



THE OBSERVER

East Valley Astronomy Club



Comet Catalina - Ian Sharp
APOD August 18, 2015

UPCOMING EVENTS:

Local Star Party - December 5

Deep Star Party - December 12

EVAC Monthly Meeting - December 18

Check out all of the upcoming club events in the Calendars on page 9

EVAC This Month by Claude Haynes

Fast away the old year passes. It has been a busy one, and EVAC has had many accomplishments. Over 40 school and community star parties, hundreds of attendees at the summer "Explore the Night Sky" evenings, hundreds more at the lunar eclipse event, as well as many improvements at the Observatory. We have much to be proud of, and much to look forward to. My term ends, and I am delighted with the new slate of officers for 2016:

- President – Don Wrigley
- Vice President – Claude Haynes
- Secretary – Jan Barstad
- Treasurer – Brooks Scofield

- Board Members:
- Wayne Thomas
- Dan Hahne
- Ray Heinle
- David Hatch
- Marty Pieczonka

Our next meeting will be our Holiday Party, and it will start at 07:00 PM. EVAC will provide a meat tray and drinks. Please bring a salad, vegetable dish or dessert to share. The Riparian Preserve will be celebrating "Riparian After Dark" the second and third weekends in December. The park is beautiful, and the colored light displays and luminarias add to that. Due to that

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EVAC This Month

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event, we will not have our second Friday star party, and members are encouraged to bring a can of food for the United Food Bank at our Holiday Party. Parking may also be an issue, so keep in mind the lot on the Greenfield side of the library.

Steven Aggas has a crowd funding project for his Apache-Sitgreaves observatory. There is a document later in this edition which contains a URL for his Dare Mighty Things project. Please check it out.

If It's Clear...

by Fulton Wright, Jr. Prescott Astronomy Club

December 2015

Celestial events (from Sky & Telescope magazine, Astronomy magazine, and anywhere else I can find information) customized for Prescott, Arizona. All times are Mountain Standard Time.

This month you might be able to see Comet Catalina (C/2013 US10). See Astronomy magazine, December 2015, p. 42 for more information and finder chart.

On Wednesday, December 2, the Moon is at last quarter phase and rises at 12:12 AM (Thursday).

On Monday, December 7, at 9:18 AM, the Moon occults Venus. This is a daytime occultation only 40 degrees from the Sun, so finding Venus will be tricky. The best way is to point your tracking telescope at Venus before sunrise (7:24 AM). The planet reappears at 11:08 AM.

On Thursday, December 10, it is new Moon and you have all night to hunt for faint fuzzies.

On Monday, December 14, you might see some meteors. The Geminid meteors peak tonight. If the circumstances

Finally, I want to thank all of the officers, board members, public star party participants and observatory staff for their contribution to the success of EVAC. This is a time for thanksgiving, and I am especially grateful for all who have assisted during my term. A joyous holiday, and an exciting new year to all.

Keep looking up.

Claude

are right, you might see 120 per hour, but meteors are hard to predict. See Astronomy magazine, December 2015, p. 37, for more details. I'm still offering a free dinner to anyone who dresses too warmly.

On Thursday, December 17, the Moon is at first quarter phase and sets at 12:03 AM (Friday).

On Monday, December 21, the Sun reaches its furthest south point and we have the winter solstice.

On Thursday, December 24, at 5:12 PM (13 minutes before sunset) the full Moon rises, spoiling any chance of seeing faint fuzzies for the night. Have a look at the north-east (IAU) part of the Moon. Libration tips that part toward us. Astronomy magazine, December 2015, p. 37, has an article about exploring the Moon's north pole this Christmas.

On Tuesday, December 29, about 6:00 PM, look low in the south-west for Mercury. The planet should be barely visible for a few days around this date.

The Backyard Astronomer

by Bill Dellinges (December 2015)

Cassiopeia Treasure Trove

Cassiopeia the Queen is perfectly placed these December evenings as she rises high over Polaris, the North Star. Cassiopeia was the wife of King Cepheus of Ethiopia in Greek mythology. It's often referred to as the "W" due to the shape of its five brightest stars. But this time of year it looks more like an "M". To help in remembering the names of the main stars in a constellation, it can be useful and fun to create a mnemonic for it. For our queen, working west to east, try "Can't Stand C.R.S." (Caph, Shedir, Chi, Ruchbah, and Segin). Or create your own!

