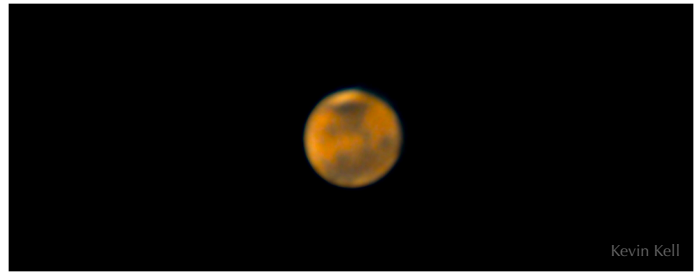


Skyletter

December-January 2024/25

RASC Kingston Centre



Kevin Kell

GEMINID REPORT (DEC 19TH)

Kevin: Our AllSky2 camera captured 68 meteors of the **Geminid** meteor shower on the first (Dec 13th) of two good nights:



and on the next night (Dec 14th), 126 meteors:

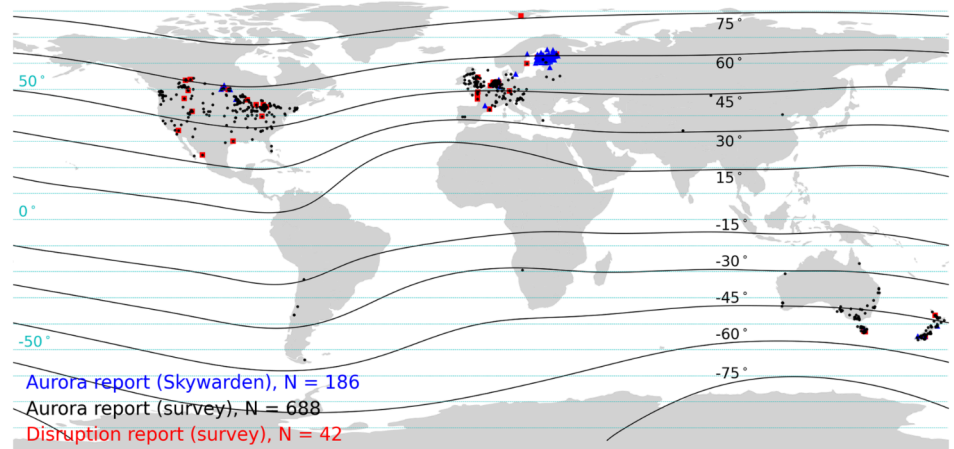


This computer system has been running since 2012 June 8. It is an Intel Core2-4300 @ 1.8GHz, 1GB RAM, and 750GB and 1TB SATA drives. We are hoping for a replacement computer early in the new year...same camera though.

Rose-Marie: Fantastic, sparklies! I only saw one big, bright one that shot down behind the pine trees. There was a stiff breeze on that cold night and I just wasn't up to it, just watched from the window when I got up to stoke the stove.

DECEMBER 14th: Malcolm's Geminid photo made the CBC national news.

Citizen scientist reports on the 10 May 2024 superstorm



FRIDAY, DECEMBER 20

Malcolm: This is cool [*map above*]. I submitted a citizen scientist observation from San Pedro de Atacama to a May 10 **aurora** event study. The results were published today. My "dot" is the one in Chile closest to the equator. I am not aware of any record keeping on "closest observation to the equator," but it's neat. My name is in the list of 688 contributors:

gc.copernicus.org/articles/7/297/2024/#&gid=1&pid=1

SATURDAY, DECEMBER 21 MINUS DOUBLE DIGITS

MarK: Well, -10.7C, we have finally gotten into negative double digits. The Lake is still wide open, however. And since 0420 this morning, local time, it is winter. It almost feels like winter out there today.

Rose-Marie: My thermometer, an *el cheapo* from Canadian Tire that is not always the most accurate, read -12C this morning.

SAT/SUN, DECEMBER 21/22

Rose-Marie (21:10): Just had the BigWetNose outside and *brrrr!* -15C with a north breeze. Kerrie didn't dawdle. Laying here listening to the ice booming. Sky is clear with no Moon but *brrrr!* Too cold for me to gaze at stars. I took a walk around this afternoon in the sunshine; even when it's this cold that Sun feels good.

Malcolm (21:37): -17.7C according to my Pegasus power box. Seeing is not the best though.

Rick (22:06): Yep, mine says -17.2C.

Stephen (23:06): -17.6C here in Battersea. I tried getting some images, but the wind gusts were too strong. Kept ruining my images so I gave up. It may be better tomorrow.

Mike H (23:16): -17.2C here in Morrisburg! I had a great night with the ASI Air running my scope and cameras!

I did want to look at Mars as it will be at as high an elevation as we get in to January, but it was too cold for me tonight.

Clouds pushed in at 10:30 p.m. **Malcolm** (01:40): Seeing has really settled down, -20.3C right now.

Rose-Marie (07:58): -19C at the moment, the birds are really hitting the feeders. 21 doves were milling about at the seed I spread out on the road.

I was up at 2:00 a.m., stoked up the stove. At about 2:15 a.m. I looked out the window and saw a lovely **meteor** streaking down from NE to SW. I hope someone's all-sky camera caught it. I was lamenting that I hadn't set up my camera to catch it. Grabbed the camera and set it up here at the window, hadn't tried yet through these double windows, but series of shots came out not bad. I was too sleepy to take the tripod and camera downstairs to the usual spot, and that window down there was probably frosted up anyway. Predictions are cloudy nights coming up, so will have to wait for a while to try again. Now that I know that it works upstairs in the nice warmth I'll have to remember to set up on clear nights.

Kim: It was -22C this morning, colder than what The Weather Network stated it would fall to. But the **Sun** is up, it's warming up!

John: We bottomed out at -21C up here, but now at a balmy -19C . Last night at 2300 we were at -17C also. Too cold last night to get outside and observe in person.

Malcolm: -23.7C here at 7:26 a.m.

Mark: Our low was at about the same time at -17.6C . The Lake is frozen out to about thirty metres on the far shore and five metres on our shore. The wind was blowing off the far shore, so it was still in the lee of the bluffs on that side.



Kevin: AllSky1 frosted up something special...not much after midnight. AllSky2 shows nothing around 02:15 EST.

Rose-Marie: Huh. It was bright enough, long and slow, that I could see it through the window even though the living room light was shining and reflected in the glass.

I had set up the camera and it ran for a couple of hours and even though shots turned out well, no more sparklies.

Susan: I wimped out and did not try to go out. Yesterday I went out to visit someone and the north wind froze my face before I got two blocks; went home and got the car.

Mark K has given me some filters to try and I am anxious to have a go at them.

SUN/MON, DECEMBER 22/23

Stephen (19:59): I'm having a much better run than last night. The wind is very calm. It's bloody cold though, -18.5C . I'm hoping to get a few images in before the clouds arrive.

Malcolm (20:28): Yes, not a good night for a hiccup. And I've had a few. First the routine driver update for the Pegasus power box bricked it. After futzing about I got it back. But that set off a chain reaction which required reboots, unplugging and replugging of cables



and even polar alignment! Took almost an hour; I'll probably get pneumonia.

Susan (21:18): The cloud moved in here just after sunset and shows no signs thinning out. Although, yes, much calmer tonight.

Malcolm (21:36): Cloud?!?

Stephen (21:47): Yes, there is one little patch of cloud hanging over Susan's house. It will cloud over here between 11 and 12.

Rose-Marie (21:55): Nice and clear, about to set up the camera at the window again and then head for bed. It's colder than predicted, -18C at the moment. BigWetNose didn't dawdle for long out there before heading back in to the warmth.

Rose-Marie (08:21): Checked the camera, got a nice series of star shots before it clouded over. No sparklies.

SATURDAY, DECEMBER 28

Stan: I was able to grab some captures and have only processed **M1** (Crab Nebula) [*next page*]. Based on some reading there should be more blue.

As this is an integration of 43 images at 60 seconds I am hoping another hour will add to the nebulosity. Currently, I'm having a bear of a time with cleaning up the **Horsehead**.

Rain and clouds are forecast for the next few days. *Urghh*.



Susan: That is a nice **M1** Stan! Every photo, different equipment, settings, and processing seems to reveal fresh aspects. I've not seen one quite like this one.

