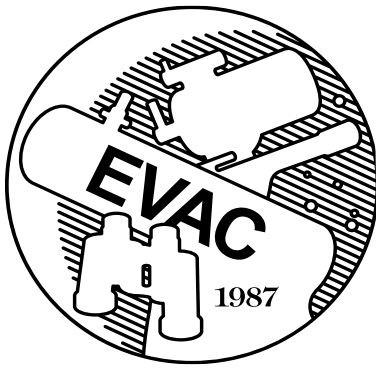


# THE OBSERVER



M96 - APOD 04/14/2022

Image Credit and Copyright: Mark Hanson and Mike Selby

## UPCOMING EVENTS:

*EVAC Public Star Party - March 10*  
*EVAC Meeting - March 17*

*Check out all of the upcoming club events in the Calendar on Page 10.*

## INSIDE THIS ISSUE:

<i>From the Desk of the President</i>	1
<i>February 2023 Meeting Minutes</i>	2
<i>What's Up - March 2023</i>	3
<i>Spring is in the Air (and Night Sky)</i>	4
<i>Deep Sky Imaging Target Highlights for March</i>	5
<i>EVAC Outreach Events</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

If "March comes in like a lion" then February was a pack of wolves. Surely there can't be that many Pacific storms left. Hopefully the weather returns to normally clear skies because there is a lot happening.

For astronomers "M" means Messier. This year the East Valley Astronomy club will host the Messier Marathon on Saturday, March 18. This is a one-day event and a one-year occurrence. Saguaro Astronomy Club has held this event for many years, but they are having some organizational issues coming out of the pandemic and EVAC has of-

fered to take this on for one year so we don't miss the opportunity for a really fun evening. We are not serving dinner but will have late night snacks available. How many of the 110 "faint fuzzies" can you find? We have negotiated a new site with BLM to replace our former airport location. It is on North Hovatter Rd and provides easy access to a large observing field. Check the details listed on page 7.

We also have several school and community events this month. Those are listed on page 5. We appreciate all of our volunteers who provide telescopes for these eve-

# From the Desk of the President

by Claude Haynes

*Continued from page 1*

nings. It is a great service to the community and provides even greater personal satisfaction from the excitement of children of all ages experiencing the wonders of the night sky. If you haven't volunteered for these events, I really encourage it. We also are looking for a volunteer to coordinate our event outreach. It is an important position and I hope that one of you will step up to take on this role.

The swap meet at our last meeting was lots of fun. It was great to see so many faces in the audience. Our next meeting on Friday, March 17 will feature Dr. Nick Moskovitz from Lowell Observatory. The observatory is a partner

with NASA for the DART mission that slammed into an asteroid to test the possibility of redirecting hazardous Near Earth Objects. I am sure his talk will be as much fun as it is to smash things in outer space.

Keep putting out votive offerings to Aurora, Roman goddess of the clouds. Clearer skies and better days are ahead. Keep looking up!

Your President  
Claude Haynes

## EVAC ZOOM Meeting Minutes for February 17th, 2023 at 07:30 P.M. AZ Time

by James Yoder

### 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/Newsletter Editor: Marty Pieczonka

### General Business

- Swap Meet: was held before the meeting started where club members sold astronomy gear.
- Visitors Recognition: We had two new visitors to the meeting
- Events Coordinator: We are still looking for an events coordinator, if you are interested please contact Claude ([president@evaconline.org](mailto:president@evaconline.org)).
- Membership Renewal: Reminder that it is time for members to review their annual membership.
- GRCO Volunteers: If you would be interested in volunteering to assist with the GRCO telescope during public nights please let Claude know. You don't have to be an expert in astronomy to greet folks and help with crowd control.
- Upcoming Public Events: A review of the upcoming public events including the Gilbert Outdoors Expo on March 25th and seven EVAC public outreach events.
- EVAC Rental Program: We are considering piloting

a rental program where EVAC members may rent equipment from EVAC. Some equipment under consideration includes 8" GoTo telescope, Planetary Imaging Package (All equipment and software provided except the telescope), Filters. We are open to other suggestions. If you have any recommendations email James Yoder ([jty.astro@ArtCentrics.com](mailto:jty.astro@ArtCentrics.com)) with any additional recommendations.

