

The Objective View

Newsletter of the Northern Colorado Astronomical Society

August 2010

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add ncastro.org to complete email address

Next Meeting: August 12 6:30 pm

Club Picnic at Bobcat Ridge Natural Area

*Please do not use horse trailer parking spaces
no grilles please*

<http://www.fcgov.com/naturalareas/finder/bobcat>

Club Business at 7:15 pm

NCAS Programs

Sep 2 Craig Betzina Backyard Dome Observatories

Oct 7 TBA

NCAS Public Starwatch at Fossil Creek Reservoir

Aug 20, Sep 17, Oct 2, Nov 12, Dec 20

http://www.co.larimer.co.us/naturalresources/fossil_creek.htm

City of Fort Collins Natural Area Program at Sunset

Bobcat Ridge: Aug 12, Sep 9, Oct 14

<http://www.fcgov.com/naturalareas/finder/bobcat>

Dark Site Observing Dates

August 13, 14 Keota or other dark site, ask FRAC

Rocky Mountain National Park at Upper Beaver Meadows

August 13, 27

<http://www.ncastro.org/Sites/RockyMtnNP.htm>

Weekend Under the Stars, Foxpark WY, by CAS/LASSO

Cancelled due to USFS lodgepole pine work at site

<http://home.bresnan.net/%7Ecurranm/wuts.html>

Other Events

Chamberlin Observatory Open House, 7 to 10 pm

Aug 14, Sep 18, Oct 16, Nov 13, Dec 11

303 871 5172 <http://www.du.edu/~rstencil/Chamberlin/>

Cheyenne Astronomical Society August: No meeting

<http://home.bresnan.net/~curranm/>

CSU Madison Macdonald Observatory Public Nights

On East Drive, north of Pitkin Street

Tuesdays after dusk if clear, when class is in session

Estes Park Memorial Observatory. 7 pm Aug 26.

8 pm Aug 29 <http://www.angelsabove.org/>

Little Thompson Observatory, Berthoud 7 pm Aug 20.

Meinte Veldhuis, Finishing Construction of LTO

<http://www.starkids.org>

Longmont Astronomical Society 7 pm Aug 19 at IHOP, 2040

Ken Pratt Blvd. Dr Allen Kiplinger, Dutch Open Solar

Telescope. <http://www.longmontastro.org/>

July 1 program: Wyoming Infrared Observatory, by Dr. Chip Kobulnicky

Why observe in the infrared? Visible light shows the Milky Way as a dusty disk. IR is much better at passing through dust clouds, and gives another perspective on the distribution of stars in galaxies. For anything but a view of our local region, IR is key to a complete picture. It can even be used to show people for rescue in smoky buildings. WIRO is 40 miles WSW of Laramie. A rough road goes to the top, 4WD recommended. A Sno-Cat takes them up in the winter. The mirror goes to the Mirror Lab in Arizona for recoating every 5 to 8 years. Views in the eyepiece are shared on homecoming weekend in October. When the telescope opened, its 2.3 meter, 92 inch primary was the 12th largest. It was the first computer controlled telescope. It was the largest IR telescope, until surpassed by one on Mauna Kea. It was constructed with \$625,000 from NSF and \$975,000 from the State of Wyoming. The observatory has been revitalized in the last 7 years. A 30th anniversary video from 2007 gave the history of the telescope. The first detector was a 6 pixel detector. The current IR camera is on loan from GSFC and has a 2048 square array. Chip then presented recent research topics from 2009. Brian Uzpen's PhD thesis addressed planet forming systems around nearby stars. Dan Kiminki searched for massive binary stars. Chris Rogers measured ages of dwarf galaxies. Postdoc Rajib Ganguly looked for intracluster planetary nebulae. The Wyoming Survey for Hydrogen is a study of galaxy formation by Daniel Dale and Carolyn Moore. Cowboy Cluster is a newly Spitzer - found globular cluster imaged by WIRO in followup. Andy Monson built a new IR camera. The observatory has attracted several million dollars for training of undergraduates, grad students, research

assistants and postdocs. Its degree of student access and time domain astronomy is WIRO's current niche.

