

Calhoun County Park, WV. April, 2023

Nearly six months since my last dark-sky camping adventure, the warming spring weather had me itching for a trip. So I pulled the Tab teardrop camper out of storage early and took care of a few needed maintenance items. I had already packed-up and moved the travel scope equipment up from the backyard where it was setup all winter, prepared my spring observing list, and laid-in food & drink supplies. The new tow-vehicle was also ready. After carefully watching the weather forecast over the weekend, I made the decision to travel down to Calhoun Park on Tuesday, April 18th, hoping to stay thru that Sunday. Monday evening, I finished packing the SUV, (Ford Explorer), and hooked-up the camper.

Tuesday 04/18/2023:

The day started off rainy. So I waited till mid-morning to let the heavier stuff pass by. Around 10am, I pulled out of the driveway and began my journey southwards.



After a little slow going on I79 near Fairmont, & Rt5 road construction before Glenville, I arrived at the park at 2:15pm. I had just finished registering at the Red Barn, when 'Chucky' from the Columbus area, that I know from CloudyNights, pulled-in. After saying 'hello', we both drove up to the new field where we found one other amateur astronomer, Mike from Indiana already setup with his tent and telescopes.



Took me a few laps around the field before I finally decided on where to setup - down near the southern end near the last power pedestal. After getting camp squared away, I assembled the telescope: my 8" Celestron SCT optical tube @ f6.3 with a ZWO ASI294MC Pro camera, filter wheel and focuser on an Atlas EQ GEM mount, along with a piggybacked Sky-Watcher EVO 50mm refractor with ASI290MC camera, and a 60mm Antaries refractor guidescope with an ASI120MC camera. I also setup the Allsky cam, a ZWO ASI224MC & fisheye lens in a DIY dome. A little later, I setup the blackout canopy off the back of the camper's clamshell.



Around 4:30pm, the main group of amateurs from Columbus arrived including Bill and several others that I didn't catch their names, and joined Chuck at the cabin. Soon other amateurs began trickling-in and before long we had a dozen folks on the field. Included with the arrivals were ORAS/Kiski members Dean M, Ed K, and Alexi, along with regional amateurs Glen, Josh, and Robert with their big Dobs.





While Calhoun park head Donnie P was giving a tour of the new restroom facility, I joined-in to get the latest park skinny. The restroom is still under construction, the park maintenance team having spent the spring warm weather on necessary needed work to

the Red Barn. (they hope to get back to the restroom soon). Sitting under the new pavilion roof was the parts for a recently donated 10ft fiberglass observatory dome. Along with the dome, there was a 14" Meade carbon fiber RCX, equatorial mount, pier, and a set of eyepieces, all donated by a local WV amateur astronomer to Calhoun park. Nice!!! Donny says the plans are to pour a concrete pad and setup the dome just to the east of the restroom, but not too far out into the main observing field to be in the way. This will be a great asset for the park, once operational.

At dusk, I started-up the AllSky cam and began capturing frames, and then I headed indoors to put on heavier observing clothes, as the temps was expected to drop into the upper 30's overnight. Once I had the mount polar and goto aligned, and cameras focused, I slewed the telescope over to the North Eastern sky to catch a 'warm-up' observation of globular cluster M13, now rising about 19 degrees above the horizon.



(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 15 second subs, dark & flat calibration frames, PHD guided, livestacked using Sharpcap for 5 minutes).

I then moved the telescope over to Virgo, synced the mount on Spica, and then dropped down to the border with Corvus for the bright Messier galaxy M104 - 'the Sombrero'. The edge-on spiral galaxy's dark lane was prominent, with hints of spiral structure, along with the galactic core popping out above the dust lane. Here's the EAA observation:



(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 5 minute subs, dark & flat calibration frames, PHD guided, livestacked using Sharpcap for 35 minutes).

