

# THE OBSERVER



Andromeda over the Alps

APOD 11/13/2023: Image Credit and Copyright [Dzmitry Kanonovich](#)

## UPCOMING EVENTS:

*EVAC Holiday Feast - December 21<sup>st</sup>*

## INSIDE THIS ISSUE:

|  |    |
|--|----|
| <i>From the Desk of the President</i>                  | 1  |
| <i>November 17<sup>th</sup> 2023 Meeting Minutes</i>   | 2  |
| <i>Orion's Goodies - Head to Foot</i>                  | 3  |
| <i>What's up - December 2023</i>                       | 4  |
| <i>Deep Sky Imaging Target Highlights for December</i> | 5  |
| <i>EVAC Holiday Feast</i>                              | 5  |
| <i>Announcements</i>                                   | 7  |
| <i>Classified Ads</i>                                  | 8  |
| <i>Calendar</i>  | 10 |
| <i>Membership Form</i>                                 | 11 |

## From the Desk of the President

*by Claude Haynes*

It is hard to believe the year is ending, and also the culmination of my two-year tenure as EVAC President. We have had a busy time with the end (or mostly containment) of COVID, the continued growth of our membership, the return of the All Arizona Star Party and the educational outreach of the Observatory and our school and community star parties. That success is not mine, but yours. I am proud of the contribution of the other officers, board members and volunteers who make EVAC such a strong and secure club. Next month this column will be penned by Steve Bradshaw as the next president. I am sure Steve will do a great job. Nathan

Eskey and I will join the board. The future is bright.

If you want to walk off a few holiday pounds, you can follow the new Solar Walk at the Riparian Preserve. The journey begins at the observatory wall. Using the 5 inch Rotary symbol as the Sun, you can walk the park to gain a better appreciation for the size of our solar system and the distances between the Sun and planets. The last stop is Pluto and the Kuiper Belt objects at the SW entrance to the preserve off the Powerline Trail. A good walk and a better education. Thanks to many GRCO and EVAC members who assisted with editing the text

# From the Desk of the President

by Claude Haynes

*Continued from page 1*

and graphics. Spotlight Signs provided the graphic design, and a federal grant through the Town of Gilbert provided the funding.

As we enter the holiday season, I hope you will have wonderful celebrations. The annual Riparian After Dark will go from December 8 – 19. This is a town event, and you will need to purchase tickets through their website. Walk the park and enjoy lighted displays and music. The observatory will be open on Fridays and Saturdays during that time. The crowds, parking and other factors make us cancel the regular 2nd Friday Star Party and regular third Friday meeting in December. Instead, join us in the usual meeting room at the SE Regional library for a Holi-

day Feast on Thursday, December 21 at 7pm for a meal and a chance to relax and celebrate the season. EVAC will provide the food and drink. Dress is ugly sweater casual. Feel free to bring any festive beverage or holiday treats. We do need to get an accurate count of those who will attend, so please RSVP to [president@evaonline.org](mailto:president@evaonline.org) if you are attending. It will be a fun time to celebrate the completion of a great year.

Keep looking up!

Your President  
Claude Haynes

## EVAC ZOOM Meeting Minutes for November 17<sup>th</sup>, 2023 at 07:30 P.M. AZ Time

by James Yoder

### Meeting Minutes

YouTube: EVAC monthly meetings can be viewed on YouTube. Just search for the East Valley Astronomy Club on the YouTube website to locate the recordings or select this [link](#) for the 2023 meeting recordings.

### Welcome

EVAC president Claude welcomed club members to the meeting and reviewed the agenda. New visitors were recognized and welcomed. Introduction of Officers and Board for 2023:

- President – Claude Haynes
- Vice President – Woody Sims
- Secretary – James Yoder
- Treasurer – Brooks Scofield
- Board Members: Don Wrigley, Tom Mozdzen, Steve Bradshaw, Alex Beck, David Coshow
- Property Manager: James Yoder
- Webmaster: Brandon Feldman
- Newsletter Editor: Marty Pieczonka
- Events Coordinator – (Position is Open)

### General Business

**Getting invites to Zoom meetings** – If you would like to be included in the monthly EVAC Zoom meeting request, you need to subscribe to the EVAC Announce distribution list at the bottom of the [EVAC webpage](#). hit the Sign Up button in the Subscribe section.