July 1 NCAS Business

President Bob Michael called the meeting to order. Treasurer Jon Caldwell reported the club account stands at 772.76. The Teaching Company series on Cosmology was strongly endorsed by Bob, especially when on sale. Rodney Howe went to the SAS Conference and is coauthor on a paper on star motion in globular clusters. Little Thompson Observatory should have its new, second telescope, a 24 inch, running in August.

From Rob Grover: Independence Mountain CO Aug 6-8 2010

Hi all –

I just returned home from Independence Mountain. It is indeed a most wonderful observing location. Really dark and with good weather, the skies should be awesome. I had a few great hours on Friday night, spending time observing the many NGC Globes in Scorpius & Sagittarius. The Lagoon & Trifid really popped as well. The entire hook of Scorpius' tail is visible – and 'relatively' high - from up there. The Milky Way bulge into Ophiucus was bright and distinct as well.

After checking out the many globes in the area, I moved to the Lagoon, Trifid, Eagle and Swan nebulae & the Wild Duck cluster. Swung up to Cygnus and spent some time with the Crescent. Easy without a filter, but the UHC brought out a lot of details and the O-III eked out even more. Didn't have my wide field eyepiece in at the time, so I decided to wait on the Veil. So, I moved over to M51. WOW – the arms were clear & distinct. The 'bridge' was also quite clear. At least as good as I saw it last March @ Keota – if not even better.

Since Pegasus was now getting high, I started to hunt for Stephan's Quintet. Got a great look at NGC7331 and was beginning to hop to Stephan's when some car lights appeared, cresting the mountain. It was nice to see Dan Laszlo show up about midnight! Always great to have some company when observing. He set up his 18" and we spent a couple hours observing all kinds of eye candy. All the great sights. NGC891 was just getting into good position as the clouds began to obscure everything. We wanted to get a look at the Helix and NGC253, but the clouds prevented going back south by then. So, we decided to destroy our dark adapted eyes and took some long looks at Jupiter. The clouds were filtering it well and the seeing permitted fairly high power. Got some good details - like Damon mentioned in his post, even if it wasn't quite dinner plate sized. So, around 2AM, we called it a night. Dan was gone when I woke up Saturday morning. I didn't hear him tear down or leave. Thanks for the photons, Dan – spectacular tour guide as always.

Saturday weather forecast was less promising than Friday. It might have reached 80 on Saturday before the clouds thickened. North Park clouded over in the afternoon and it began to rain lightly around 5PM. Had light showers off & on until 2AM. The last one began around 11PM and quit about 2. Nothing heavy, just steady. Never even uncovered the scope. Forecast for today sounded even worse, so I packed up this morning and came home.

Considering I drove through rain on Friday as I passed by Fox Park and the roads clear into Cowdrey were wet at around 6:45PM, the sky sure opened up and cleared well by twilight. Had pretty heavy dew just at the end of twilight – but never had to run the secondary heater. The Telrad dew shield was quite covered and my scope was nearly dripping for a while – in spite of the 10 – 15 MPH breeze blowing. As the temp dropped into the lower 50s, the dew subsided.

Took lots of photos of North Park and the clouds on Saturday. It's an amazing view from up there. Will post some of the more interesting ones when I get unpacked and have a chance to go through them. Didn't take the imaging gear, so I just have daytime shots.

Hope you folks had better weather @ Keota, but I sure can't complain about the few hours I had on Friday/Saturday. Even that short time made the drive well worthwhile. Highly recommend heading up there. About 2.5 hours from Ft. Collins and the glow from the Front Range is still visible over the Rawahs, but it doesn't extend very high into the sky. The top of the mountain is about 9600 feet, so the elevation is nice & high. Dan took some SQM readings – (21.81 around midnight Aug 6 to 7) it equated to about Limiting Mag 7, so it was pretty darn dark. I am not good at picking things out naked eye, but M31 was glowing brightly and with Dan's help, I managed to see M33, too. First time I've seen that naked eye. The early Perseids were showing up as well. Had a few really bright ones (as normal, most were where I wasn't looking).

I selected a few photos from the many I took on Saturday, August 7, 2010. While the rainbow cloud I saw wasn't as spectacular as the ones in Robert's excellent photos from Keota, it was interesting. I've spent a lot of time in North Park, but always more toward the southern end, in the Indian Creek area, and many days float fishing in my belly boat in North Delaney Lake. Nice to have a different perspective on one of my favorite areas to visit.

