# Calhoun County Park, Wv.  May, 2025

As it has been almost a year since I was last at the dark skies of Calhoun County Park in West Virginia, I was looking forward to heading there for the May New Moon. Unfortunately, it looks like the '*April Showers that make May Flowers*' was running a month behind. Rainy weather was in the forecast for Memorial Day weekend, right before New Moon. But, a group of us overly optimistic astronomers from the ORAS club decided to roll the dice with Calhoun for the long weekend.

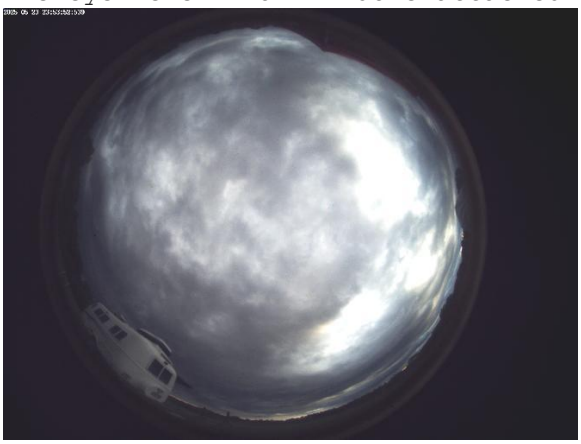
**Friday 05/23/2025:**

Finished loading the camper and car Friday morning, so got a late start on heading south, not leaving PGH until noon. It was a chilly drizzly morning, and for most of the drive the sky looked like it was ready for a downpour. Fortunately once I was south of Pittsburgh, the roads stayed dry.

After a few stops for gas and lunch along the way, (and sitting in road construction, I think every bridge and overpass on I79 south of Morgantown is being worked on!), I arrived at the park shortly before 5pm. I first stopped at the Red Barn to register, and noticed there were 4 campers staying in the little campground. After driving up the gravel road to the observing field, noticed that someone had the cabin rented. Good to see the park being used. On the field, Dean S and Geoff C were setup in our usual location. The sky remained overcast and dreary for the rest of the afternoon.

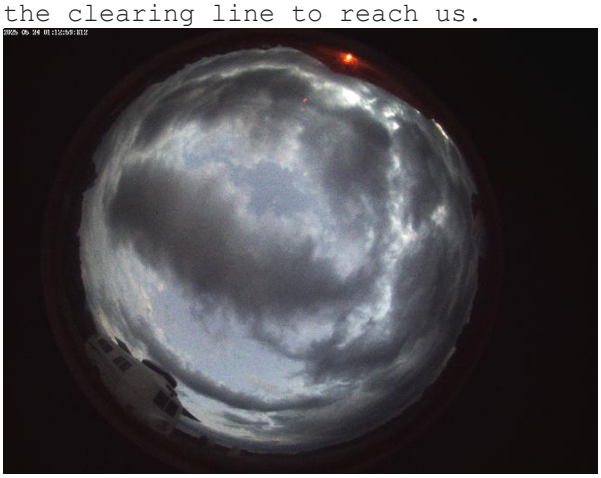
(photo gratuitously borrowed from Dean S ☺  )

After spending a few minutes saying hello to both, I picked a spot and got going setting up camp and then my telescope. Had to pause a few times for sprinkles mixed with occasional sunshine. Here's my usual EAA setup:
8" Celestron SCT optical tube @ f6.3 with a ZWO ASI294MC Pro camera, ZWO filter wheel & focuser, on an Atlas EQ GEM mount, along with a piggybacked Sky-Watcher EVO 50mm refractor with a ASI294MC camera (uncooled model), and a 60mm Antaries refractor guidescope with an ASI120MC camera. I also setup my AllSky cam, a ZWO ASI224MC camera & fisheye lens in a DIY dome attached to a tripod. And my SeeStar S30 smart telescope.



