



Charlotte Amateur Astronomers Club
www.charlotteastronomers.org

CAAC April 2023 Meeting

<p><u>Next Meeting:</u> Friday April 21th, 2023</p> <p><u>Time:</u> 7pm ET</p>	<p><u>Place:</u> <i>Myers Park Baptist Church Education Building – Shalom Hall (Basement) <u>Or</u> Zoom Virtual Meeting</i></p> <p><u>Address:</u> 1900 Queens Road Charlotte, NC 28207 <u>Or</u> Zoom web conference link (See newsletter info below)</p>
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How To Get To A Total Eclipse Of The Sun (By Hook Or By Crook)

In just a year, the US will experience a total solar eclipse. To get us ready for this event, we welcome one of our own, Spencer Rackley, to explain... "How To Get To A Total Eclipse Of The Sun (By Hook Or By Crook)"

Speaker: Spencer Rackley

Spencer spent almost 30 years as a programmer/analyst in IBM360/IBM370 computers for companies doing textiles and manufacturing as well as banking.

He is builder of two CCD Cookbook cameras and has had photos published in the books, "ECLIPSE!" by Phill Harrington, and "Chasing the Shadow" by Joel Harris and Richard Talcott. He has additionally had photos published in "Astronomy" and "CCD Astronomy" magazines.

Over the years, Spencer has witnessed five total solar eclipses and one annular eclipse.

He has been a club member since 1990 and served as president for two years.

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,

Over the last two years, I have had the honor to serve as your President and lead the organization through COVID, the restart of meetings, and the expansion on GHRO.

During that time, our club membership grew to record levels, our outreach requests soared, and your Board worked tirelessly to make CAAC the leading club on the Each Coast.

We have revamped the CAAC website, completed the GHRO capital plan, improved our club technology, and resumed the annual Southern Star convention.

I am also excited to announce that we have received a full private grant from the Stefan & Tanya Gleason Foundation to convert GHRO to solar power. Due to their extraordinary generosity, no club funds will be used on this project and it is expected that GHRO will be able to save more than \$3,000 per year in electric expenses.

Over the next several weeks, construction will start on a series of solar panels that will render GHRO nearly energy independent via the local utility's net-metering program.

That savings will immediately accrue to the club for maintenance reserves and help ensure that CAAC and GHRO remain affordable for all our members.

However, the time has come for me to step aside as new personal challenges require my full time focus. I hope that I left the club better and stronger as I pass the torch to the next leadership team.

Having been a club member for more than 15 years having served as general counsel, at-large member, and President - I have never been more excited for the future of our club.

The Board of Directors recommended the following slate of candidates:

Dr. Jim Gaiser: President
Benton Kesler: Vice President
My Do: Secretary
Scott Goforth: Treasurer
Rick Bassham: Observatory Director
Phil Foust: At-Large
Justin Peatross: At-Large
Ken Steiner: Outreach Coordinator

Sincerely yours,
Joel Levy
CAAC President

CAAC Slate of 2023 – 2024 Candidates:

President – 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 Landauer Medical Physics. 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.



Vice President – Benton Kessler

Retired.
Member of CAAC 10 years.
Past club Treasurer for 4 years.
Current Board member.
Interests are in observation, galaxies, clusters. Learning to do astrophotography with GHRO equipment and my own limited stuff.
Became interested in astronomy when my uncle gave me a 3in reflector with solar filter when I was 11. Was able to observe the moon, Saturn, Jupiter and the Sun. Was hooked ever since.



Treasurer – Scott Goforth

Scott has been interested in astronomy since the first grade, and his first real telescope was an 8 inch dob at 13 years old. As a founding member of the Gaston amateur astronomers club as a child, his proudest achievement will always be star hopping his way to all 110 Messier objects before turning 16. With a degree in Economics, and decades of customer service management experience, most daylight hours are spent helping companies improve their business processes. Along with family, joys include moonless nights under the stars at GHRO chasing down the NGC Catalog.



Secretary – My Do (pronounced, Me Doe)

My Do has always been fascinated with astronomy and archaeoastronomy which stems from his studies and profession of architecture. He moved to Charlotte from Denver, CO in 2019 with Family and was gifted a membership to CAAC by his wife, Angela and daughter, Stella.

As Member at Large, he has volunteered at a couple of GHRO maintenance activities and participated with outreach events. His interests are traveling and exploring North Carolina with his Family, easier now that Covid restrictions are easing. Visual observing, tinkering and refurbishing classic telescopes, and collecting books to be read in retirement, some day.



Outreach Director – Ken Steiner

Ken Steiner, past President of Charlotte Amateur Astronomers Club, also served as CAAC Observatory Director for 7 years during the major expansion of the Gayle H. Riggsbee Observatory (GHRO).

