance Reserve</b>	<b>\$10,000.00</b>
<b>Contingency Reserve</b>	<b>\$1,399.54</b>
<b>NET:</b>	<b>\$0.00</b>

Scott Goforth  
CAAC Treasurer

---

## News from GHRO

1. The next **Star Party is Saturday, December 9th** beginning at dusk.
2. Telescope training for new members (and those wishing to get a review) will be held on Saturday, November 18th, beginning at 4:30 PM. This training is required for all new members who wish to use the facilities at GHRO. The training will take place even if it is cloudy, it will be canceled only if it is actively raining or snowing. If it's clear, you can practice your newfound skills immediately after the training. To sign up please contact Rick Bassham.
3. 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.
4. Please follow the posted startup and shutdown procedures for any club owned scopes. This helps other members when they go to use our equipment.
5. 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/>
6. 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 nine spots available. Users are encouraged to have their contents insured, as CAAC will not be insuring the contents of the building. Please see Rick Bassham if you have any questions.
7. A new state of the art imaging observatory has been constructed and contains a Planewave 12.5" CDK telescope on a Planewave L-350 mount. This roll-off-roof facility is available for all members of the club who get training, and it is operated from inside the Outreach Center. The telescope now has first light. Please contact Rick Bassham at [ghro@charlotteastronomers.org](mailto:ghro@charlotteastronomers.org) to learn how to use it. As a primer, if you are new to astrophotography, check out the [NINA tutorial by Everyday Astro on YouTube](#). A special thank you to Dr. Jim Hermann for his generous donations.
8. Construction on the new solar panels is complete and Lancaster County has completed their inspection. We are now waiting on our utility provider to give us the go-ahead to flip the switch. Another special thanks to the Gleason family for their generous donations that made this a reality. This alone will save the club thousands of dollars per year in electricity costs for GHRO.
9. Anyone interested in the "Sponsor a Telescope" program, please reach out. My vision on this is to pair up CAAC members who want to learn more about a particular club owned telescope and/or help pass on the knowledge and history of our club scopes. There would be no monetary commitment involved, only some time. Ideally we would have two members sponsor each telescope. Sponsors would be responsible for checking their telescope once a quarter and working with the observatory director to address any required maintenance or repairs needed. You would also be expected to attend a new-member training event once a quarter to help pass on your knowledge of the history and operation of the scope. As our club grows, maintenance and knowledge transfers become much more difficult to be done by just one person. If you are interested, please reach out to Rick Bassham ([ghro@charlotteastronomers.org](mailto:ghro@charlotteastronomers.org)).
10. Anyone interested in helping out with grounds maintenance, please contact Rick Bassham. 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.

11. The complete GHRO calendar for 2023 is below:

### 2023 Star Party and Training Schedule

Month	Star Party Date	Moon Illumination	Training Date	Training Start Time (PM)
January	21	1%	28	4:30
February	18	5%	25	5:00
March	18	15% waning	25	6:00
April	22	7%	15	6:00
May	20	1%	13	6:30
June	17	1%	24	6:30
July	15	5%	22	6:30
August	19	9% waxing	26	6:30
September	16	2%	23	5:30
October	14	1%	21	5:30
November	11	4%	18	4:30
December	9	14% waning	No training in December	

### GHRO Capital Improvement 2024

Once again we are soliciting donations from club members to add more value to our already world class facility. Total cost is roughly \$15,000, and includes a new privacy fence, another storage building, an additional all-members pad, and getting an electric utility cart.

If you would like to donate to this capital improvement project, please reach out to Rick Bassham at [ghro@charlotteastronomers.org](mailto:ghro@charlotteastronomers.org) or Scott Goforth, our Treasurer.

#### - Privacy Fence



I'd like to build a 6 ft privacy fence along the road west of Scott's observatory and the 24", turning east to replace the old existing "fence". I think a privacy fence here would greatly benefit visual observers, providing a way to block light from the road and parking lot. Per the [Lancaster County website](#), a permit is not required for fences under 7 ft in height. A 6ft fence cost estimate is \$2000. If we went with an 8ft fence, we'd need a permit from the county and



the cost would be closer to \$3000, but it would give more light blocking for observers. A 7ft fence would be the same cost as the 8ft, but would not need a permit.

- Storage Shed #2

I'd like to build another 12ft x 12ft storage shed next to the existing one (near the RV spots). Estimated cost is \$3,500. This would add much needed space to store equipment at GHRO.