### **Eclipse Ambassadors**

Presenter: Mike Tovar

Mike is looking for an amateur astronomer to volunteer to partner with to become an Eclipse Ambassador. This would require about 15 to 20 hours of work to the completion of the project. The ambassador will work with the community in promoting the upcoming ellipse events (October 14, 2023 & April 8, 2024). Contact Mike at: [82Tovar@gmail.com](mailto:82Tovar@gmail.com) if you would like to participate before the end of February.

### **Messier Marathon**

Date: March 18, 2023

Location: North Hovatter Road (3.5 miles North of Interstate 10) More information will be provided at a later date.

### **Main Presentation: HST & JWST Explorations of a new Time-Domain and Deep Field**

Presenter: Dr. Rolf Jansen (ASU)

Dr. Jansen's presentation first discussed the design of the JWST, what area of the electromagnetic spectrum it was designed to study including the Near Infrared spectrum.

# EVAC ZOOM Meeting Minutes for February 17th, 2023 at 07:30 P.M. AZ Time by James Yoder

*Continued from page 2*

He also discussed some of the instrumentation on the JWST.

some examples of the images and data captured by the JWST were presented and discussed.

Next, Dr. Jansen discussed what Time-Domain Science is and how the JWST can contribute to this area of science. Details on what areas of the sky were studied and how they determined what areas of sky to observe. Finally,

In the Q/A session, Dr. Jansen discussed the role dithering plays in gathering data, the amount of data acquired and transmitted to earth and the techniques used to interpret the data captured by the JWST.

## What's Up - Some Astronomical Events of Note for March, 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](#)).

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

Equipment Requirements are noted 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 required to view this event

The main events this month are the Venus/Jupiter and Moon/Jupiter Conjunctions.

Date	Event	Time	Equipment	Images	Ref	Comments
03/02	Venus/Jupiter Conjunction	07:00 PM	NE, BI, TS	<a href="#">1</a>	<a href="#">1</a>	Pair fit in a 2 degree field.
03/07	Full Moon					
03/22	New Moon					
03/22	Moon/Jupiter Conjunction	2PM-6PM	BI, TS	<a href="#">1</a>	<a href="#">1</a>	Pair fit in a 2 degree field. Daylight target may be a challenge.

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

# The Backyard Astronomer

by Bill Dellings

## Spring is in the Air (and Night Sky)

Early March evenings find the night sky split between departing winter and arriving spring constellations, a two for one you might say. Let's start with the fleeing winter goodies. The west is dominated by two asterisms, the Winter Triangle stars of Procyon, Sirius and Betelgeuse and the Winter Hexagon of Capella, Castor/Pollux, Procyon, Sirius, Rigel, Aldebaran and back to our starting point Capella. Tracing them out is good practice in helping to familiarize yourself with some of the winter's most brilliant beacons. Don't forget to take your last look at winter gems like the Orion Nebula, Pleiades (Taurus), M-35 (Gemini), M-41 (Canis Major), the Double Cluster and Alpha Persei Association (both in Perseus). They're slowly advancing towards the western horizon and will soon take a nine-month hiatus from our evening skies.

Looking eastward into the spring skies, note halfway along a line from Pollux in Gemini to Regulus in Leo there's a nebulous patch of light in an otherwise empty part of the sky. In brighter skies it's just a ghost. In darker skies the unaided eye can just make out the stars of M-44, the Beehive Cluster, a harbinger of the spring constellations to come. M-44 is the fifth closest star cluster to us after the Ursa Major Moving Cluster, 80 light years (ly) distant, Hyades in Taurus (150 ly), Coma Berenices Cluster, aka Mel 111 (283 ly) and Pleiades (M-45, 400 ly). M-44's relative closeness is why it exhibits such a large apparent size of at least 1.5 degrees. For that reason, binoculars are recommended to view it. While in the area, why not pay a visit to Iota Cancri about 8 degrees north of M-44. It's a beautiful blue and yellow double star easily split in small telescopes (magnitude [mag] 4.1, 6.6, 30.5") (SAO 80415).