He has served as Interim Executive Director of Pisgah Astronomical Research Institute (PARI), Brevard, NC. He presently is Consultant for Special Projects at PARI including Dark Sky Park Designation and upgrading of the controls of the 4, 12, and 26 meter dishes.

He arrived in the Charlotte area in 2001 as a Sales Engineer for Enprotech Technologies (Forging and Stamping Press rebuilding) covering the SE USA and Mexico. He has served on numerous national and international non-profit boards. Ken and his wife Deb have been active in the Charlotte Amateur Astronomers Club since their arrival in the Charlotte area.



Observatory Director – Rick Bassham

I've been an astrophotographer for 13 years, and an active member with CAAC for the last 4 years. I have experience building and maintaining electronics and buildings. I've worked closely with Dr. Gaiser for the last year as his assistant at GHRO, doing maintenance and working with club members. I have also conducted club telescope training and worked several nights doing outreach at the observatory.

At Large Member 1 – Phil Foust

I have had a lifelong interest in Astronomy since seeing the moon through Charlotte Kelly's telescope when I was about 7 or 8 years old. That image is still burned into my brain! Her volunteering as part of the CAAC made it possible. During high school, I worked for two years at the Charlotte Nature Museum Planetarium (now closed), and during college, I worked for three years at UNC's Morehead Planetarium.

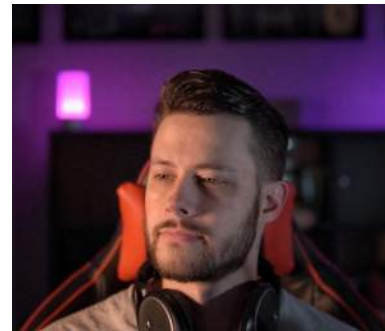


I enjoy visual astronomy in all its forms: with binoculars, with telescopes, and with no optical aids whatsoever except a lawn chair whenever work and weather allow.

Since joining the CAAC in 1999, I have volunteered when possible to support club activities. More formally, I also served the CAAC as our President for 2 terms, as Vice President for two terms, as Secretary for two terms, and as Treasurer for three terms. I look forward to serving as an 'At Large' member of the board to help us continue to grow and evolve as a club.

At Large Member 2 – Justin Peatross

Justin has always been fascinated by astronomy but didn't jump into astrophotography until three years ago. He made up for lost time by quickly ramping up from a beginner's camera setup in the fields to an observatory at GHRO and multiple imaging rigs.



Justin has made it a point to avail himself and assist whenever possible with all things A/V and technical for CAAC, and looks forward to assisting in growing the club's presence both physically and online.

Secretary's Report:

1. We will be casting votes for the slate of Board of Directors at this month's club meeting.
 - Current active members with dues paid are eligible to vote. Individual membership has one vote and Family Membership has one vote.
 - Members livestreaming via Zoom may vote via chat with their membership name.
 - Members may cast nominations from the floor. The nominations shall be seconded to be carried and placed on the ballot.
 - The current slate of Board of Directors candidates is listed in the preceding President's Report.
2. Registration for the **34th Annual Southern Star Astronomy Convention** is now Open! Please use this link to register: <https://charlotteastronomers.org/southern-star/>
3. Please see below for the 2023 CAAC annual membership options:
 - 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
4. 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.
5. 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!

6. 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%20Pre-Monthly)

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.

If you're not familiar with it, Slack is a social / chat platform-- kind of like a combination of texting and forums. We have several dedicated group channels, such as GHRO-trips, astro-imaging, and miscellaneous-equipment-talk, just to name a few. It also offers file/image sharing and direct messaging to individual users or groups of users.

When you sign up you'll be added to some "channels" automatically, and likely see some other suggestions as well.

Sign up, introduce yourself, talk to your peers, tell your stories, ask your questions, and share your wisdom!

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

Southern Star 2023

Registration is now open for the 34th Annual Southern Star Astronomy Convention!

<https://charlotteastronomers.org/southern-star/>

Southern Star 2023 will be held April 27-30 at Wild Acres Retreat near Spruce Pine, NC. Confirmed speakers this year include:

- **Mike Menzel** from NASA, speaking about the James Webb Space Telescope.
- **Dr. Brad Barlow** from High Point University.
- **Richard Wright**, formerly of Software Bisque.

Mr. Menzel was featured during our 2016 Southern Star. Dr. Barlow spoke in his 2017 visit to Southern Star. This will be Mr. Wright's first visit to Southern Star. One more speaker will round out the schedule and their talks and biography will be shared soon.

Come join us for 4 days and 3 nights of friendship, fellowship, great speakers and (hopefully) star gazing. We have a first quarter moon, but that shouldn't deter us.

