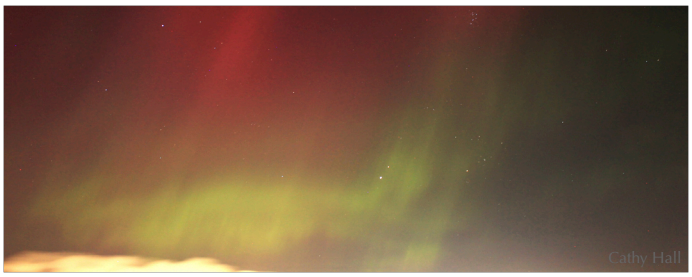
August 2024

Skyletter

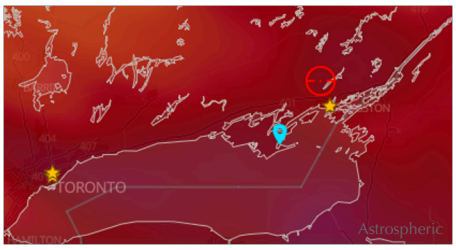
RASC Kingston Centre



Thursday, August 1

Kevin (01:29): I was out and about around 00:45 EDT, about 9 minutes before the Titan transit of Saturn was supposed to start.

Seeing was poor, transparency was poor and there was still (over a week now) a strong smell of smoke. In this map, red is bad!



Saturn is also low, only about 30° above the horizon and azimuth 138°—smack over the Kingston light pollution dome. Hmm, Stellarium and Cartes du Ciel are giving me different numbers. I'll have to check that out sometime as well.

In any event it is warm, 19C, no Moon, and no wind. I am doing 4 minute imaging runs with a 1 minute pause between to give me a chance to reposition the target, change the exposure, and refocus if I think it is getting worse. The exposure is actually getting less as Saturn continues to rise a little higher in the sky. The event is supposed to end ~04:09 EDT.

Rick (15:30): I notice that firesmoke.ca has a completely different looking smoke forecast than Astrospheric. I haven't been smelling smoke much, perhaps one evening.

Malcolm (17:22): The only time I recall smelling smoke was when it came from the Quebec and Ontario fires last year. It was ground level smoke. This stuff over us now is in the upper atmosphere from fires burning in California. Hard to smell, but thick and sky–spoiling nonetheless.

Kevin (10:37): For only the second time in my decades of planetary imaging, Saturn's moon Titan transited across the face of Saturn.

This particular event was very low on the bottom of Saturn and is difficult to make out. This image shows the moon about in the middle section of the bottom of Saturn (marked with a small yellow dash).

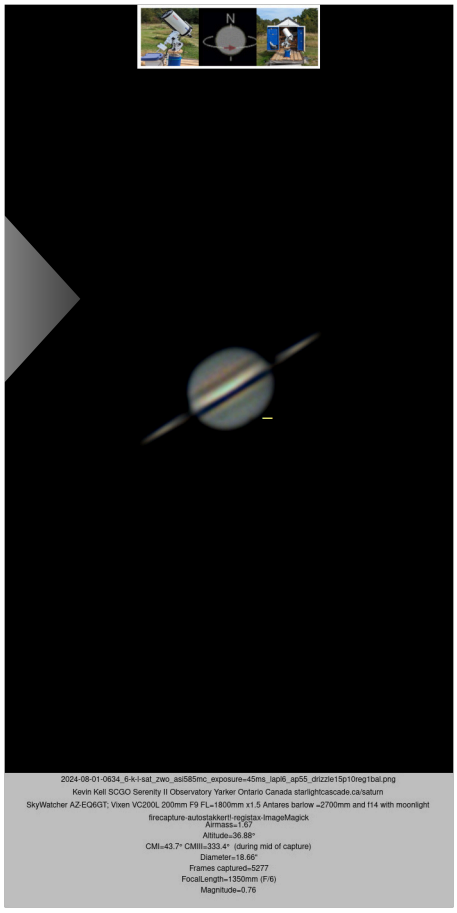
The imaging session started around 00:30 EDT and Saturn was both low in altitude and also in the light pollution dome of Kingston. Focus was difficult and a moving target. About one hour in, I re-focused again and this time it was better. So the first hour was pretty much tossed out.

It was warm, about 19C, and no mosquitoes! There were some coyotes, but they kept their distance.

After about 2½ hours the exposure started to tank, I thought it might be clouds, but it turned out to be a dew heater strap that was not turned on, so the primary mirror had fogged up.

This image is the best 10% of 5200 frames of ~45ms each in a 4 minute run. Saturn was up to 36° by this time and an airmass of 1.7; much better than the ~20° and airmass of 2.2 at the start.

Susan: Considering the observing luck we have all been having this is a major triumph!



Sun/Mon, August 4/5

Susan (00:17): Hard to believe what passes for an acceptable observing night these days, but I'll take what I can get!

I will take the modest improvements tonight as a sign of a successful Starfest for all.

Tue/Wed, August 6/7

Kevin (05:47): It was a chill 8C this morning at 03:00 as we trudged out to the observatories in parkas and boots. I was out for a double shadow transit of Jupiter by Io and Europa. It seems to have turned out not too bad.

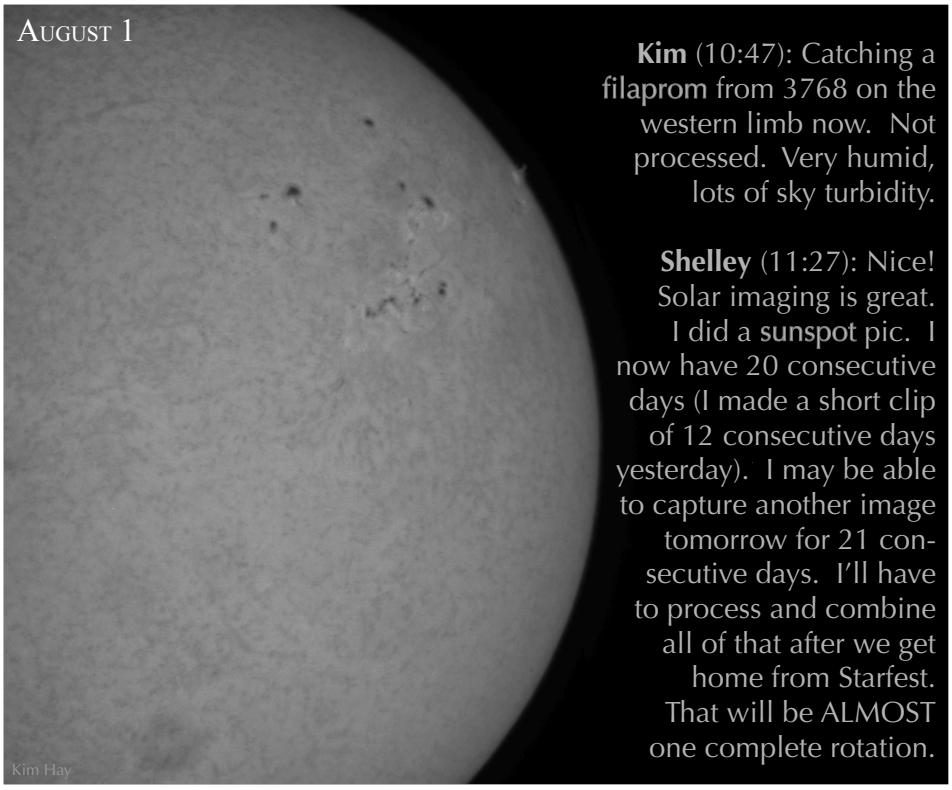
Jupiter was only 17° altitude when I started the imaging runs and focus was very difficult. After that I did about 2 hours of a 3 minute run with a 1 minute gap to reposition, check exposure, *etc*.