(photo from the next day)

By 7:30p, I had everything ready to go and headed indoors for dinner and a quick phone home. The clouds had begun to break up a little, but it would be hours before we could observe. After visiting with Dean at his camper, I decided to go take a nap and wait for the clearing line to reach us.



At 11:40pm, as I was waking up, Dean sent a text that the sky was clear! Yay! I hurriedly dressed in warm clothes as the outside temp was in the low 50's, and headed outdoors to uncover the equipment and assemble the blackout clamshell tent. Everything outside was sopping wet from the dew.

After spending longer than usual getting the blackout tent setup in the dark, telescope polar aligned and focused, I was finally ready to go EAA observing. The southern horizon was still engulfed by the receding line of clouds, so I gave up on my initial plans for hunting centaurs and instead decided to spend the night chasing tiny faint Palomar Galaxy clusters higher up in the sky. I started off in Bootes and then moved into Serpens.

After it cleared, we did get an occasional cloud go over and the sky transparency was soft at times. There was also heavy dew! After fixing an issue with the AllSky cam crashing, (moisture in the USB cable connection), I used it to capture occasional pictures of the sky. The Milky Way looked nice! Here it is rising over Geoff’s camper.

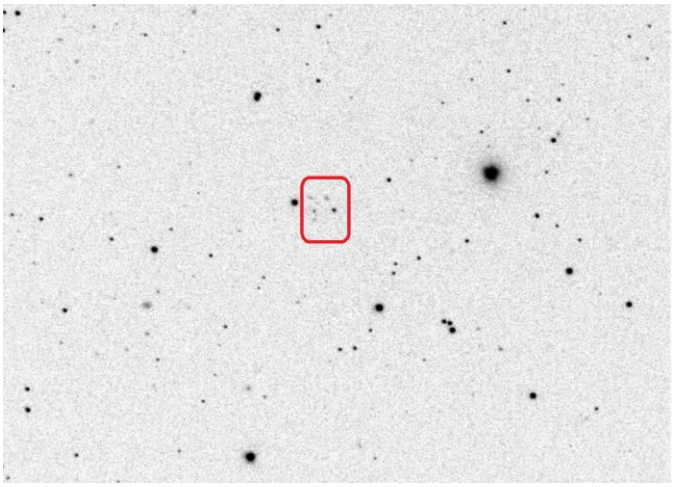
While I was working Palomar Galaxies, Geoff was imaging globulars and galaxy M101 in Ursa Major. Dean was shooting the Whirlpool M51 in Canes Venatici and the Fireworks Galaxy NGC6946 in Cepheus.

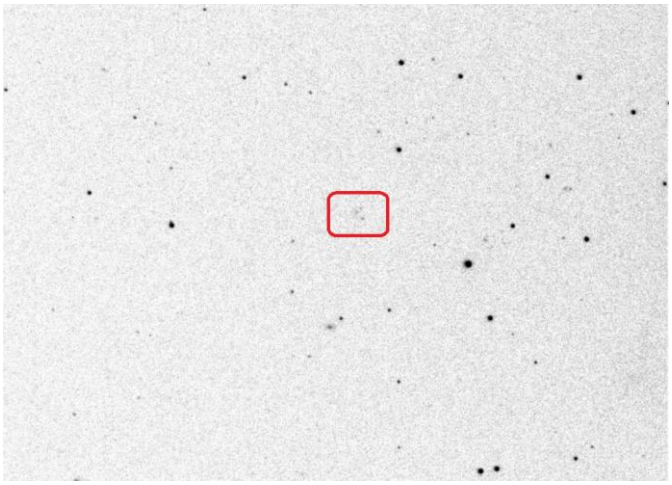
Taking a break from the Palomar’s I attempted to polar aligned the SeeStar S30 in equatorial mode, but something was off as I kept getting star trails. Will have to work on it another night. Juggling too much equipment was becoming a PITA, so I focused on using only the 8” SCT.

The night continued to be very dewy! Outdoor temperature was now down to 45 degrees.