You may notice there's a dearth of bright stars in this region of sky; the reason being the Milky Way is absent here

Still, there's an interesting group of six stars, mag 3.0 and dimmer, below the Beehive Cluster that may draw your attention. They're the stars that make up the "Head" of

Hydra, the Water Snake. The group covers about five degrees and thus is a fine binocular target. I don't think they get much attention and would likely welcome visitors. The brightest and most northern member of the group is Epsilon Hydrae, a challenging triple star (SAO 117112). A little farther south from the Snake's Head is Hydra's brightest star at mag 2.0, Alphard. The name is apt, as it's from the Arabic "Solitary One." Indeed, it's one of the few light posts in this great north to south void between Procyon and Regulus. Incidentally, Hydra has the distinction of being the largest of the 88 constellations in terms of square degrees (1302.840).

Further to the east is the prominent spring constellation Leo the Lion, one of the few star patterns that looks like what it's supposed to be. Shining at mag 1.4, Regulus is Leo's brightest star and sits only half a degree north of the ecliptic, meaning it's subject to an occasional occultation by the moon. It has a wide 7th mag companion to its northwest easily seen in an 8x50 finder. Above Regulus in the Lion's "Mane" resides Algieba (Gamma Leonis), a fine close double star (4.7") resolvable in a 70mm refractor at 80x (SAO 81298). The constellation abounds in galaxies. Start with NGC 2903 west of the Mane. East of Regulus, under the Lion's belly are M95, 96 and 105. Glide further east to the beast's hind quarters and you'll find another Leo trio south of Delta Leonis (Chertan, aka Coxa): M65/66/NGC 3628.

Rising in the northeast is Ursa Major, the Great Bear. He has awakened from his winter slumber and is on the prowl. There is no better time to observe two of his finest gems, M-81 and M-82. Both galaxies are about 12 million light years away and separated by just over 100,000 light years from what astronomers think was a close encounter, which explains the disrupted look of M-82, evident even in backyard telescopes.

Like the Great Bear, we humans have also arisen from a long winter hiatus and look forward to observing the celestial delights of spring under warmer conditions.

# Deep Sky Imaging Target Highlights for March

by James Yoder

The average low [temperature](#) for March in the Phoenix metro area is 53° F. March 21<sup>st</sup> is a new moon with Astronomical dusk at 8:02 pm and Astronomical dawn at 05:07 am, giving us 9:05 hours of imaging time.

In this month's list there are over 102 object/configuration combinations provided of just about every class of deep sky object including 12 Globular Clusters, 5 Open Clusters, 13 Planetary Nebulas, 4 Nebula, 1 Dark Nebula, and 72 Galaxies/Galaxy Clusters.

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 January

Configuration	Page	Object	Type	ImageLink
Hyperstar	7	M81 & M82 Galaxy Pair	Galaxies	<a href="#">170 min</a>
Hyperstar	21	Markarian Chain (M-84, et.el.)	Galaxy Cluster	<a href="#">170 min</a>
Focal Reducer	19	M-106 Galaxy Group	Galaxy Group	<a href="#">85 min</a>
Focal Reducer	28	NGC-4725 (PGC-43451)	Galaxy Group	<a href="#">288 min</a>
Primary Focus	10	NGC-3242 (Ghost of Jupiter)	Planetary Nebula	<a href="#">72 min</a> (Cropped)
Primary Focus	11	IC-2574 (Coddington's Nebula)	Galaxy	<a href="#">800 min</a>

Resources:

- ArtCentrics.com – [March](#) 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 Outreach Events

by Claude Haynes

### March Outreach Events:

- Saturday, March 4 – Superstition Sleepover at Prospector Park in AJ.
- Tuesday, March 7 – Pomeroy Elementary
- Tuesday March 7 - Playa del Rey Elementary
- Monday, March 20 – Ironwood Crossing Community Association
- Wednesday, March 22 – Viewpoint Community Association
- Saturday, March 25 – Fountain Hills Dark Sky Festival
- Sunday, March 26 – Peralta Regional Park

- Wednesday, March 29 – Apache Junction Government Center

Details can be found on the EVAC website. Just go to [www.evaconline.org/events-meetings](http://www.evaconline.org/events-meetings). Click on the calendar entry for location and times. Contact Claude Haynes (interim Events Coordinator) if you can volunteer at an event. It is helpful to know who is coming so we can inform you of where the observing field is located and how to gain access.