My imaging system in the observatory moves image files into the house automatically, once an hour. When it does, it maxes out the 1 Gbps network link. I am starting to think about 2.5 Gbps hardware. But too bad the observatory computer may not have a PCIE slot for the network card and we would need five network switches to get there, so that is back on hold again.

Looks like we are moving about 300 GB (30 x 10GB) and once on the image processing computer we'll start AutoStakkert! processing them.

MarK (07:26): Wow! Our low was 17C.

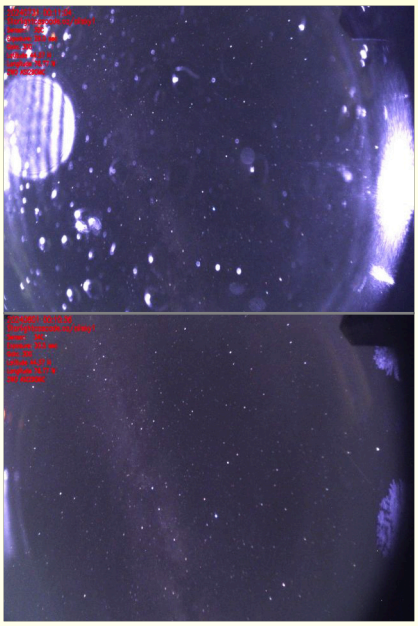
Rick (17:55): We got down to 13. Very nice, with all the windows and doors open we got the house down to 18C. Had to get out sweaters.



Beware Wi–Fi Cameras

Kevin: For the last few weeks we were getting some lighting artefacts on AllSky1 imagery. There was a bright light on the right and a reflection inside the dome on the left. After a lot of experimen-tation and making of masks (thinking it was the Raspberry Pi lights inside the housing), neigh-bours' lights, *etc*., we think it was a TPLink Tapo Wi–Fi webcam that was installed 30m away looking at the observatory. At night it fires up IR LED lighting and the ASI290MC camera picks it up very well!

Malcolm: I have a similar experience in Chile: one of my neighbours in the observatory uses an IR camera and it does the same thing to my own ASI385MC unfiltered all sky camera. Fortunately, it's not a direct light, like yours, it's off to the side and it's



blocked by my scope. The glow is clear and bright though.

Can you get a nano IR cut filter for your ASI290? Would you?

Kevin: There are two issues there: one is that the window on the camera is already filtered—ASI: protect window: IR Cut (color). The other issue is that, the above does not tell me wavelengths are affected.

I have one Wi–Fi security camera here that has *two* IR lights at different wavelengths—one "short range" and one "long range"—again no specifics, and no idea what this particular wifi camera model mentioned, uses. A little more research says 850nm IR LED (up to 30 ft).

A lot of this is just temporary as the 290MC camera needs replacing with another camera with a bigger sensor, so as to take advantage of the existing lens and get more sky.

MarK: I generally resort to lead, but as these are your own cameras, perhaps this is not the best solution.★

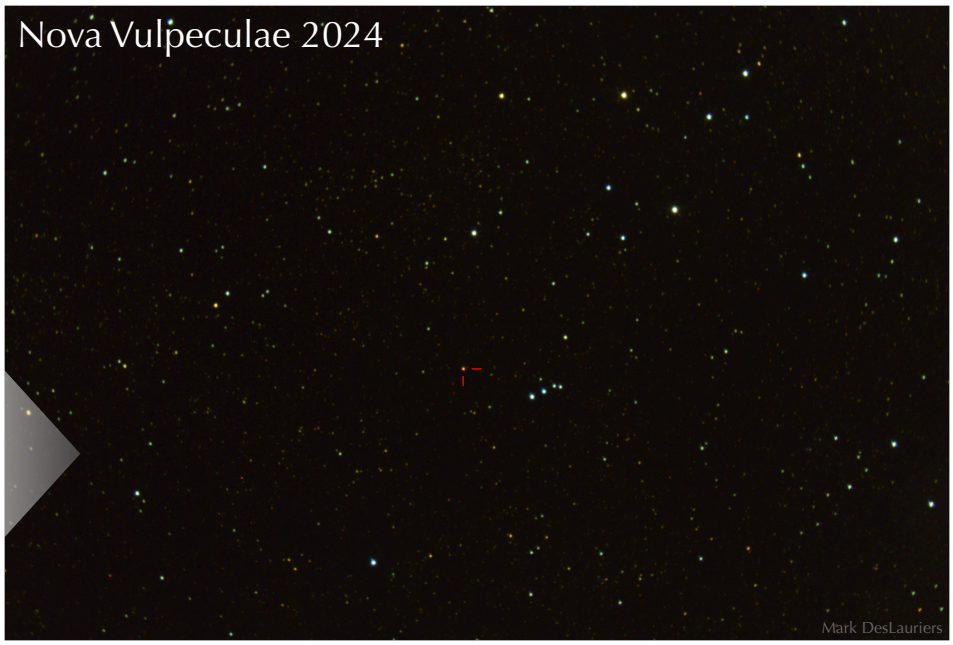
Wed/Thu, August 7/8
Nova Vulpeculae (V615 Vul)

Susan (21:08): Most recent visual estimate: 12.4.
Rick (21:43): I was hoping to observe it but it has already dropped 3 mags from its max of ~9.6. So it's not very exciting for me anymore.
Mark D (22:02): Lord love a duck, I think I found it. Will try to match stars with those goofy charts tomorrow. I believe it to be the red one just above the string of four.
Mark D (22:08): Just in time; all clouded out now.
Rick (22:24): Nice shot! It's impressively red. That makes photometry and visual estimates difficult since there are very few comparison stars that red and most very red stars are also variable.
Susan (22:32): I also have cloud. Will hang out a bit as Clear Outside says it will improve.
Rose–Marie (22:35): So much for that forecast of "clear" tonight! I was gathering camera and tripod and tripod and then went outside to check the sky, all overcast from overhead southwards. Argh.
Susan (22:41): I had stars to align and hope for clearing, so have retreated to the lounge chair on the deck.

One Perseid! Must have been good to get through the cloud and suburban skies!
Susan (09:06): The nova was difficult at about 12.5; only 1 comparison in the neighbourhood that looked suitable. Even then constantly moving cloud. I will not report my estimate for lack of supporting comparison stars and the sky. I did get 3 other estimates.