Around 3am, clouds began moving back in. Tried to wait them out, but was getting tired so I called it a night a little past 3:30am. Shutdown the equipment and covered up the scopes and in bed by 4am.

Here's the two best Palomar Galaxy Clusters from the evening:
PCG1528+4235 in Bootes, and PCG1513+1907 in Serpens Caput, both +16$^{th}$ mag clusters.





(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC Pro camera with L-Pro filter, 180 second subs, dark & flat calibration frames, PHD guided, histogram real-time adjusted, and livestacked using Sharpcap for 15 minutes).

**Saturday 05/24/2025:**

Slept in till 9:30am, woke by a too warm camper. Outside it was 56 degrees under a sunny calm sky. Headed outside to uncover the scopes to dry off, visited with Dean and Geoff, and then made breakfast. I think there's going to be an afternoon nap later.

Once it warmed up, I took a walk around the field with Dean. The park looked good! Here's a photo of our camp, (wagons circled, lol), and us amateurs & our scopes.



And the park cabin & bunkhouse.
The exterior work on the restroom facility was coming along. (Park Manager Donnie P told me on Monday that cedar siding would be installed in the next couple weeks)
Underneath the open pavilion section, there are several sturdy concrete picnic tables.


The observatory dome restoration was coming along in being assembled.
And the gravel road at the top of the hill had been re-graded to make it easier to get our campers up to the observing field.


During the afternoon, a family group had the cabin rented out for a reunion. They were good neighbors and didn’t bother our camp or telescope equipment and there were no white-lights from them that night. I spent the afternoon reading and then laid down for a long afternoon nap. Once back up at 5pm, I joined Dean and Geoff for drinks and snacks. Then headed back to camp for dinner.

At sunset, we uncovered our scopes and I prepped my blackout tent and observing notes. While I planned on mostly EAA observing galaxies that night, I had set myself a special goal of viewing my favorite Calhoun 'Southern Sky object' - NGC5139 Omega Centauri! As it transited the meridian at 10:30pm, I made it my first target of the night and planned to spend some time on it.

The night sky started off beautifully clear, transparent all the way to the horizon!

After powering on the telescopes and cameras, I slewed the 8” to Spica to focus the camera and waited there for full darkness to fall. Then I slewed the scope downwards in elevation until the 8” optical tube and piggybacked EVO50mm and counter-weight shaft were nearly parallel to the horizon. There, 3.4 degrees above the horizon, just skimming along the tree tops was the great fabled globular cluster – ‘Omega Centauri’!
This object has always been a bucket-list item for us northern observers, and I never miss a change to view it, either visually or via EAA. And Calhoun at +38.5 degrees latitude and low tree-line southern horizon with nothing for 100 miles but the Appalachians’ is one of those magical northern locations where NGC5139 can be spied.

Here’s a single 30 second cropped exposure of Omega above the trees with the EVO50mm:

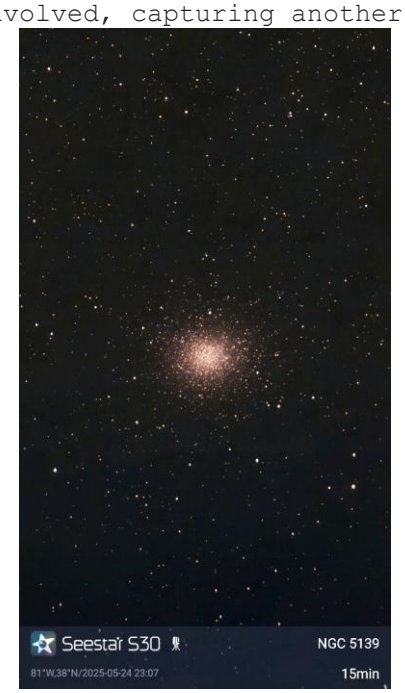
And a pic of the great globular using my 8" SCT & ASI294MC Pro camera and L-Pro filter,
And an image from the EVO50mm refractor & ASI294 camera and L-Pro filter:

(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC Pro camera with L-Pro filter, ROI=4144x2822, 30 sec subs, dark & flat frames, non-guided, livestacked using for 2 minutes).
(EVO50mm & ZWO ASI294MC & L-Pro filter, ROI=4144, 30 sec subs, livestacked for 5 min).