More to the point...you had some clear sky!

Stan: Yes, there are different takes of this nebula out there (many are reddish). Looking at NASA and others on Astrobin, I would say this is a good representation of the nebula. I need more data to pull out the blue, hopefully.

I do not do much in the way of colour adjustments for my images. Most of my processing is about getting the right star colours using a spectrograph tool, removing the grain/noise due to city and using a planetary camera, gradient removal (light pollution, SNR), and histogram to pull out from the dark left side. If I go into Affinity (Photoshop comparable) it is to crop the final image and maybe adjust the black point for sharing. With that said, since I am imaging from the city (Bortle 8) and not grabbing tens of hours of data I will miss part of the colour spectrum. For me it is fun to see what I can capture (this is 6,000 light years away) and then learn about the object (this **M1** is one of three supernovas to have been observed by humans and has a quasar in the middle).

SAT/SUN, DECEMBER 28/29

Mark (09:52): It was clear here

early this morning. I was quite surprised to see the stars, but it clouded out as the skies brightened.

Rose-Marie: Yes, it was surprising to see stars this morning. BigWetNose did her usual drag-me-outside at 2:15 a.m.; the sky was clear, I was considering setting up the camera at the window but the fog was starting to move in.

Rick: I too saw stars this morning. I was out doing a little shovelling to clear up an area that I wanted to be sure melted clean when the temps went up. Looking up while pausing for breath I saw stars in the east. Dropped the shovel, ran for the 20cm scope and set up beside the Hankscope to grab a quick estimate of **T CrB** but the hole had closed already. Although there were occasional clear patches none of them exposed CrB and after standing there waiting for half an hour I decided it was too bright to see the star any more so gave up and went for a walk.

SUN/MON, DECEMBER 29/30

Rick: And again the skies cleared this morning for a little while about sunrise but were solid overcast while it was dark enough to observe.

MON/TUE, DECEMBER 30/31

Mark (07:34): Clear again this morning, something I found out too late to be of much use. I am now watching the belt of **Venus** descend into the west. The weather picture on ECCC has every base covered, Sun, cloud, snow, rain. I guess we can be thankful that it is at least calm for the moment.

Kim (13:13): I was out this morning, it was clear, some wisps of cloud in the south, but saw **Mars**, very bright. Looked at **Corona Borealis**, **Hercules**; the

Summer Triangle, and **Scorpius** were up, and at 6:48 a.m. with binoculars I saw **Mercury**.

An early **Quadrantid** was nice to see; way too many **satellites**.

I did manage solar today, but fought clouds, as they were moving in. A very nice day, +4.7C.

Happy New Year everyone, hope for some clear sky tonight as the aurora should be around, Kp 4 right now.

Rick (13:33): I was up a little later than normal, looked out the east window and it was cloudy so I calmly abluated, dressed, had my morning juice and vitamins then strolled outside for walk. Only to find the sky nearly clear and clearing in the east. Again, run for the scope, setup and there's **CrB**, just coming out from behind some cloud and much higher in the sky than I last remember (it is a couple weeks later in the year and 45 min later in the morning than when I last looked for it.) It was not quite the beginning of nautical twilight so **T CrB** was easily visible in the scope. And it's still faint. While I was up and looking east I took a quick look at **M57** and **M13**, both just faint smudges in the brightening twilight. While aiming for M13 I saw a single **Quadrantid** slashing down through Hercules. Moderately bright (mag 2?) and blazingly (even bizarrely) fast. Nice way to close out my last and 178th observing session of the year. (This evening UT is the first night of 2025.)

WED/THU, JANUARY 1/2

Susan (08:34): Another unexpected sky! **T CrB**...still quiet, as observed with binoculars.

Kim: I was out as well, opened the observatory, some frustration with the Dob (that will be remedied today), then I went and used the binos...still chugging along.

Susan: I am planning to set my observing clothes at the back door. I find the sky predictions a bit off these days and a good sky can really creep up on you.

This morning's session was brief as it was robe, flip flops, and binoculars. *Burrrrrr!*

Rose-Marie: 'Twas indeed cold, that northwest wind didn't help any. BigWetNose dragged me out around 4:00 a.m. Did you hear me cursing at the sky? "Yeah, right! Now that the auroras are gone and I am deprived of sparklies, NOW you clear up!"

The forecast is for some cold days ahead.

Keith: Hi, Susan, this must have been very early in the morning, 1 to 3 a.m.?

Susan: No, around 5 a.m.

Keith: Great, I will not have get up too early!

Malcolm: You jinxed it.

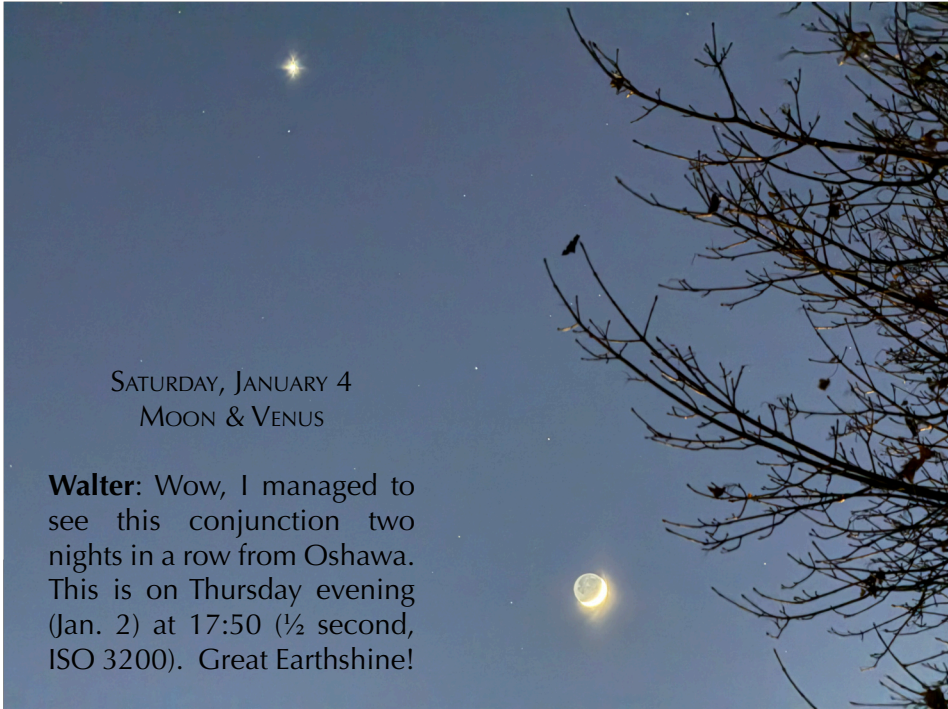
Rick: Unfortunately I slept in, didn't wake up until it was just too late to see T CrB. I think I will start setting my alarm clock for ~5:00 every morning that there is the least possibility of clear skies (though I don't recall that there was any chance forecast for this morning). They are calling for clearing before morning tomorrow so I will definitely be up—early enough even to get the Hankscope imaging.

Rose-Marie: That reminds me, need to set the alarm for around 4:00 a.m., set up the camera and hope for a Quadrantid or two. Sparklies!

Rick: Astrospheric shows clear by 0200 though with poor transparency. Good enough for bright meteors and variable stars.