**Attendance:** 43 in person, 23 online.

**Arizona Star Party** – Was held last weekend and was well attended.

### Officer Elections:

- President – Steve Bradshaw.
- Board Members – Nathan Eskey and Claude Haynes.
- All other positions are reaffirmed for another year.

**Visitors Recognition:** 5 new visitors.

**EVAC Sales** - We have a wide selection of used equipment at steeply discounted prices. Check out our [webpage](#) for the latest selections.

**EVAC Rentals** - We continue to expand our [rental program](#). In addition to what we currently have (see page 7), we have added:

- Celestron C-8 with Nexstar GoTo Mount (\$25/week)
- Celestron 10" Dobsonian (\$25/week)
- 1.25" Visual Filters Kit – 12 Visual Filters (\$5/night, \$15/week)
- Planetary Imaging kit (\$5/night, \$20/week). This is our newest addition that has everything you need except for the telescope. The kit has a camera, computer, software and more.

by James Yoder

*Continued from page 2*

**Solar Walk Update** – The Solar Walk project is just about completed. Various signs are being placed throughout the park providing information on planets and objects found in our solar system.

## **Upcoming Events:**

12/21 – (Thursday) Holiday Party at 7pm. Food and drinks will be provided.

## **Member Presentation:**

Annular Eclipse of the Sun Observed on October 14th  
Presenter: David Dunham

## The Backyard Astronomer

by Bill Dellings

### **Orion's Goodies - Head to Foot**

Of the 88 official constellations, is there any doubt Orion is the most beautiful and striking? Its beauty is in its simplicity, a large stick figure of a person comprised of unusually bright stars for one constellation. A slightly distorted upright rectangle represents the Hunter's body. The upper left star of the rectangle is the red supergiant star Betelgeuse, a 0.5 magnitude star representing his right shoulder. Kitty-corner from Betelgeuse is Orion's brightest star Rigel, a magnitude 0.2 star (left foot). His left shoulder and right knee are second magnitude stars Bellatrix and Saiph respectively. The most distinctive thing about Orion is his three-star Belt located about midbody. The Belt's second magnitude stars are equally spaced in a row about three degrees long at a 45-degree slant. This stellar arrangement is quite unique, and to my knowledge, not duplicated anywhere else in our night sky (northern or southern hemispheres).

Starting at the top of the constellation and working down, let's look at what this Hunter has to offer. Just above the shoulder line of Orion is a small, somewhat dim loose group of stars anchored by Lambda Orionis. They represent Orion's head and have the designation Collinder 69 (a fine binocular object). Lambda is a triple star which I have split in my 11" at 90x. As we head south, we pass the declination level of Betelgeuse and Bellatrix (the top part of our "rectangle"). Note the conspicuous color difference of the two stars – Betelgeuse is a super red giant (spectral class M2Ib) while Bellatrix is a hot blue giant (B2III). Next stop, the Belt.

## **Main Presentation:**

Small DIY Radio Telescope Detecting 21cm Hydrogen Line  
Presenter: David Ladevia

David provided an overview of various projects that can be performed by amateurs with DIY build instruments.

## **Next Monthly Meeting**

Our regular monthly meeting will NOT be held in December since we will have the holiday dinner on December 21st.

The Belt stars are, left to right, Alnitak (mag 1.7), Alnilam (mag 1.7) and Mintaka (mag 2.2). Beginners soon learn they point roughly northwest to the Hyades cluster in Taurus and southeast to Sirius in Canis Major. Alnitak is a triple star. My 85mm refractor can split them at 143x (separations 2.4" and 57.8"). Mintaka is also a triple. My 70mm Ranger easily conquers them at 26x (sep. 32.8" and 52.6"). I would be remiss not to mention 4th magnitude Sigma Orionis, one degree southwest of Alnitak. It's a multiple star with four components. My 85mm refractor splits all four stars at 100x. It reminds me of Jupiter and three of its moons! Before leaving the Belt, I strongly suggest you view the Belt area with binoculars – it will blow your mind. You'll see hundreds of fainter stars behind the Belt stars. It's an extraordinary sight not to be missed. This area has the designation Collinder 70.