With the crisp, a clear sky horizon to horizon, I knew tonight was the chance I needed to finally get the very last Abell Planetary nebula for my survey project - Abell135 in Hydra. My last try for Abell135 was at Calhoun last October, where my hopes for observing it were crushed when it rose within the morning zodiacal light that washed it out. LOL! Tonight, the planetary would be in the clear, though at a low altitude of around 25 degrees, making the large, extended nebula even fainter. So I slewed the scope over to beta Crv, a +2.7 mag star called 'Kraz'; sync'd the mount, and then slewed to Abell135. After switching to the L-eNhanse narrowband filter, a quick 30 second exposure showed the dim planetary was centered in the field, so I set Sharpcap for a 180 second sub-exposure and let that livestack for 15 minutes. Here's the EAA observation:



(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-eNhanse filter, 3 minute subs, dark & flat calibration frames, PHD guided, livestacked using Sharpcap for 15 minutes).

At the end of the observation, displayed on the monitor was a pretty red (Ha) & blue-green (OIII) planetary oval. My Abell Planetary Nebula project that I started back in 2017 was now complete. You can find all my Abell observations here:

<http://stellar-journeys.org/abellplanetary.htm>

With the clock now past midnight, the 'witching hour' of Centaurus collimating on the meridian was fast approaching. It was time to prepare for the highlight of my entire trip, EAA observing the great globular cluster Omega Centauri!

After first settling on a nearby bright 2nd mag star "Menkent" (theta Centauri) to check the camera focus with the bhatinov mask, I then slewed the telescope further south, to the peculiar galaxy NGC5128, also known as 'Centaurus A'. While I have observed this interesting galaxy several times over the last half-dozen years from the ridge at Calhoun, as part of my Arp Peculiar Galaxy project work, this galaxy was in my 'top three' list of objects for this camping trip.

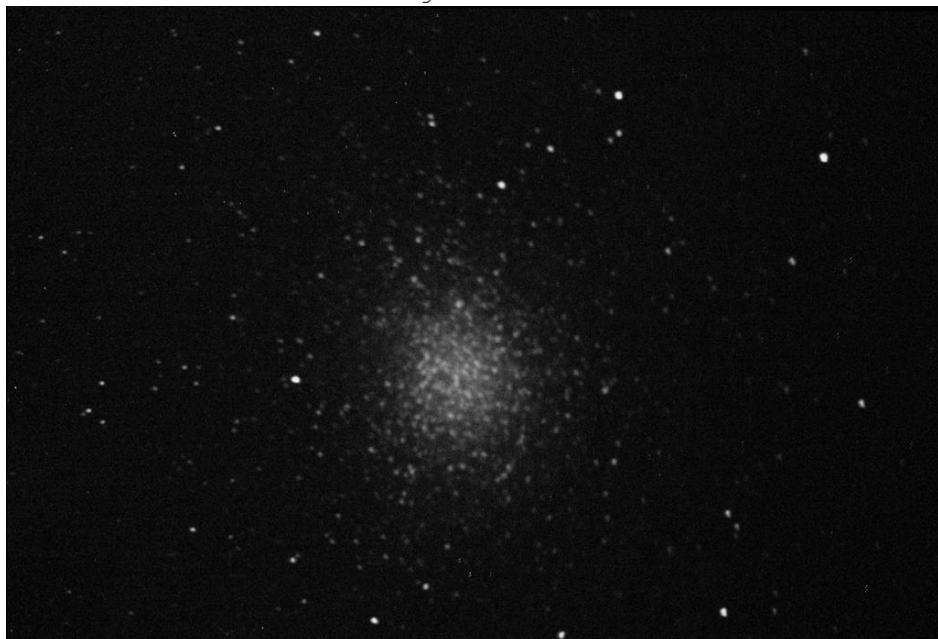
I was looking forward to getting a clear EAA view of the galaxy from the new observing field's low southern horizon, and I was not disappointed. At around 7.5 degrees elevation, the giant elliptical galaxy NGC5128 with its bisecting dusk-lane was a fine looking object!