Fri/Sat, August 9/10

Susan (00:38): An unexpected lovely two hours of clear skies. Not so reliable now, but it was a nice change.



Walter (00:44): Yes, a very pleasant night, so I went out for a few minutes. Pleasant temperature (+17C) without humidity or (surprisingly) mosquitoes. Took a peak at Saturn and M57. (Light pollution is terrible in Oshawa, so gotta stick to the bright stuff.)

My news eyes seem to working out well—love the lack of astigmatism!

Hopefully the Starfesters are having a good night too.
Kim (08:15, *at Starfest*): It was a good night till around midnight. There was some lingering cloud early in the evening but it returned after midnight. I packed up then.

Saw some spectacular Perseids. Too many satellites. Observed some favourites and T CrB—no boom yet.

Had rain overnight; today it's a bit cloudy but the Sun is poking through now and then. I think from the weather reports last night was the better night.

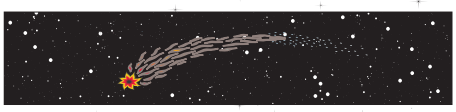
Talks have been great, and meeting up with old friends and meeting new ones.

We got to walk into the SkyPod S, I hardly had to bend over, easy on the back.

Have not seen Steve or Donna yet. Stefan and Shelley, Peter Hutchison are here.
Rose–Marie: I was very tired when I headed for bed, and when I took Kerrie out for last call I saw it was clear. I knew I'd be up again soon for whatever reason so didn't set up the camera—figured I'd wait til the wee hours when the meteors are more likely to be flying. I was up around 1:30 a.m. but by then it was totally clouded over again. Argh.

Sat/Sun, August 10/11

Rose–Marie (16:13): I woke up at 3:00 a.m. this morning, checked my moths, then turned off all lights and sat at the window for about 40 minutes. There was a bank of clouds on the southern horizon. I was thinking of setting up my camera in the parking lot facing north, but there was enough humidity that the lens would have fogged up in short order. I saw 2 good meteors north of the cloud bank and one bright satellite that may have been the ISS.



Sun/Mon, August 11/12
Aurora!

Stephen (21:24): The cloud deck seems to be rapidly evaporating. Still some scattered cloud. It may just be a giant sucker hole developing only to close up later. At this point I'm not sure. The end of twilight is at 10:10. I'll make my decision then.

Rick (22:20): I started things up about 9:30 hoping that the clearing would continue. Even if it clouds over in a bit I've already got several stars completed, including T CrB (still faint) and χ Cyg which I'm observing for a friend.

Stephen (22:24): I think it will be a night of scattered cloud. I'm still tired from the trip home from Starfest, so I think I'll pass. There will be better nights this week.

Rick (22:28): I take pretty much any night I can. Tonight is session 100 for this year, well on the way to breaking my goal of 156 (3 nights per week) for the year. It has seemed like such a crummy year but I seem to keep getting lots of at least partial nights.

Stefan (00:09): I have 3 DSLRs and an all–sky cam going to try catch some meteors. I am picking up some aurora low in the north.

Roger (00:13): I thought it looked brighter than normal toward the north. I have my 8mm Robinson lens on a Canon camera, taking images all night...just in case.

It's rather cloudy here, otherwise.

Rose–Marie (03:02): Okay ye forces of weather, could you not let us have ONE night of clear during the interesting events? Seriously. ONE lousy night.

So anyway, wasn't seeing any meteors so I set the alarm for 1:00 a.m. and settled into the armchair at 10:00 hoping to get at least a couple hours of sleep. Kerrie rousted me out at 12:20 a.m. and it's a good thing she did: when I checked the sky to the north I saw a glow.

Bundled up and grabbed the camera gear, cursed the wind, got my sleepy self tottering down to the dock. At first just the glow, then I saw the faint arc waves fluttering across the sky and knew something was coming. Took a while and then the spikes started moving. Things were well underway when those *&$# #%^*&% *^%# clouds started moving in and blocking the view. Argh! Well at least I got a few images. I had checked the focus about 3 times, thought I had the stars sharp, but they're slightly fuzzy. ARGH.

As far as the meteor shower went it was rather piss–poor; didn't see nearly as many as in years past. The good ol' days when we actually had clear skies. I guess I ruined it the day Terence Dickinson got me pointing a camera at it.

Radar shows a big blob of cloud coming. I'll set the alarm for 4:30 in case while it's passing there are sucker holes, although the satellite shows a solid blob taking its own sweet time.

Shot attached [*below*] is well tweaked. I'll try to remember to post a followup of shot settings, right now the eyelids are getting pretty heavy.

Roger (09:49): Aurora from Cardinal: I posted a video of last night's aurora on the Kingston facebook page. (It's a 46MB file, so I didn't want to clog everyone's inbox.)

Anyway, we had entertained my wife's Optimist group in the afternoon and early evening, and after everyone had left, and the cleanup was (mostly) done, we watched a little TV and just before going to bed, I looked outside to the north and the sky seemed a bit brighter than could be accounted for just by the light pollution from Ottawa.

I checked my Clear Sky Chart and clicked on Aurora Map, which showed the Auroral oval reaching down to see Eastern Ontario.

I grabbed my modified Canon T1i, went down to the observatory, and set the camera up with a 120V adapter, and a USB cable so I could run it from the observatory computer.

I set the exposures at 10 seconds at ISO 1600, and told the Canon software to take 4500 images (the maximum that the memory card could hold), every 15 seconds. That gave the camera ample time to download each image from the camera to the computer.

I started the imaging run at a couple of minutes after midnight, and went to bed after setting the alarm for 6 a.m.

Shortly after 6 a.m. I went down the observatory and saw that the 8mm fisheye lens was dewed over. This is actually unusual...the big thick glass of this lens seems to avoid dewing over, but I guess 99% humidity and dropping temperatures will do that.

So, I have an old Kendrick Firefly dew heater which is slightly too large for the fisheye lens, but with the stretchy Velcro it should work nicely. The problem isn't heat, this heater uses a very tiny 4–pin female connector of the sort used inside USB powered devices like webcams, or Waze cameras.

The end is about 6mm across. I could make an adapter that would allow connecting this heater to my Kendrick dew heater controller, but I don't know which pair of the four pins should be used to connect to a 2–conductor RCA plug. Time to do some digging in the mighty Google, I guess. Then I'll be ready for next time.

Cathy (06:48): Woke up, saw a break in the cloud... Jupiter and Mars nice too.

Kim (06:53): Nice, you got aurora. Did you see any Perseids?

It was too cloudy last night for the Lunar X. Woke up at 4 a.m., totally cloudy no breaks and still heavy cloud at 6:50 a.m.

I saw some nice Perseids at Starfest, but no aurora.

Cathy (06:58): It stayed clear for a couple hours, then clouded over solid.

There was a lot of red in the aurora, just visible naked eye, much better on camera [*below*].