The Sword of Orion: To the naked eye one can detect what appears to be a line of three dim stars hanging from the Hunter's Belt. Even a modest binocular will reveal that each "star" is a small star cluster, the middle one being a tad fuzzy. The fuzzy one is the noted Orion Nebula (M42), the best example of an emission nebula in the northern skies, and a glorious sight in a telescope at 50x. Use this low power so you can encapsulate the full diaphanous nature of this magnificent object. At the heart of the nebula is the Trapezium, a tight knot of four young (~300,000 years), hot stars responsible for making the nebula shine. It's not too difficult to resolve the A, B, C and D components but their dimmer E and F associates require steady skies and good optics. Infrared studies have detected many more protostars forming within

# The Backyard Astronomer

by Bill Dellinges

Continued from page 3

M42. I have read there's enough hydrogen gas in M42 to make 10,000 Suns - truly a stellar nursery. Below M42 is a bright triple star, Iota Orionis. I have split its three components with an 85mm refractor at 100x. The Sword is a busy place. But we can break it down into three basic sections (what constituted our naked eye "three dim stars). To do so, it might help to refer to a photo of the Sword in Sue French's books: [Celestial Sampler](#), p. 46 or [Deep-Sky Wonders](#), p. 33 or the Close-up Chart B in the back of the [Sky and Telescope's Pocket Sky Atlas](#). **1)** The top of the Sword is NGC 1977, a combination of an emission nebula and two bright stars (42 and 45 Orionis). Note: A telescope reveals NGC 1981, a faint "w" shaped cluster above NGC 1977. **2)** Below them is M42 (NGC 1976). **3)** Under M42 is Iota Orionis, the Sword's brightest star and along with a few other adjacent stars and a small nebula (NGC1980) represents the final third "chunk" of the Sword. Orion's Sword is a fine stand-alone binocular object, nicely filling the typical 5°

to 8° field of a small binocular. I suspect many stargazers neglect to see it as such and race pell-mell to M42. You know who you are.

One last pit stop in southern Orion deserves mentioning – Rigel is a blue torch B8 Ia supergiant star 770 light years away, with a mass of 2.7 Suns and luminosity of 40,000 Suns. Rigel is also a double star (AB 0.2, 6.8, sep. 9.5", 202). I have split it with an 85mm refractor at 75x. It can be difficult because of the glare from Rigel and faintness of the B component. Because it's somewhat challenging, it has been called a warmup for trying to split Sirius and its companion, the Pup (AB -1.46, 8.5, sep. 11.3", 92°). Good luck. I split it in 2016 with my 11" at 280x when its separation was 10.5", using every trick in the book. Even then the Pup was barely perceptible. Maybe this year I should try it with my Questar.

## What's Up - Some Astronomical Events of Note for December 2023

by James Yoder

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](#)).

Equipment Requirements are noted as follows:

- NE – **N**aked **E**ye event, no equipment needed to appreciate this.
- BL – A decent pair of **B**inocu- **l**ars 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 | Ref | Comments            |
|-------|--------------------------------|------|-----------|--------|-----|---------------------|
| 12/12 | New Moon                       | NE   |           |        |     |                     |
| 12/14 | <a href="#">Geminids</a> (120) | NE   |           |        |     | Max @ 12pm, ZHR=120 |
| 12/27 | Full Moon                      | NE   |           |        |     |                     |

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

# Deep Sky Imaging Target Highlights for December

by James Yoder

The average low [temperature](#) for December in the Phoenix metro area is 45° F. December 12<sup>th</sup> is a new moon with Astronomical dusk at 6:49 pm and Astronomical dawn at 05:53 am, giving us 11:56 hours of imaging time.

In this month's list there are over 127 object/configuration combinations provided of just about every class of deep sky object including 3 Globulars, 19 Open Clusters, 19 Planetary Nebulas, 42 Nebula and 4 Dark Nebula, 40 Galaxies/ Galaxy Clusters. There is a wide variety of various objects accessible this time of year.

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

The [Prospective Imaging Objects Guide](#) (PDF download) covers objects that reach their highest point in the sky and cross the meridian (aka Transit) sometime between Astronomical Dusk to Dawn. We will be highlighting objects that transit roughly between 10pm and 2am. This ensures maximum imaging time over the month.

Happy Hunting!

