

Event Horizon

Volume 33, Number 3
January 2026



From The Editor

Happy 2026, everybody.

Here's the January 2026 E.H. This month, there's an announcement about *Astro 101*, as well as more images by club members.

UPDATE Jan 4, 2026: PLEASE NOTE: *Chris Szaban* will be the main speaker at our January 9 meeting.

Enjoy!

Bob Christmas,

Editor

editor 'AT' amateurastronomy.org



Chair's Report by Kevin Salwach

Hey all, happy new year! Welcome to 2026. I hope you all had a great Christmas and holiday season, and best wishes to you all for the coming year.

2026 is looking to be a busy and eventful year for the HAA, although for the next few months as we are in the dead of winter, things are a little slow until the warm weather rolls around. As I have mentioned many times already, I am aiming to start up far more frequent public observing this year, and coupled with our Binbrook openings, once the springtime comes, weather permitting we will have at least a few HAA events every month for our members and thee public to enjoy. As always, we have our annual Perseid Night to look forward to in the summer, as well as another Star Party this September up in Andromeda Meadow. BASEF 2026 is only a couple of months away, and International Astronomy Day short behind it.

For the next month and a bit, we have our first meeting of the calendar year on Friday, January 9th. Our speaker will be *Akbar Ahmed Chowdhury*, Research Assistant at the Centre for Astronomy, Space Science and Astrophysics at Columbia International College.

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Chair's Report (continued)

Keep an eye out on our site and social media for more information in the coming days.

On February 14th, the day after our February meeting, we will be hosting a “Winter Astronomy Workshop” at Valley Park Library. Combining our usual Telescope Clinic format with presentations by members, this workshop will give both members and the public a sort of crash course into amateur astronomy to prep them with the knowledge they need to understand telescope types, operation, the mechanics of the night sky, and what to see in the sky this winter and early spring. I am still looking for two volunteers to give a short 20-minute presentation each on a beginner astronomy subject. They can be done in person at the library, or prerecorded - shoot me an email at chair@amateurastronomy.org if you are interested in helping out.

On the business side of things, Council has received quotes for Directors and Officers Insurance for the club. We will be discussing them at our upcoming council meeting, and then I will be updating the membership at our January meeting and via email before a final decision is made.

Our Secretary John Gauvreau is planning on running another round of Astro 101 this spring - a course tailored for raw beginners in the hobby to give them all the information and knowledge they need to start out in stargazing. Sign up sheets will be available at the January meeting, and you can email John at secretary@amateurastronomy.org to sign up and to get further details. (*See announcement on page 4.*)

As always, keep an eye out on your emails for Binbrook openings - the weather has not been very cooperative the last couple of months, but hopefully this month we can get out there for one or two nights at long last and enjoy a stretch of clear skies.

That's all I have for this month, nice and short, and as always if any news or updates pop up, I will notify all of membership via email. But for now, happy new year, clear skies, and I hope to see you all out on the 9th!

HAA Helps Hamilton

The H.A.A. is accepting and collecting donations from our members and guests for local food banks at our general meetings. The H.A.A. has always valued its relationships with food banks in the community, particularly [Hamilton Food Share](#).

If you can't make an in-person meeting, you can make a donation directly to your local food bank.

