

THE OBSERVER

VOLUME 39 ISSUE 1



[Horsehead Nebula \(IC-434\) - George Fischer](#)

UPCOMING EVENTS:

GRCO Monthly Star Party - Jan. 10th
EVAC Monthly Club Meeting - Jan. 17th

For more details, and to see all of the upcoming club events, check out the [events page](#) on our website or the [Calendar](#) on Page 10 of this newsletter.

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From the Desk of the President

by Steve Bradshaw

Well here we are, 2025. I hope that you had a wonderful holiday season with friends and family. Because the club did not meet in November, it will be good to see you again at our upcoming January meeting. I also hope that you were able to do some viewing over the holiday season. The sky has been so exciting in recent weeks with many objects overhead including the march of six planets across the night sky. It's not every night that you can sweep across the ecliptic starting with Venus at quarter phase, then view Saturn, Neptune, Uranus, Jupiter, and then end with Mars approaching its opposition.

Before we start moving into 2025, I hope that you take a moment to fondly look back at 2024. It was a great year to watch the sky, both day and night.

We had a solar eclipse available to us here and for those able to travel to nearby Texas, you were able to see a total solar eclipse. If a solar eclipse isn't already enough, in October we also had the wonderful A3 Tsuchinshan-ATLAS comet. It was the brightest comet since the Hale-Bopp comet 27 years ago! Still not impressed by 2024, then how about having not one but two auroras here in Phoenix (May and October)? Seeing an aurora in Phoenix is about as rare as finding a \$100 bill on the ground, and we had one twice.

As I wrap up the 2024 recap, I also wanted to thank those who volunteered their time at GRCO over the Christmas holiday. You folks went above and beyond this year. For those who might be unaware, this year we opened GRCO during all 11 nights of the Riparian

From the Desk of the President

by Steve Bradshaw

Continued from page 1

After Dark Christmas Light Walk. Each night we had several volunteers to handle the large crowds at the observatory. To give you an idea of the scale of this event, we had just under 3,000 people visit GRCO over the 11 nights. It was fun, exciting, and a bit tiring too. Just so you know, the public feedback was amazing. Great job everyone. You folks rock!

While 2024 was a good astronomy year, 2025 should be great too. We elected some new club officers and board members who are already getting up-to-speed. We have already had our first meeting, and they are bringing with them new ideas and enthusiasm. It will be fun to see what they bring to the club this year. I also have a bit of new information. We have a new Events Coordinator, Alice Klobe. She loves public outreach and is very excited to take on her new duties. I would like to mention our outgoing Events Coordinator, Jake LeAlcala. Jake served our club and the public for the last year. We appreciate your service. Thank you.

One of the things that the new team of officers and board members is considering for this year is how to make the

club more "social". By social I mean providing more opportunities for members to connect with each other. The very high level of interest in attending this month's member-appreciation ASU Planetarium pizza party was an eye opener. Each of us could easily practice our astronomy hobby (or profession) in private. But each of us has chosen to join a club of like-minded people. Why?

I think that it's possible that we want to connect and enjoy our astronomy pursuits with others. Yes, we love telescope technology. We love the history and astrophysics of astronomy. We also love the beauty and grandeur of the sky. But we homo sapiens are also a very social species. Throughout the millennia we have found comfort, inspiration, and strength from our connections with others. One of the goals for this year is to provide more opportunities for interpersonal connections among members. If you have ideas about how to make the club more social, please let me know.

Until next month enjoy looking up, learning, and connecting with others,
Steve

First Quarter Moon on January 6th at 4:56 PM

Full "Wolf" Moon on January 13th at 3:26 PM

Third Quarter Moon on January 21st at 1:30 PM

New Moon on January 29th at 5:35 AM

EVAC Outreach Events

by Alice Klobe

January Outreach Events:

- January 10th – Sunset to 9:30 PM – GRCO Monthly Star Party
- January 15th – 6:30 to 7:30 PM – Smith Jr High School Star Party
- January 16th – 6:30 to 8:00 PM – Center for Online and Innovative Learning (COIL)

Details can be found on the EVAC website - www.evaconline.org/events-meetings. Click on the calendar entry for location and times. Contact [Alice Klobe](#), (EVAC's Events Coordinator), if you can volunteer at an event. It is helpful to know who is coming so we can tell you where the observing field is located and how to gain access.