## Some Highlighted Targets for December

| Configuration         | Page | Object(s)                               | Type             | ImageLink               |
|-----------------------|------|---|------------------|-------------------------|
| <b>Hyperstar</b>      | 24   | Witch Head Nebula (IC-2118)             | Dark Nebula      | <a href="#">81 min</a>  |
| <b>Hyperstar</b>      | 33   | Flame and Horsehead (NGC-2024, B-33)    | Nebula           | <a href="#">70 min</a>  |
| <b>FocalReducer</b>   | 27   | Tadpoles (IC-410)                       | Diffuse Nebula   | <a href="#">305 min</a> |
| <b>FocalReducer</b>   | 28   | The Spider and the Fly (M-77, NGC-1055) | OC, Diffuse Neb  | <a href="#">335 min</a> |
| <b>Primary Focus</b>  | 34   | Soul Nebula core (IC-1848)              | Diffuse Nebula   | <a href="#">115 min</a> |
| <b>Primary Focus</b>  | 22   | NGC-1961 et. El.                        | Galaxies         | <a href="#">150 min</a> |
| <b>Primary (Moon)</b> | 23   | Oyster Nebula (NGC-1501)                | Planetary Nebula | <a href="#">124 min</a> |
| <b>Primary (Moon)</b> | 28   | Cleopatra's Eye (NGC-1535)              | Planetary Nebula | <a href="#">124 min</a> |

Resources:

- [ArtCentrics.com](#) – [December 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, orientation of the image you have taken.

## EVAC Holiday Feast

Thursday, December 21 at 7:00pm in SE Regional Library meeting room.

EVAC will provide entrée, desert and drink.

Please RSVP to [president@evaonline.org](mailto:president@evaonline.org) if you are attending.

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 normal in-person monthly meetings have resumed. Also, the meetings will continue to be available online via Zoom.**

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 7:30 pm.

***Visitors are always welcome!***



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



## 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 on the page. EVAC also has a Facebook Group where members may share ideas, photos, and Astronomy related information. To join: EVAC Facebook [Group](#).

The Gilbert Rotary Centennial Observatory (GRCO) also has a Facebook Group where members may share ideas, photos, and Astronomy related information. To visit, please click on Gilbert Rotary Centennial Observatory - GRCO.

Gilbert Rotary Centennial 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](mailto:grco@evaonline.org) for information.

## Used Equipment For Sale at Great Prices

The East Valley Astronomy Club (EVAC) has just posted used astronomy equipment for sale.

- Sales are “As Is”
- Pick-Up-Only

Contact the EVAC Property Director (James Yoder) at [properties@evaonline.org](mailto:properties@evaonline.org) for more details and to answer any questions. Detailed information on products being offered can be found on the EVAC Sales webpage [HERE](#). This page includes a brief description of the items, photos and references (i.e. users manuals, ect.)

Equipment being offered for sale this month includes:

- **Meade LX200 8” SCT Package** in exceptional condition (\$5,000 new, Sale Price \$1,500).
- **Celestron NexStar 8” SCT Package** in good condition (\$3,000 new, Sale Price \$850).
- **Meade 8” on Fork Mount Package** in good condition (\$2,00 new, Sale price \$550).

Robert Alba also has CGEM mount for sale. Contact him at [rajalba@yahoo.com](mailto:rajalba@yahoo.com) if interested.

## EVAC 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](#). Currently the following items are available for rent:

- **Celestron C-8 with Nexstar GoTo Mount:** \$25 first week, \$20 each week after (up to 4 weeks).
- **Celestron 10” Dobsonian Telescope:** \$25 first week, \$20 each week after (up to 4 weeks).
- **Visual Filters for Deep Sky Objects:** \$5 for 24hrs, \$15 for each week.
- **Imaging Kit for Planetary & Moon Imaging:** \$5 for 24hrs, \$20 for each week.

Telescopes come with all equipment needed for observation (ie eyepieces, finder scope, power supply, etc.) Contact the EVAC Property Director (James Yoder) at [properties@evaonline.org](mailto:properties@evaonline.org) for more details and to answer any questions.