**34th Annual
Astronomy Convention**

Registration is Now Open!
<https://charlotteastronomers.org/southern-star/>

Exceptional Key Speakers

Stay at WildAcres
3 Nights & 4 Days
Includes Meals & Reception

Star Parties & Solar Viewing

Social Events & Door Prizes
optional Nature Hike & Artisan Visit

**Southern Star
2023**
CAAC
Charlotte Amateur Astronomers Club
April 27-30
WILDACRES RETREAT

**WILDACRES
RETREAT**
LITTLE SWITZERLAND
NC

CAAC Treasurer's Report as of 3/31/2023

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: 2/28/2023	\$7,917.57
2	Income: Dues and Fees Insurance repair performed Donations Southern Star Deposits	 \$830.00 \$250.00 \$530.00 \$16,971.00
3	Expenses: Southern Star Monthly Meeting GHRO Utilities (alarm, elec, internet) New Building GHRO Concrete Pour Director's Insurance X-fer to Stewardship Fund Service fee to accept credit cards	 \$497.87 \$462.78 \$430.90 \$743.36 \$2,500.00 \$315.00 \$20.00 \$24.22
4	Operating Fund Balance: 3/31/2023	\$21,504.44

Non-Operating Funds

Purpose: Administer gifts and donations for designated use.

1	Non-Operating Fund Balance: 2/28/2023 Scholarship Fund CAAC Self Insurance Fund Contingency Fund	 \$6,706.87 \$20,000.00 \$7,381.50
2	Income: Interest	 \$4.34
3	Expenses or Transfers:	\$0.00
4	Non-Operating Funds Balance: 3/31/2023 Scholarship Fund CAAC Self Insurance Fund Contingency Fund	 \$6,706.87 \$20,000.00 \$7,385.84

Scott Goforth
CAAC Treasurer

News from GHRO

1. The next star party is Saturday, April 22 beginning at dusk. The May star party is May 20, also beginning at dusk. Please come down to GHRO and enjoy a crisp Spring evening under clear, dark skies (finger's crossed).
2. Cub Scouts are coming to camp beginning Saturday, May 6 and leaving Sunday May 7*. There's going to be 50-70 people, so I'll need lots of help. Please contact Jim Gaiser at jegaiser@gmail.com as he will be coordinating the volunteers for this event.
3. Telescope training for new members (and those wishing to get a review) will be held on Saturday, May 13 beginning at 6:30 PM. This training is required for all new member that wish to use the facilities at GHRO. The training will take place even if it is cloudy, it will be cancelled only if it is actively raining or snowing. If it's clear, you can practice your newfound skills immediately after the training.
4. Don't forget that the current sky conditions and weather and the Clear Sky Clock is found at the bottom of our home page...www.charlotteastronomers.org.
5. 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.
6. There is new construction going on near the solar observatory, so please be careful in that area. A new, state of the art imaging observatory is being constructed and will contain a Plane Wave 12.5" MDK telescope on a Plane Wave L350 mount. This roll-off-roof facility will be available for all members of the club who get training, and it will be operated from inside the Outreach Center. It is hoped that the observatory will be operational by April 15. Stay tuned.
7. Finally, as our president told us in his column, we will be adding a small solar farm at GHRO which should result in a savings of over \$3,000 per year in electric costs. Our current consumption of electricity is about 11kW-h per month, this new array can generate over 17 kW-h, giving us room to expand. Construction should begin in about 4 weeks and it will be located between the 8" observatory and the fire ring, where we have nothing but mud. We are using a licensed solar company to provide a turnkey solution. All permits and interconnection to our power provider (Lynches River Electric Co-Op) are handled by the contractor. Its 5 year warranty sets us up to use our savings to establish a maintenance fund, should replacement of a panel becomes necessary. Many thanks to Ken Steiner for leading us through the hurdles and continuing to pursue this project when it seemed impossible.

8. The complete GHRO calendar for 2023 is below:

2023 Star Party and Training Schedule				
GHRO				
Moon				
Illumination				
	Star Party	on Star		Training start
	Date	Party date	Training Date	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	5:00
November	11	4%	18	4:30
December	9	14% waning	No training in December	