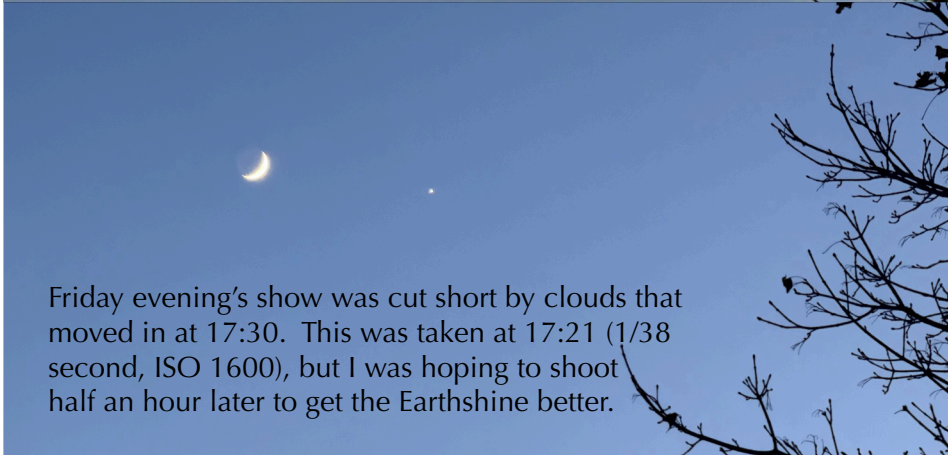
THU/FRI, JANUARY 2/3

Kim (07:01): We were out last night through the sucker holes. Very strange cloud patterns, totally

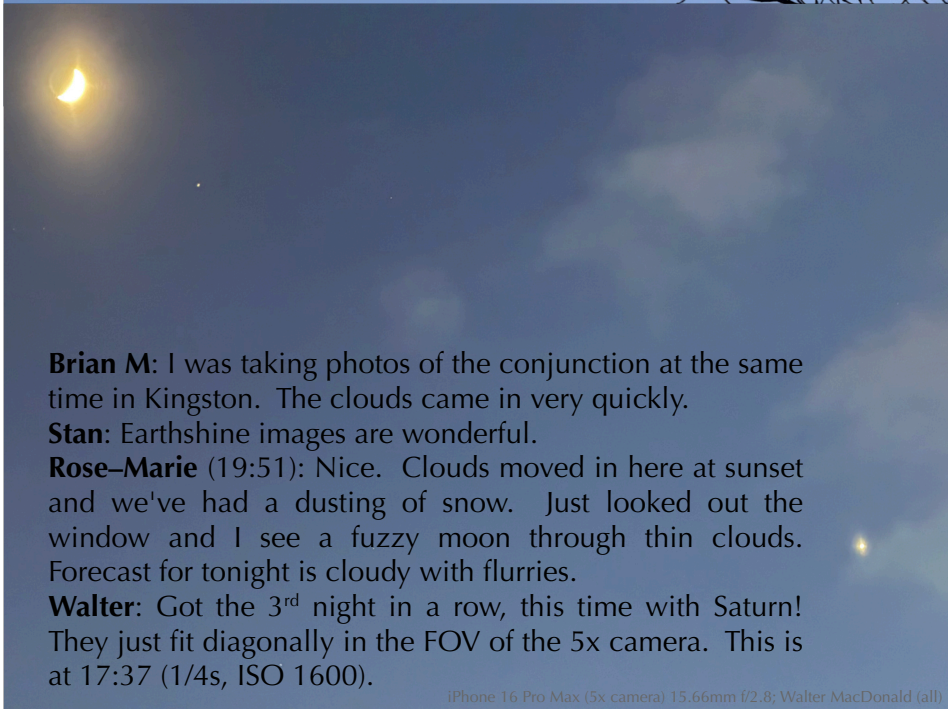


SATURDAY, JANUARY 4
MOON & VENUS

Walter: Wow, I managed to see this conjunction two nights in a row from Oshawa. This is on Thursday evening (Jan. 2) at 17:50 (½ second, ISO 3200). Great Earthshine!



Friday evening's show was cut short by clouds that moved in at 17:30. This was taken at 17:21 (1/38 second, ISO 1600), but I was hoping to shoot half an hour later to get the Earthshine better.



Brian M: I was taking photos of the conjunction at the same time in Kingston. The clouds came in very quickly.

Stan: Earthshine images are wonderful.

Rose-Marie (19:51): Nice. Clouds moved in here at sunset and we've had a dusting of snow. Just looked out the window and I see a fuzzy moon through thin clouds. Forecast for tonight is cloudy with flurries.

Walter: Got the 3rd night in a row, this time with Saturn! They just fit diagonally in the FOV of the 5x camera. This is at 17:37 (1/4s, ISO 1600).

iPhone 16 Pro Max (5x camera) 15.66mm f/2.8; Walter MacDonald (all)

clear no clouds, boom, there they were.

It was a fun 30 minutes anyway. The Dob got fixed, thank you Kevin. It's 19 yrs old, and the Teflon wore flat, so the Teflon was moved; working good now.

Up at 3:30 this morning, sat inside to watch for **meteors**, saw one long and slow. Then out after 6 a.m., **T CrB** still quiet. Saw two meteors one with a long train moving from S to N. The other through Corona Borealis, very short.

Interesting two satellites moving N to S following each other, not sure who they belong to.

It's -6C with a slight wind, clouds still around. The cloud bank over the lake keeps shifting.

John: I got out around 01:30 and the sky was pretty good; **T CrB** was not very bright yet. And a few **meteors** going by. It was nice to be out of the wind.

Rick: What a foolish bunch we are! I was up at 02:30 to "check the skies" and when I looked out it was clear, so I got dressed and headed out to open both observatories and get them running. CrB was already well up so I dragged the 20cm Dob out to do a **T CrB** estimate (still faint, as Kim reported). As long as I had the scope out, I also did a couple of double stars for the [RASC] certificate program. Then I did a few **Messiers**, checked T CrB again, then headed off for a walk and was back in time for breakfast.

Kevin: This is the compilation of 32 **Quadrantid** meteors as captured by the SCGO AllSky2/UWO10 all-sky camera system last night. Despite all of the clouds...and there were a lot of clouds!

Cathy: I tried multiple times for clear skies, just got one small clear patch around **Boötes** that lasted about 20 minutes.

Lots of cloud bands going

through, and high haze, and cloud clumps...looking at the satellite shots afterwards, looks like we were on the south end of a huge mass moving through Quebec.

Rose-Marie: At least it cleared up last night. My alarm went off at 04:30 and I almost fell back asleep, but dragged myself out of bed to stoke up the stove and set up the camera. Got a cup of warm milk and settled into the armchair. There were a few small fast ones that the camera didn't pick up, but at 5:22 a.m. there was a gorgeous one that shows up well (camera with 18-55mm lens at 20mm, 20 second exposure, ISO 1600, f/3.5):



Kim: I saw two **Quadrantids**, and one nice long sporadic, but no images, just eyeball.

FRI/SAT, JANUARY 3/4

Susan (19:42): It seemed unbelievable that the beautiful crisp view of the **Moon and Venus** would end up so crappy.

This is why astronomers need more than one hobby...or far flung observing sites.

Malcolm (19:49): Clouded out in Chile too.



Susan (20:23): There are a few holes to the SE here so I will watch.

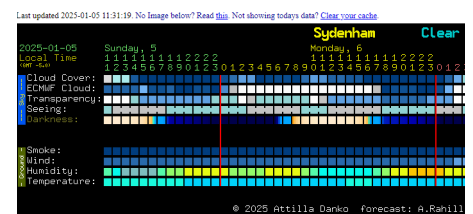
Tonight and the last few observations, Mars seems particularly red. I am thinking it is because it is virtually alone with it being the only thing breaking through the cloud at times. I would have thought that the stars would have provided a contrast so their absence would have left it looking a bit flat but the reverse seems to be the case.

Rose-Marie (20:26): When it was high in the sky and I coulda shot it from the patio, it was hazy clouds. When **Moon and Venus** were low over the western horizon, clear as a bell. There was a day when I would have bundled up and taken camera and tripod down the hill to try for a few shots, but I had a busy day and I'm and tired and it's too darned cold.

John (08:42): It may have to do with Mars being close to opposition later this month. I am looking forward to the 13th when the Moon covers Mars in the evening.

SUN/MON, JANUARY 5/6

Malcolm (16:19): Tonight's forecast. Anyone falling for it?

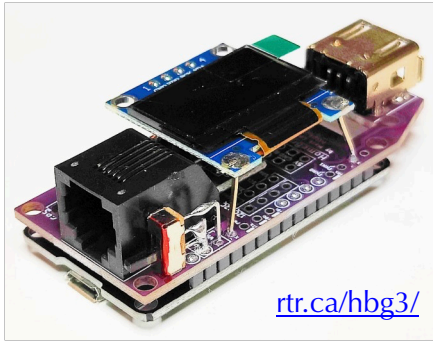


Rose-Marie (16:49): Do you mean the mainly cloudy with 40% chance of flurries? Pretty much the same for the whole week.

Malcolm (17:20): I mean the CSC: clear until midnight *pfft*.