What's Up - Some Astronomical Events of Note for January 2025

by James Yoder

What's Up? – Here we make note of some interesting astronomical occurrences for the month that are visible from the Phoenix Metro area. Events we are on the lookout for include:

- [Transits](#) – When a celestial body passes directly between a larger body and the observer. For example when one of the inner planets such as Venus passes in front of the Sun ([image](#)).
- [Eclipses](#) – Specifically we are focused on [Lunar Eclipses](#) (where the Earth passes between the Sun and the Moon) and [Solar Eclipses](#) (where the Moon passes between the Sun and the Earth).
- [Comets](#) – For the comets we are focused on bright comets ([image1](#), [image2](#)) or ones that may have a near miss with other astronomical objects such as globular clusters, planets, nebula, etc. ([image](#)).
- Planet Activity – [Oppositions](#), [Conjunctions](#) ([image1](#)) and [Occultations](#) ([image2](#)) of note that may be an opportunity for observation or photography. For Jupiter, we also note when multiple moon shadow transits are visible.
- Visually Interesting astronomical alignments such as Moon & planets arrangement in the morning or evening sky ([image1](#)).

WARNING!! – Any event associated with viewing the Sun directly will require the use of a solar filter.

Equipment Requirements are denoted as follows:

- NE – **N**aked **E**ye event, no equipment needed to appreciate this.
- BI – A decent pair of **B**inoculars are recommended.
- CT – **C**amera on a **T**ripod can be used to capture this event.
- TS – **T**elescope is required to view this event.

Date	Event	Time	Equipment	Images	Comments
1/03	Quadrantid Meteor Shower Peak	All Night	NE, CT		At its peak, the shower is expected to produce a nominal rate of around 120 meteors per hour.
1/09	Moon in Pleiades	4:30 - 7:31 PM	NE, BI, CT	1	Time 16:30 – 19:31 Alt 32° – 69°
1/10	Venus at Greatest Elongation East	1:31 AM	NE, BI, TS		Look for Venus in the western sky shortly after sunset.
1/13	Full Moon	3:26 PM	NE, BI, CT, TS		The Wolf Moon is visible for much of the night, rising at around dusk and setting at around dawn.
1/13	Lunar Occultation of Mars	6:44 to 10:52 PM	BI, TS	1, 2	The Moon will pass in front of Mars, creating a lunar occultation.
1/15	Mars at Opposition	7:32 PM	NE, BI, TS		Mars will reach opposition, when it lies opposite to the Sun in the sky.
1/29	New Moon	5:37 PM	NE, BI, CT, TS		The Moon will pass close to the Sun and become lost in the its glare for a few days.
1/30	Venus at Highest Altitude	All Night	NE, BI, TS	1	Venus will reach its highest point in the sky in its 2024–2025 evening apparition. It will be shining brightly at mag -4.4.

These events and others throughout the year can be viewed on my webpage [here](#), Happy hunting!

Deep Sky Imaging Target Highlights for January 2025

by James Yoder

The [average low temperature](#) for January in the Phoenix metro area is 46° F. January 29th is a New Moon with the astronomical dusk at 7:10 PM and astronomical dawn at 6:04 AM, providing 11 hours and 6 minutes of imaging time.

In this month's list there are over 152 object/configuration combinations provided of just about every class of deep sky object including 5 globulars, 19 planetary nebulas, 35 nebula, 8 dark nebula, 16 open clusters and 69 galaxies/galaxy clusters.

Bright Moon Targets (Moon) – These are small targets that have a high surface brightness, these would be globular clusters and planetary nebula, that with appropriate narrowband filters can be imaged even in a near full moon situation.