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

I would have liked to have stayed awhile longer on this peculiar galaxy, but the deep-sky object that was the whole reason for being at Calhoun in April was also nearing peak altitude on the southern meridian. I had to move on.

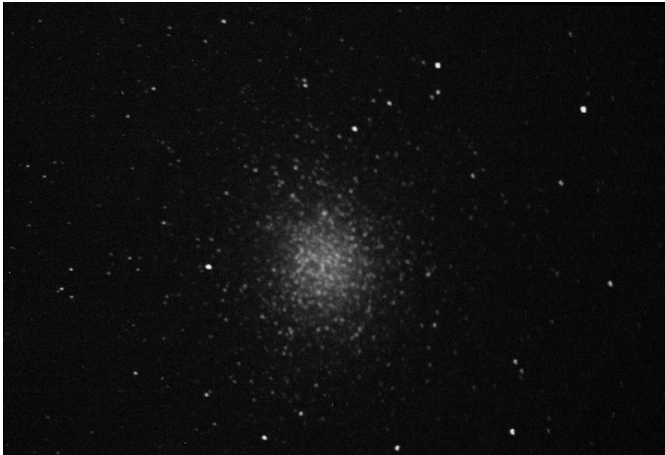
So I then slewed the telescope nearly horizontal, to the lower position of Omega Centauri, NGC5139, which was approaching the meridian and its maximum elevation of about 3.44 degrees. After a 15 second subframe exposure, the globular cluster filled the center of the monitor display, with streamers of stars extending towards the edges of the field. Quite a sight! According to info in the 'Annals of the Deep Sky', at a distance of 17,000 light-years and with a diameter of around 270 light-years, a number of Omega's astrophysical characteristics points to the possibility that the 'cluster' is actually the remnant nucleus of a dwarf galaxy that was consumed by the much larger Milky-Way, similar to several other 'globulars' such as M54. Here's the observation:



(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 15 second subs, dark & flat calibration frames, PHD guided, livestacked using Sharpcap for 75 seconds).

I was able to immediately see the dark feature that I noted last fall, 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, as most images are longer exposures to pull-out more of the fainter cluster stars. (to me the feature resembles a skull,,,,)

I quickly called Dean M over to share a view of the great cluster. I would have liked to have gone a little deeper on the EAA observation, but telescope mount was in an awkward near horizontal position, and PHD guiding wasn't doing very well. Thought it would be interesting to show a comparison of NGC5139 to M13 at the same scale:



With this observation, I had finally got a good observation of the greatest globular cluster in the sky, a bucket-list astronomical goal that I had been carrying with me since the mid-80's when I had a brief glimpse of omega thru a 10" dob. Life is good!!

Throughout the evening, while the temps dropped into the low 40's to upper 30's, the sky remained crystal clear, with no dew. There were a number of meteors visible, including several bright bolides. Here's one from my AllSky camera:



Spent some time walking around the field visiting a few folks and seeing what they were observing. Everyone was making the most of this great night. Unfortunately, the communication electronics on Dean M's mount had gone out and he was forced to use the scope manually for visual only. With the handle of the 'Big Dipper' wheeling overhead, I decided to make one last observation of the night, before calling it quits. (I was beginning to tire from the long drive and earlier work to get things setup). So I pointed the scope up high overhead to the north and to the spiral galaxy M51 - 'the Whirlpool' in Canes Venatici. Decided to go for a deep observation. Here's the EAA results, showing lots of great details including the gas & dust pulled off of the smaller interacting companion:



(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 5 minute subs, dark & flat calibration frames, PHD guided, livestacked using Sharpcap for 1 hour).

And with that observation, I called it quits at 4am, powered-off the equipment, and headed indoors to a warm bed.