Mark D (17:19): I am all setup. Have not done anything for awhile so I am expecting lots of complications. I received a new Wi-Fi/

Bluetooth/USB *thing ma jiggy* from Santa to try out.



Malcolm (17:20): Fingers crossed!

Susan (18:00): I will have an eye out but had given up early in the day. There did not seem to be much chance.

Kim (18:13): There is lots of cloud, but the **Moon** is shining through, but not holding out hope. Did manage solar this afternoon after the snow flurries.

Mark (18:14): Since I am on my way to Gtown, the prospect of clear weather just got a lot better for the Kingston area. The **Moon** is barely visible through haze right now.

Roger (18:17): It's clear here, but I'm suffering from a really nasty cold, so I won't be going outside tonight.

My son, though, called me outside about 5 minutes ago when he saw a couple of satellites travelling together. It took a minute for my eyes to adjust and we watched a long **Starlink** train go over. He was pretty excited, as he'd never seen one before.

Malcolm (18:47): Totally clear here right now too.

Rick (19:46): I've been imaging for a couple of hours now, mostly clear sky. I clicked over to look at the image from my NLCOSkyCam (Nasty Little Crack of Sky Camera) and smiled smugly at the beautiful clear sky. For about five seconds. Then the image refreshed and it was nearly overcast! From the satellite images I'm hoping the

cloud will be thin and not too frequent.

Rose-Marie (20:45): I dunno... I looked at the satellite animation and it looks like that big system pounding the midwest U.S. is trying to push further north than predicted. We may not get snow but the edge of clouds may cover our sky. If I'm wrong and my usual awakening during the night shows clear sky I'll set up the camera at the window.

Susan (22:30): Well, that cloud can move fast! Done here.

Rose-Marie (09:33): I woke up around 4:00 a.m. and it was clear from overhead to the north; clouds to the south. **Mars** was shining brightly, and as someone said earlier, looks more red than usual. I was thinking of grabbing the camera and tripod when a small gust of wind hit me and we skedaddled back inside.

Mark D: I was fighting with a number of connection issues with my scope. By the time I had The TRI galaxy in view I thought, 'gee that is very faint, better check for dew.' No dew but looked up at the sky and it was all hazed over.

I have now switched from Wi-Fi to Bluetooth to control my scope and it seems to work perfectly but will need more testing. The new *thing ma jiggy* I purchased is from Mark Lord (Cloudy Nights), a RASC Ottawa member who sells these things to control any Celestron scope with goto using Wi-Fi, Bluetooth, USB etc. Much



Mark DesLauriers

Mark D: Starfish Cluster (M38) from Jan 5th. A poor attempt, lots of connection issues to deal with, then the clouds rolled in. 48 8-second frames with sharpening and cropping in Affinity.

cheaper than a Celestron Wi-Fi module. It can also come with a GPS module and dew controller × 2. I did not get one with the dew controller; wasn't thinking dew when I ordered it. The module works with a phone or tablet using the free Sky portal or the upgraded Sky Safari.

Maybe something Susan (or others) might be interested in?

Malcolm: I wonder about the range of Bluetooth vs Wi-Fi...

Mark D: Bluetooth does have a more limited range than Wi-Fi but tends to be more stable. I have limited knowledge of these things so it is trial and error for me. I only need about 25 feet of range as my scope sits on my back deck and I sit inside, so going through one wall. My Wi-Fi keeps disconnecting so some unexplained reason which then causes me to have to re-align. 2.4 gig can be very finicky with other Wi-Fi sources, so still lots of experimenting. If this is not reliable I will then go to a USB or Ethernet wired option and hopefully be done with this tinkering.

I have tried Celestron's CPWI in many configurations in the past

which would allow me to use Stellarium with my computer. I tried it again last night and as per usual with CPWI my scope ended upside down. My experience with it has always been this way. For now I will try the Bluetooth using my tablet and Sky Safari Plus to control the scope.

More to come I am sure.

Kevin: Some notes:

Range:

- The range of Bluetooth is typically 10 metres (33 feet) or less.
- WiFi routers can have a range of up to 100m indoors and 500m feet outdoors. Two Wi-Fi devices between each other? <<100m indoors.

Data rate:

When compared to Wi-Fi, Bluetooth has a much slower transfer rate, operates within a shorter range, and requires much less power. This means that Bluetooth batteries last longer and are nowhere near as large. This is why Bluetooth devices are so small.

Maximum Data Transfer Rate:

| | |
|---------------------|----------|
| Bluetooth 2.0 + EDR | 2.1 Mbps |
| Bluetooth 2.1 + EDR | 2.1 Mbps |
| Bluetooth 3.0 + HS | 24 Mbps |
| Bluetooth 4.0 LE | 24 Mbps |
| Bluetooth 5.0 | 2 Mbps |
| | 1 Mbps |
| | 500 Kbps |
| | 125 Kbps |

The lower the data rate, the higher the range. For example, 125 Kbps can transfer information up to 240 meters away.

Wi-Fi 802.11g 2.4 GHz 54 Mbps

Wi-Fi 802.11a 5 GHz 54 Mbps

Wi-Fi 802.11b 2.4 GHz 11 Mbps

RFI:

Like Wi-Fi, Bluetooth operates at the 2.4 GHz frequency. However, unlike Wi-Fi, Bluetooth doesn't have signal interference issues within the 2.4 GHz spectrum. Devices like garage door openers, baby monitors, electronic toys, microwaves, and wireless earbuds, all use the 2.4 GHz frequency and these devices can interfere with Wi-Fi signals.

Bluetooth uses a technology called FHSS (Frequency Hopping Spread Spectrum).

Susan: I think Mark does data download by wire? So I think all the wireless work involved is just driving the scope.

I had only one night when my Wi-Fi gave out on me and when I choose to connect I am offered any of the 30 local addresses in my immediate neighbourhood. 30 may be an exaggeration. My Wi-Fi unit is only 3 feet from my driving tablet so distance is not an issue.

I also use a pencil for data transfer.

If I ever move into the house to do the remote thing I will have to

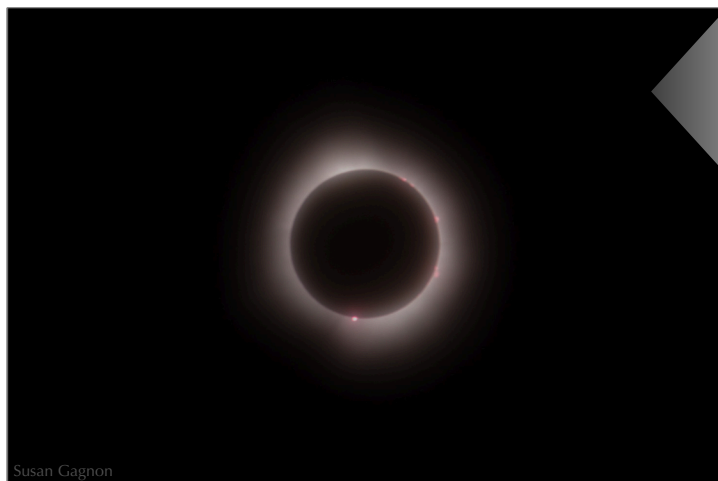
change many things.

Mark D: Thanks Kevin, great information. Still trying to isolate the problem with disconnects. I have been using Bluetooth to control my scope for about 2 hours and it seems to be working. It seems the longer the scope is on the better it holds a connection. It also seems to drop more often when I slew to the left or right. Checking wires, power supply, etc. to eliminate bad connections.

Might just have to go to a wired cable and be done with it. Not sure how to do that though.

Mark: Depends on how far you need it to reach. If you absolutely need it to go two metres, it will not, yet it will stop connecting to my phone right beside my Bluetooth receiver in the car when I drive by Linda at the gym to connect to her phone five hundred metres away. Or stop connecting to my ear bud with my phone in my pocket to connect to the car clear across the field at Starfest.

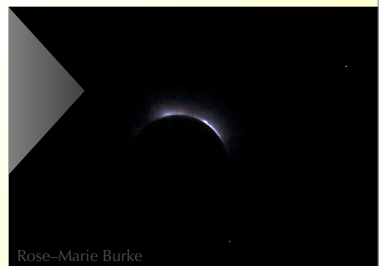
My favourite was when using my headset in the basement with my paired phone to have it over ridden by Linda's never-paired-with-me tablet upstairs when she accidentally clicked on a video with a Cher soundtrack. All of a sudden I had Cher singing at me out of the blue. That made me jump.