I saw several Perseids, but the brightest meteor seen was not a Perseid.

Jupiter and Mars and Auriga

and Perseus were buried in aurora most of pre–dawn hours...

Rick (08:47): After I got the scopes running I took the zero–gravity chair down to the dock to watch for Perseids (or indeed any meteors, I'm not particular). After half an hour I'd only seen 3 Perseids (1 perhaps mag 1 with a very brief train) so I decided to go to bed and try again later.

At 2AM I arose to a bright and partly cloudy sky—surely not twilight already? Did I mis–set my alarm? No, there are definitely rays in those clouds. So I got the Canon out and set it up to take shots north from the deck and went back down to the dock to watch for meteors. The aurora was rather faint but definitely a corona around the zenith so I decided to move the camera over near the Hankscope. However, its battery was already dead. So back to the dock for meteors.

The aurora was still quite faint but would give occasional pulses —blobs 3–10° across which would suddenly brighten and then more slowly fade—all over a period of less than a second. Anyway, after half an hour I'd still only seen an additional 4 Perseids and 2 sporadics, none particularly good and there was cloud moving in very slowly from Kingston (you Kingstonites should keep that stuff to yourselves) so I went back to bed. I'll check the Canon pictures and the AllSky camera later this morning.

Malcolm (09:29): I thought about doing that, but I was too tired. Woke up this a.m. and saw that the Kp had exploded too. Perseids and aurora.

Adam Block picked up some faint aurora on the horizon in Arizona on his all sky camera.

It was cloudy when I went to bed but cleared for a few hours before and after midnight. Coulda, shoulda, woulda...

Kim (12:49): There is always tonight. The Kp right now is 6. So there will be meteors tonight and clearish skies.

Mon/Tue, August 12/13

Susan (00:00): Light cloud moving in from all directions.

Stephen (02:20): I waited it out until it cleared at 2.

Stephen (02:48): I give up. More cloud at 02:45.

Kim (06:58): I managed to finish the Q0 and Q1 sections for the Moon, though not dark, I could see the terminator and some objects were just east of it. Boom, the clouds came in and stayed shortly after 8 p.m.

Big Thanks to Malcolm Park

Kevin: Before I forget, we must put out a BIG thank you to Malcolm Park for all of his work in general but especially for being on the organizing committee of Starfest 2024. The organizational aspects were tremendous, especially considering all of the other things he is involved with (you know, like the RASC-KC).

Malcolm: You're too kind. To quote the one and only Dave Dev "It's a labour of love."

Starfest Imaging Awards Winners

Malcolm: Here's a list of the awards from the Starfest imaging contest: 46 entrants. Congrats to our centre members!

- ASL: Astro Star trails and Landscape
- DSO: Deep Sky Objects

(This is a slide from the presentation; do not come to the front now, lol.)

Rose–Marie: Congrats Stefan and Shelley!

Please come to the front to pick up your awards now

ASL
1st Tengyu Cai
2nd Stefan Jackson
3rd Dylan Webster

DSO
1st Ryan Genier
2nd Steve Leonard
3rd Marty Anderson

Most Improved Imagers:
Graham Fletcher
Sean Normand

Solar System
1st Shakeel Anwar
2nd Shelley Jackson
3rd Stefan Jackson

Solar Eclipse
Tengyu Cai - Winner

Timelapse
Andy Lee - winner

Imager Of The Year
Tengyu Cai

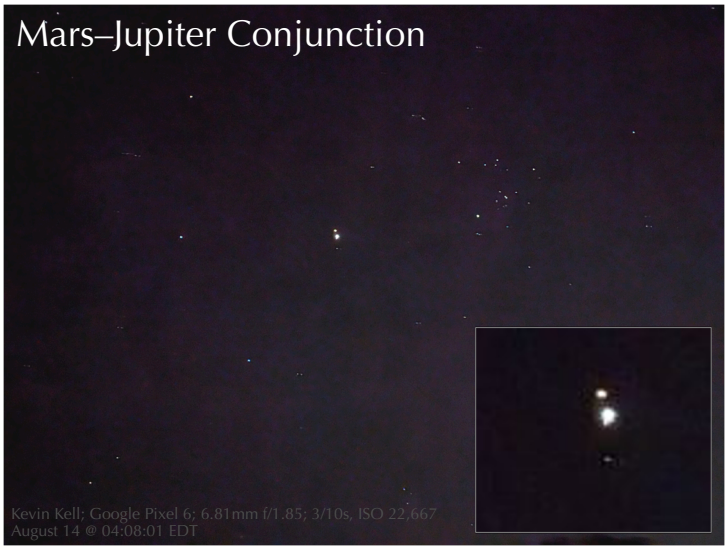
Tue/Wed, August 13/14

Kevin: Here are the last five nights of a nightly summary image from the UWO AllSky2 Camera System. This low light Super-circuits camera generates a 640×480 monochrome video image and was installed in 2012.

The AllSky2 meteor detection software is inside a black box. It detects meteors from the video stream and puts together an individual event summary image of the meteor. At the end of the night's run, we run a Linux Bash script to process them, generate web pages, *etc*.

Rose–Marie: I did catch one meteor in the aurora pics. Just one.

Kevin: We were out and about at 04:00 this morning...in the heavy bad transparency, almost fog–like. This is an image of the Jupiter–Mars conjunction [*below*] along with the Hyades. "Ho hum," you might be thinking. Well, this was taken HAND-HELD with the Google Pixel 6 phone. I could not get it completely into long exposure night mode, probably because it was too bright (fog and Kingston skyglow). Exposure was 3/10s. I was hoping for a lot more. The inset image is a close–up. Next time I will try the adapter and tripod.



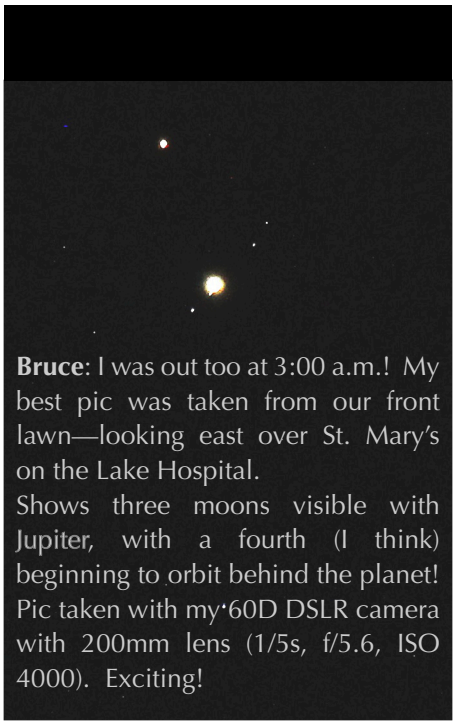
Malcolm: Very nice. I woke up at 5 a.m., as I had an imaging run last night and wanted to cover the scope. I looked at IG and saw a post about this, so I quickly took a shot. I had no idea until I read that post that this was happening today, and I never actually saw it except on the image I took.