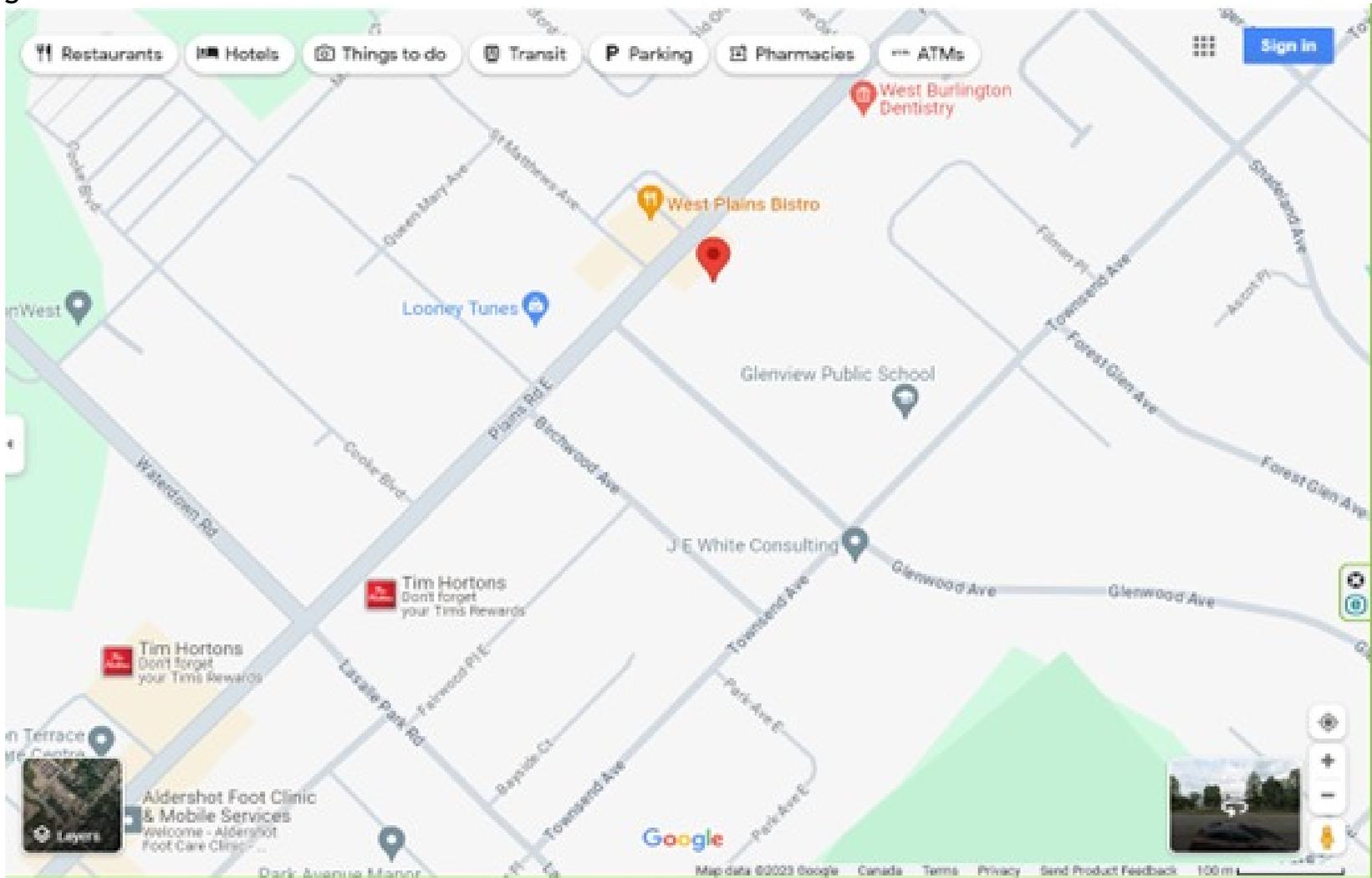


Masthead Photo: *The Whirlpool Galaxy (M51), by Alex Kepic.*

Taken through a Celestron C8 XLT scope with a ZWO ASI294 MC Pro Camera on an AM5 Mount.

Meeting Location

Our upcoming meeting is scheduled for *January 9th, 2026*, at St. Matthew on-the-Plains Anglican Church. St. Matthew's is located at 126 Plains Road East, Burlington, Ontario. Doors open at 7:00 and the meeting begins at 7:30.



*St Matthew on-the-Plains Anglican Church (indicated with red locator)
Image generated using Google Maps*

2025-2026 Event Dates

Friday Jan. 9, 2026	Monthly Meeting Speaker: Chris Szaban	St. Matthew on-the-Plains Anglican Church, 126 Plains Rd, Burlington
Friday Feb. 13, 2026	Monthly Meeting Speaker: Keith Momberquette: Astrophotography	St. Matthew on-the-Plains Anglican Church, 126 Plains Rd, Burlington
Saturday Feb. 14, 2026	Winter Astronomy Workshop	Valley Park Library, Stoney Creek
Friday Mar. 13, 2026	Monthly Meeting Speaker: TBD	St. Matthew on-the-Plains Anglican Church, 126 Plains Rd, Burlington
Friday Apr. 10, 2026	Monthly Meeting Speaker: TBD	St. Matthew on-the-Plains Anglican Church, 126 Plains Rd, Burlington
Friday May 8, 2026	Monthly Meeting Speaker: TBD	St. Matthew on-the-Plains Anglican Church, 126 Plains Rd, Burlington
Friday Jun. 12 2026	Monthly Meeting Speaker: TBD	St. Matthew on-the-Plains Anglican Church, 126 Plains Rd, Burlington

Astro 101 - The club's beginner group!

Don't know a black hole from a white dwarf? How about a planet from a planetary nebula? Wondering which end of the telescope to look through? Wondering which end is even supposed to point at the sky? Then Astro 101 is for you!

Astro 101 is a series of fun, friendly, casual (and interactive!) online sessions aimed at the absolute beginner, who might be new to the club or new to the hobby.

Every year the HAA hosts Astro 101, where we talk about things like how to use a telescope, what is in the sky to look at and how to find them. The sessions are interactive and casual. This means that some experienced club members will guide us through some interesting topics, but everyone is encouraged to participate, ask questions, offer input and just talk! This is a great way to get to know the hobby and your fellow club members. Or maybe you have some insight to share with your fellow club members. Let me know and we can schedule it in. Beginners can learn a lot from other beginners.

We will begin in February and we get together online about once every two weeks. Maybe we can even get together in person sometime (ooh, hands-on show-and-tell!) We will have enough sessions to get us through to late spring, and then we hope to finish with an observing session!

If this sounds like something you would like to participate in just get in touch (email secretary@amateurastronomy.org) and we will put you on the list. Then you will get emails with links to the online sessions.

Please feel free to get in touch if you have any questions or suggestions (yes, if there is a topic you want to talk about, just let me know and we will do our best).