The Prospective Imaging Objects Guide ([Download PDF](#)) covers objects that reach their highest point in the sky and crosses the meridian (aka transit) sometime between astronomical dusk to dawn. We will be highlighting objects that transit roughly between 10 PM and 2 AM when possible. This ensures maximum imaging time over the month.

Happy Hunting!

Some Highlighted Targets (Most of these objects were imaged in Chandler)

Configuration	Page	Object(s)	Type	ImageLink
Hyperstar	29	Jellyfish Nebula (IC-443)	Supernova Remnant	153 min
Hyperstar	30	Rosette Nebula (NGC-2237)	Open Cluster & Nebula	52 min
Focal Reducer	47	M-95, M-96	Galaxy Pair	115 min
Primary Focus	16	Crab Nebula (M-1)	Supernova Remnant	300 min
Primary Focus (Moon)	21	NGC 2022	Planetary Nebula	112 min
Primary Focus	28	IC-2162	Bright Nebula	160 min
Primary Focus (Moon)	32	Hourglass Nebula (NGC-2346)	Planetary Nebula	248 min

Resources:

- [ArtCentrics.com](#) – [Potential Targets Guide](#) (PDF download)
- [Telescopius](#) – Lookup objects, plan imaging session.
- [Field of View Calculator](#) – Test different telescope, camera & eyepiece combinations.
- [Astrometry.net](#) – Solve images captured by your system. Get image RA/DEC, pixel scale, image size, and orientation of the image you have taken.

Used Equipment For Sale at Great Prices

The East Valley Astronomy Club (EVAC) has used astronomy equipment for sale. Please note that equipment sales are **“as is”** and are **“pick-up only”**.

For more details and to answer any questions, contact the EVAC Property Director, James Yoder (properties@evaonline.org) or visit the EVAC Sales webpage [HERE](#). This page includes a brief description of the items, photos and reference materials (e.g. users manuals, etc.).

Equipment being offered for sale this month includes:

- [Thousand Oaks Type 2 Solar Filter ID=308mm](#) (Sale Price = \$100)
- [Losmandy G811g Mount, Tripod and Gemini II controller](#) (Sale Price = \$1,700)

Non-EVAC Equipment for Sale (This is mostly member sales, EVAC is neither responsible for, nor endorses this equipment).

- [ZWO AM5 Strain Wave Mount](#) (James Yoder) Sale Price = \$1,300
- [10" Meade SCT](#) (Tom Mozdzen) Sale Price = \$450 OBO
- [JMI Telescope Case](#) (Tom Mozdzen) Sale Price = \$250 OBO
- [New Celestron Motor Focuser](#) (Kent Bell) Sale Price=\$175
- [12.5" f/5 Dobsonian](#) (Brooks Scofield) Sale Price = \$800
- [Celestron C90 Spotting Scope](#) (David Hopper) Sale Price=\$160

EVAC Equipment Rental Program

The East Valley Astronomy Club (EVAC) is introducing a rental program for EVAC Members. Details on terms and equipment can be found on the [EVAC Rental page](#). Each item below rents for \$25/week for up to 4 weeks. Currently the following items are available for rent:

- **Celestron C-8 with Nexstar GoTo Mount** - Everything you need to begin exploring the night sky.
- **ZWO Seestar S50 All-in-One Smart Telescope** - Everything you need to image the Sun, Moon and some bright, deep-sky objects. Extremely user friendly.
- **Celestron 10" Dobsonian Telescope** - Everything you need to begin exploring the sky.
- **Visual Filters for Deep Sky Objects** - 15 different filters to try before you buy.
- **Imaging Kit for Planetary & Moon Photography** - Everything you need to capture and process images except the telescope.

Telescopes come with all equipment necessary for observation (e.g. eyepieces, finder scope, power supply, etc.)

Contact the EVAC Property Director, James Yoder, at properties@evaonline.org for more details and to answer any questions.



SkyPi Remote Observatory

The darkest, most Pristine, sky in the continental U.S. !