- Additional Observing Pad

I'd like to propose adding a new 20ft x 20ft concrete pad for observers near the 24". Combined with the privacy fence to block light, this would give members an additional space to set up and observe at GHRO. Estimated cost is \$2000 to \$3000. Having it close to the parking lot also makes it easier to setup and tear down, without needing to drive through the facility after dark.

- Reactivating the Telescope Loaner Program

I'd like to reactivate the telescope loaner program at GHRO with the caveat that the telescopes and mounts involved are to be used at GHRO and not removed from the site. This will allow people new to the hobby to learn to use different types of telescopes to help them determine what they would like to purchase for themselves. Since they will stay at GHRO, risk of losing track of them is reduced, and new astronomers will have additional resources (other members) available to help them learn how to use the equipment, preventing them from becoming frustrated when trying to use them on their own.

- Get an electric cart

I think having an electric utility cart would be beneficial at GHRO. In addition to helping move materials around for maintenance, it could also be used by members to transport their gear to any of the pads on site, without needing to drive to the pad with their vehicle. As part of this, I'd like to institute a rule to prohibit any vehicles with lights from being operated on the grounds (outside of the parking lots) between "civil dusk" and "civil dawn". Having moving vehicles after dark where observers are trying to keep their eyes dark adapted can be a safety issue. Either their lights need to be on, which is not good for everyone observing, or they run the risk of colliding with people or buildings in the dark. We would also need a secure place to store and charge the vehicle.

- 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, Rick Bassham at [ghro@charlotteastronomers.org](mailto:ghro@charlotteastronomers.org)

---

## 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 November 2023

### Since last meeting:

- 11/7 Piedmont Club Presentation: "James Webb Space Telescope"
- 11/9 Epiphany School, daytime telescope instruction
- 11/14 Independence Library, Solar viewing (Solar Presentation as cloud backup)

### Scheduled:

- 11/17 StarGazer Music Festival (Hodges Family Farm) with PARI and UNCC
- 11/20 Southminster Retirement Community presentation: "Cosmic Perspective"

### On Deck:

- 2/16/2024 Ballantyne Rotary Club Presentation: "James Webb Space Telescope"
- TBD Catawba Lands Conservancy Star Party, Mount Pleasant, NC

Ken Steiner  
CAAC Public Outreach Coordinator

---

## New! 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 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](mailto: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



- Item 23-003:** **Celestron Nexstar 130SLT**, Computerized telescope (Dobsonian) – NEW IN THE BOX, never unpacked. Current Amazon price is \$599. 1.25" Barlow lens included. PRICE - \$550.  
- James Foreman, [jforeman@charlestonmgt.com](mailto:jforeman@charlestonmgt.com)

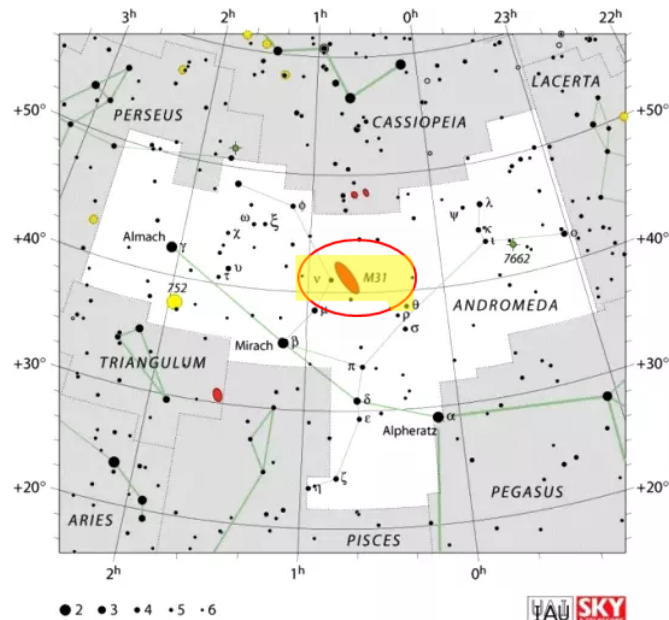


- Orion Skyquest XTg GoTo Dobsonian**, 12" – XT12g – (out of production now) NEW AND NEVER USED. On this one, I assembled the base to make it easier to store and move the tube around, but the tube and its internals have never been assembled. I built a platform with casters to move the scope around, and I also purchased a 12V sealed rechargeable battery (\$20 on Amazon) to power the electronics. There is also a telephone adapter (Celestron NexYZ - \$54 on Amazon) to fit over the eyepiece outlet. Bought the scope on Amazon several years ago for \$1795. PRICE - \$1750.  
- James Foreman, [jforeman@charlestonmgt.com](mailto:jforeman@charlestonmgt.com)