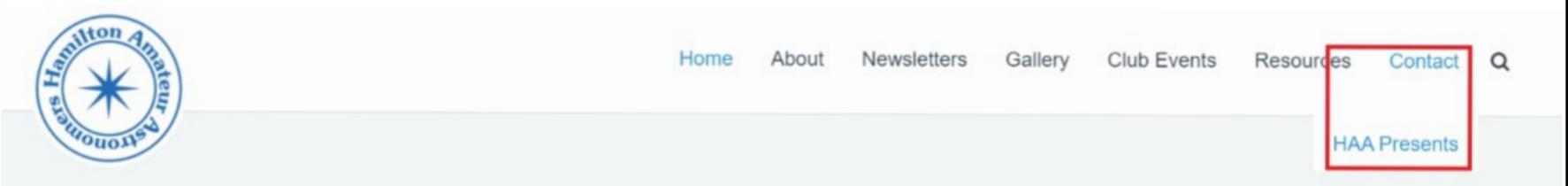
Hope to see you there.

John Gauvreau

“HAA Presents”

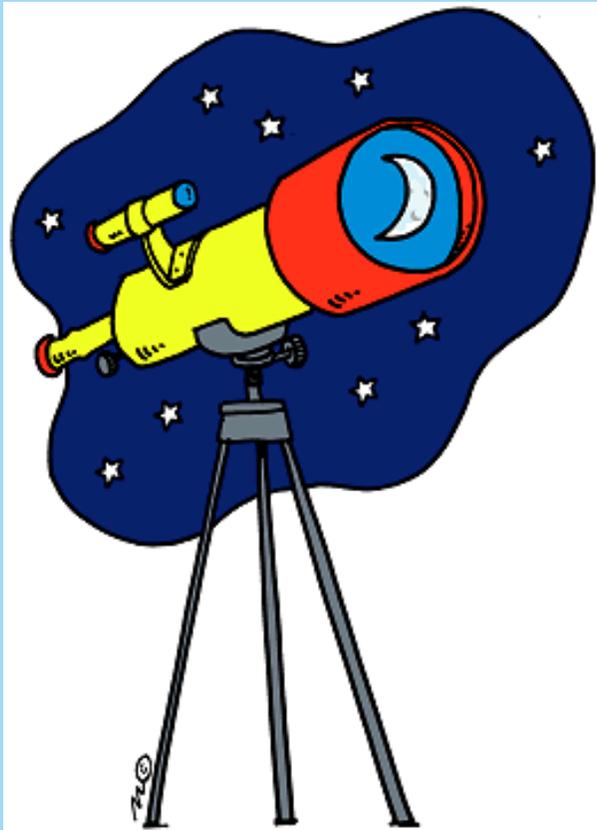
Members of the public of any age in the GTHA can now request an in-person or virtual presentation from the HAA directly on our website.

Simply navigate to www.amateurastronomy.org and select “Contact” from the top menu bar and then click on “HAA Presents” (see image below). You will be presented with a request form and once all required fields are entered, click on the “Submit” button and you will see a confirmation message that your request has been successfully submitted.



Once received, our Public Education Director, Jo Ann Salci, will respond to your request within 5 business days to discuss next steps. If you have any questions, feel free to send an email to: haapresents@amateurastronomy.org.

HAA's Loaner Scope Program



The HAA Loaner Scope Program is back!

It allows members who don't own a telescope to get more up close with the night sky, and it allows members to explore different types of telescopes! Paid members are welcome to borrow a telescope for one month.

We have telescopes of varying expertise levels, as well as various accessories, including various eyepieces.

Please visit the HAA website for more information:

<https://amateurastronomy.org/telescope-loaner-program/>

If you are interested in borrowing a scope, please contact Jeff Parsons at

loanerscope@amateurastronomy.org.

Telescopes are loaned out on a first come basis.

HAA Outreach Presentations with Vulnerable Sectors

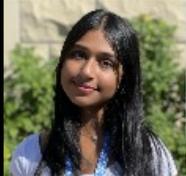
The HAA executive has created a policy for any HAA member who wishes to do outreach presentations to vulnerable sectors, which includes children under 18 years of age and vulnerable adults. This does not include our general club outreach activities.

Presentations include in-person or virtual sessions where parents/guardians may not be present. **As it is not always possible to anticipate caregiver attendance at outreach activities for children under the age of 18, or vulnerable adults, it is therefore a requirement for HAA member-volunteers who work with these vulnerable populations to complete a Police Vulnerable Sector Check.**

These can be obtained only in your region of residency. Costs vary from one area to another. They will be kept on file by the HAA Education Director. No details regarding the findings of the check will be made in any way public or viewed beyond the HAA Education Director.

The HAA will reimburse any member who wishes to do outreach presentations to vulnerable individuals, provided a receipt is submitted.

Please contact Jo Ann Salci if you have any questions about this policy and/or if you wish to put your name forward to help with outreach activities to young people!



HAA Explorers 2.0 --- Math: The Superpower of Space Exploration 🚀 ✨ by Fiza Mehfil

When you look up at the night sky, you might see twinkling stars, glowing planets, or even the Moon. Space exploration can feel magical at times, mystifying us as to how we are able to reach such great heights. However, behind every space discovery is something very powerful: Math! Math helps astronomers and physicists understand the universe surrounding us and helps engineers build the machines that take us into space.