At the site: Bathroom facilities, running water, 5 pads w110v, wifi, acres of grassy camp sites.

From the site: Very Large Array 42mi E, The Astronomical Lyceum 55mi E, MRO Observatory 80mi East.

Webcam imaging made easy!

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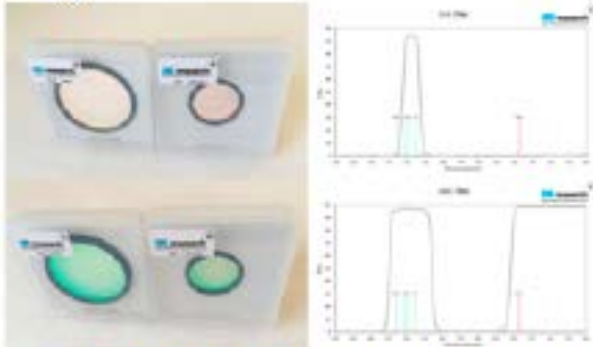
12995 N. Oracle Road Tucson, AZ 85739 520-292-5010
www.starizona.com

**Apache-Sitgreaves
Observatory**
Overgaard, Arizona

Largest Public
Observing
Telescope
in
Arizona



Critical products for visual observing, too!



A-S Research Nebula Filters: See More Nebulosity!

The advertisement features a large photograph of a man in a blue shirt and jeans standing next to the massive Apache-Sitgreaves Observatory telescope. The telescope is a large, dark, cylindrical instrument mounted on a wooden base. To the left of the telescope, the text "Largest Public Observing Telescope in Arizona" is written in a serif font. Below the main title, there is a section titled "Critical products for visual observing, too!" which includes four small images of nebula filters (two orange/red and two green) and two spectral graphs showing light intensity versus wavelength. The bottom of the advertisement features the text "A-S Research Nebula Filters: See More Nebulosity!"

www.apache-sitgreaves.org

Monthly Meetings will be held in person and also presented live online using Zoom. See the EVAC Website for updates.

The monthly general meeting is your chance to find out what other club members are up to, learn about upcoming club events and listen to presentations by professional and well-known amateur astronomers.

Our meetings are held on the third Friday of each month at the Southeast Regional Library in Gilbert. The library is located at 775 N. Greenfield Road; on the southeast corner of Greenfield and Guadalupe Roads. Meetings begin at 7:00 pm.

Meetings are also available online via Zoom.

Visitors are always welcome!



Southeast Regional Library
775 N. Greenfield Road
Gilbert, Az. 85234



January 2025

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

January 10th - GRCO 2nd Friday Star Party

January 15th - Smith Jr. High Star Party

January 16th - Center for Online and Innovative Learning (COIL) Star Party

January 17th - EVAC Monthly Meeting

February 2025

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

February 4th - Power Ranch HOA Star Party

February 6th - Islands Elementary School Star Party

February 14th - GRCO 2nd Friday Star Party

February 21st - EVAC Monthly Meeting

East Valley Astronomy Club - 2024 Membership Form

Member Dues (Based on the month you are joining the club)

	Individual	Family	Student (18yr+ with ID)
January - June	\$30.00	\$35.00	\$20.00
July - December (<i>Renew in January</i>)	\$15.00	\$20.00	\$10.00
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Renewal Dues (Current Members Only)

Astronomical League: \$10.00 Annually:

Individual	Family	Student (18yr+ with ID)
\$30.00	\$35.00	\$20.00
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name Badges: Quantity: _____

\$10.00 Each

Name to imprint: _____

Total amount enclosed:

Please make check or money order payable to EVAC.

Payment will be made using PayPal:

Name:

Phone:

Address:

Email:

City
State
Zip

URL
For website:

Would you be interested in our outreach program? Yes No

How did you discover East Valley Astronomy Club?