Mountains:

<http://i236.photobucket.com/albums/ff57/h2olawyer/Independence%20Mountain%20August%206%20-%207%202010/Zirkel-EastSide.jpg>

Weather Phenomena:

<http://i236.photobucket.com/albums/ff57/h2olawyer/Independence%20Mountain%20August%206%20-%207%202010/RainbowCloud-1.jpg>

<http://i236.photobucket.com/albums/ff57/h2olawyer/Independence%20Mountain%20August%206%20-%207%202010/RainbowCloud-2.jpg>

Scenic:

<http://i236.photobucket.com/albums/ff57/h2olawyer/Independence%20Mountain%20August%206%20-%207%202010/LakeJohn.jpg>

Observing Site:

<http://i236.photobucket.com/albums/ff57/h2olawyer/Independence%20Mountain%20August%206%20-%207%202010/Campsite-1.jpg>

Robert Grover

**From Dave Dunn and Jim Sapp: Deadman Site Report
Aug 6 and 7 2010**

News flash, Lost Dark Sky Marines retake Deadman site from ATV'ers.....

would be a good way to start this report considering the group that spent the weekend stargazing there. I arrived after driving thru several light showers to find Jim Sapp nearly complete in building his hooch for the weekend. After another brief shower I had my site setup then Steve Lynch and friend Marcie pulled in to complete the group. Just before I arrived Jim was visited by Dave Street who was camping nearby with his family, he returned later that evening and Sat. evening also.

The Deadman site was a regular meeting place back in the 90's. It sits at 10,300' elevation about 17 miles west of Red Feather Lakes (FSR 303) just before the road drops down into the Laramie River valley. It is much drier than Fox Park so dew and mosquitoes are not as severe of a problem. The road up was in good condition, no problems even in my little sedan. Only saw maybe a dozen ATV riders all weekend.

Conditions Fri. evening started out partly cloudy then cleared off nicely. Transparency was very good as you would expect at this altitude with a few brief periods of clouds and haze drifting by. The seeing never really settled down all night, Jupiter would give up detail only about 10% of the time. Messier object received the most attention along with some nice star groups like Iota Cass. This was the first time that I remember refractors outnumbered reflectors 2 to 1! Jim's 3", my 4" and Steve's 13.1" providing deep sky views. We caught a few fast bright Presides mixed with some Delta Aquarids(?). Temps were mild all evening making for comfortable conditions with no dew or frost present.

Saturday morning we were anxious to get some views of the sunspots currently visible but persistent high clouds made it challenging. During moments of clearing and steady atmosphere the two main spots provided nice detail. Didn't get any H-Alpha views in as I need to work out a few issues to get my prominence filter to work in my 4" refractor, maybe next month. By early evening a heavy layer of clouds moved in and I decided to pack up my scope, Jim soon followed and a plan was devised to gather up some fuel if we decided to build a fire figuring it could be extinguished if the skies cleared. After dinner we stoked up a fire that burned till nearly 2:00 am as the clouds never cleared off. We were treated to a brief 20 minute snow shower even though the temp was still above freezing that changed to a steady rain around 1:00 am. Out came the ponchos till we ran out of fuel and called it a night. It was fun to catch up with some old friends at a nice dark sky site even though the weather didn't fully cooperate. I'm thinking the next new Moon in early Sept. it shouldn't be too bad up there yet and if conditions allow I'll head back for one last night in the mountains. As Fox Park is lost to the ATV folks except for WUTS Deadman may be a good site to use again in the summer months. DD