Smack dab in the Milky Way, Cassiopeia is a treasure trove of deep sky goodies. M52 is a classic open star cluster. A line from Shedir to Caph and continued an equal distance points right to M52. In an 11" telescope at 90x, about 75 stars create a miniature version of M35. An 8th magnitude star dominates the cluster's west side. While M52 is often overlooked, M103 gets much more press for some reason even though it barely qualifies as a star cluster. Located just east of Ruchbah, M103 is a small, loose cluster with four bright stars and about 20 dimmer ones looking almost as though it's two separate stellar systems. Still, this disjointed grouping has a fascinating daintiness to it.

Many Messier objects appear as small nebulous smudges in telescope finders. M103 barely meets that criterion. But less than 2 degrees east of M103 resides NGC 663 which any optical finder will detect. And for a good reason – NGC 663 is twice the size and contains three times the number of stars as M103. NGC 457, the E.T. Cluster, is a popular stop for many stargazers and is a big hit with the public when told it resembles a stick figure of the movie alien. Before goto telescopes, a crafty star hopper could find it by following a line from Segin to Ruchbah and continued half that distance. Two bright stars on the edge of the cluster represent the alien's eyes. Strings of stars from the eyes form a torso with arms slanted back towards the eyes. As such, this writer sees the grouping as more of a jet plane, the eyes being the jet's tail lights with the arms representing wings. By the way, those tail light stars are the multiple star system ADS 1073 (SAO 22191). The brighter star, Phi Cassiopeiae has a

12.2 magnitude little friend 48.6" away, Position Angle 208 degrees. The dimmer star has a magnitude 10.5 buddy about 45" at PA 287 degrees (relative to A). All 4 components are visible in an 11" telescope at 200x.

Recall the line from Schedir to Caph to M52? If you turn southwest at Caph and travel half that distance, you find NGC 7789. This is a large open cluster off the beaten path. About 300 stars, none brighter than magnitude 10.7, form a mass of powdery stardust 15 arc minutes in diameter. The equal dimness of its stars makes this cluster unique. It's faintly visible in a finder. At 90x and 0.9 degree field, an 11" telescope gives a fine introductory view. Try higher power to darken the background sky and bring out the cluster's myriad dim stars. The view is glorious at 165x but be sure to maintain enough field to frame the cluster, otherwise it just becomes "lost" in background Milky Way stars.

Cassiopeia is loaded with double stars. Let's look at two. A line from Ruchbah to Segin extended almost the same distance takes you to Iota Cassiopeiae, one of the finest triple stars in the sky. But it can be challenging. An 11" at 90x brings out only two stars. At 127x, the B component appears. Depending on seeing, it may take 200x to split all three stars cleanly. A fine sense of accomplishment awaits the stargazer who does succeed in splitting this triple star. Data: AB magnitude 4.6, 6.8, Separation 2.8", PA 230 degrees. AC 4.6, 9.0, 7.3", 114 degrees. SAO 35476.

The last jewel in the treasure chest is a 10 component multiple star system 3 degrees due south of M52. Otto Struve 496 (SAO 35476) almost qualifies for a star cluster! It must be a very busy area for interstellar travelers there. Magnitudes vary from 4.9 to 11.3. An 11" telescope picked out 5 stars at 90x. Another 2 and possibly a third star made its appearance at 233x.

These showcase objects only scratch the surface of this rich area of the sky. Use your sky atlas to poke around and discover more of the Queen's hidden gems.

Photograph the Universe From Your Living Room!



*****FROM THE DARK SKIES IN ARIZONA*****

Apache-Sitgreaves Research Center, in Overgaard, Arizona, is gearing up to offer remote access to some of the best skies in the northern hemisphere from the comforts of your own home. Please join us as we enter this next phase of our operations here at Apache-Sitgreaves. Our facility at Apache-Sitgreaves Research Center has been in existence for over ten years providing people with extraordinary visual observing and we want to expand it to include remote imaging.

Our goal;

To provide the most cost effective, remote access, digital imaging system using our very large telescope at our world-class dark sky site.

What we need;

We need your help! To provide an incredible experience you will never forget, please make a contribution to our Dare Mighty Things campaign on Indiegogo by mid-December to make this happen. <http://igg.me/at/DareMightyThings>

About us;

Our private location is in the Apache-Sitgreaves National Forest. Located at roughly 7000-foot elevation, in the desert of northern Arizona (yes, there are cactus here among the pine), is where you'll find some very dark skies. This is a World-Class observatory site and our neighbors are quite famous; Lowell Observatory and Discovery Channel Telescope - all of us on the edge of the Colorado Plateau. Our flagship telescope at Apache-Sitgreaves is a fully computer controlled Go-To 36-inch f4.5 Newtonian telescope with an effective focal length of 4732mm using a Canon 60Da DSLR. In comparison, our 36-inch scope has 20x the aperture of an 8-inch telescope!