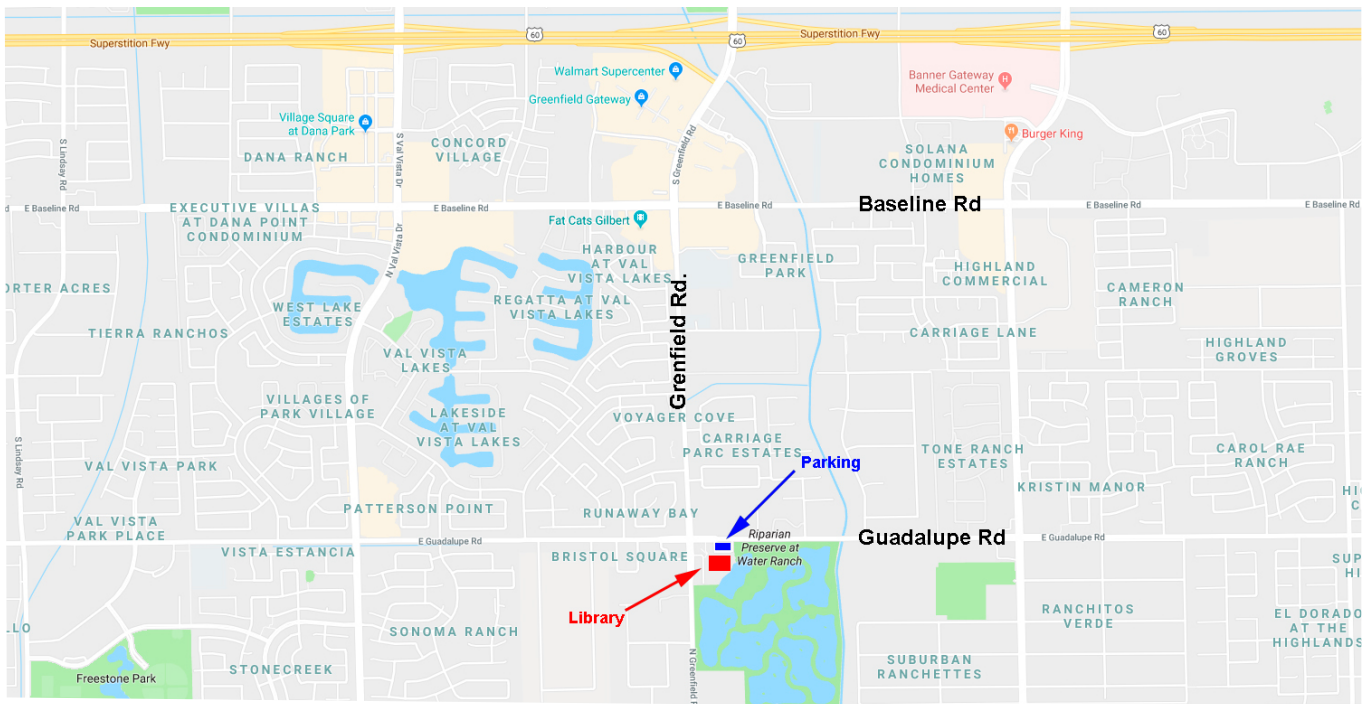
Monthly Meetings will be held in person and also presented live online using Zoom. See the EVAC Website for updates.

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@evaconline.org](mailto:grco@evaconline.org) for information.

### Messier Marathon

**When:** Saturday, March 18

**Where:** North Hovatter Observing Field (see map)

**Schedule:**

- 6:00pm – Social time (enjoy a soda and make new friends).
- 6:30pm – Announcements and Contest Rules.
- 6:37pm – Sunset.
- 10:00pm – Coffee, Tea, Hot Chocolate and Snacks.
- 6:39 am – Sunrise (greet the Equinox Sun).