**Notes from the Dark Side, Classic, or, WUTS 2010 - NOT!
or, Deadman Star Party, August, 2010**

The following after-action report is offered for the benefit of the Old-Guard Dark Sky Marines. On the afternoon of the 6th of August, the Lost Patrol of the Dark Sky Marines launched a successful surprise attack on hill 303, two clicks west of the Deadman POW camp. The advance elements were to establish a combat operations center and supply the forward operating base with the initial firepower, consisting of the Mighty3 and a 4" Unitron dug in and ready for action. All elements were supplied with dummy bivouac quarters to serve as decoys in the event that the Crasher would join the attack, but the fumes of excess barley distillates never punctuated the afternoon breeze, and it was an added pleasure to find that Willard and his Rat were nowhere to be seen - Schmidt-Cass optics not being missed. On the evening of the 6th, suppressive fire was initiated by the 4" Unitron on globular clusters in Sagittarius, while the Mighty3 cleanly illuminated all three companions of Iota Cass. Mop up operations in the deep sky were conducted by the 13" Odyssey heavy artillery. Once again, the superior power of well-baffled refractors on dark nebulae at a dark, high altitude observing site was demonstrated for all to see. Throughout the engagement, Iceman remained alert and maintained a constant vigil perchance the Troll would infiltrate our lines and offer to refigure the objective of the 4" Unitron, but the landscape remained unsullied. Among other activities, daylight operations on the 7th consisted of new weapons tests. The digital camera eyepiece projection adapter was used on the Mighty3 for the first time, proving its effectiveness. When the thick clouds rolled in on the afternoon of the 7th signaling the end of nighttime operations, a large fire was built to warm and illuminate the post-attack debriefing. As the participant's firelight shadows danced about the field it was easy to imagine the Lurker skulking up behind

us, but the glint of dew-covered binocular eyepieces never penetrated the darkness. All remained at peace. On the afternoon of the 8th, an expeditionary force was sent to the old Deadman POW camp. It was a little shocking to see how little of the old facility remains visible since the last time I visited it eleven years ago. ApertureMan: You can click on this link to see photos:<http://jimshomeplanet.com/sp/DeadmanAug10.html> Until the next time I see ya in the dark, Steady Skies! - PlanetMan

From Tom Teters, Robert Arn, Gary Garzone: Keota Star Party Aug 2010

Wow,

What a great star gazing weekend. Three star parties, just in our group alone. Plus Nebraska Star party, haven't heard from them yet....Bruce?? Good to hear about Deadman being used again, that's where I saw a pine tree on the mountain across that valley with a globular cluster in the same field of view and both in perfect focus. We were thinking and talking about you folks, Friday. Glad to hear scopes won over ATV, this time. Independence Mtn. (love the name) sounds like it could be a premier site in the future. When we run out of space between Ft. Collins and Sterling. Keota is 6 miles closer to Sterling than Ft. Collins (10 years max), if light pollution trends don't improve. We had a incredible thunderhead go over us just at sunset and Ray M. & Robert A. took multiple digital time exposures of the lightening and luminosity and color changes, as several of the clouds turned an amazing red that is well know in this area. And now here is one of the best ones I took Friday night. I had my Pentax MX fixed by Shanklin in Loveland, the flip mirror was not at 45*, so focus was off. This is the Southern summer sky, Sagittarius, Milky Way and Scorpio (on the right). Only 7 minute f5.6 with a 50mm lens piggybacked on my C14. The image shows star clusters, nebulae and even a star cloud. At the bottom are some of my friends telescope setup. Gary (Ft. Lupton's light dome over him) on the left and Max in the middle.

Max's quest was for Planetaries Friday night. 'I'm pretty sure I could see that 13.5mag/8'diameter PN Max, but that is pushing it for me, in a 12" SCT.' It also looks like I may have caught the Int'l. Space Station the brightish yellow streak at the bottom. I'm running a sat. scan right now

<http://spaceflight.nasa.gov/realdata/sightings/SSapplications/Past/JavaSSOP/JavaSSOP.html>

to see for sure which one it was. In the middle a jet went over and I did a 'black hat' trick to obscure it, but this is a VERY wide field (~70*). There are also a couple of scratches either from the processing or camera. Sure would like to have a chance to put my imaging and graphic manipulations skills to occupational use, again.

Enjoy! TomT

Hi all,

Thank you for welcoming me into the group. It is amazing to see so many active amateurs in one area. Thought that I would share some of my results from the Keota Star Party (as well as an image from the night before). Instead of attaching images, I will just provide links. The image hosting site that I use provides a scaled down version of the image for slower internet speed, but clicking on an image will give you a higher resolution version.