The next day, I processed the AllSky overnight captures into this video:

<https://youtu.be/J80Gr1Ckmm0>

Wednesday 04/19/2023:

Slept-in till nearly 10am and woke to a sunny and breezy day. After breakfast, I dressed and headed outdoors. The cold temp from the night before were gone, with the outside air soon rising to the low 60's. Later the temp reach the low 70's, t-shirt weather. Spent a little time trying to help Dean M fix the mount issues that he was having, but we couldn't get it to work. Dean decided that he didn't really want to do visual work for another night, so he packed everything up and headed home around noon. ☹

Later in the day, another member of the Columbus contingent arrived, but with the cabin changing renters that afternoon, the group relocated their sleeping gear to the Red Barn, but left their telescopes setup near the cabin. Around 2pm, Dean S, from the ORAS club, arrived and setup next to me. Then about an hour later, his brother Gary and sis-in-law Betsy arrived and took over the cabin. Gary also brought his little 'Cricket' camper to work out of and setup his telescope next to Dean. Now there were 15 amateur astronomers on the observing field.



for a bit. At dusk, the sky went partly hazy, but would periodically clear up throughout the night. The lower horizon was pretty much washed-out, (no repeat Omega observation tonight), but if you kept your observing elevation high, it wasn't too bad. Once again the dew was nearly non-existent.

I stuck with observing bright higher-up galaxies, starting with an interesting loosely-wound spiral NGC4535 in Virgo that Bill had showed me the night before in his EAA setup. Here's my observation:



(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 3 minute subs, dark & flat calibration frames, PHD guided, livestacked using SharpCap for 15 minutes).

I then moved on to another interesting pair of spiral galaxies - NGC5774 & 5775 in Virgo. A bright edge-on spindle and a low-surface brightness face-on. A cool comparison.



(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 3 minute subs, dark & flat calibration frames, PHD guided, livestacked using SharpCap for 30 minutes).

Then Dean and I both tried to see how many galaxies we could pull in, centered on M86 in Virgo. After comparing images, Dean was the clear winner with 30+ galaxies! Here's my EAA observation of M86 & friends, along with a few satellite trails:



(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 3 minute subs, dark & flat calibration frames, PHD guided, livestacked using Sharpcap for 30 minutes).

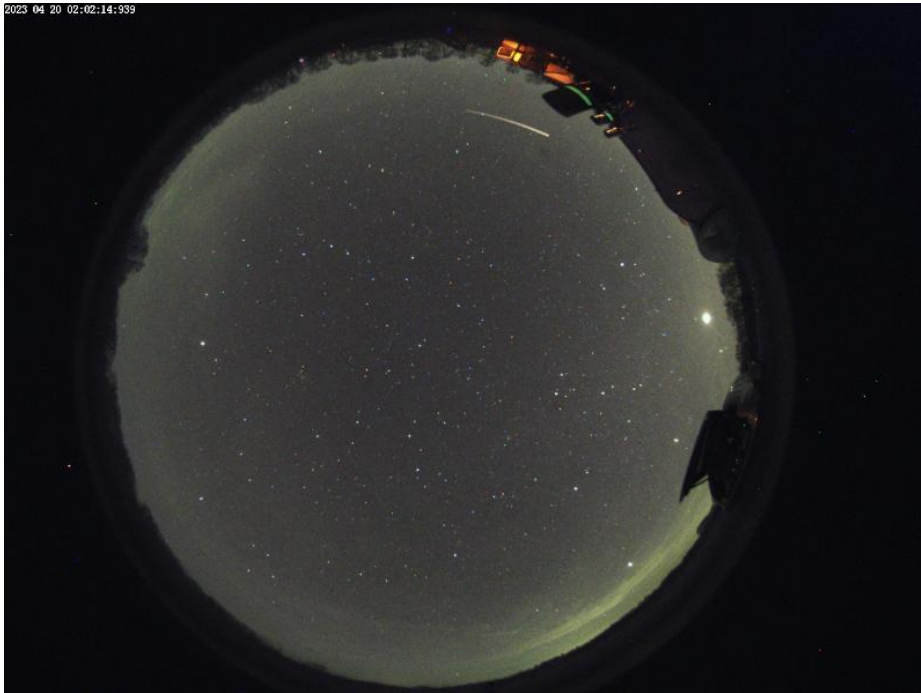
I then decided to finish off the night with an observation of M64 - "the Blackeye Galaxy" in Coma Berenice, followed by a deep image of M101 - "the Pinwheel" in Ursa Major. Here's M64, showing good spiral detail. (Though I think the soft sky conditions impacted the livestack a little).