2024 ECLIPSE RETROSPECTIVE

Susan: I went back to see what I had from 2024 and had a look through my eclipse photos.

Rose-Marie: Ah yes, the much anticipated clouded-out eclipse. I am still gnashing my teeth and cussin'. This is the best shot that I managed to get at totality. ★



TUE/WED, JANUARY 7/8

Mark D (19:24): Quick snapshot of the Moon tonight. Very windy but the Moon was very steady.



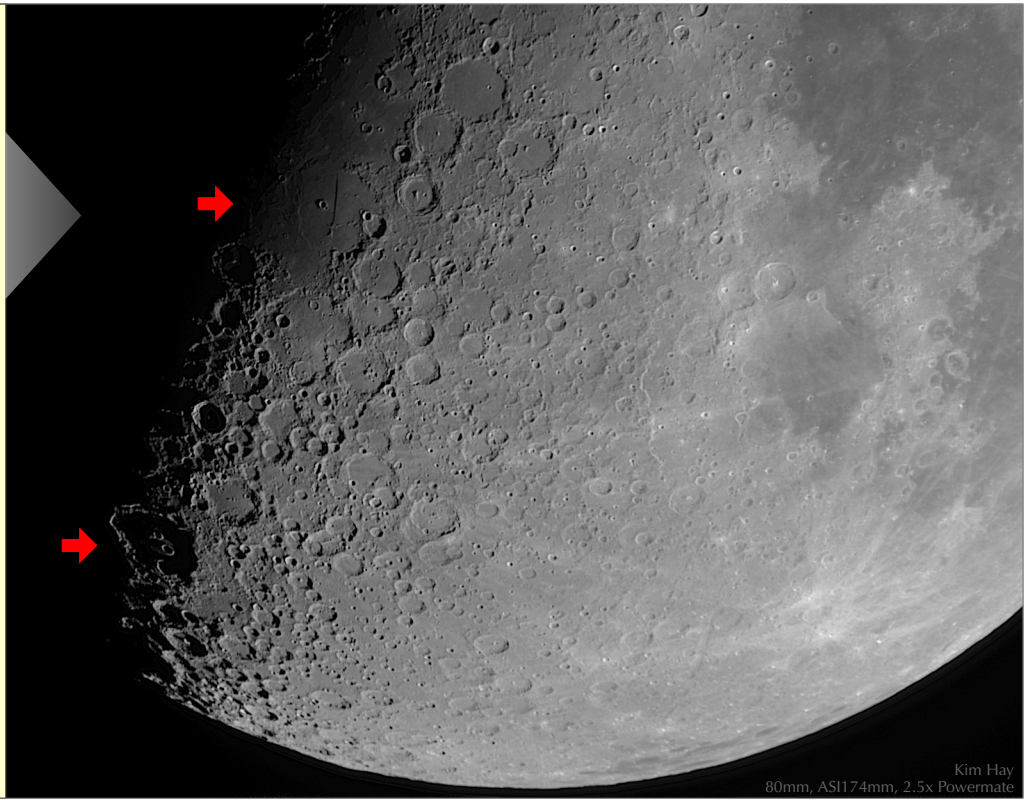
Mark DesLauriers

TUE/WED, JANUARY 7/8

Kim: According to the RASC Calendar, last night was the night to see the **Straight Wall** (Rupus Recta), and the **Eyes of Clavius**. I was out at -8.4 C ; wind was brisk, but managed to get both.

I was also looking at **Jupiter** and **Mars** with the Dob. Very nice, but there were clouds coming in from the SW. Still managed an hour outside.

Mark D: I was [looking at the Eyes of Clavius] too.



Kim Hay
80mm, ASI174mm, 2.5x Powermate

WEDNESDAY, JANUARY 8

Mark D: For the last couple of months I have been getting what I call ‘Casper the Ghost’ on my images, see attached photo. It only shows up at the beginning of the night, moves around the image for awhile, and then disappears never to be seen again throughout the night.

Any thoughts? A reflection of some kind?

Malcolm: Does it only happen when the Moon is up?

Kevin: Move the scope around a bit and watch the motion of the ghost... does it move in a pattern related to the scope movement

and bright objects in the FOV?

Have you added any new optical layers in the path: filter? different filter? diagonal? ADC? filter wheel, *etc.*?

Mark D: Nothing new added. Interesting about the Moon maybe reflecting.

I don't think so, but will notice next time if Moon is a problem,

never used to be. It will travel around the chip for awhile and eventually will move on.

Just a brief annoyance at this point.

Kim: Do you have any stray light from your new Wi-Fi box that might be interfering?

Mark D: The Wi-Fi module has a small red light but the module is



located at the rear of the scope. Problem existed before the new wifi module.

Rick: It's confusing that it should disappear partway through the evening. I'm wondering if it is a reflection that is, say, 10 times as far from the frame centre as the star causing it. Then, unless the bright star is quite near the centre its ghost will be outside the frame.

You have a very bright star near the centre of the FoV. If it is causing the reflection then pan the scope in a direction towards Casper (*i.e.* try to move the bright star on top of the ghost). If the star is the cause as per para 1, then as you move the star the ghost should move (more quickly) towards the star and they will meet when the they are both exactly centred (assuming your collimation is dead on).

Malcolm: My guess is the Moon.

Mark D: The bright glob always wanders around the right side of

the chip. I can watch it move slowly and then it eventually leaves the chip. I assume if it was a star or Moon reflection it would not wander and then disappear. It wanders in a like a random snail creeping. Maybe my chip is starting to go bad. It does go away after a few minutes so it isn't life threatening. Thanks for all of the suggestions.

WED/THU, JANUARY 8/9

Kim (05:16): That wind is brutal out there this morning, -13C . **T CrB** still quiet.

Susan (05:21): It is much warmer here at -12C .

Rose-Marie (06:19): BigWetNose just dragged me out there, it's -12C here as well. Checked the sky: hazy clouds that you can *just* see some stars shining through. A gust of wind hit us and we scurried back inside.

THU/FRI, JANUARY 9/10

Kevin: Some images of **Mars** (*l to r*): July, August (both with the Vixen VC200L); October, and last night (both with the Celestron C9.25). Also included is the *Sky & Tel* Mars simulator showing topographical features. All images were taken with a 1.5x Barlow.

Overall I am Squeee!ing (with joy) all over the place over last night's latest image! Seeing was poor, transparency was poor and there was that large honkin' **Moon** still up in the east as well. **Mars** was only 37° up over the horizon.

It will only get better! (No Moon, higher Mars, better seeing and transparency.)

We are looking at Chryse in the middle of the planet, Solis Lacus a little to the lower left, Sinus Meridani to the right. The Tharsis region to the upper left.

The new standard workflow is: FireCapture, AutoStakkert!, Regi-

Kevin Kell (all)