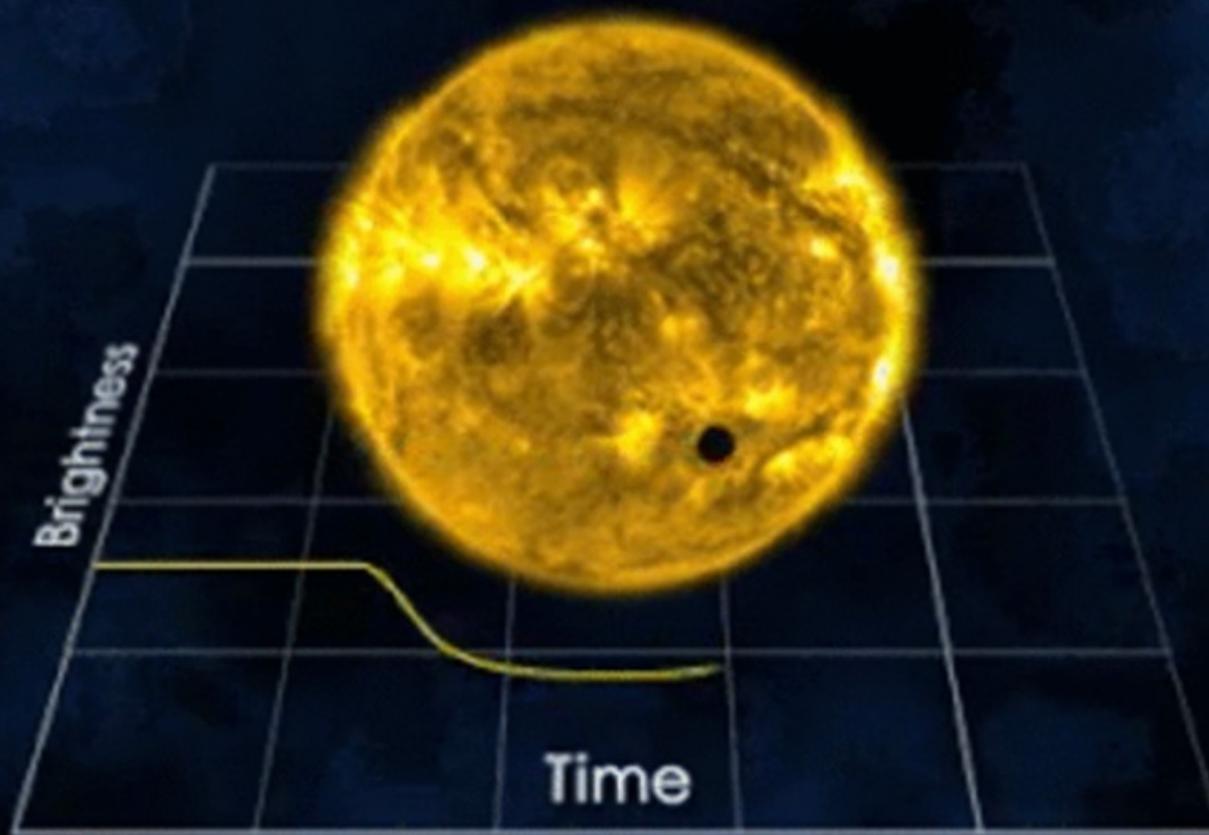
Astronomers & Astrophysicists:

Astronomers can't travel to most stars and planets, so how do they learn about them? They use math!

By measuring light and using numbers, astronomers can calculate how far away stars and galaxies are, figure out how big planets are, measure how fast objects move through space and estimate how old stars and even the universe itself are.

For example, astronomers use math to discover exoplanets. These are planets that orbit stars outside our solar system. When a planet passes in front of a star, the star gets just a little dimmer. Math helps scientists measure that tiny change and prove that a planet is there. ***This method is called transit spectrometry.***

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This GIF/image shows us how transit spectrometry works! As a planet orbits a star, the brightness of the star fluctuates (goes up and down) over time. Larger planets cause larger fluctuations! Click on the link below to see the animation.

Image source: <https://avanderburg.github.io/tutorial/tutorial.html>

HAA Explorers 2.0 --- Math: The Superpower of Space Exploration

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Math and Telescopes

Telescopes don't just magnify objects, but they also collect light. Astronomers use math to aim telescopes at the right spot in the sky, adjust lenses and mirrors, and turn light into images and data. Without math, space telescopes like the Hubble Space Telescope or James Webb Space Telescope wouldn't work. ***Every picture you see from space started as numbers that scientists carefully calculated and analyzed!***

Math and Engineering

Aerospace engineers are the people who design rockets, satellites, and spacecraft. Math is their main tool!

They use math to calculate how much fuel a rocket needs, decide the best launch angle, make sure spacecraft don't burn up or freeze in space, and plan safe landings on planets like Mars.

Even launching a rocket is a math problem! Engineers must make sure the rocket travels fast enough to escape Earth's gravity, but not so fast that it becomes uncontrollable.

Math and Satellites

Satellites don't just float in space. They move in orbits, which are special paths around Earth. Math helps engineers choose the right orbit, keep satellites from crashing or drifting away, and make GPS, weather forecasts, and Internet signals work.

Every time you use Google Maps or check the weather, you're using space math without even realizing it!

What kind of math is used?

Different types of math are important in space science, including:

- ***Addition & multiplication*** for basic measurements
- ***Geometry*** to understand shapes, angles, and paths
- ***Algebra*** to solve special equations
- ***Graphs and data*** to analyze space missions

Even the math you learn in school now is the first step toward exploring the universe.