And then the much deeper observation of M101. Being straight overhead, the spiral arms really popped, showing good Ha detail.

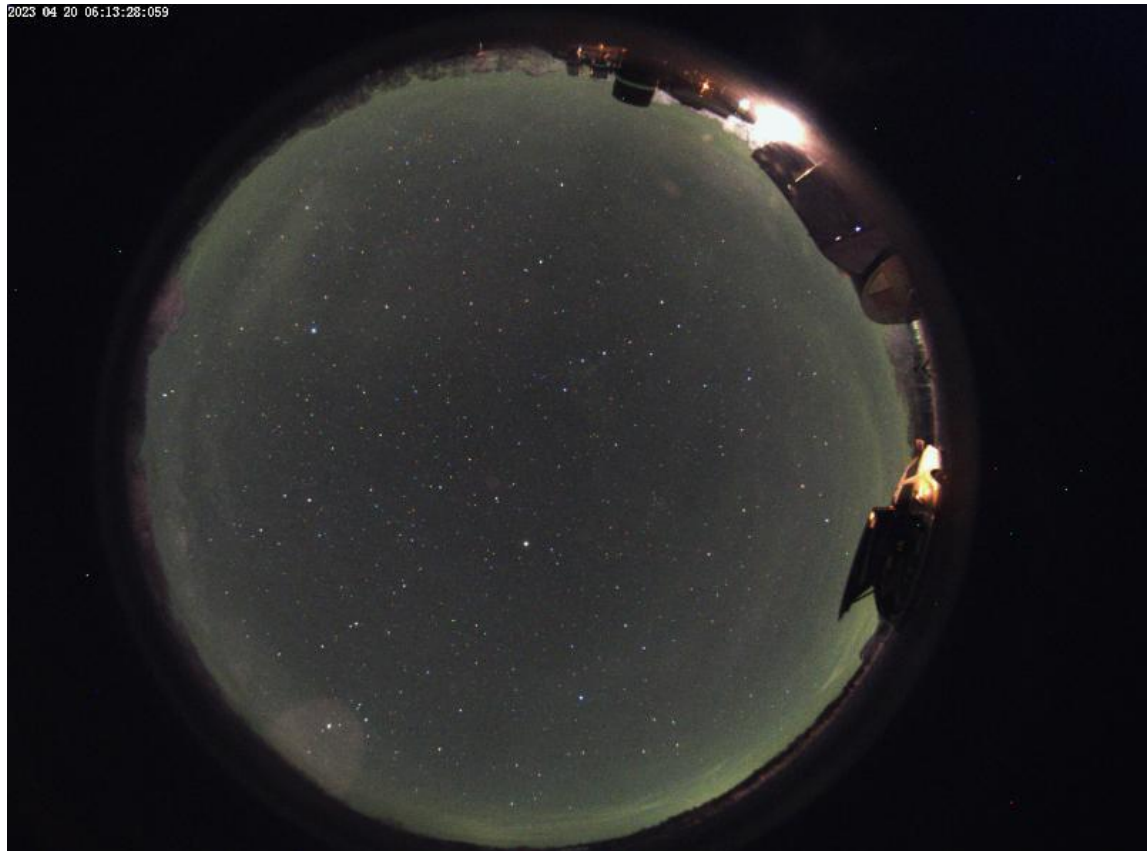


(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 5 minute subs, dark & flat calibration frames, PHD guided, livestacked using Sharpcap for 1 hour).