We also have a Wide-Field system comprised of the same Canon 60Da DSLR with a 50mm lens on a separate mount to provide lunar, Milky Way, or comet imaging.

We provide an opportunity for you to hang beautiful astro-photos on your wall. All of our systems use familiar software like TheSkyX-Pro and MaximDL, so astro-imagers can feel at home running this system (and partly because they are in their own living room doing it. Even if you are new to digital imaging we provide on-site support for your session! So, please, make a contribution to our Dare Mighty Things campaign on Indiegogo by mid-December to make this happen. <http://igg.me/at/DareMightyThings>. You can also visit our website at www.Apache-Sitgreaves.org or contact me at SLAggas@msn.com for more information. Follow us on Facebook at 'Apache-Sitgreaves Research Center' and Twitter @DeepSpaceNow (who doesn't like a message from deep space, right?).

We appreciate your contributions and Happy Imaging!

Thank you, Steven Aggas

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 on the Contact-Us tab.

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.

LAST QUARTER MOON ON DECEMBER 3 AT 02:40

NEW MOON ON DECEMBER 11 AT 05:29

FIRST QUARTER MOON ON DECEMBER 18 AT 10:14

***FULL MOON ON DECEMBER 25 AT 06:11**

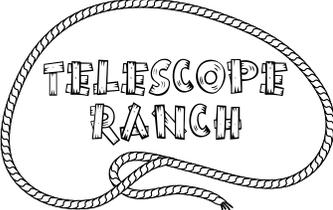


December 11- 5:00pm-9:00pm- Diapers, Wipes and Feminine Hygiene Products for The House of Refuge