Due to the extreme low elevation, (3.4 deg), I was unable to get PHD guiding to work, so I was limited to short exposures with short livestacking, and fighting eggy stars. Still, I was doing my happy dance with this EAA view of Omega!

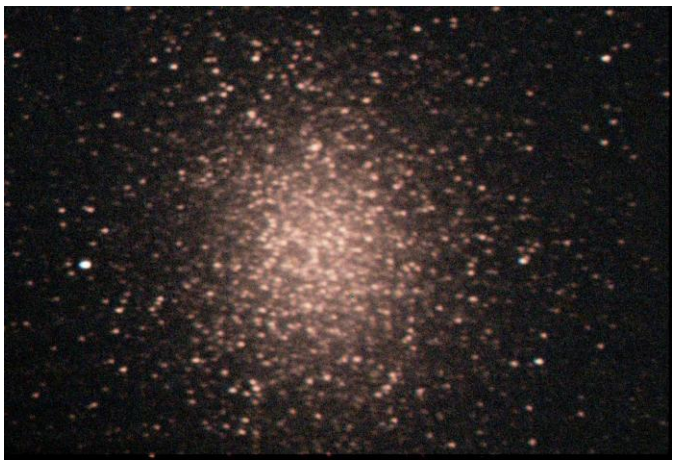
I was able to immediately see the dark feature towards the center of the globular called the "Eye of Omega", which is possibly a dark molecular cloud that is in front of the cluster in our line-of-sight. This is generally only seen visually in larger telescopes, as most longer exposure images pull-out more of the fainter cluster stars suppressing the darker ‘eyes’. (to me the feature resembles a skull,,,,)

I then got the SeeStar S30 involved, capturing another widefield view of the globular:




(SeeStar S30, 20 second exposures in Alt-AZ mode with the IR filter, livestacked for 15 minutes, then AI noise reduction applied in-app)

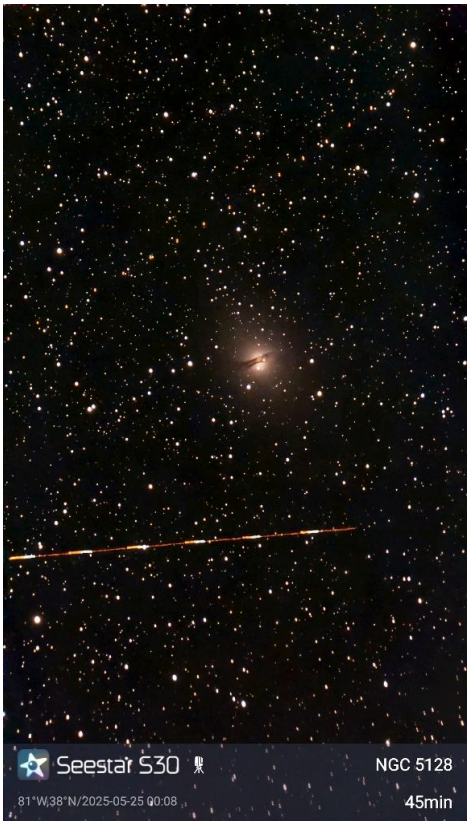
Finally, to help visualize how large NGC5139 is in comparison with M13, the difference between ~10 million stars in Omega to ~500,000 stars in M13, here’s both at the same image scale of 2072x1410 using the 8” SCT and ASI294MC pro camera.



(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC Pro camera with L-Pro filter, ROI=2072x1410, Omega = 30 second subs stacked for 2 minutes, M13 = 15 seconds stacked for 5 minutes).