Why does this matter for YOU?

Math isn't just numbers on a page, but a tool for discovery. Astronauts, astronomers, and engineers all started by learning math just like you.

So the next time you solve a math problem, remember: you might be practicing skills that help discover a new planet, design a rocket, or explore the stars one day! If you hope to one day explore our universe, make sure that you pay attention in math class. If math isn't really your thing or you struggle with it sometimes, **DON'T WORRY!** As long as you truly love space and try your best, you will find your place in space exploration one day. Keep up your hard work, HAA explorers and future astronomers!

Thank you for reading.



The Sky This Month for January 2026 by Kevin Salwach

Hey all, welcome to 2026! Feels like just yesterday we were doing the Sky This Month for January 2025, but would you look at that, another year gone. Crazy how the time flies. The last couple months have been rather uncooperative weather wise to say the least - clouds, rain, and snow have kept us from a good long streak of consecutive clear nights, but hopefully the new year brings with it some clear skies because as always, there's plenty to see.

Starting off with our naked eye new year sky. Over in the west we have our fall constellations setting earlier and earlier. In the middle of the month Pegasus, Pisces, and Cetus are all hugging the horizon by 9:00PM, while Draco and Eridanus on their peripheries to the north and south are doing the same. Midway up the sky you still have Cepheus, Cassiopeia and Andromeda placed well enough, though they too are beginning to sink lower and lower. At zenith, we have Perseus, Auriga and Camelopardalis forming a triangle directly overhead, with Triangulum, Aries and Gemini also riding high in the sky. Over in the east, Cancer has fully risen, while Leo is moving higher and higher each night, with the spring constellations following shortly behind him. By midnight, Bootes and Virgo are both visible above the eastern horizon. To the north the Big Dipper has now fully swung around the pole to the east, while in the south the sky is dominated by Orion, Canis Major and the Winter Triangle.

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The night sky looking west at 9PM on Friday, January 16th. Image generated using Stellarium

The Sky This Month for January 2026 (continued)



The night sky looking towards zenith at 9PM on Friday, January 16th.



The night sky looking east at 9PM on Friday, January 16th. Images generated using Stellarium

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The Sky This Month for January 2026 (continued)

The Moon

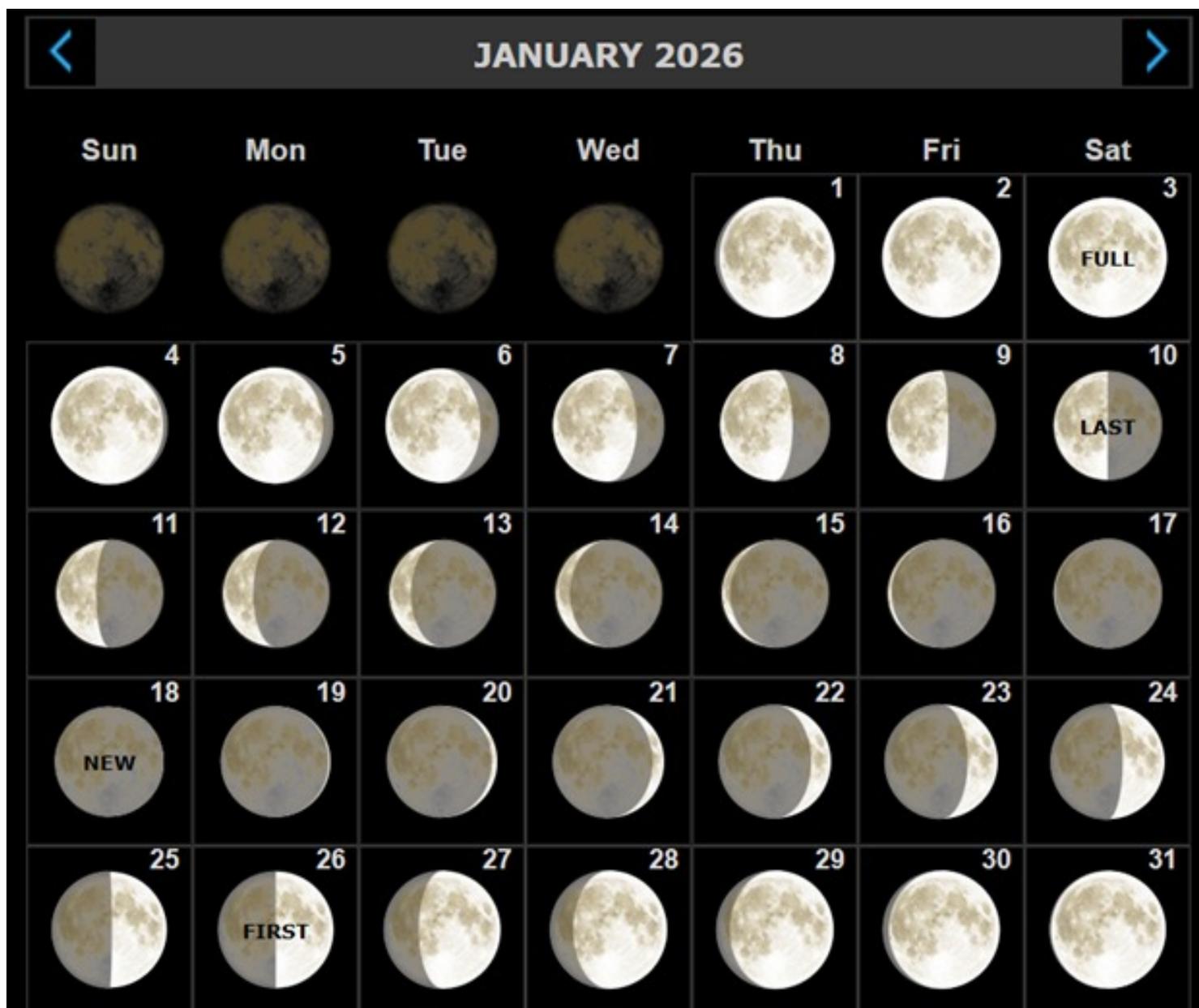
We begin January with a Full Moon on the 3rd, followed by Last Quarter on the 10th, New Moon on the 18th and First Quarter on the 26th. The weekend of the 16-17th is your best weekend this month for observing under dark, moonless skies.