The evening started out with fairly odd clouds (at least odd for me):

<http://barn.zenfolio.com/p274371738/h28035a14#h1e17e06f>

Then we got to witness a very impressive lightning show:

<http://barn.zenfolio.com/p274371738/h28035a14#h2f0a3d9c>

<http://barn.zenfolio.com/p274371738/h28035a14#h28035a14>

But it did clear, to reveal a trio of planets setting in the west:

<http://barn.zenfolio.com/p1068266116/h1a80ace9#h1a80ace9>

<http://barn.zenfolio.com/p1068266116/h1a80ace9#h66b9877>

This one, I am not sure if I like, but hey, it is only server space:

<http://barn.zenfolio.com/p821321189/h11eb7d2f#h11eb7d2f>

Then here is an image from the night before, overlooking the city of Fort Collins at night:

<http://barn.zenfolio.com/p1068266116/h1f775311#h1f775311>

I still have another image to process, but that will have to wait until another day.

-Robert Arn

We had good crowd at Keota over the weekend. I went out Thursday trying to get a chance at a few good nights of viewing. Weather looked Marginal again.

Great site with almost Fox park darkness. The flies were bad but at least the mosquitoes were not so bad, worse at home. Hot during the day but great at night with cool temps. Thursday night we met up with Max Moe and his Dad, Ray. Great to see Max, he excels at his astronomy. Now doing PHD at Harvard. Knew that kid would go far, when he was young, 16, doing his Herschels years ago at Cactus flats. He is now a young man, has come a long way in life and he got to catch up with some of us old timers he viewed with in past, for those great dark skies of Colorado, Boston there is no dark skies he said.. Thursday started out with nice day then clouds late afternoon, winds and short rain shower then, Clearing by 10:30pm or so with rest of night clear except for few passing clouds, but soft, the transparency

was lacking with high humidity and dew but seeing was very good, even excellent at times around 3 am for Jupiter, shadow of moon on Jupiter very sharp and defined round black dot on white belt, looked great.

Max and I did plenty of Planetary neb stuff and Galaxies all night, too many to name. Thursday night, up till 4 am. Thursday the Moon came up around 2:30 am but small crescent. Friday moon rise at about 3:30 am. Even smaller crescent. Friday night Tom T, Damon Alcorn, Jon Figoski, and few others came out. Had about ten people. Friday was probably my best night all year since last summer with excellent skies.. We had clearing skies after dark with no wind, mild temps, excellent seeing most of the night even., Damon did lots of Pictures and even got some awesome Jupiter shots. We had 13 and 16 mm Nagler on 30 scope for Jupiter, talk about ruining your night vision but so hard to not to keep looking at all the details. I put filter on it too, still bright.

I made it to 4:30 am Max till almost 5 am. Dawn was breaking. We got to see nice Space Station fly over early morning, - 2 mag probably. Lots of Persids too thru all the nights. some with trains even that dissipate second or two later. Love seeing meteors in dark skies, they sure looked great.

Max Moe also said he too could see M 33 naked eye from Keota, at least 6.5 mag darkness then, maybe even 7 in that part of sky then.

Saturday night Bill T showed up and we sat around watching and taking pictures of the lightning and light show across vast open plains. No views were had really. I got few big sucker holes, even got Sky commander tuned in so I could star hop around the sucker holes thru the night but sucker holes they were. Cleared slightly around 1:30 am then again at 2 am but not for long so Saturday night was a cloud out really.

I am glad to hear positive reports from the Deadman star party. I was afraid my old motor home could not make the trip. I would have loved to run into Steve, Jim S and Dave D again.

Perseids this Thursday night, Friday morning for peak times. I might venture out to Keota again for two more nights, Thursday and Friday if weather looks good and no work, I will be there. Meteors sure look better in dark skies.

Did Bob S and Bob Ross show up? Send me some pictures, bye, Gary

From Mike Prochoda: Weekend at Bernie's Aug 5-8 2010

In lieu of WUTS this year, Bernie Poskus was kind enough to invite several of our usual (or dare I say unusual) "observing gang" to his mountain home near Kremmling Colorado this past weekend. Bernie's place is situated in the foothills of the Gore range and overlooks North Park to the West. Though many were invited, only Ted Cox, Rick Angel, and myself managed to make the trek to Bernie's.