Omega at +3.9 mag, 150 light-years in diameter and 15,800 LY distant, and visually 36 arcminutes in size and slightly larger than the angular size of the Full Moon, is easily visible to the naked-eye at higher elevations of a dark southern site, while popularly known M13 is +5.7 mag, 145 light-years in diameter and about 22,000 LY distant, and visually 20 arcminutes in size (about the angular size of the planet Saturn), can be a challenge to see naked-eye at a dark site under very good conditions.

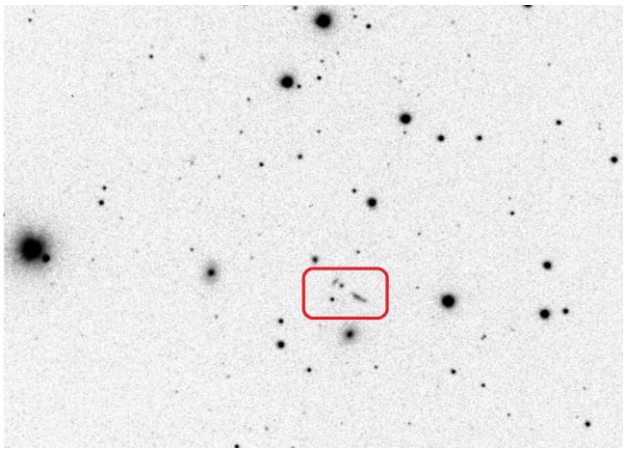
In addition to Omega Centauri, there was another Centaurus deep-sky object on my bucket observing list – NGC5128, the "Hamburger Galaxy", also known as "Centaurus A".
This elliptical galaxy with its odd shaped central dark lane and large X-Ray/Radio jets is only about 5 degrees higher and nearly directly above Omega. So by the time I got to this object, it had already crested the meridian at 8 degrees and was beginning to slide towards the SW horizon. Here's the EAA observation using the 8" SCT and S30:
(this object was high enough that PHD guiding worked and I could go with longer exposures and livestacking!)




(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC Pro camera with L-Pro filter, 180 second subs, dark & flat calibration frames, PHD guided, livestacked using Sharpcap for 1 hour).
(SeeStar S30, 30 second exposures in EQ mode with the IR filter, livestacked for about 90 minutes, then AI noise reduction applied in-app)

While all my focus was in the south, the AllSky cam caught a really bright bolide around 10:55pm in the NE near Vega.

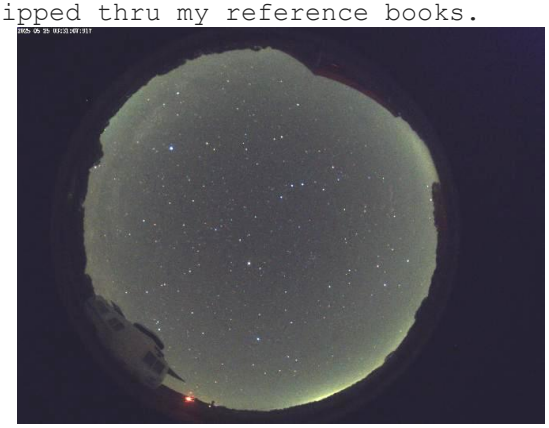
Having finished my southern Centaur hunting, I slewed the telescope up in elevation to the Great Bear Ursa Major to continue chasing Palomar Galaxy clusters. My next catch was PCG1221+5548, another tiny, faint +15$^{th}$ mag object. This cluster actually contains member galaxies that display more than their star-like cores, with several little edge-on disks!