Some Lunar events of note in January:

- A few degrees between Pollux and Jupiter on the evening of the 3rd
- 1 degree away from M44 The Beehive Cluster just after sunset on the 4th
- A few degrees away from Antares just before sunrise on the morning of the 14th
- 2 degrees away from M45 The Pleiades after sunset on the 27th
- Back between Pollux and Jupiter on the evening of the 30th

Meteor Shower

January hosts the *Quadrantid Meteor Shower*, one of the lesser-known active meteor showers of the year. Overshadowed by the Geminids and Perseids, this meteor shower nonetheless can show upwards of 80 meteors an hour from a dark sky on a clear night. Unlike other showers however, the peak of the Quadrantids only lasts a few hours as opposed to a few days, which this year falls right around midnight between January 3rd and 4th.



The Moon Phases for January 2026

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The Sky This Month for January 2026 (continued)

The Planets

Moving into our solar system now - **Mercury** is too close to the Sun all January long for any viewing, and won't be visible again until the first week of February. The same goes for **Venus** this month as well - too close to the Sun until the second week of next month. And to repeat once again - the same goes for **Mars** as well, which won't be visible again till earlier March! A bad month for the inner planets. At least it'll be a good month for **Jupiter** - the King of Planets rises just after 6:00PM at the start of the month, and is visible all night long in Gemini. And by the end of the month it will be already well up after sunset, and still visible till just before sunrise at 6AM, meaning you have a whole month of whole nights to view the gas giant and its Galilean Moons with ease at any time of the night. At the beginning of the month **Saturn** is still visible in the evening sky, already up Pisces after sunset until about 11PM, but by the end of January it sets by 9:00. Still, you have the whole month to pick out the edge on rings each evening. **Uranus** is high in the sky all January in Taurus, while **Neptune** is still trailing close behind Saturn.

Deep Sky Objects

Finally, lets move into the deep sky. Last month I gave a list of some of the bright and most famous beginner objects in the winter sky around Orion, Taurus, Auriga and Gemini. This month, we'll focus on the same area of sky, but look at some more challenging and hard to spot sights.

NGC 1579 The Northern Trifid Nebula - mag 8.5 - This mixed emission and reflection nebula in Perseus right on the border with Gemini and Taurus is a great little nebula for a medium sized scope. In an 8 inch under dark skies, at moderate magnification it lives up to its nickname, and is reminiscent of a smaller, dimmer Trifid Nebula (M20).

NGC 2298 - mag 8.5 - This winter globular cluster in Puppis is fairly big and not overly dim, however its low altitude above the horizon (10 degrees max) makes it a good object for more experienced observers to challenge themselves with.

NGC 2440 The Albino Butterfly Nebula - mag 9.4 - another object in Puppis, this planetary nebula is quite a bit higher in the sky at around 25 degrees. In a 6-8" scope, the nebula's core is easily seen, but the challenge comes in trying to pick out its outer shell structure which gives it its name.

IC 418 The Spirograph Nebula - mag 9.8 - This small, compact planetary in Lepus is fairly easily achievable in a medium sized scope, although you might mistake it for just another star. In a larger 8-10" scope with cranked up magnification, see if you can spot some of the finer details in the ring structure of this tiny, dense nebula.

NGC 2438 - mag 10.5 - along the same lines as the Spirograph, this tiny and compact planetary in Puppis should be moderately easy to see - considering it appears to be embedded right within the big and bright M46 open cluster, appearing as a fuzzy star off to the side of the star cloud - however you'll again have to use large aperture and high magnification to see any details in this almost perfectly circular nebula.

NGC 1514 The Crystal Ball Nebula - mag 9.2 - yet another planetary, in an area of the sky not known for them - this one in Taurus is slightly brighter than the others listed, but still will require big glass and high magnification to see anything more than a fuzzy, stellar shape.