Liability Release Form

In consideration of attending any publicized Star Party hosted by the East Valley Astronomy Club (hereinafter referred to as "EVAC"), the receipt and sufficiency of which is hereby acknowledged, I hereby affirm that I and any related entities, predecessors, successors, affiliates, attorneys, guarantors, insurers, transferees, assigns, parents, spouses, children, subsidiaries, accountants, officers, directors, employees, agents, shareholders, members, and trustees, past and present, hereby forever release, acquit and discharge to hold EVAC and its related entities, predecessors, successors, affiliates, attorneys, guarantors, insurers, transferees, assigns, parents, spouses, subsidiaries, accountants, officers, directors, employees, agents, shareholders, members, and trustees, past and present, from any and all causes of action, claims, losses, damages, liabilities, expenses (including attorneys' fees) and demands of any nature whatsoever, known or unknown, that in any way relate to, arise out of, or concern EVAC and/or my presence on the premises of any EVAC Star Party and related areas, whether or not those causes of action, claims, damages, liabilities, and demands are part of the specific subject matter of EVAC or any EVAC Star Party. This release is intended to and does cover all injuries and damages, and the consequences thereof, whether known or unknown at the time of the execution of this release, which have occurred or may hereafter occur or which may hereafter be discovered, and which may have been caused or may be claimed to have been caused by the said incident, and specifically includes, but is not limited to, bodily injuries, mental and emotional injury, pain and suffering, medical treatments, and loss of earnings or income.

My signature upon this form also indicates agreement and acceptance on behalf of all minor children (under 18 years of age) under my care in attendance. EVAC only recognizes those who are members or invitees and who also have a signed Liability Release Form on file as participants at an EVAC Star Party.

Signature _____

Date _____

Find Out What's Happening – Join EVAC-Announce List

If you would like to receive email announcements about EVAC meetings and activities, please join the EVAC–Announce mailing list. Click on the link below to subscribe. Enter your full email address in the box titled User Options and press OK. You will receive a confirmation email. Your privacy is respected by EVAC and we will never sell your email address, or use it for non-club relevant solicitations. This mailing list is designed for communication from EVAC, and does not enable users to respond to the message. If you wish to contact club officers, please use the list in the Contact-Us area on the Home page of our EVAC website. To subscribe to the EVAC–Announce mail group click: <http://www.freelists.org/list/evac-announce>. To unsubscribe use the same link, enter your email address and select Unsubscribe from the “Choose An Action” list. Another list to consider is AZ-Observing@groups.io, simply click on this link <https://groups.io/g/AZ-Observing> and follow the instructions. EVAC also has a Facebook Group where members may share ideas, photos, and Astronomy related information. Click on the link to join: [East Valley Astronomy Facebook Group](#).

The Gilbert Rotary Centennial Observatory (GRCO) also has a Facebook Group. To visit, please click on [Gilbert Rotary Centennial Observatory - GRCO](#). The Observatory is open on Friday and Saturday from sunset until 9:30pm. We need volunteers. Training is provided. Help us engage the community in the wonders of the night sky. Email grco@evaonline.org for information.

The Observer is the official publication of the East Valley Astronomy Club. It is published monthly and made available electronically as an Adobe PDF document the first week of the month. Please send your contributions, tips, suggestions and comments to the Editor at: news@evaonline.org. Contributions may be edited. The views and opinions expressed in this newsletter do not necessarily represent those of the East Valley Astronomy Club, the publisher or editor.

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The East Valley Astronomy Club is a 501(c)(3) nonprofit charitable organization.

www.evaonline.org

East Valley Astronomy Club
PO Box 2202
Mesa, Az. 85214-2202

President: Steve Bradshaw

Vice President: Amanda Dolly Duvall

Secretary: Jeff Foreman

Treasurer: Brooks Scofield

Board Members at Large: Claude Haynes, Nathan Eskey, Morgan J. Moran, Gordon Rosner and Andrew Thorpe

Events Coordinator: Alice Klobe

Property Director: James Yoder

Refreshments: Open

Observing Program Coordinator: Wayne Thomas

AL Representative: Brooks Scofield

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Webmaster: Brandon Feldman

SkyWatch Coordinator: Claude Haynes

Observatory Manager: Claude Haynes