Meteors continued to fly during the night, with a nice bright bolide early in the evening (right over my telescope) before Venus has sat in the west.



Around 1:30am, a couple of the attendees, (who shall remain nameless), decided to pack-up their scopes and drove off the field around 2:13am with their white headlights on. My AllSky caught several pics of that, the car headlights lighting up the side of my car and camper and reflecting off the AllSky dome. (finger waving,, Tisk-Tisk!! ☹)



Stayed up till just past 3:30am, before calling it a night.
Here's the AllSky vid from the night: <https://youtu.be/VjohMxMoAyQ>

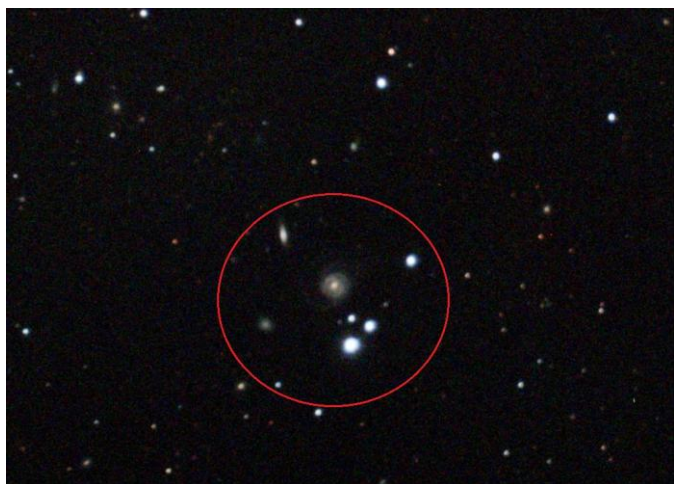
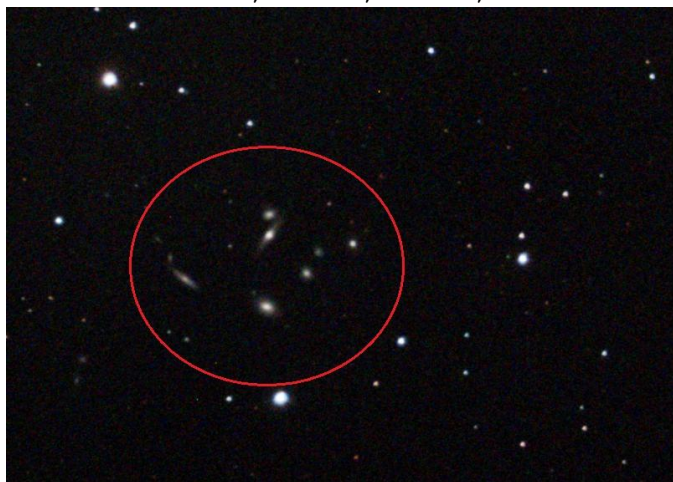
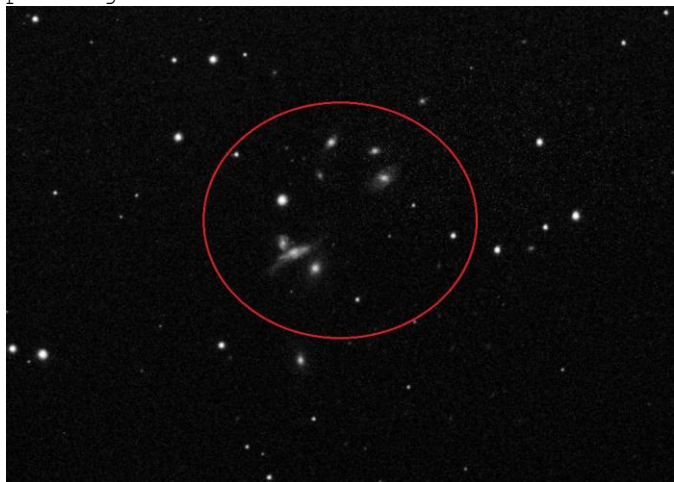
Thursday 04/20/2023:

Slept in till around 10am. The inside of the camper was already getting warm, so I quickly opened up the windows and turned on the ceiling exhaust fan. It was going to be a warm day, with the temps in the upper 70's. I planned on putting the camper's AC to use later that afternoon during my planned nap.

With the weather forecast calling for clouds that evening, most of the folks packed-up and headed for home. From our group, Dean, Gary & Betsy, and I decided to stick it out for one more night, as there was no rain in the forecast. (we did have a few strong wind gusts during the day). At 4pm, Ed decided that it wasn't looking good for the night and packed-up, but stuck around for a group dinner. Betsy and Gary, using the cabin kitchenette, cooked a nice spaghetti dinner for us, with everyone kicking in something to make the meal. While we were sitting out on the cabin's front porch enjoying ice-cream, Park manager Roger J stopped by to visit and chat. At sunset, Ed hit the road for home.

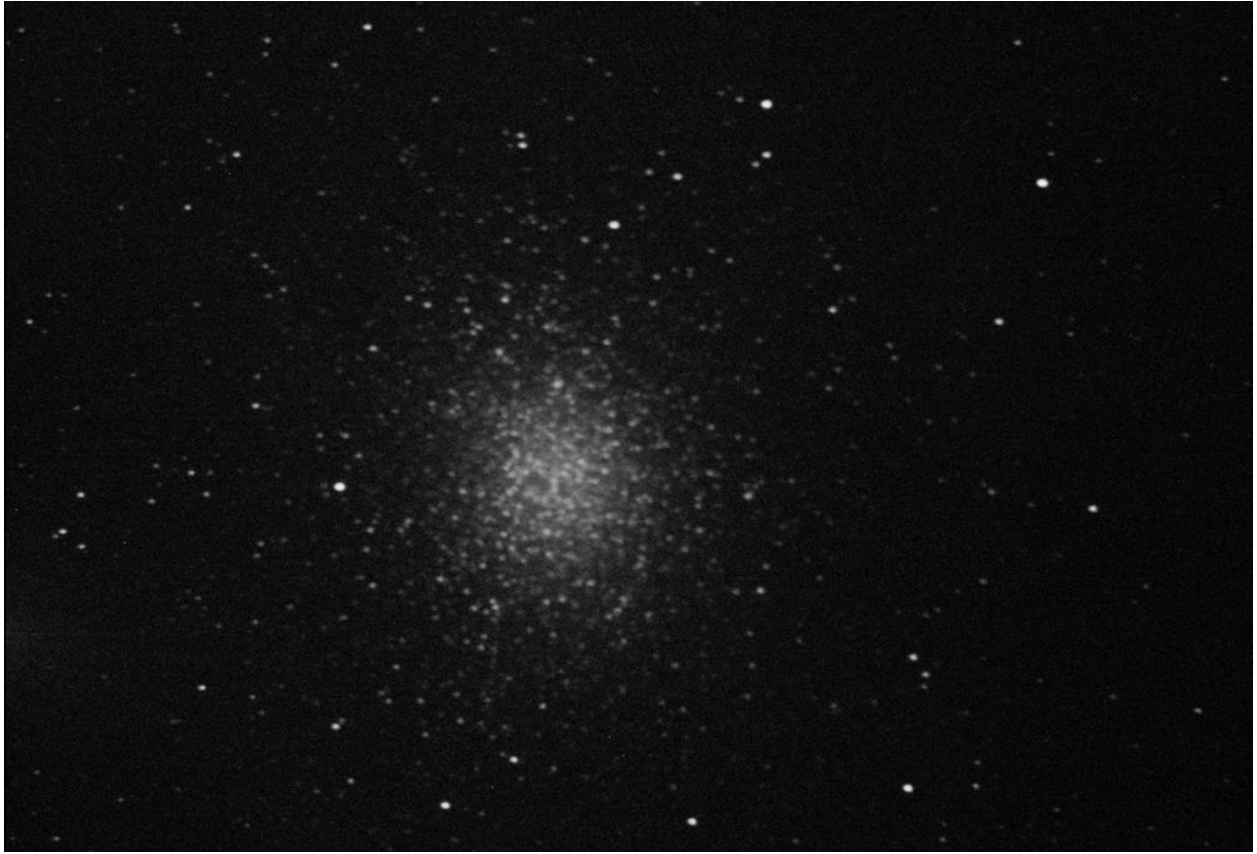
The wind began to die down, and by dusk, the hazy skies from the afternoon had mostly cleared. Soon, the night sky was shining nicely, interrupted by an occasional broken cloud band rolling in from the west. Gary, Dean, and I had the observing field to ourselves. It was a quiet evening, with not even a coyote yelp to be heard.