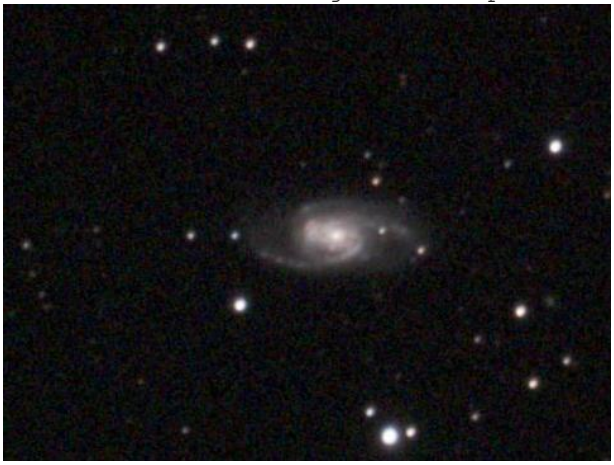
(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC Pro camera with L-Pro filter, 180 second subs, dark & flat calibration frames, PHD guided, histogram real-time adjusted, and livestacked using Sharpcap for 15 minutes).

While I was busy with my observing, Dean spent the evening on IC4592 the "Blue HorseHead Nebula" in Scorpius, and Geoff had both of his refractors collecting images.

It's been a really good night here at Calhoun with another all night observing session. The AllSky camera kept me in touch with the sky while I operated the telescopes and flipped thru my reference books.



After taking a break and visited with Dean for awhile, I slewed the scope over to Hercules for a nice moderate size +10$^{th}$ mag barred spiral – NGC6181.



(same 8" scope info as above, 3 minute subs, stacked for 30 minutes, cropped).

I then moved on to the +15th mag elliptical galaxy NGC6505 in Draco. In the June Sky&Tel on page-10, there's an interesting news story about this galaxy having a gravitational-lens 'Einstein Ring' where the gravity of a massive object (in this case NGC6505) warps the light from objects behind it. This has only been recently discovered in NGC6505 by the ESA's Euclid space telescope. I looked but couldn't see it with my 8", lol.

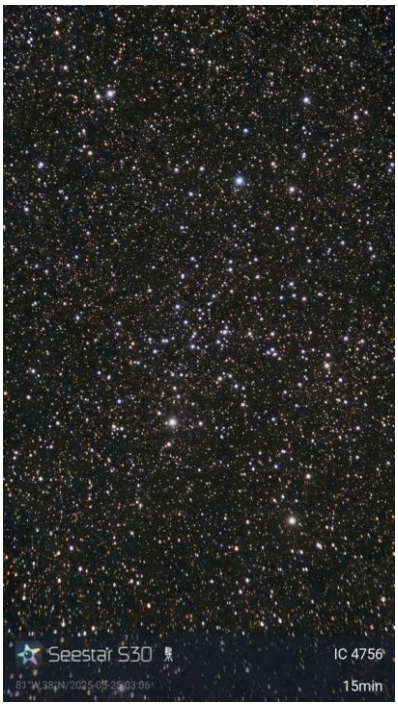
(same 8" scope info as above, 3 minute subs, stacked for 15 minutes, cropped).

While the 8" SCT was busy with galaxies, I also had the S30 humming.
Most of the time, the S30 was working clusters, generally at 20 second subs for 15 minutes in Alt-AZ mode. But I did throw in an observation of IC4592 – Blue HorseHead' at 30 second subs for 1 hour.

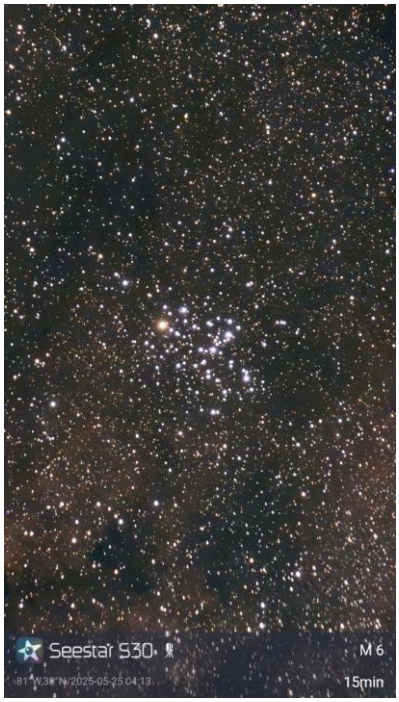
Here are the S30 observations.