The Clear Sky Chart forecast was not promising when I left Estes Park on Thursday afternoon - it called for cloudy skies for the next 48 hours. We set up our scopes on Bernie's land

behind his home, on a clear patch of prairie grass surrounded by stunted aspen trees and sagebrush, with excellent horizons for 360 degrees. Skies were overcast when I set up on Thursday afternoon. Apertures included my C-11, Bernie's 16" dob, and Rick's 18" Obsession dob. Dusk on Thursday night was not promising, with overcast skies and occasional sucker holes. However, by about 9:30 PM, the skies largely cleared and we were treated to some of the darkest skies I have ever seen! Though Bernie's house is at 8,000 feet, I would say that it rivaled Fox Park in darkness. The only issues were some distant house lights and the occasional car driving up the mountain (which ceased by midnight).

After midnight, the occasional spotty clouds largely disappeared and the Milky Way was seen in all of its glory. It was marbled like a juicy steak, and we were ready to "dig in". The seeing was exceptional and I rated it at between Pickering 8-9 after midnight. I spent much of the evening poking around Sagittarius, Scorpius, and Ophiuchus, using a 41 mm Panoptic on my C-11, drinking in the exceptional dark nebulae which riddled the star clouds. I truly don't remember ever seeing these dark nebulae as clearly as I did on Thursday night. The ink blot was jet black and surrounded by a "city of lights" (star clouds and the adjacent NGC open cluster). I tracked down several dark nebulae around M14, in Baade's window above the teapot spout, around M7 and M8, and up into Ophiuchus. You could see Barnard's "E" in Aquila naked-eye! M24 (Sagittarius star cloud) was amazing and I must have spent 20' just slowly scanning through the dark nebulae and star chains in this beautiful part of the Milky Way. M51 looked fantastic with delicate spiral structure in both my C-11 and in Rick's 18" Obsession dob.

I then started observing globulars, because with the excellent seeing, these objects appeared like rare and precious jewels, even at high power. I was able to use my 9mm Nagler with abandon (311x)! NGC 7000 (the N. America Nebula) was clearly visible naked-eye and I was able to scan this object with my 41mm Pan without a filter. With a UHC filter, it was mottled with streams of nebulous lanes and the Pelican nebula could be plainly seen. Next on the menu was NGC 6888 (Crescent nebula) and this too could be clearly seen without a filter. With the UHC, it appeared like a mottled oval with streaming radial lines of nebulosity clearly visible. I hunted down the Cocoon nebula and this was also plainly visible without a filter in the C-11. Even better, the dark nebula tying the Cocoon to M39 looked like a dark streak of spilled ink against the white background of gleaming Milky Way stars when observed through my WO 66mm Petzval APO refractor (which I use as a super-finder on my C-11).

I observed too many globulars to count, including all of the Messier's above the horizon. M15 was the prettiest I have ever seen it (due to the exceptional seeing). M31 was huge and covered about 4 degrees of sky in the 66 mm APO. Through the C-11, two dust lanes were clearly visible as well as the bright star cloud lying in the spiral arm on the same side of M31 as M32. M33 clearly showed its spiral arms including several bright "knots" in the spiral arms. Stephan's quintet

showed all 5 members at high power, and I was able to clearly see 3 of 4 of the companion galaxies of NGC 7331 with direct vision. The 4th member was suspected with averted vision, but never clearly ID'd.

At 3 AM we had a coffee break inside of Bernie's house, then set-out to resume observing. I decided to destroy my night vision temporarily, and see what was up on Jupiter (because of the great seeing). What I saw stunned me! I have NEVER seen Jupiter as clearly as this night. The N. equatorial and temperate belts were filled with detail - spots, barges, festoons, and rifts in the bands. The shadow of Io was transiting the middle of the planet and then behold, I saw a fainter spot transiting in the Southern temperate zone. Turns out this was Ganymede itself transiting the face of Jupiter. It was clearly a round disc and even showed some occasional surface detail at 311x! Bernie and I were transfixed by the beauty of Jupiter and its transiting moons and observed it for over 45'. Near the end, Io itself was transiting Jupiter and showed a disc which was clearly about 1/2 the size of Ganymede. By about 4 AM, we could see both Io and its shadow on Jupiter, and at the same time, we could see Ganymede further along in its own transit. What a sight - this was the best Jupiter "show" I have ever attended! What made it so exceptional was that the seeing was almost continuously fantastic. It was not the occasional "clear view" that one gets with good seeing, it was exceptional almost constantly (like a photograph). You could just drink in the views with total abandon.