December 12- 5:00pm-9:00pm- Toys/Games for Gilbert Fire and Rescue Toy Drive

December 18-5:30pm-9:00pm-Non-Perishable Foods for United Food Bank

December 19- 5:00pm-9:00pm- Dog Food/Supplies for Maricopa Animal Rescue



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Upcoming Meetings

December 18

January 15

February 19

March 18

April 15

May 20

June 17

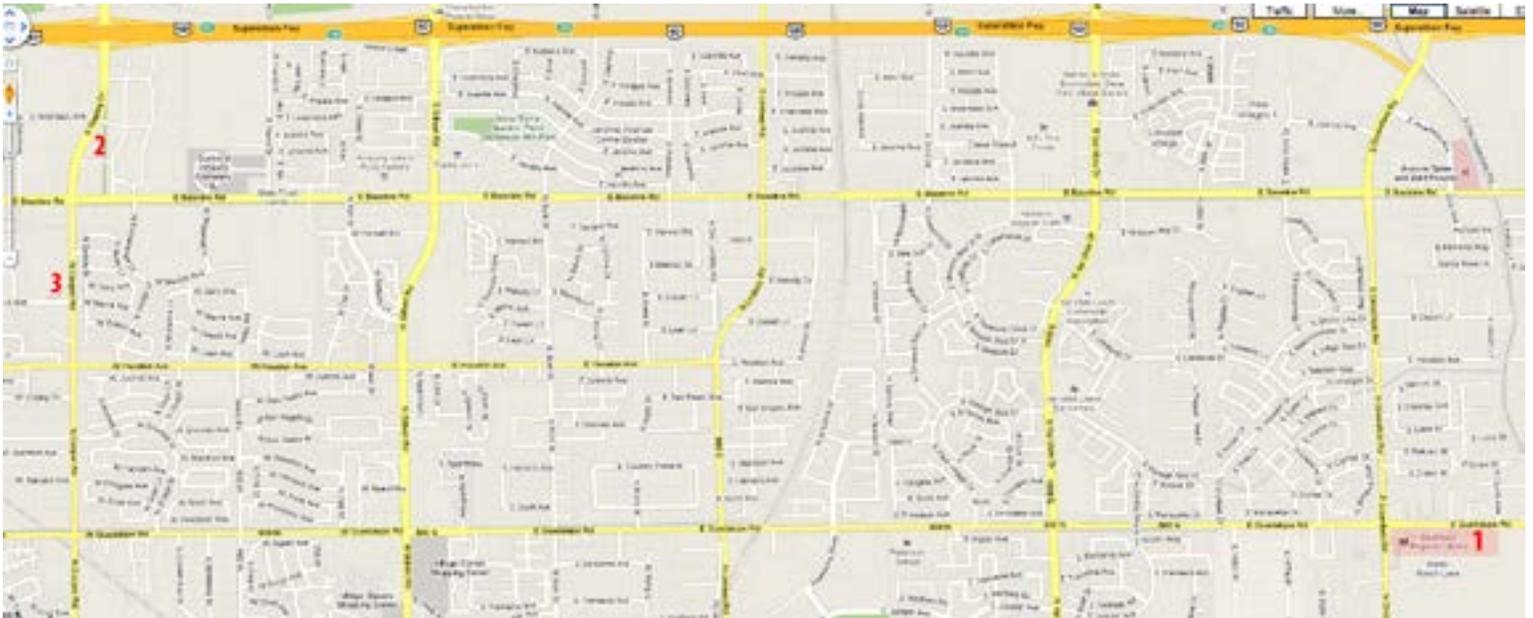
July 15

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 7:30 pm.

All are welcome to attend the pre-meeting dinner at 5:30 pm. We meet at Old Country Buffet, located at 1855 S. Stapley Drive in Mesa. The restaurant is in the plaza on the northeast corner of Stapley and Baseline Roads, just south of US60.

Visitors are always welcome!



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Old Country Buffet
1855 S. Stapley Drive
Mesa, Az. 85204

1

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



DECEMBER 2015

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		

Dec 1 - Poston Junior High

Dec 3 - Akimel A-al Middle School

Dec 5 - Local Star Party

Dec 11 - Riparian After Dark

Dec 12 - Deep Sky Party

Dec 15 - ASU Preparatory Academy

Dec 16 - Gateway Polytechnic Academy

Dec 18 - EVAC Monthly Meeting (07:00 PM)

JANUARY 2016

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

Jan 2 - Local Star Party

Jan 8 - Public Star Party

Jan 9 - Deep Sky Party

Jan 11 - San Tan Elementary

Jan 15 - EVAC Monthly Meeting

Jan 21 - Irving Elementary

Jan 26 - Charlotte Patterson Elementary

Jan 27 - Concordia Charter School

Jan 28 - Frye Elementary

East Valley Astronomy Club -- 2013 Membership Form

Please complete this form and return it to the club Treasurer at the next meeting or mail it to EVAC, PO Box 2202, Mesa, Az, 85214-2202. Please include a check or money order made payable to EVAC for the appropriate amount.

IMPORTANT: All memberships expire on December 31 of each year.

Select one of the following:

- New Member
 Renewal
 Change of Address

New Member Dues (dues are prorated, select according to the month you are joining the club):

- | | |
|---|---|
| <input type="checkbox"/> \$30.00 Individual January through March | <input type="checkbox"/> \$22.50 Individual April through June |
| <input type="checkbox"/> \$35.00 Family January through March | <input type="checkbox"/> \$26.25 Family April through June |
| <input type="checkbox"/> \$15.00 Individual July through September | <input type="checkbox"/> \$37.50 Individual October through December |
| <input type="checkbox"/> \$17.50 Family July through September | <input type="checkbox"/> \$43.75 Family October through December |
- Includes dues for the following year*

Renewal (current members only):

- \$30.00 Individual**
 \$35.00 Family

Name Badges:

- \$10.00** Each (including postage) Quantity: _____

Name to imprint: _____

Total amount enclosed:

Please make check or money order payable to EVAC

- Payment was remitted separately using PayPal
 Payment was remitted separately using my financial institution's online bill payment feature

Name:

Phone:

Address:

Email:

City, State, Zip:

Publish email address on website
 URL:

How would you like to receive your monthly newsletter? (choose one option):

- Electronic delivery (PDF) *Included with membership*
 US Mail **Please add \$10 to the total payment**

Areas of Interest (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> General Observing | <input type="checkbox"/> Cosmology |
| <input type="checkbox"/> Lunar Observing | <input type="checkbox"/> Telescope Making |
| <input type="checkbox"/> Planetary Observing | <input type="checkbox"/> Astrophotography |
| <input type="checkbox"/> Deep Sky Observing | <input type="checkbox"/> Other |

Please describe your astronomy equipment:

Would you be interested in attending a beginner's workshop? Yes No

How did you discover East Valley Astronomy Club?

PO Box 2202
Mesa, AZ 85214-2202
www.evaonline.org

All members are required to have a liability release form (waiver) on file. Please complete one and forward to the Treasurer with your membership application or renewal.

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. Printed copies are available at the monthly meeting. Mailed copies are available to members for a slight surcharge to offset printing and mailing expenses.

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
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Mesa, Az. 85214-2202

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