Rose–Marie: I had forgotten about it. I woke up at around 4 a.m., checked my moths, took the dog out and looked at the northern sky. A few stars, somewhat hazy. Turned the lights out and peered out the window to the south: mud, too much haze. Knowing I had to tackle that stupid beaver dam again this morning I went back to bed and didn't investigate further.

Stan: Looks great. I always try to see the layout of the planets in my mind when this happens. I saw Arcturus and the Moon last night.

Kevin: Nice! Good to see others out and about!

I also have some DSLR images that are still on the camera, as well as all of the images from Starfest last week.



Bruce: I was out too at 3:00 a.m.! My best pic was taken from our front lawn—looking east over St. Mary's on the Lake Hospital.

Shows three moons visible with Jupiter, with a fourth (I think) beginning to orbit behind the planet! Pic taken with my 60D DSLR camera with 200mm lens (1/5s, f/5.6, ISO 4000). Exciting!

Cathy: Managed some photos of Jupiter and Mars with a Canon Rebel T3 and tripod, cable release, just a standard lens. Always a challenge on the focus.

- Left: Morning of August 12th, aurora morning, 2.21 a.m.
- Right: Morning of August 13, really heavy haze, photos around 3.50 a.m.

Daylight white balance shots were orangish; I also tried tungsten white balance, which gave a bluish cast [*not shown here*].

The morning of August 14th there was heavy cumulus when I looked out, moving fast towards my hole in the cloud, so I just did visual. Jupiter and Mars were so crisp, looked like a little jewelled pair in the sky. While I was looking at them, a beautiful Perseid meteor flew through the field...

Kevin and Bruce—loved your photos!

Susan: Nice Cathy. Hard to beat that view of yours.

Cathy: Well, darker skies would be nice, but I do what I can...

Malcolm: Way to go!

Brian M: Congratulations Cathy.

Wed/Thu, August 14/15

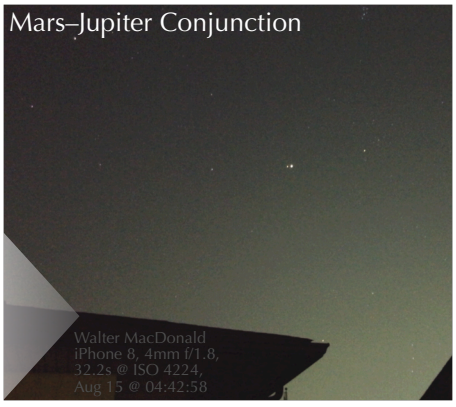
Walter: Wow, Jupiter and Mars both fit easily in the FOV in my C8 (at 36x)! Got a souvenir pic with my phone, catching Orion in the bottom right corner.

Thu/Fri, August 15/16

Rick (20:47): Although I had intended to observe when we got home last night the sky was so murky that even the Moon was an ugly orange smear. I gave up the idea of running the scopes. However, I could see alpha CrB so I figured I would be able to see T CrB with the 20cm Dob. So I dragged it out. Unfortunately I have been careful about keeping the shop windows open at night and closed during the day so it is quite cool in there. As soon as I brought the scope out it fogged up. So I put it away and got no observations last night.

Hoping tonight will be better. At least the shop is a little warmer so the 20cm may be usable.

Stephen (21:07): I didn't bother to try last night. I was a little under the weather anyway. I'll give it a try tonight after moonset. I'm working on a mosaic of IC1340 in



Cygnus. But I'll only work with it if the sky transparency is good enough. Then that's it for me until after Full Moon.

Rick (21:56): I've got both scopes running and the images look fine for photometry. Of course I'm starting off with a fairly bright and a very bright target (exposures 3s V and 6s B) in the two scopes.

T CrB is still faint. I hope it pops soon—it will be disappearing into my trees within a week or so and then no more photometry until it's up in the morning sky—probably December.

Malcolm (21:59): From my back deck, when I look south I can see an orange Moon, and when I look up I can see just the Summer Triangle, barely. Vega is the only easy star. No other stars. Not a cloud in the sky. Just smoke. I may as well be in Toronto.

Rose–Marie (22:17): Looking out the window I see that orange Moon coming around from behind a big pine tree.

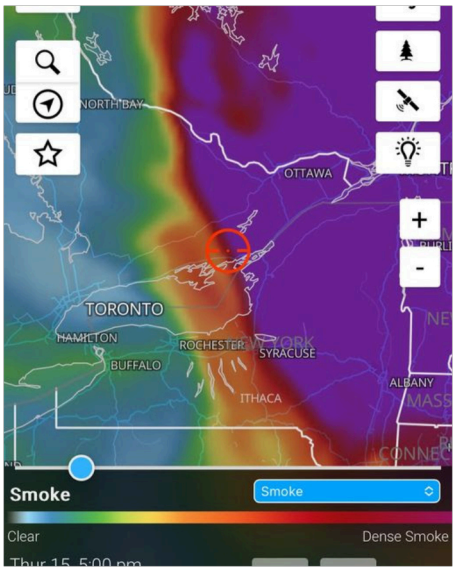
We're supposed to be getting rain on the weekend, so I must remember to set my alarm for before moonset and see if a long exposure brings out an orange sky. By then, however, it will probably be overcast. Other than the Moon, muddy haze is blocking the stars.

MarK (22:19): I think it may be "clear". I can see only the brightest stars. The Moon is very low, being

well below the ecliptic, so it is in the cedars to the south. When I get a glimpse of it, it is orange. I am giving up and going to bed.

Walter (23:21): No sign of colour in the Moon at all here in Oshawa. CSC says clear until 7 a.m., so I may get another look at the Jupiter–Mars conjunction at dawn.

Malcolm: This is why:



Stephen (00:04): I'm re–doing some bright objects while waiting for moonset. Transparency does not seem to be an insurmountable problem. As well, the seeing is pretty good. I'm hoping that once the moonglow is gone I'll be able to do my nebula.

Stephen (03:09): I've found that the sky transparency is perfectly adequate for my nebula. I'll image until dawn.

Malcolm (04:58): It's just about 5 a.m., and the sky has cleared significantly. Orion is on the horizon and Mars and Jupiter look very nice.

Wednesday, August 14
Kingston Centre Picnic

Kevin: Good to see 15 of you Wednesday afternoon and evening at Lake Ontario Park. The first members showed up around 4 p.m. and I believe that last ones left just before sunset around 8 p.m. Some of you come from far, far away and we appreciate the effort to attend!

Susan: Yes, I really enjoy these visits. I find the shifting sunlight/shade a great influence to circulate and visit with more folks. I also appreciate how far folks travel to get together.

Brian M: Thanks to the folks who organized the outing! It was nice to have a chance to chat overlooking the lake in the shade of a huge tree. That speaks summer to me!

John: Thanks to everyone who was there. It is good to see real people every once in a while and sit and chat in the shade by the lake. Glad to catch up with the people that I did chat with and to the rest of you I will get you later.