We then turned to the crescent Moon which had risen high enough that it was well above the layers of poorer seeing. Again a stunning view with no loss of detail at 311x in the C-11. Aristarchus and Schroter's valley were near the terminator and showed tremendous detail. Bernie and I spent about 30' scanning the lunar terminator, and describing different craters, mountains, and craterlet chains to each other while we simultaneously observed the same areas with both of our scopes. Can you imagine spending 30' on the moon when the rest of the night sky was still quite dark and open to observation? THAT is how great the seeing truly was. By about 4:30 AM I was utterly exhausted and turned-in for the night.

Friday rained on and off all day and the Clear Sky Chart was not looking very good. Ted Cox arrived on Friday afternoon and set up his 18" Obsession dob. By dusk however, most of the sky had cleared and all of us were ready for another great night of observing. The seeing was not quite as good as on Thursday night, but still not shabby. The skies were just as dark as the previous night. I spent the evening hunting down faint Terzan and Palomar globulars in Sagittarius, Aquila, Capricornus, and Ophiuchus. Though an interesting "hunt" and quite a challenge to find, these globulars are not much of a sight (most required averted vision to even detect in the C-11). Other than the satisfaction of being able to log your observation of these globs, they are not worth the time... Ted and I hunted down Barnard's Galaxy in Sagittarius, and it was clearly and easily visible at low power in both the C-11 and

18" Obsession. I then turned to hunting down several planetary nebulae in Sagittarius and Aquila. Later, I got great views of the Blinking Planetary, Blue Snowball, and NGC 6543 (Cat's Eye) before a coffee break at about 1:30 AM. Unfortunately, 20' later, the skies had largely clouded over. It kept clearing some and then clouding over, time and time again, until about 3:00 AM when it became totally socked-in. I decided to call it a night, and stashed my gear and covered my scope. Like magic, the skies totally cleared! Of course I went to bed anyway, and Bernie told me the next morning that minutes after I had gone to bed, the skies totally clouded over once again and remained that way until he and Ted hit the hay at about 3:45 AM.

Saturday began only partially cloudy, but rapidly become more cloudy as the day progressed. During the day we explored a fossil site near Kremmling which contained large deposits of Cretaceous marine fossils in the Pierre shale. Included were dozens of huge ammonite fossils - many of them 2 to 3 feet in diameter. I could only help but wonder that some of the galaxies I had observed the previous night lay 70-80 million light years away. Those photons had left their parent galaxy when these ammonites were swimming in a warm Cretaceous sea in the middle of what would become dry Colorado mountains today... On our way back from the fossil site, the skies opened up and it rained most of the rest of the day. Dusk showed no reprieve and it rained on and off all night long. We never uncovered our scopes on Saturday night, and spent the evening watching a couple of movies on DVD.

Alas, Sunday opened to partially cloudy skies, but it was time for the drive back home. I'm glad that the Keota, Deadman, and Independence Mtn folks got some good observing in between the clouds. I will look forward to seeing many of you at RMSS 2011 and WUTS 2011 next year!

- Mike Prochoda (Estes Park)

Perseid Meteor Maximum Aug 12

Best Looks

Moon By Pleiades Aug 4, 31; by Mercury Aug 11
By Venus, Mars, Saturn Aug 12;
By Jupiter Aug 26, 27
Mercury In W at dusk 1st half of month
Venus In WSW at twilight.
Mars Low in WSW at sunset. By Venus all month.
Jupiter In S predawn
Saturn In WSW in evening
Uranus 2 to 3 degrees W of Jupiter
Neptune Opposition Aug 20