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 ***

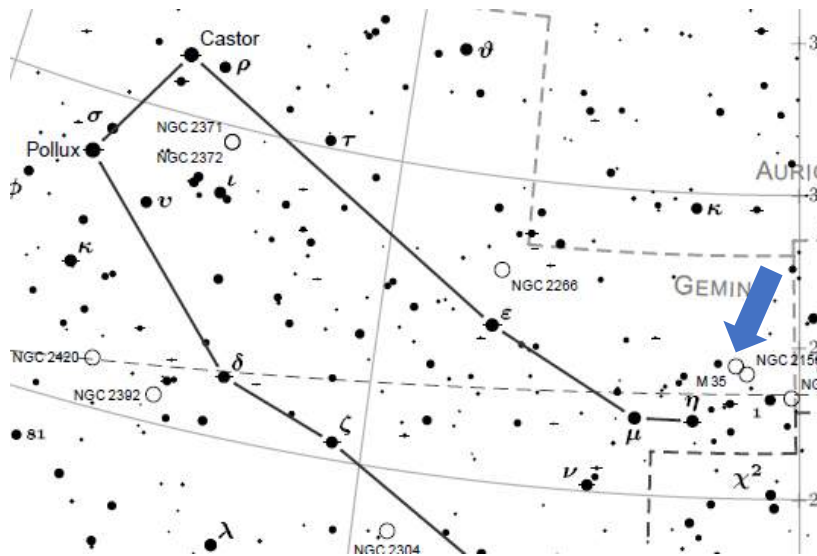
This facility (GHRO) and adjoining area may contain uneven terrain, dangerous wildlife, low light conditions, and dangerous man-made obstacles.

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.

April 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!

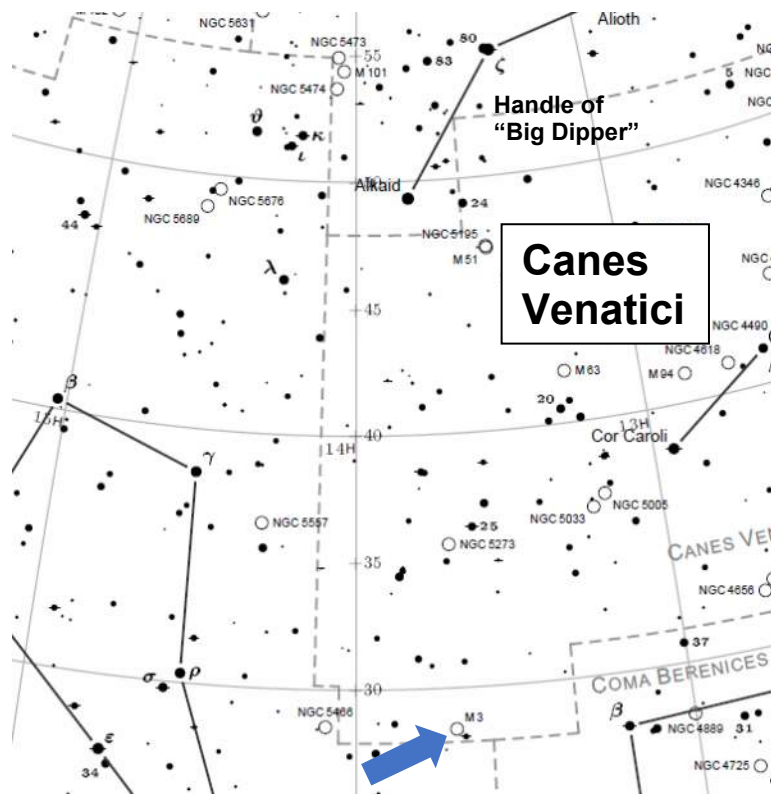


Gemini

M35 Open Star Cluster

...can be found in the constellation Gemini, near the feet of the twins, close to the border with Taurus. It contains over one hundred member stars scattered across an area as large as the full Moon. Binoculars show the cluster as a mottled patch enveloped in mist, but small telescopes clearly show individual stars, of 8th magnitude and fainter. If you

have never observed M35 before, this is a “must see” object.



Canes Venatici

M3 Globular Cluster

....looks great even through the smallest backyard telescope. The cluster has a wide, bright center that accounts for about half of its apparent width. Surrounding the center are dozens of stars whose density gradually decreases with their distance from M3's core. Larger telescopes with a high power will reveal hundreds of stellar points, massing to a central blaze, with glittering streams of stars running out on all sides. The French astronomer Charles Messier discovered M3 on the evening of May 3, 1764, and this marked an important point in the history of astronomy.

Acknowledgements:

NightSkyInfo 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?

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.](#)

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 on the top menu bar, hover your cursor over “Resources” then select “Mag-7 Star Atlas”. Follow the directions to download.

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.

FYI update: The CAAC Stewardship Foundation (Endowment) investment portfolio is now approximately \$23,347.97.

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

Ken Steiner
Chair, CAAC Stewardship Foundation

CAAC CONTACTS

President	Joel Levy	president@charlotteastronomers.org
Vice President	Benton Kesler	vicepresident@charlotteastronomers.org
Treasurer	Scott Goforth	treasurer@charlotteastronomers.org
Secretary	My Do	info@charlotteastronomers.org
Observatory Director	Jim Gaiser	ghro@charlotteastronomers.org
Public Outreach Coordinator	Ken Steiner	publicoutreach@charlotteastronomers.org
Southern Star	Jodie Funderburk	southernstar@charlotteastronomers.org