Mon/Tue, August 19/20
Super Blue Moon

MarK (20:51): Okay, I am getting asked about the Super Blue Moon and I even got an email from Olympus about it. Not being one who tries to propagate these sort of things, I do not know what to answer. I thought the latest Blue Moon lore was two full in one month. Well, it is only the 19th. So how is that? I know the super part, but one article I saw claimed the last one was April 8th. Okay, so we do not apply super to Full Moons then? Granted, the fact that the Moon on April 8th was large did help there be a total eclipse rather than an annular one, but? Is this all just astrology? I really just walk away from that whenever I can...

Rose–Marie (21:07): Just ridiculous media hype. Must be another slow news day.

The clouds are clearing out, it should light up the lake tonight. I should set my alarm for early morning and try to catch the moonset. I'm too tired tonight to go out and howl at it.

Laurie: Yeah, I hate how misleading science journalism can be. There is no standard definition for what a Blue Moon is.

August 18
Meteor Camera

Kevin: Kim showed me a recent meteor capture by Roger and his Wyze Cam v3. Yes, they are not waterproof! Ours was well under a metal roof and yet somehow still accumulated water. We had to bring it indoors, hang it upside down and let it drain and dry for 3–4 days before it started working again.

We are still looking at adding more meteor cameras as AllSky1 is not truly all–sky and AllSky2 only looks for fireballs.

AllSky3 is probably going to be another homebrew Raspberry Pi with an RPi HQ camera. I tested with the "regular" camera and it was useless.

Create Your Own AllSky Camera (UPDATED!) by Patriot Astro:
youtube.com/watch?v=7TGpGz5SeVI

That or go big and build a Global Meteor Network camera system:

Global Meteor Network
No Meteor Unobserved
globalmeteornetwork.org/

I have made the following slide for my presentation with a more realistic headline on the bottom. I will also state that I can't tell the difference by eye.

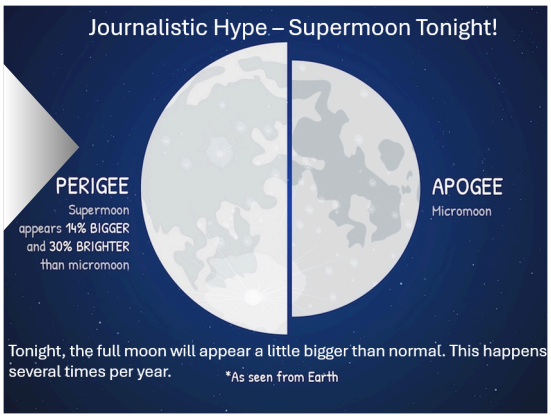
Walter (21:39): The Moon just rose a little while ago, and it looked pretty orange to me.

Rick (22:17): Yes, I'm appalled at the crap people spout. The article Malcolm references gives both the 2nd full moon in a month and also the 3rd (why 3rd?) of 4 Full Moons in a quarter. Today in the McMaster lecture that Dieter alerted us to (which otherwise was quite good) the presenter said the Full Moon in August is a Blue Moon. What a load of piffle. A Blue Moon is when the atmospheric conditions are such that the Moon actually appears blue. As in 'once in a blue moon,' *i.e.* rare! Not every couple of years like the other definitions give. Or every year in August. It's like people who have to keep their Xmas decorations up until easter so their pitiful dreary lives don't seem so empty. They're probably all astrologers trying to infiltrate and pollute.

And Super Moons. Sheesh, like anyone could even tell that it's slightly larger than last month. And, as I pointed out in a talk to the Ottawa Centre years ago, just seeing the 'super moon' when it's not on the meridian means you're ~6000 km further away. Which is probably more than the distance difference between this Full Moon and the two before and after.

I don't know about the clear skies. There were stars out when we came home from the neighbour's a half hour ago and now there are none when I want to look at T CrB.

Malcolm: Copy and paste directly from Wikipedia:



en.wikipedia.org/wiki/Blue_moon

A blue moon refers either to the presence of a second full moon in a calendar month, to the third full moon in a season containing four, or to a moon that appears blue due to atmospheric effects.[1]

The calendrical meaning of "blue moon" is unconnected to the other meanings. It is often referred to as "traditional",[2][3] but since no occurrences are known prior to 1937 it is better described as an invented tradition or "modern American folklore."[4] The practice of designating the second full moon in a month as "blue" originated with amateur astronomer James Hugh Pruett in 1946.[5] It does not come from Native American lunar tradition, as is sometimes supposed.[6][7]

The moon—not necessarily full—can sometimes appear blue due to atmospheric emissions from large forest fires or volcanoes, though the phenomenon is rare and unpredictable (hence the saying "once in a blue moon").[8][9][10] A calendrical blue moon (by Pruett's definition) is predictable and relatively common, happening 7 times in every 19 years (*i.e.* once every 2 or 3 years).[1] Calendrical blue moons occur because the time between successive full moons (approximately 29.5 days) is shorter than the average calendar month.[11] They are of no astronomical or historical significance, and are not a product of actual lunisolar timekeeping or intercalation.

Kim (Aug 20, 09:19): I did see the Sturgeon Moon this morning, along with the Jupiter, Mars, and Aldeberan. Love orbital mechanics. Then the cloud came by, cleared, am trying to do solar before a road trip, but the cloud has returned, done imaging for now. At least one Hα image.

Thu/Fri, August 22/23

Stephen (19:38): It looks like we have a nice clear night tonight. There is too much Moon for me to do faint stuff. So I set up my 10" Dob so I can putz around until planets are high enough to image. Hopefully we will have good seeing tonight.

Stephen (21:28): I don't know. I may have spoken too soon. Clouds are continuously forming, evaporating, and reforming. I'll give it an hour or so before I pack it in.

Rick (21:38): Here too. Satellite seems to show a band of cloud forming NW of us and moving down over us. I managed to get a couple dozen images before it moved in. Importantly, I got T CrB. Still faint. I'll let things run a little longer and then may pack it in as well.

Stephen (21:56): Yup, I've packed it in. Too much cloud and I'm not feeling that great anyway. I won't kill myself over a less than perfect night. Maybe tomorrow night will be better.

Rick (22:16): Perfectly clear here now. Though I don't expect that

Rick (August 21): When Mark D asked in this evening's Zoom about this camera I assumed it was just a camera with an added Wi–Fi interface to avoid one cable (I believe a Wi–Fi connection would significantly slow the download of images.) But, looking at their website it looks to me like the camera actually includes an ASI Air computer (a Raspberry Pi clone plus 12V power hub) inside. And they are not at all clear about requiring an ASI mount for autoguiding with the internal chip though there is one statement that could be interpreted that way. And it seems to me I've heard that the stand–alone ASI Air computer only works with ASI equipment—possibly extending to focusers, filter wheels...? Given the uncertainty I certainly wouldn't order one until there have been a lot more out in observer's hands.

Malcolm: The ASI AIR is not ASCOM compliant as far as I know. The only drivers it recognizes are those of ASI devices.