| Image 1 | Image 2 | Image 3 | Image 4 |
|--|--|---|--|
| <p>2024-07-18-0854_2x1-mars_2xw_ast555mc_exposure=2m1_japff_ast2_0122011f</p> <p>Kevin Kell SCGO Serenity II Observatory Yarker Ontario Canada starlightcascade cameras</p> <p>SkyWatcher AZ-EQ6GT; Vixen VC200L 200mm F9 FL=1800mm x1.5 Antares barlow ~2700mm</p> <p>freecapture-autostakkert!-registax-imagemagick</p> <p>Altitude=1.95°</p> <p>Altitude=40.80°</p> <p>CM=357.2" (during mid of capture)</p> <p>Diameter=5.62"</p> <p>Frames captured=14426</p> <p>FocalLength=4450mm (F22)</p> <p>Magnitude=0.94</p> | <p>2024-08-14-0854_3x1-mars_2xw_ast555mc_exposure=3m1_japff_ast2_0122011f</p> <p>Kevin Kell SCGO Serenity II Observatory Yarker Ontario Canada starlightcascade cameras</p> <p>SkyWatcher AZ-EQ6GT; Vixen VC200L 200mm F9 FL=1800mm x1.5 Antares barlow ~2700mm and f14 with moonlight</p> <p>freecapture-autostakkert!-registax-imagemagick</p> <p>Altitude=1.95°</p> <p>Altitude=40.09°</p> <p>CM=84.9" (during mid of capture)</p> <p>Diameter=1.92"</p> <p>Frames captured=530</p> <p>FocalLength=5400mm (F27)</p> <p>Magnitude=0.84</p> | <p>2024-10-27-0945_0x1-mars_2xw_ast555mc_exposure=1m1_japff_ast2_0122011f</p> <p>Kevin Kell SCGO Serenity II Observatory Yarker Ontario Canada starlightcascade cameras</p> <p>SkyWatcher AZ-EQ6GT; Celestron C9.25 SCT 235mm F10 FL=2350mm with moonlight</p> <p>freecapture-autostakkert!-registax-imagemagick</p> <p>Altitude=65.14°</p> <p>CM=116.5" (during mid of capture)</p> <p>Diameter=8.80"</p> <p>Frames captured=14628</p> <p>FocalLength=5850mm (F24)</p> <p>Magnitude=0.16</p> | <p>2025-01-10-0149_2x1-mars_2xw_ast555mc_exposure=1m1_japff_ast5_0122011f</p> <p>Kevin Kell SCGO Serenity II Observatory Yarker Ontario Canada starlightcascade cameras</p> <p>SkyWatcher AZ-EQ6GT; Celestron C9.25 SCT 235mm F10 FL=2350mm with moonlight</p> <p>freecapture-autostakkert!-registax-imagemagick</p> <p>Altitude=1.95°</p> <p>Altitude=37.27°</p> <p>CM=35.8" (during mid of capture)</p> <p>Diameter=14.55"</p> <p>Frames captured=9751</p> <p>FocalLength=5350mm (F22)</p> <p>Magnitude=1.34</p> |

Stax, GIMP, ImageMagick.

Now to start work on the Jupiter run and try out using WinJUPOS on a run of 36.

Stan: Great progress. I was listening to the astronomy podcast with Chris and Shane and they had a good discussion with a guest about Atmospheric Dispersion Correctors. I thought they were for low sky seeing but the guest said they do help even at high altitudes.

Mark (15:01): It should be clear [tonight]. I think the Moon is going to cover the Pleiades tonight, so it should be a good show. I will likely be broadcast the event live for the Hamilton Centre meeting tonight.

SATURDAY, JANUARY 11

Kevin: It takes awhile to process 36 imaging runs, but finally it is done. This is the best of the 36 runs of **Jupiter** on the evening of January 9th. And it was cold!

The shadow transit is from **Io**, the top right moon is **Ganymede**. Io itself is in front of the planet, not easily visible.

Seeing and transparency were poor, and a Gibbous Moon was nearby. Exposures were ~2ms and this was the best 15% of 15k frames. The workflow was: Fire-Capture, AutoStakkert!, RegiStax, ImageMagick, GIMP.

An animation of the 36 runs of 180 seconds each (spanning 108 minutes in total), was also produced.

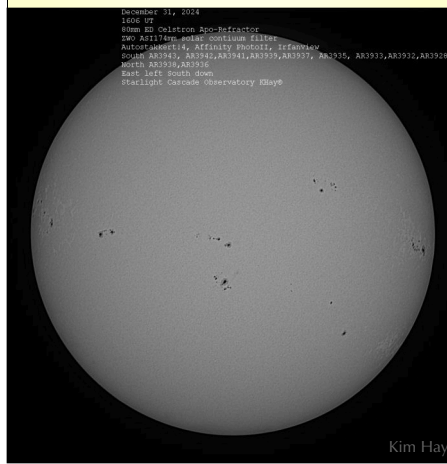
[Later] I finished processing 36 imaging runs of Jupiter, loaded them all up in WinJUPOS to de-rotate them and then export as a single image with data from all 36 imaging runs.

One would hope there would be better signal, less noise, and a better image.

You be the judge.

SOLAR FROM 2024 DECEMBER 31

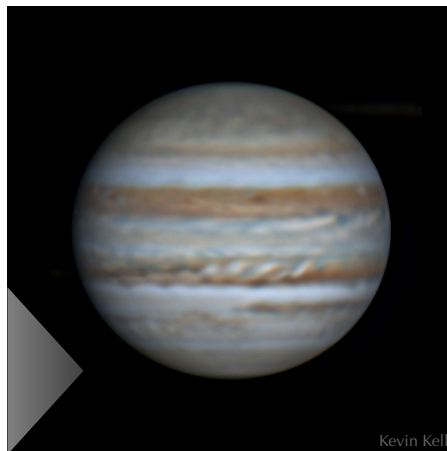
Kim: Here is the last white light image of 2024. There were too many clouds moving through the field for a good H α image.



Kim Hay



Kevin Kell



Kevin Kell

SAT/SUN, JANUARY 11/12

Roger: A few weeks ago, I picked up a used QHY5III462 camera, at a very good price.

I already have the ZWO

version of the camera that uses the exact same chip. The QHY camera, though, comes in a 1.25" diameter tube, and I plan to use it as a guide camera. The ZWO uses a female T mount, and so attaches to the back of my filter wheel.

Now, when I want to use the ZWO camera as a planetary camera, I don't have to remove it from the guide scope.

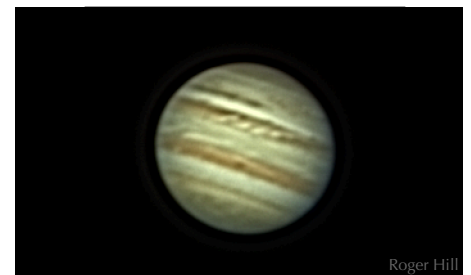
What made the QHY purchase good though, was that it included a methane filter for use on the gas giants of our solar system.

Saturday night, I got a chance to finally play with the filter.

However (and is this word ever used as much in any other hobby?), the seeing was not very good. I also had an ice build-up on my POD, which stopped me from opening the dome all the way, and so I could not use the entire aperture of my 12" SCT. Furthermore, the electric focuser was cold, and it just turned on the axle, not moving the focuser at all. So, I had to manually focus.

I used SharpCap, which has a lovely stacking and sharpening tool built in.

Here is what **Jupiter** look like through a Luminance filter:



Roger Hill

The methene filter was tried next. I did not alter the focus, although next chance I get I'll try focusing on Betelgeuse or Sirius. I'll need something bright, because the exposures for Jupiter though this filter require very long exposures: more than 2 seconds. Again, I used the Stack and Sharpen function of SharpCap, and gathered 51



exposures, which took about 2 minutes.

There is some detail just teasing me, which gives hope for further playing on the next clear night. However (there's that word again), at the rate we're going, that could be sometime in February.

Susan: True, a difficult hobby, HOWEVER, you can't beat the play value of the gadgets!

Kevin: It looks like Roger has been looking over my shoulder...a methane filter is at the top of my "to-get" list...but then I would also have to get some kind of filter wheel because I dislike taking apart the optical train of bits and pieces to change a filter out.

MON/TUE, JANUARY 13/14
MARS OCCULTATION

Mark (20:07): I can just make out **Mars** below the **Moon** in thick haze and clouds.

Rose-Marie (20:11): What time does this occultation shindig take place? I was just out with Kerrie, saw the Moon through a hole in the clouds.

Rose-Marie (21:02): ...and a couple brain cells kicked in to check the latest issue of *Regulus* that I had printed off with our 'The Sky This Month,' yup, there it is: disappearance at 21:20 p.m., and reappearance at 22:30 p.m.

John (08:41): When I was out looking I could not pick out Mars at all; I could just tell where the Moon was.

Kim: We had fast moving cloud,

and I was able to make out the silhouette of the Moon but no Mars, then the heavy cloud came in. This was round 9:25 p.m.

Rose-Marie: I had Kerrie out around 9:05, could see the Moon through holes in the clouds. Made note of where tripod, camera, and shutter release cable were, then went back out around 9:15. Totally clouded over. *Argh.*

Mike H: I did get out to see the Mars **occultation**. One of the shots captured an airplane as well. My focus was off a wee bit too!



Susan: At the start time we had so much cloud I wrote off the whole thing, but after the fact I checked and it was very clear, so snapped a quickie with my phone.