International Space Station Passes for Loveland – Fort Collins

August 2010

Date	Mag	Starts			Max. <u>Altitude</u>			Ends		
		Time	<u>Alt.</u>	<u>Az.</u>	Time	<u>Alt.</u>	<u>Az.</u>	Time	<u>Alt.</u>	<u>Az.</u>
11 Aug	-0.1	03:02:53	12	NE	03:02:53	12	NE	03:03:10	10	NE
11 Aug	-1.1	04:34:29	13	NW	04:35:53	17	NNW	04:37:57	10	NNE
12 Aug	-0.9	03:28:39	20	NNE	03:28:39	20	NNE	03:29:56	10	NE
12 Aug	-0.5	05:02:15	10	NNW	05:03:18	11	N	05:04:20	10	NNE
13 Aug	-1.0	03:54:22	16	NNW	03:54:26	16	NNW	03:56:23	10	NNE
13 Aug	-0.3	05:30:27	10	N	05:30:46	10	N	05:31:05	10	N
14 Aug	-0.4	04:20:54	10	NNW	04:21:48	11	N	04:22:42	10	N
15 Aug	-0.2	03:14:09	12	NNE	03:14:09	12	NNE	03:14:42	10	NNE
15 Aug	-0.2	04:48:48	10	N	04:49:13	10	N	04:49:39	10	N
16 Aug	-0.3	03:39:50	11	NNW	03:40:12	11	N	03:40:58	10	N
16 Aug	-0.4	05:15:05	10	NNW	05:16:34	13	NNE	05:18:05	10	NE
17 Aug	-0.1	04:07:00	10	N	04:07:33	10	N	04:08:06	10	NNE
17 Aug	-1.0	05:41:21	10	NNW	05:43:46	22	NNE	05:46:10	10	ENE
18 Aug	-0.4	04:33:12	10	NNW	04:34:50	14	NNE	04:36:28	10	NE
19 Aug	-0.1	03:25:38	11	N	03:25:46	11	N	03:26:27	10	NNE
19 Aug	-1.2	04:59:26	10	NNW	05:01:56	24	NNE	05:04:26	10	E
20 Aug	-0.4	03:51:44	12	N	03:52:59	14	NNE	03:54:44	10	NE
20 Aug	-3.1	05:25:50	10	NW	05:28:48	64	NE	05:31:43	10	ESE
21 Aug	-1.4	04:18:09	15	NNW	04:20:00	26	NNE	04:22:34	10	E
22 Aug	-3.5	04:45:00	22	NW	04:46:46	75	NE	04:49:42	10	ESE
23 Aug	-2.7	05:12:26	24	WSW	05:13:16	28	SW	05:15:50	10	SSE
23 Aug	-1.0	21:37:46	10	SW	21:38:16	14	SW	21:38:16	14	SW
24 Aug	-2.2	20:29:46	10	S	20:32:06	21	SE	20:33:57	13	E
24 Aug	-1.0	22:04:32	10	W	22:05:39	19	W	22:05:39	19	W
25 Aug	-3.7	20:55:30	10	SW	20:58:26	80	SSE	21:00:44	16	NE
25 Aug	-0.0	22:32:01	10	WNW	22:32:23	12	WNW	22:32:23	12	WNW
26 Aug	-1.8	21:22:18	10	W	21:24:58	32	NNW	21:26:58	15	NNE
27 Aug	-3.6	20:13:07	10	SW	20:16:05	87	N	20:19:02	10	NE
27 Aug	-0.6	21:49:47	10	WNW	21:51:46	16	NNW	21:52:50	14	N
28 Aug	-1.6	20:39:57	10	W	20:42:36	29	NNW	20:45:15	10	NE
28 Aug	-0.1	22:17:44	10	NNW	22:18:26	11	NNW	22:18:26	11	NNW

29 Aug	-0.6	21:07:27	10	WNW	21:09:19	15	NNW	21:11:11	10	NNE
30 Aug	-1.4	19:57:30	10	W	20:00:04	26	NNW	20:02:39	10	NE
30 Aug	-0.3	21:35:23	10	NNW	21:36:11	11	N	21:36:59	10	N
31 Aug	-0.6	20:25:00	10	NW	20:26:45	15	NNW	20:28:31	10	NNE
31 Aug	-0.2	22:02:41	10	N	22:02:43	10	N	22:02:43	10	N

ISS predictions from:

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