Rick: They say it can be run using the Alpaca interface which is essentially ASCOM over network/internet, supposedly between different OSes, like Linux to Windows *etc*. But that only means that you can connect from ASCOM software on your computer to the drivers made accessible by the ASI Air. ZWO will have written proprietary device drivers for the ASI Air to be able to run their hardware.

Malcolm: The ASIAIR controls the equatorial mount through the INDI protocol, so all equatorial mounts that support the INDI protocol are supported by ASIAIR.

Sounds like it uses INDI *vs.* ASCOM, so it COULD control other hardware like an EQ6 or something. I just don't know how far that goes.

Malcolm: By the sound of it, I think you would be shocked at how many people use these things (the ASI AIR).

Mark D: Not sure if SharpCap can be used.

Malcolm: Installing third party software is not an option.

Stan: I didn't see the FB post. I have been using an ASIAIR with the AM5 mount and ZWO camera. I usually can not see Polaris due to trees so the plate solving is a big help. And as a caregiver, being able to use the iPad in the house makes imaging possible. Given that I am in the city, I image to capture what is only a fuzzy or unseen nebula through the eyepiece. My alt/az mount is used for visual observing. I can quickly set the scope up and start looking at variable and double stars. I understand that a non–ZWO setup can have more options, but being in the ZWO ecosystem does make it easier and intuitive.

Malcolm: I posted an informal poll in the Starfest facebook page (facebook.com/groups/Starfest) last night. Scientific? No, but informative. 91 votes cast. ASI AIR wins by a significant margin. And think about this, all those ASI AIR users are committed to the ASI equipment universe. Good business for ASI.

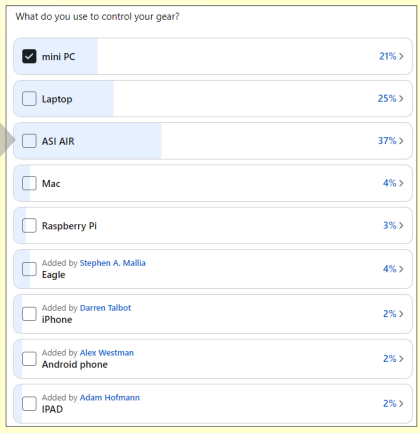
Mike B: I am wondering if anyone in the group uses an ASIAIR?

John: I am planning on using a mini PC for my set up. I went with the mini PC because I have not used any ASI products and the [POD-S] Dome Controllers will not be compatible with the ASI system when they come, only Windows.

Rick: I am rather surprised that the ASI Air is so popular. I can certainly see for those who use ZWO hardware that having a vendor–designed computer would be great—there is one entity which is responsible for device drivers and software configuration, the two most difficult aspects of running an observatory off Linux.

I tried twice to use an RPi to run my setup and failed both times. By doing a build–your–own you can include drivers for many more equipment options. But you carry the can for all the configuration. I could never get INDI (the Linux equivalent to ASCOM) to recognize and control all my hardware. So I went with the mini–PC, in fact the even smaller fanless PC. I didn't think a great deal of computer power was necessary as it is only running the hardware, the scheduling software (NINA) and, sometimes, a planetarium program like Stellarium.

I'm not surprised that the Eagle is so unpopular given the price. Very capable but really expensive.★



to last very long.
Stephen (12:18): I probably would have had clear sky after midnight if I had stayed up. But I was tired. It's not fun if you aren't feeling well.

Fri/Sat, August 23/24

Stephen (12:18): Tonight looks pretty iffy. Saturday night might be OK. I'll take a good nap today and have a go at it.
Rick (20:23): Gee Steve, I get some of my best sleep while I'm observing. While the computers are observing. Whatever.

The latest satellite pictures look rather promising. I'm going to chance it and get everything up and running.
Stephen (20:58): I'm feeling pretty good tonight. It definitely looks like it is clearing. I'll work with the same plan as last night. I'll get the observatory set up, then putz around with the Dob until the planets and Moon are high enough to image.

Mon/Tue, August 26/27

Susan (00:27): A surprise observing session!
Kim (09:48): We went out this morning, and there was some high cloud, but very enjoyable, a few mosquitoes at 13C but waved them away. Planets and Moon nice backdrop.
Susan (10:16): In the p.m. I found the transparency poor but the seeing good; can't have it all.
Susan (10:23): I think I have set a personal record: I reported my variables within 10 hours.

I noticed our friend Rick has posted almost as many observations for T CrB as I have EVER for all the stars I have observed. Nice job!
Rick: Thanks Susan. I'm hoping I can get to 400 before it is lost in the trees. The other night it cleared off a little too late and T CrB was already in the trees. So I grabbed the 15x70 binos and headed down to the dock to do a quick observation. It was almost in the trees even from the very outer nervous–making corner of the dock. Heading down there will only give me a few extra weeks of observing it, and that only visually.

Fri/Sat, August 30/31

Rose–Marie (22:37): Cloudy all day, then an hour ago I took Kerrie out and saw stars. Checked to the south: stars! So I grabbed the camera and headed down to the patio and took a few scenic shots.

It popped into my head that I should get a few reference shots of Corona Borealis so down to the dock I went to take a few shots of that. Ended up spending about 40 minutes taking various scenic shots. Nice and warm and no bugs! The breeze was getting a bit strong though.

I came back up and figured I'd set the camera on the patio to run a series while I checked the radar, but clouds are coming across the far end of the lake, so I put the camera and tripod inside. We "may" get a thunderstorm but it'll take a couple hours to get here so I shall set my alarm and check on it later, see if there are any lightning sparklies to aim for.
Rose–Marie (09:21): Before that storm rolled in we had some clear sky, I do believe it was the first night all summer that I could see to the horizon without clouds or haze! Here's one of the wide angle scenic shots.
Malcolm (09:33): Very nice. One of the things I look forward to now at Fall'n'Stars is seeing the Milky Way. I used to see it so well in the county, I just looked south and there it was. It looked a lot like in your photo, similar view.
Mark D (11:19): Beautiful shot Rose–Marie; makes up for all those pesky beavers.
Rick (13:43): Last night it also cleared off between the deep strato–cu of all–day fame and the coming frontal showers. Unfortunately I didn't see that until it was too late to image it [T CrB]. However, I did catch it with the 20cm dob. Still at ~9.8.

Sat/Sun, Aug/Sep 31/1

Susan (02:01): In now, cold fingers, I had better toughen up before it actually gets cold! The dew was heavy, for the first time I saw a bit of mist gathering on the scope.

A bit of a nuisance, have to get back into the house through the garage to the front door as our deck has been demolished. After shutting down I discovered that I could have warmed up by just stepping into the garage.

Tea time.
Kim (07:08): Good for you. I was out very early to set up and stayed out till after 10:30 pm. The skies started clear, then the transparency was dropping. I managed to see a few meteors; there were lots of fireworks in the neighbourhood. I did mange to capture Comet 13P/Olbers with the Seestar 50. The image is a bit

grainy and I can try and process it further. I am working on a little project with the S50 right now and of course time is of the essence for some objects.