This area of the sky also hosts a massive slew of open clusters. Apart from the big, bright famous ones listed off last month, you can find dozens ranging from denser, brighter clusters visible in binoculars to

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The Sky This Month for January 2026 (continued)

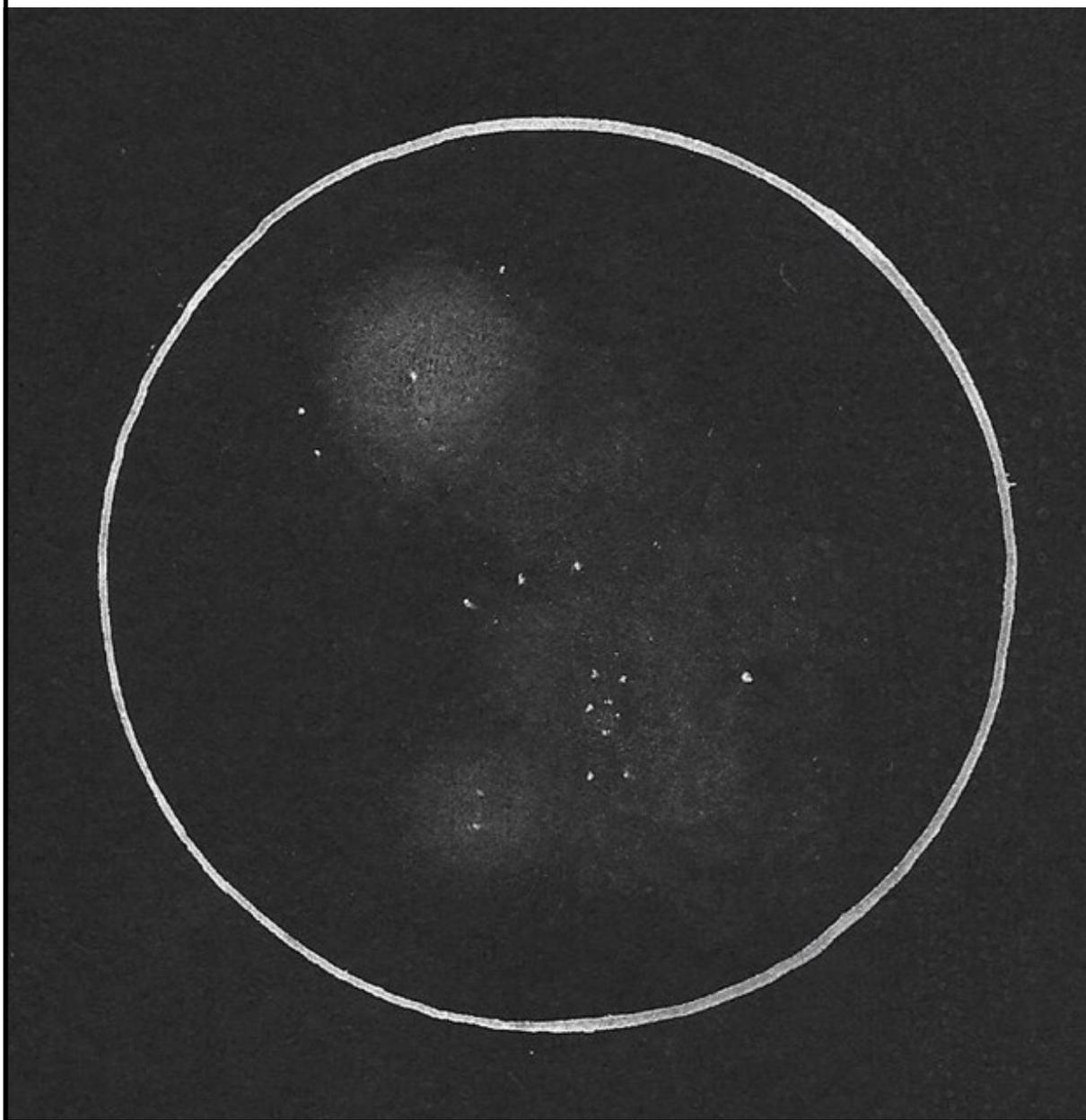
tiny, dim, loose obscure members of the NGC catalogue. Some notable open clusters for more experienced observers:

- NGC 2232
- NGC 2286
- NGC 2301
- NGC 2169
- NGC 1662
- NGC 1647
- NGC 2129
- NGC 2281
- NGC 1746
- NGC 1817/1807
- NGC 2539

Challenge Object: NGC 2467 - The Skull and Crossbones Nebula

This magnitude 8.0 emission nebula in Puppis is fairly bright on the whole, but its low surface brightness makes it a challenge outside of very dark skies. Start by finding the embedded open cluster, and then use moderate power and averted vision to see the nebulosity around it, and then switch back to lower power to try and get a view of the whole region and see the shape which gives it its name.