# The Night Sky in November 2023

## Andromeda M31, M32, M110



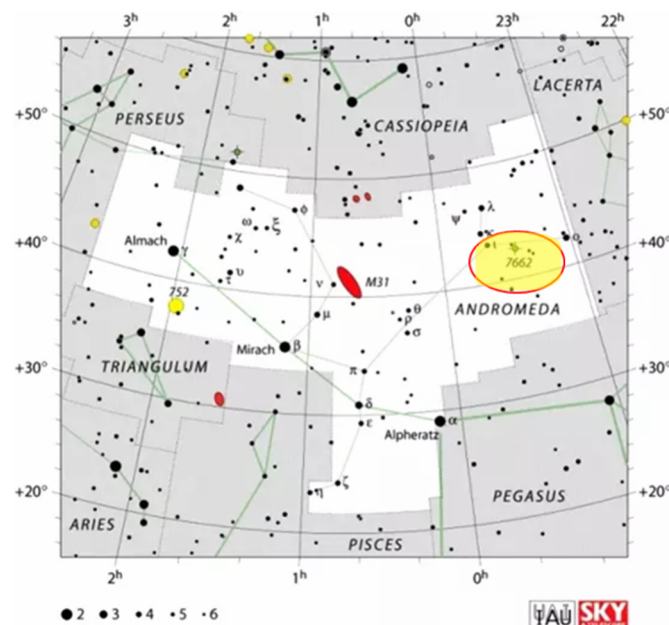
**M31**, the great Andromeda Galaxy, is one of the most famous objects in the entire sky, and the nearest of all spiral galaxies. This object is first mentioned by the Persian astronomer Al Sufi in the 10th Century, but the world becomes aware of its existence only in 1764, when Charles Messier includes it in his catalogue.

On clear nights **M31** can be seen with the naked eye as a hazy smudge, and binoculars show its elliptical shape that can be traced to its full extent of over two degrees. That is four times the width of the full Moon! **M31** is not very spectacular when observed with a telescope. Even the largest instruments reveal only the brightest central part of the galaxy, an elongated patch which gradually brightens in

the center to a nearly star-like nucleus. When observing M31 use a wide-field eyepiece, otherwise you won't be able to fit the galaxy in the visual field.

Two more satellite galaxies lie near **M31**. The brightest of these is 9th-magnitude **M32**, located half a degree south of **M31**. The other satellite is **M110**, one degree northwest of M31. These two satellite galaxies are pretty faint, and the key to viewing them is to set up your scope away from local lights on a dark, transparent, moonless night.

## NGC 7662 [Snowball Nebula] in Andromeda



... is a bright planetary nebula in Andromeda, one of the easiest objects of its type to see with small amateur telescopes. To find it, center your telescope on the 6th-magnitude star 13 Andromedae and you will have the nebula in the eyepiece's field, half a degree southwest of the star. The blue color of **NGC 7662** is common in most planetary nebulae. Ultraviolet light coming from the hot central star excites the nebula's gas, and the strong emission by oxygen in the gas produces the bluish hue.

MORE.... Search "planetary nebula" online to review how this phenomenon is formed and where the name came from! Hint: there is no "planet" involved.

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

Content courtesy of NightSkyInfo, [www.nightskyinfo.com/archive](http://www.nightskyinfo.com/archive)

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

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:

### Appreciated Assets

You can give appreciated stocks, bonds, or mutual funds and receive an income tax deduction. In fact, there is a double tax benefit because neither you nor the CAAC Endowment is taxed on the capital gains of your appreciated assets.

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

Ken Steiner  
Chair, CAAC Stewardship Foundation

## CAAC CONTACTS

---

President	Jim Gaiser	<a href="mailto:president@charlotteastronomers.org">president@charlotteastronomers.org</a>
Vice President	Benton Kesler	<a href="mailto:vicepresident@charlotteastronomers.org">vicepresident@charlotteastronomers.org</a>
Treasurer	Scott Goforth	<a href="mailto:treasurer@charlotteastronomers.org">treasurer@charlotteastronomers.org</a>
Secretary	My Do	<a href="mailto:info@charlotteastronomers.org">info@charlotteastronomers.org</a>
Observatory Director	Rick Bassham	<a href="mailto:ghro@charlotteastronomers.org">ghro@charlotteastronomers.org</a>
Public Outreach Coordinator	Ken Steiner	<a href="mailto:publicoutreach@charlotteastronomers.org">publicoutreach@charlotteastronomers.org</a>
Southern Star	Jim Gaiser	<a href="mailto:southernstar@charlotteastronomers.org">southernstar@charlotteastronomers.org</a>