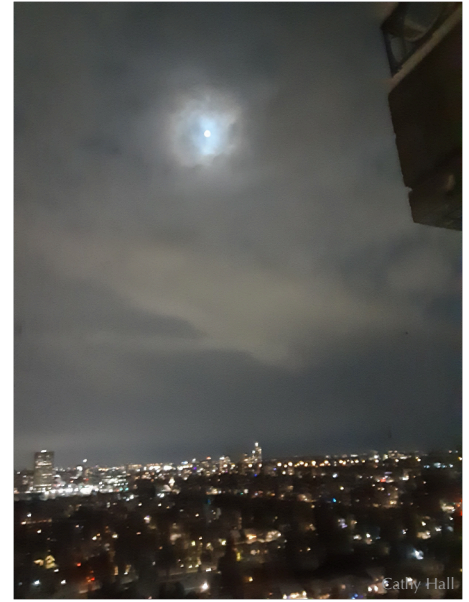


Cathy: Lot of snow up here most of the day. However, in the hour leading up to the occultation, I could see the Moon through a very iffy hole in the cloud, and surrounded by a halo.

In the moments that were a bit clearer, I could see **Mars** with my

8×30 binoculars, but not with the unaided eye. I watched it on and off until occultation time, and then it socked in completely.

I took some photos with my cellphone through the living room window. Mars isn't visible in any photos... but the cloud effects around the moon were actually quite neat.



WEDNESDAY, JANUARY 15

Rick: It was a crazy year last year. I finished with 178 observing sessions—just 5 short of averaging one every second day. I don't expect I'll ever manage that again. I finally got around to counting how many images I shot last year and got 44258 (not including ones that were cloudy, *etc.*)

FRI/SAT, JANUARY 17/18
ASTEROID OCCULTATION

Mark D (13:43): Any chance tonight of clearing for El Leoncito?

Mark (13:46): ECCC says clear at 2200, so, no chance of it being clear tonight.

Mark D (17:45): I am all setup in Battersea so I am hedging my bets.

Stephen (18:12): Battersea skies look pretty dismal tonight.

Rose-Marie (18:54): Mark this day in history!

Mark D (21:47): I see stars, but very cloudy. I need a hole to get an alignment and then another hole to see the star for about 5 minutes. Wish me luck, but it is not looking good.

Mark D (22:08): Foiled again. Scattered stars out just to tease.

Mark D (22:11): I have clear hole of stars in the shape of the Andromeda Galaxy right straight above, and Orion is crystal clear. Stupid hobby.

SUN/MON, JANUARY 19/20

Kim: There was a train of [satellites](#) this morning going past the [Moon](#) which was in a thin haze of cloud.

MONDAY, JANUARY 20

Rose-Marie: Keep an eye on the sky today as those thin wispy blobs of cloud go by the sun. I just saw (and photographed) some of the most beautiful rainbow swirlies I've even seen.



Kim (Jan 21): Thought I saw those when I was coming in from solar observing, but thought it might have been the coatings on my glasses.

MON/TUE, JANUARY 20/21
C/2024 G3 (ATLAS)

Malcolm (10:17): By now I'm sure people are aware that there's a bright [comet](#) in the evening sky visible in the southern hemisphere.

My view of it is blocked by another observatory so no pics from me. *Grr.*

MarK (14:45): From our Observatory, the comet is $4\frac{1}{4}^\circ$ above the horizon in the SW at sunset, and sets at 1728. The Sun will be to the right, so the tail should lie down pretty flat to the horizon to the south or left. Good luck, it only gets closer to the horizon each evening from here on in.

Mike H (15:22): I have been looking for the comet here in Arizona but it is way too bright to see it after sunset; when it does get dark the comet is below the horizon.

I have had very stable seeing here and I have been able to get good views of [Mars](#) and [Jupiter](#).

MarK (15:31): For you, it is twice as high at sunset, a whopping 8.5° and sets seven minutes later at 35 minutes past the hour.

MarK (15:44): And it looks like lake effect weather is rolling in from the SW—just in time for sunset...

Rose-Marie (15:55): No sparklies for us!

Mike H (17:36): My eyeballs hurt from from scanning the sky so much after sunset, but no joy! Sky Safari said the comet was long gone. I couldn't even pick out the

tail.

Malcolm (18:44): Yeah, same in New Mexico.

Malcolm (00:24): Just reading that the nucleus disintegrated at closest approach to the Sun and the comet will fade more rapidly as a result.

TUE/WED, JANUARY 21/22

Susan (08:18): Somehow seeing [Scorpius](#) in the a.m. takes the sting out of the temperature...when observed from indoors. Unfortunately it also has the effect of making life seem like it is moving much too fast.

Rose-Marie: BigWetNose dragged me out into the brutal cold at 3:00 a.m.; I was surprised to see stars. The forecast called for flurries. I didn't dawdle around long enough to get a good look at the sky. Nice and sunny here this morning, now I'm keeping my eye out for more of those rainbow clouds.

John: Last night was very clear and cold. My breath was condensing on the eyepiece too much and the rest of me was getting cold, so I went back inside.

Kim: It was very clear and cold this morning, last quarter [Moon](#) very nice, a pretty Moon. I was out just as [Scorpius](#) was rising. [Mars](#) is quite awesome, and quite the

WEDNESDAY, JANUARY 22

MarK (09:44):
Another
beautiful day!



movement now.

It was -23 when I went out, went down to -25C, just came in before the cloud came in to view the Sun, it's -22C.

WEDNESDAY, JANUARY 22

Trisha: Yes, I have a long way to go, and learn, but I must admit I was thrilled when the **Moon** popped up on my screen. Thank you for being such a wonderful group and giving me the inspiration to upgrade from binoculars.



Rose-Marie: Very nice! I've been considering a Seestar; this is encouraging.

Mark D: Great shot Trisha. Wait until a galaxy magically appears when live stacking.

Rick: I know it's not very complimentary, but this is so evocative of (I think it was) the first ever image of the far side of the Moon. I find it rather emotional! Congratulations.



FRI/SAT, JANUARY 24/25

Susan (20:01): I am all over cloud! Just a while ago it looked...you know...kinda promising. Still, I got to experience a frozen mount, first time. And I checked the alignment of my 3 finders. I am ready to be an eq mount star hopping bad@##.

OK, it is not getting any better so I guess I will close up.

Stephen (21:43): I was clear until 9:20. Then the clouds rolled in. Seeing wasn't great, but transparency was good while it lasted. I got a few **galaxies**. Temp was -18.3C when I closed up.

Rick (22:07): I'm still clear here. They're calling for chance of flurries before morning so I guess I'll have to get up every so often and check the weather.

Kim (09:31): We were out from 6:30 p.m. to 7:04 p.m., it went from -5C to -16C when we came in, still clear, but transparency not the greatest, as there was some high haze around **Venus**.

I did get to see all the **planets** (Saturn, Venus, Neptune, Uranus, Jupiter and Mars) in 10x50 binos, also used the 80mm refractor and the 20cm Dob. The moon line-up on Jupiter was interesting.

There was also a **Starlink** train around 6:52 p.m. from the west, then as it rose they disappeared into the shadow.

The hand paddle on the iOptron mount was not happy, and was very slow to respond.

It was a successful observing session.

Susan: Hand paddle... I believe that my issues were all about the hand paddle. Never got to move the mount beyond manual.

So the frozen mount issue was a false alarm I believe. Which makes sense as it was not that cold here, -13C when I went out; not sure what it finished up at but no frozen fingers.

Malcolm: I found this poll on Astrobin. It has a reasonable sample size. Not sure what "else" there is...

| Polar alignment methods | |
|-----------------------------|--------------|
| Hand controller | 2 (1.31 %) |
| SharpCap | 30 (19.61 %) |
| 3point Polar Alignment NINA | 51 (33.33 %) |
| Polemaster | 12 (7.84 %) |
| Ipolar | 9 (5.88 %) |
| PHD | 11 (7.19 %) |
| Declination drift method | 7 (4.58 %) |
| Else | 27 (17.65 %) |
| EKOS | 4 (2.61 %) |

Although the poll question was directed at people with long focal lengths, I found the results interesting.

NINA being the top choice makes sense. NINA scores highly in most lists because it is free. But it works. That's the main thing.