While waiting for the sky to become fully dark for galaxy work, I experimented with connecting Sharpcap to my mount and using its plate-solving feature. After a few tweaks, I got it to work, even when crossing back and forth over the meridian! Yippee!! With that now working, I decided to start a new observing project - the 'Hickson Compact Galaxy' (HCG) catalog. My first target of the night was HCG57, also known as "Copelands Septet" over in Leo. I then worked my way over to Bootes, Serpens, and Canes Venatici, picking off another half-dozen. Here's the best four: HCG57, HCG70, HCG71, and HCG73:



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

Around 12:30am, I realized that the sky was clear to the horizon over to the south, so I quickly slewed the telescope over to Omega Centauri for what is my best EAA observation yet of the globular cluster. I called Dean and Gary over to share the observation:



(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 30 second subs, dark & flat calibration frames, PHD guided, livestacked using Sharpcap for 1 minute).

I then moved back to finishing observing some of the above Hickson's before deciding to finish the night with a few bright Messier galaxies, M88 & M99:



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

Then I wrapped up with a deep observation of M100:



(8" SCT @ f6.3 on an Atlas Gem, ZWO ASI294MC camera with L-Pro filter, 3 minute subs, dark & flat calibration frames, PHD guided, livestacked using SharpCap for 1 hour).

Stayed up till just past 4:00am, before calling it a night and stumbling to bed. Wish I could have gone longer, the Milky-Way looked great over in Scorpius and Sagittarius. With the low southern horizon on the new field, that is going to open up the area under the scorpion's tail for exploring on my next trip to Calhoun.

Here's the AllSky vid from the night: <https://youtu.be/36fh9SiBsC0>

And a little attempt at a meteor vid, over all three nights: <https://youtu.be/7FsuamV6qaA>

Friday 04/21/2023:

After about 5 hours of sleep, I roused from bed and checked the weather. Not good. Dean was already up and outside packing, and I soon joined him, with Gary & Betsy also packing up Gary's scope. Dean hitched-up the camper pulled out for home around 11am, and after another hour, I was also ready to hit the road. (Gary and Betsy were staying one more night in the cabin). Stopped along the way for lunch and was backing the camper into the driveway by 5:30pm.

So overall, It was a successful observing trip! I got to spend several days down in WV at Calhoun Cty Park. Tuesday evening was the best observing, but Thursday night was surprisingly decent at times. Three nights observing out of three! Really good odds.

I've confirmed that the park's new observing field does have clear sight-lines to the horizon, allowing for observing Omega Centauri 'in the clear' from there! Next trip to Calhoun won't be until July, so looking forward to making it back down south to Calhoun later this summer.

Larry McHenry

Astronomical Webportal: <http://www.stellar-journeys.org/>