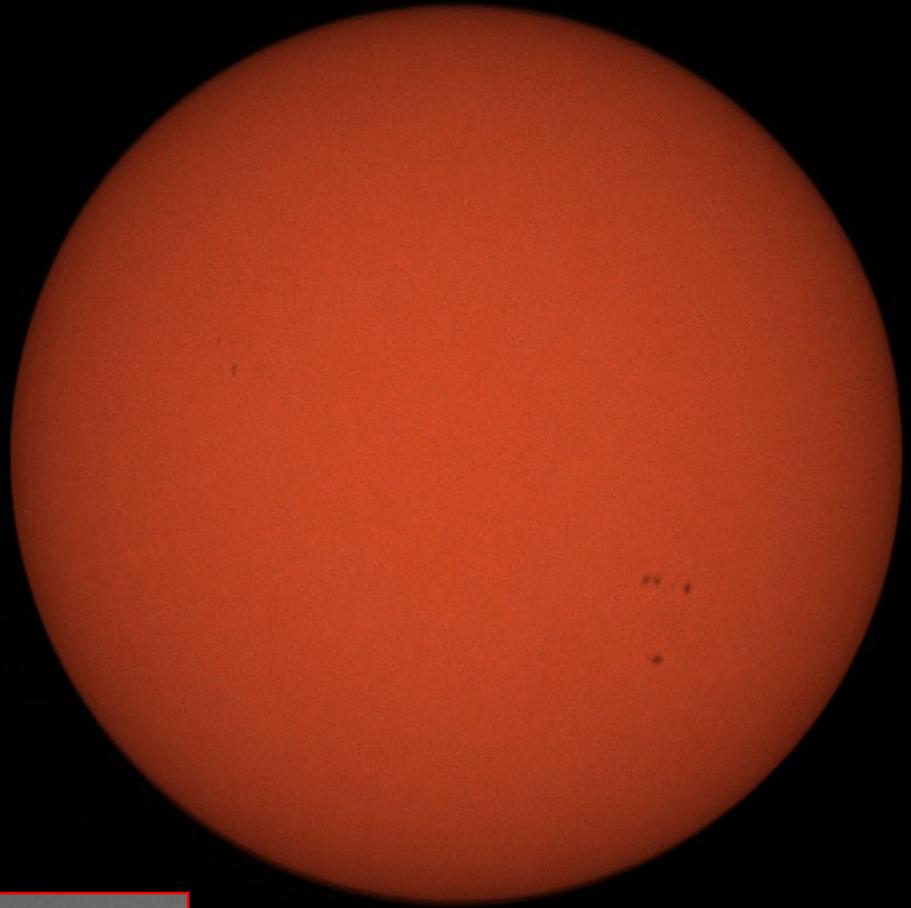
Clear skies and happy observing!



*NGC 2467 in a 14.5" Dob
courtesy of Raul Leon on
cloudynights.com*

The Sun, by Jo Ann Salci

Taken with her Dwarf 3 smartscope
through solar filter.



**Venus Reflection off Lake Niapenco at
Binbrook Conservation Area,
October 24, 2024**

by Dean Randell



Orion, by Chris White



Superman "S" Made by the Super-Moon Shining Through Clouds, December 5, 2025, by Paul Gross



Open Cluster M52 and the Bubble Nebula (NGC 7635) in Cassiopeia, by Chris Szaban
Imaged through a Celestron NexStar 6SE scope on a wedge with an ASI2600MC Pro camera.
1 hour total integration time.



The Cocoon Nebula (IC 5146) in Cygnus, by Alex Kepic
Imaged through a Celestron C8 scope with a ZWO ASI294MC Pro camera on a Celestron AVX mount.
80 x 30s; 230 x 120s; 175 x 120s = 14 hours, 10 minutes total integration time.



The Triangulum Galaxy (M33), by Chris Szaban

Imaged through a Celestron NexStar 6SE scope on a wedge with an ASI2600MC Pro camera.
68 x 180s = 3 hours, 24 minutes total integration time.



William J. McCallion
Planetarium

McMASTER UNIVERSITY, HAMILTON, ONTARIO

- **Public transit available directly to McMaster campus**
- **Tickets \$10 per person; private group shows \$226**
- **Upcoming shows:**
 - **Jan 14: What's Up in the Winter Sky?**
 - **Jan 21: Myth-Busting Astronomy in Pop Culture**
 - **Jan 24: Introductory Astronomy for Kids — Solar System**
 - **Jan 28: Cosmic Dance of the Earth, Sun, and Moon**
 - **Feb 4: Introductory Astronomy for Kids — Galaxies**
- **For show times and further details, visit**
<https://planetarium.physics.mcmaster.ca>

UPCOMING EVENTS

January 9, 2026 - 7:30 pm – H.A.A. Meeting at St. Matthew’s Anglican Church. Our main speaker will be the HAA’s own *Chris Szaban*, who will talk about equatorial wedge mounts for astrophotography. Past meetings can be viewed on our [YouTube](#) channel.

February 13, 2026 - 7:30 pm – H.A.A. Meeting at St. Matthew’s Anglican Church.

February 14, 2026 - 1pm to 4pm – H.A.A. Winter Astronomy Workshop & Telescope Clinic at Valley Park Library in Hamilton.

2025-2026 Council

Chair	Kevin Salwach
Secretary	John Gauvreau
Treasurer	Marcus Freeman
Second Chair	Chris Szaban
Membership Director	Ed Smith
Communications Team Director	Paula Owen
Members Service Director	vacant
Education Team Director	Jo Ann Salci
Observing Team Director	Kevin Salwach

Check out the H.A.A. [Website](http://www.amateurastronomy.org)
www.amateurastronomy.org



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Digital Platforms Director:
webmaster@amateurastronomy.org

All active HAA members have the privilege of access to an exclusive HAA members only dark sky location.

Be on the lookout for e-mails with dark sky observing details. Space is limited.

The Harvey Garden HAA Portable Library



Contact Information

E-mail: library@amateurastronomy.org