**Driving instructions:**

- From Phoenix, go west on I-10 to Hovatter Rd at exit 53.
- Turn RIGHT onto North Hovatter Rd.
- Follow the gravel road (watch for the bump where the pavement ends).
- Take the right fork .
- Not Hope-Hovatter Rd.
- After about 3.5 miles you will see a mining operation on the mountainside.
- Take a hard right turn onto the observing field.
- There will be signs to assist – call 480.221.5792 if you are lost or have questions





SkyPi Remote Observatory

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

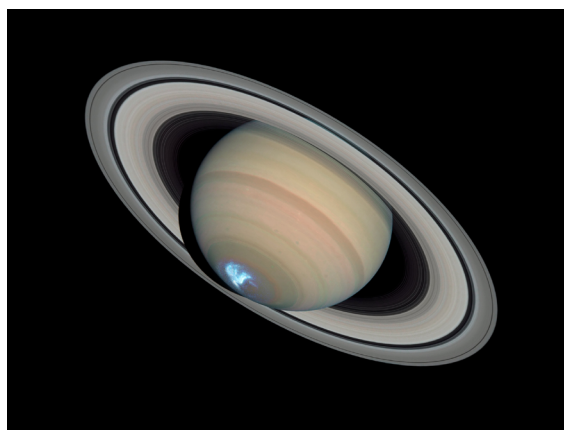
At the site: Bathroom facilities, running water, 5 pads w110v, wifi, acres of grassy camp sites.

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

Webcam imaging made easy!

Time lapse

Planetary  
& lunar  
imaging



Motion  
detection

Meteor capture

Free trial!

[www.AZcendant.com](http://www.AZcendant.com)





**SUPPORT  
YOUR  
LOCAL  
TELESCOPE  
DEALER**

5757 N. Oracle Road Tucson, AZ 85704 520-292-5010  
www.starizona.com

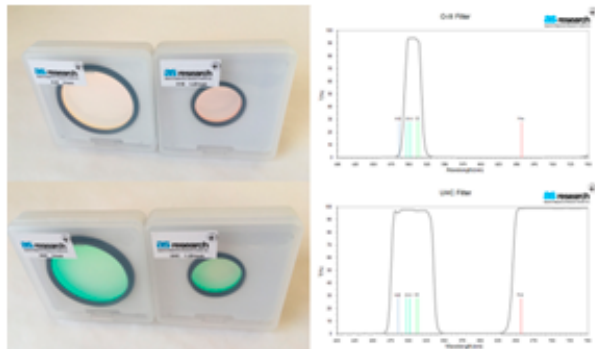
# Apache-Sitgreaves Observatory

Overgaard, Arizona

Largest Public  
Observing  
Telescope  
in  
Arizona



Critical products for visual observing, too!



**A-S Research Nebula Filters: See More Nebulosity!**

www.apache-sitgreaves.org

# MARCH 2023

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

**March 4** - Superstition Sleepover at Prospector Park in AJ

**March 7** - Pomeroy Elementary

**March 7** - Playa Del Rey Elementary

**March 10** - EVAC Riparian Star Party

**March 17** - EVAC Monthly Meeting

**March 20** - Ironwood Crossing Community Association

**March 22** - Viewpoint Community Association

**March 25** - Fountain Hills Dark Sky Festival

**March 26** - Peralta Regional Park

**March 29** - Apache Junction Government Center

# APRIL 2023

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

**April 7** - EVAC Riparian Star Party

**April 14** - 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	\$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"/>

<b>Renewal Dues</b> (Current Members Only)			Astronomical League: \$7.50 Annually: <input type="checkbox"/>
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: <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 State Zip	URL 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.*

*Material in this publication may not be reproduced in any manner without written permission from the editor. ©2005-2023*

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

[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 Coshov, 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: Marty Pieczonka*

*GRCO Webmaster: Brandon Feldman*

*SkyWatch Coordinator: Claude Haynes*

*Observatory Manager: Claude Haynes*

East Valley Astronomy Club

PO Box 2202

Mesa, Az. 85214-2202

**FULL MOON ON MARCH 7 AT 05:40**

**LAST QUARTER MOON ON MARCH 14 AT 19:08**

**NEW MOON ON MARCH 21 AT 10:23**

**FIRST QUARTER MOON ON MARCH 28 AT 19:32**