NGC6633 and IC4665 in Ophiuchus, and IC4756 in Serpens:





Then the Blue HorseHead – IC4592 in Scorpius, followed by M6 and M7:



Finally M11 in Scutum:


Was getting tired so I called it a night at 4:45am in the morning twilight, with dawns early light and Venus rising in the east. Temp was a chilly low 43 deg and ground dewy.

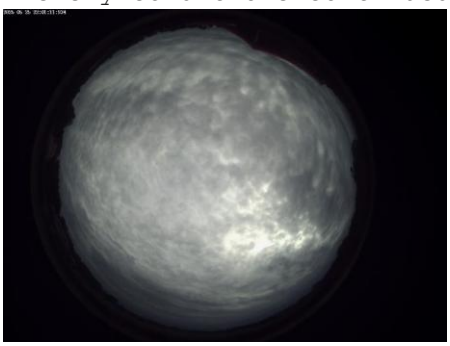
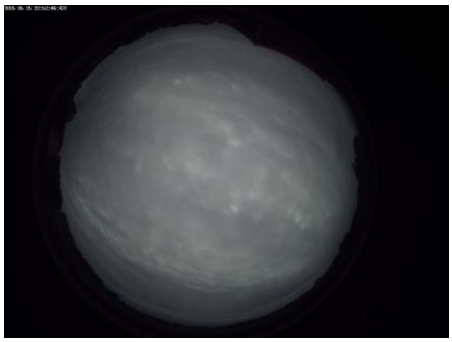
Here's a time-lapse that I made with the AllSky camera: https://youtu.be/Y-s5wxiJeIA
It was a busy night!!!

**Sunday 05/25/2025:**
Slept in till a little after 10am. Woke to a partly sunny morning, a hazy sky had moved in. Temps had already warned up to nearly 60 deg, with the expected high of 72 in the afternoon. Geoff has risen early, packed and left for home, leaving the observing field to Dean and myself. Tonight's weather is looking like a bust, so it will be good night to catch up on sleep. ☺

Visited with Dean for a bit, and then took the laptop indoors and organized my observations from last evening. Took a long afternoon nap.
Gary S arrived around 3:30pm and setup near where Geoff had been that morning.


At 5pm, under a now cloudy sky, the three of us gathered at Dean's for snacks and drinks. Dean then grilled kielbasa for dinner that Gary had brought. Afterwards I packed away my main 8" scope but left out the AllSky cam and the S30 SeeStar. Phoned home then headed back outdoors around sunset to visit with Gary over at his campsite and Dean joined us.

The sky conditions continued to deteriorate, with occasional raindrops flying.


Finally headed indoors a little before 10pm and read for awhile.
At 11pm, I headed outside to shutdown the AllSky cam for the night. A total cloud out!

**Monday 05/26/2025:**
Woke early to see Dean S off for home. Gary and I were sticking it out for one more night It was a decent morning, mid 50s temps and mostly sunny skies with the clearing line having moved thru around dawn.

At 10:30sm, I went for a walk along the hiking trail on the southern side of the ridge to the little fishing pong and spent a few minutes sitting on a bench watching the frogs and fish jump. I noticed that several large trees in the grove behind the pond had recently blown over during a storm, with one large trunk having fallen over the trail and had been chain-sawed to clear the path. I then headed down the trail to the Red Barn where Park Manager Donnie P and a volunteer crew were working on the barn siding.

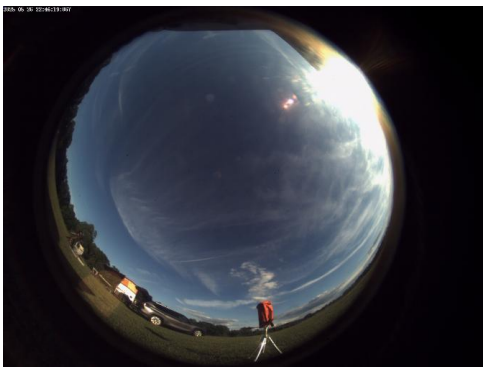
Then I continued the walk over to the historical village to look around.