SharpCap is deservedly in second place. IMO it does a great job and you can do so many more things with SharpCap; it's a good buy.

Funny, I still have a PoleMaster but never use it anymore. I already have a main camera, and a guide camera attached to my scope. No need for a third one to polar align with. ★

Kevin: I am having memories of the Meade LX200GPS hand controller...with issues...took it apart, cleaned contacts, built an insulated holder on styrofoam for it...added an eyepiece heater...kept it in a bag to retain warmer air... still very slow to respond display (*i.e.* 10 seconds) and slow to respond to button presses. Bought a new one for it...same issues of slowness in under -5C temperatures.

I am still thinking that telescopes built in Mexico and China just aren't designed for

Canada. I'm looking at the ZWO Seestar S50, specs: 0–40C only... yet we have had it working outside in negative temps...probably not good for it however.

Kevin: As Kim mentioned earlier, we went out at -5C thinking it would stay that way and just more than 30 minutes later, we came inside to discover the temp was in fact -16C. The indoor hot chocolate I had formed ice cubes when I picked it up!



This was one of only two runs of **Jupiter** last night. There was a shadow transit! The moon appearing in the upper right is **Io**. The shadow is from **Europa**, which is just out of frame to the right.

Seeing and transparency were poor. Focus...my remote focuser dropped connection...over and over again. So the focus for this was not spot on at all. Altitude was good...almost 58° up. This is the best 15% of 18k frames.

I've also started to change my FireCapture cutout box from 800×800 to 600×600. As a direct result of that, the frame rate went up even more! I still use an ROI of 1200×1200. Tracking went well...I

January 19th: Comet ATLAS (C/2024 G3) disintegrated just after perihelion on the 13th.



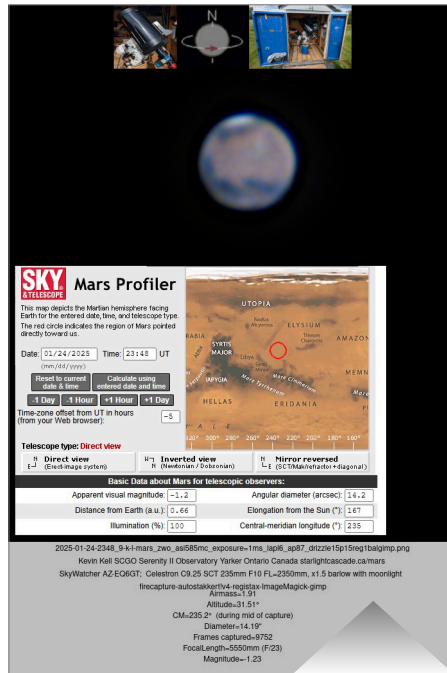
Rick (Jan.25): Boy, that seems to fade quickly... I always wondered if comets go out with a bang—so much new surface area to off-gas. This one just dissipates.★

did not have to guide at all in two 120 second runs.

Susan: That is a pretty nice picture for a report including the word 'poor' so many times. You will be doing this in your sleep soon!

Malcolm: Yep, I was out with the Seestar and it was -18C.

Kevin: I must have been already brain frozen last night after two Jupiters (I had actually thought I did many more than that! Go figure!), I thought to myself...let's do **Mars**...it's not that cold out here!



This is the best of three runs of Mars, each run was 120 seconds.

Best 15% of 10k frames, at an altitude of 32°...more air to look through.

The Mars simulator looks a little off. Syrtis Major looks a little behind the simulation, and Mare



Malcolm (Jan.24): The Kingston Centre has a new piece of equipment! In a few weeks this will be available for members to borrow.

John: Great news! Look forward to seeing it out there.

Rose-Marie: Save me a place in line for sometime this spring or summer. I'd love to try it out before shelling out \$\$\$.

Brian M: Thanks Malcolm! I'd like to have a crack at it perhaps when it is warmer.

Rick: Great news! I would like to borrow it for a few (clear) nights to try some photometry. I'm in an AAVSO working group trying to develop software to help newbies easily accomplish useful science with their smart telescopes.

Malcolm (Jan.25): Tests went well last night. Pretty much all set up, ready to go. I'd like to run a session or two on solar and lunar before offering it out to the membership.

I saw some S30 images tonight, and I really like the FOV better. I was surprised, in a good way.

Did everyone notice how many replies expressed interest in borrowing it there were? We should be so lucky to get that many requests for telescopes in inventory.

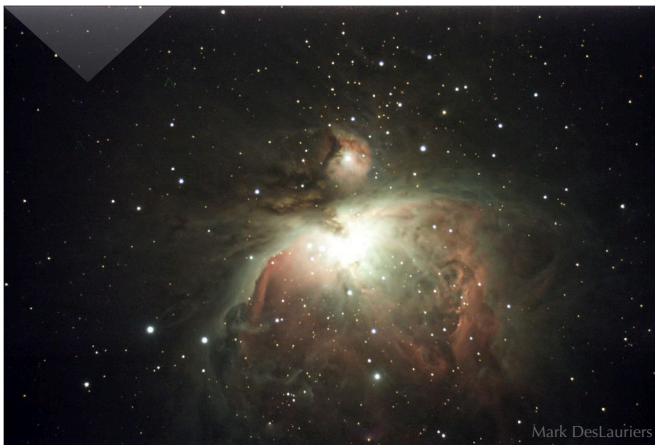
Looking forward to seeing what's "in the shed."★

Cimmerium a little ahead? Unless the dark feature on the lower right is Mare Sirenum?



Trisha: I was playing with my Seestar S50 last night, (2nd time out so very much a newbie) and took this picture of the **Orion Nebula**. This was for 10 minutes. Other pictures I have seen the nebula had a definite red hue. Would I have reached red if I let it enhance longer or was the red digitally altered using PixInsight or other software? TIA.

Mark D: This is one of my versions. Yours looks good to me.



During processing you can give it any colour you like.

Trisha: Thanks Mark, yours is similar to mine; good to know. I have a lot to learn but it sure is a lot of fun doing the learning this time round.

Malcolm: It could be post processing, or using the LP filter.

Kim: Your image is good Trisha. You have it set for 10 secs? Enhanced stacking may help. Here is a 42x10sec stack for comparison.

Trisha: Thank you Kim, I will try that.

TUESDAY, JANUARY 28

Shelley: Finally a clear night here in Athens. I was only able to get three hours on this target but who knows...maybe it will be clear this week sometime. LOL.



Brian M: Wonderful image, Shelley! Lots of detail!

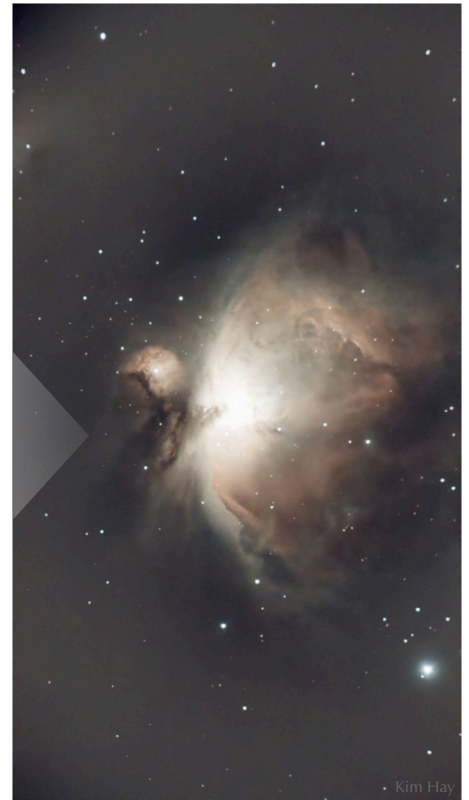
Kim: Very nice Shelley! Love the reds, and the deep saturation.

Mike H: Wow! That's awesome! Very nice indeed!

Rose-Marie: Very nice image.

Malcolm: Very nice.

Mark D: The Flame



detail is awesome.

Shelley: Thanks. It's a great target to image.

Susan: 3 hours looks good Shelley!

Shelley: Thanks Susan. That might be all you get on this target this year so it will do. ★



"...it behooves us who are amateurs to remember that most of the detail of procedure, equipment, reference literature, comes from those so gifted as to formulate these in orderly form for us to explore."

—Franklyn Shinn
NNL, February 1978