It was a beautiful night. There was lots of dew, but the dew mechanism in the Seestar worked well.

Shelley: Nice capture of the comet. I haven't even tried imaging this one. I haven't had my dob out in ages either. The mosquitoes are dreadful.

Kim: Thanks Shelley. Yes the mosquitoes were horrendous but died off around 9:30. I want to get my Dob out and view it in the eyepiece.

Susan: Great comet shot Kim! It was 15C here at 1:30.

Mark D: Nice one Kim. You seem to be using the Seestar a lot?

Kim: Only for specific projects.

I did a few Moon shots earlier in the week, but have not played around with it for Solar or Scenery mode.

My ASI174mm is dedicated to solar, unless I take some lunar images, like the Lunar X and V.

Rose–Marie: Nice shot. Is that the little wee telescope you bought recently? I am so tempted to get one.

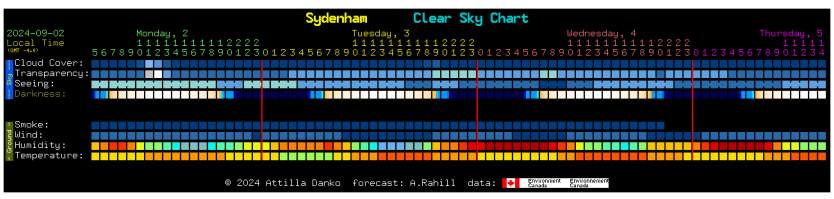
Kim: Yes, the Seestar 50.

I was also doing some Messiers last night, and want to go back and do a mosaic shot of M8 (the Lagoon Nebula)—it's huge. Of course that is a whole new learning curve for stitching images together. Rick, does Siril have a stitching capability?

Rick: Seems not. I had been trying ASTAP for some stacking and I understand it does mosaics. Siril does a great job stacking pretty pictures (though not mosaicing) but it scales the pixel values in a way that somehow makes them useless for photometry.

Sun/Mon, Sep 1/2

Stephen (23:20): Well, it managed to clear tonight. The seeing is terrible though. Not nearly good enough for imaging. It just so happened that I mounted my DSLR on the telescope to take some wide angle shots. Just as well. The seeing won't impact that. I'll putz around with that for a while and hope the seeing improves.



Stephen (23:34): It just clouded over. It looks like intermittent cloud for most of the night. I won't wait up long to see if that changes. At least I got some DSLR shots to work on.

Malcolm (06:26): Are you ready for a marathon? [*Look at that Clear Sky Chart below!*] Get your beauty sleep!

Susan: I have wanted to comment on that, but was afraid.

Rose–Marie: Environment Canada is predicting clear tonight, some cloudy periods tomorrow night, and clear on Wednesday night. I'm going to take my big binocs and see if I can find Kim's comet.

Kim: Best hurry, its in the NW now. Here is a star chart:

cometchasing.skyhound.com/comets/13P.pdf

Not visible after Sept 28th.

Stephen: ECMWF and EC are now predicting the same thing. So now it's unanimous. I'm nocturnal now anyway so all is good!

Tue/Wed, September 3/4

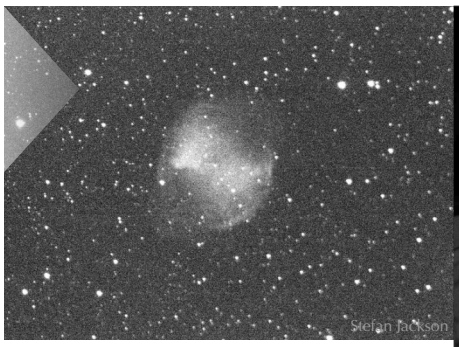
Stefan (22:04): Well I am getting closer to using my LX–200. Managed to have it plate solve and take an image. Just have the 1600

mono on it for messing around. It needs collimating. I have a Tri-Bahtinov mask. Just need to be able to get into the observatory to play when someone is not imaging.

Malcolm (22:12): Haha, someone. Yer a pair!

Stephen (22:46): Another clear night. Last night was good all night. A heavy dew though.

Although the transparency is good tonight, the seeing is not as good. Hopefully that will improve as it cools down.



Malcolm (22:51): No complaints here! We have Milky Way on the podcam. Always a good thing. I'm imaging in red and Hα tonight, hoping the signal for them is less obscured than for blue or green.★

PixInsight vs ASIAIR+ Live Stacking

Stan (Aug 28): Hi All, to give some perspective on how the ASIAIR+, AM5, and ASI585mc produce images straight from the setup versus taking the information and working it through PixInsight.

I do appreciate how quickly the ASIAIR+ stacks the live images. Being in the city with Bortle 7/8 skies, I love the images. However, they are not using the dark, flat, and bias captured after the initial run. You can process it later using the tools in ASIAIR+, but I have been taking all the image captures off the device and working directly on my MacBook Air M1 with PixInsight.

Note: This is not truly a comparison since I would have had to process using the ASIAIR+ s/w, but it does demonstrate the quality of the captures given the equipment and what PI can pull from the data.

There is a difference, but one is right off the camera, and the other requires hours of processing. Maybe that is what cloudy/rainy nights are for?

Here is a link showing the two images discussed (M27 nebula):

flickr.com/photos/96789493@N06/shares/05V414L796

Stefan: Processing sure makes a big difference. Well worth the time IMHO.

Stan: Thanks. Processing does make a difference and I especially wanted to demonstrate that even the observer in light polluted skies of the city should not give up. In my limited time I have observed that fantastic images are due to experience, dark skies, and the setup. These could turn off the newbie or a city dweller. My hope is you recalibrate your expectations and take the time to learn.

I love visual astronomy and have settled on double stars, variable stars, carbon stars, planets, and the moon. But I will never see nebula and clusters in the city during the warmer months. Some clusters are a bit better when it is colder. However, I would like a piece of evidence of what I attempted or viewed as a fuzzy. So that is how I was capturing and has made me want the Seestar as a companion.

But as I played around with the processing software I realized the sensor does have data but I need to tease it out. And I need to capture longer periods of data. So I have decided to pick an object every so often and take the time to produce a decent image. Fingers crossed for the next try.

Stefan: You did a great job on M27. When Shelley and I used to do outreach, she would put her dob on a target so people could see what it looks like. Then I would put my scope on the same target and take a 60 second colour image so they would have an idea of what the thing they looked at in the dob really looked like. These new scopes like the Seestar make the hobby so much more accessible to the general public.

Rick: You don't have to spend a great deal of time processing images if you don't want to. If you're just doing electronically-assisted astronomy, i.e. get and image that shows what the object looks like (what a photographer might call a record shot) you shouldn't need to spend more than a minute or two processing.

Most of my pretty pictures are shot under relatively similar conditions and I have a very simple pipeline of a few steps that gets me to something that I can enjoy without taking too much time away from my photometry. Siril has an automated histogram stretch that pulls out an image in seconds that I consider quite nice.★