Back at camp I visited with Gary, and then made lunch. (I must have inspired Gary as he later went for his own hike around the park). I finished reading a magazine and packed away my easy-up canopy and shade visor, and a few other last minute camping items. Donnie stopped up on the observing field and we had a nice talk on how great the park was looking and some of his future plans such as adding another power pedestal.

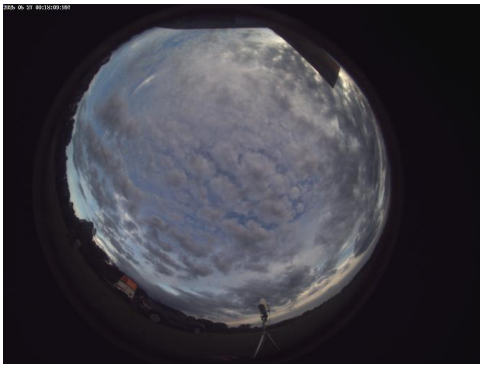
With the forecast looking promising, I setup the SeeStar hoping to practice using EQ mode. Also organized my observing list and notes for wide field objects suitable for the S30. Gary also got out his scope in hope of imaging.

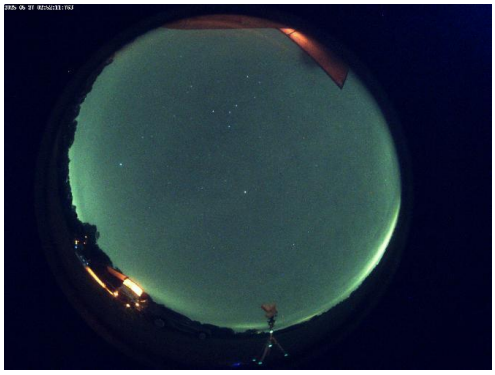
At 5pm, Gary brought his chair over to my camp where we had drinks and snacks. Then we both headed indoors to make dinners. At 7pm I phoned home.

With the weather satellite beginning to not look favorable for observing later than evening, I headed indoors for a quick nap.



Once back up at sunset, I looked out a window and seen that for once this trip the forecast was accurate, clouds were moving in. At dusk I headed outside to join Gary in looking at the haze and clouds building overhead.





While Gary attempted to polar align his telescope, I powered on the SeeStar, ran it thru its polar routine, which it somehow completed successfully, and attempted an observation thru the Milky skies. Was able to pull in a couple of globular clusters, M3 and M13, both of which were a hazy mess. LOL!


Gary made several attempts to polar align his telescope, but the shifting haze and clouds killed him. He finally gave up at 10:30pm and headed indoors.
At a quarter till 11pm, I threw in the towel, shutdown the SeeStar, packed it away, and headed inside the camper to read till I got sleepy. In bed by midnight.

**Tuesday 05/27/2025:**
Up at 7:45am to pack for home. A light drizzle had begun at dawn. Gary was already outdoors taking down his telescope. I finished getting the inside of the camper stowed while eating breakfast. Headed outside to retract the stabilizer jacks and hookup the SUV to the camper. At 9am, I said my goodbyes and safe travels to Gary and hit the road home. Drive was uneventful, and the traffic wasn't too bad in all the construction areas. Finally pulled in at home at 2:15pm and unloaded the car and camper.

Thus ends the May 2025 astro-trip to Calhoun.
Not a bad outing, out of four evening's onsite, I got in two good nights of EAA observing.
(not counting the last evening of very 'nebulous' globular cluster viewing, lol)
And I enjoyed the company of fellow amateurs. Looking forward to heading up to Cherry Springs State Park in June for the Cherry Springs Star Party, Followed by the Greenbank StarQuest! A busy month ahead!

Larry McHenry
Astronomical Webportal: http://www.stellar-journeys.org/