**SkyPi Remote Observatory**

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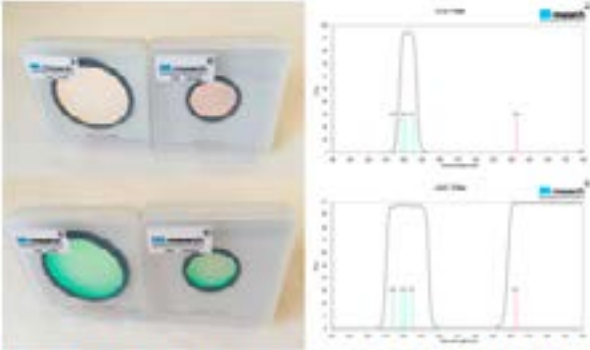
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www.starizona.com

Apache-Sitgreaves  
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Overgaard, Arizona

Largest Public  
Observing  
Telescope  
in  
Arizona



Critical products for visual observing, too!



A-S Research Nebula Filters: See More Nebulosity!

The complex block is a rectangular advertisement for the Apache-Sitgreaves Observatory. It features the name of the observatory and its location at the top. Below this, it claims to have the largest public observing telescope in Arizona, accompanied by a photograph of a man sitting next to the massive telescope. The advertisement also promotes "A-S Research Nebula Filters" as critical products for visual observing, showing four filters in their packaging and two spectral graphs that demonstrate the filters' effectiveness in isolating specific nebula emission lines.

www.apache-sitgreaves.org

# DECEMBER 2023

| 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        | <b>21</b> | 23     | 24       |
| 25     | 26     | 27      | 28        | 29        | 30     | 31       |

**December 21** - EVAC Holiday Extravaganza -

SE Library Meeting Room – 7pm. EVAC will provide dinner, drinks and dessert. Bring holiday treats to share, if you wish. Please RSVP to [president@evaonline.org](mailto:president@evaonline.org) if you are attending.

# JANUARY 2024

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

**January 13** - EVAC Riparian Star Party

**January 20** - EVAC Monthly Meeting

## East Valley Astronomy Club - 2023 Membership Form

| <b>Member Dues</b> (Based on the month you are joining the club) |  |  |  |
|--|--|--|--|
|  | Individual                                 | Family                                     | Student (18yr+ with ID)                    |
| January - June   | <b>\$30.00</b>                             | <b>\$35.00</b>                             | <b>\$20.00</b>                             |
| July - December ( <i>Renew in January</i> )                      | <b>\$15.00</b><br><input type="checkbox"/> | <b>\$20.00</b><br><input type="checkbox"/> | <b>\$10.00</b><br><input type="checkbox"/> |

|   |   |  |  |
|---|---|--|--|
| <b>Renewal Dues</b> (Current Members Only)        |   |  | Astronomical League: \$7.50 Annually: <input type="checkbox"/> |
| Individual<br>\$30.00<br><input type="checkbox"/> | Family<br>\$35.00<br><input type="checkbox"/> | Student (18yr+ with ID)<br>\$20.00<br><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: <input style="width: 95%;" type="text"/>    | Phone:             | <input style="width: 95%;" type="text"/> |
| Address: <input style="width: 95%;" type="text"/> | Email:             | <input style="width: 95%;" type="text"/> |
| City<br>State<br>Zip                              | URL<br>For website | <input style="width: 95%;" type="text"/> |

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.

*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](mailto: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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[www.evaonline.org](http://www.evaonline.org)

*President: Claude Haynes*

*Vice President: Woody Sims*

*Secretary: James Yoder*

*Treasurer: Brooks Scofield*

*Board Members at Large: Alex Beck, Steve Bradshaw, Dave Coshow, Tom Mozdzen, Don Wrigley*

*Events Coordinator: Claude Haynes*

*Property Director: James Yoder*

*Refreshments: Open*

*Observing Program Coordinator: Wayne Thomas*

*AL Representative: Brooks Scofield*

*Newsletter Editor: Marty Pieczonka*

*Webmaster: Brandon Feldman*

*SkyWatch Coordinator: Claude Haynes*

*Observatory Manager: Claude Haynes*

East Valley Astronomy Club

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Mesa, Az. 85214-2202

**THIRD QUARTER MOON ON DECEMBER 4 AT 22:49**

**NEW MOON ON DECEMBER 12 AT 16:32**

**FIRST QUARTER MOON ON DECEMBER 19 AT 11:39**

**FULL MOON ON DECEMBER 26 AT 17:33**