



THE OBSERVER

East Valley Astronomy Club



Dressed in the appropriate headgear, Claude Haynes describes the conspiracy that is the cover up of the mysterious cylindrical object that Hubble photographed near Saturn. EVAC meeting 11/21/2014.

EVAC This Month by Claude Haynes

As EVAC members do you know, Bob Alba, Ron Barstad, Tyler Bryan, David Douglass, David Hatch, Ray Heinle, Grant Klassen, Bruce LaFrance, Frank Pino, Brooks Scofield, David Shiel, or Lynn Young? If you go to one of our School Star Parties you will probably see them because they have attended five or more this year. You can join that exalted list. We have eight school parties scheduled in December. I realize this is a busy time of year, but why not give some kids the gift of your knowledge and passion for

astronomy.

Congratulations also to our slate of Officers and Board Members for 2015. Thanks also to Lesley Watkins, Marty Pieczonka and Ron Barstad for their service this year. We have a great club, and it is made that way by the hard work of a lot of people. A number of our Officers and Board are term limited next year. It's never too early to start thinking about joining them.

The December meeting is December 19, and is our traditional

UPCOMING EVENTS:

- Public Star Party - December 12*
- Local Star Party - December 13*
- EVAC Monthly Meeting- December 19*
- Deep Sky Party - December 20*
- Check out all of the upcoming club events in the Calendars on page 8*

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Evac This Month

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Holiday Potluck. EVAC will provide sandwich meats and drinks. Please bring a vegetable or dessert to share. This is always a great party, and a wonderful time to relax and chat.

Brief note for January. Our January 16 meeting will be at the Freestone Recreation Center at 1141 E Guadalupe Rd. It is just down Guadalupe Rd, west of Val Vista on the south side of the street. The Town of Gilbert and the Library are hosting an event for the Dr. Martin Luther King Jr. Holiday, and we agreed to move for the evening.

If It's Clear...

by Fulton Wright, Jr. Prescott Astronomy Club

December 2014

If it's clear for December 2014
by Fulton Wright, Jr.
Prescott Astronomy Club

Celestial events (from Sky & Telescope magazine, Astronomy magazine, and anywhere else I can find information) customized for Prescott, Arizona. Remember, the Moon is 1/2 degree or 30 arc-minutes in diameter. All times are Mountain Standard Time.

Every Monday night there is something interesting going on with Jupiter's moons. Look also for these moons to get very close together (even one to pass in front of the other) from time to time. For example see December 19.

On Saturday, December 6, the full Moon rises at 5:57 PM (37 minutes after sunset). Libration tips the (terrestrial) north-east part of the Moon toward us. The next 2 nights are also good for observing that part of the Moon.

On the night of Sunday, December 7, at 12:45 AM (Monday), you can see the just past full Moon occult 2 close stars, one of which is an even closer double. They reappear at 1:51 AM.

On Monday, December 8, at 11:28 PM, you can watch Io's shadow pass under Europa on Jupiter's surface. The whole event takes about 10 minutes. While this happens Io itself is near the center of Jupiter, but will be very difficult to see.

As we close the year, we can look back on many achievements. We have a strong working relationship with the Town of Gilbert, and a newly cleaned telescope. We have impacted the lives of thousands of children and adults who have looked through our telescopes. We have provided public outreach at our star parties and Sky Watch, and we have had some spectacular speakers and presentations.

May 2015 bring you Joy, Peace and
Clear Skies.

On the night of Saturday, December 13, the Moon is at third quarter phase and rises at 12:12 AM (Sunday). This would be a good night to look for the Geminid meteors late in the evening but before the Moon rises. Tomorrow night should also be good before the 1:06 AM (Monday) moonrise. Remember, meteors only show up now and then, and it will be cold out there.

On Monday, December 15, at 11:15 PM, Io's shadow falls on Jupiter and Europa moves in front of Jupiter at almost the same time and place. (Europa's shadow is already on the planet.) Europa tries valiantly to cover Europa's shadow but can't quite move fast enough.

On Friday, December 19, at 10:38 PM Io passes almost directly behind Europa.

On Sunday, December 21, around 4:49 AM, you can see Jupiter's satellite Io undergo an eclipse in the shadow of Callisto. Io will start out at magnitude 4.8. In about 11 minutes it will have dropped to magnitude 5.9. 11 minutes later it will be back to full brightness.

On Sunday, December 21, it is new Moon and you have all night to hunt for faint fuzzies. Not only that, but tonight is the longest night of the year because it is the winter solstice and the beginning of winter. Dress warmly.

On the evening of Monday, December 22, you can see some events with Jupiter's moons. Here is the schedule:

If It's Clear...

Continued from page 2

11:42 PM Europa's shadow falls on Jupiter.
01:05 AM (Tuesday) Io's shadow falls on Jupiter.
01:41 AM Europa moves in front of Jupiter.
02:02 AM Io moves in front of Jupiter.
02:36 AM Europa's shadow leaves Jupiter.
03:19 AM Io and Europa kiss in front of Jupiter (hard to observe).
03:21 AM Io's shadow leaves Jupiter.
04:18 AM Io moves from in front of Jupiter.
04:34 AM Europa moves from in front of Jupiter.

On Sunday, December 28, the Moon is at first quarter phase and sets at 1:09 AM (Monday).

The Backyard Astronomer *by Bill Dellings (December 2014)*

Spotlight on Cassiopeia

What better time to wander through the constellation of Cassiopeia than winter when the Queen rides high in the sky above the North Star Polaris. In one of the most famous stories in Greek mythology Cassiopeia, wife of King Cepheus of Ethiopia, boasted her beauty exceeded that of the sea nymphs. This angered the sea god Poseidon who sent the sea monster Cetus to ravage Cepheus' kingdom. An oracle advised the king to sacrifice their beautiful daughter Andromeda by chaining her to a rock in the path of the monster to avoid further carnage. By chance, Perseus the Hero, utilizing his winged sandals, was passing by overhead. Having recently slain the witch Medusa, whose frightening face would change anyone looking at her into stone, Perseus flew down into the chaos, pulled the severed head of Medusa out of a sack, exposed it to Cetus and promptly turned the monster into a large rock saving Andromeda. Later, the gods punished the vane Cassiopeia by placing her in the sky where she forever circles Polaris, half the year in an undignified upside down position. The constellation is a simple five star affair looking like the letter W in spring and summer and an M in fall and winter. A neat mnemonic to remember the five star names of Cassiopeia (west to east), Caph, Shedir, Chi, Ruchbah and Segin is "Can't Stand CRS." Chi is also known as Navi in some atlases. The name was a benevolent hoax by one of the three Apollo 1 astronauts. He assigned three new star names for navigation using part of their names spelled

On the evening of Monday, December 29, after midnight (Tuesday) you can see some events with Jupiter's moons. Here is the schedule:

02:19 AM Europa's shadow falls on Jupiter.
02:51 AM Io passes by Europa.
02:58 AM Io's shadow falls on Jupiter. (2 shadows)
03:48 AM Io moves in front of Jupiter.
04:03 AM Europa moves in front of Jupiter.
04:49 AM Callisto appears from behind Jupiter.
05:13 AM Europa's shadow leaves Jupiter.
05:15 AM Io's shadow leaves Jupiter.
06:04 AM Io moves from in front of Jupiter.
06:57 AM Europa moves from in front of Jupiter.

backwards. Navi was from Virgil Ivan Grissom, Dnoces (Iota U. Maj.) was from Edward White II (the Second) and Regor (Gamma Velorum) from Roger Chaffee.

Since Cassiopeia is embedded in the Milky Way band, it's awash with open star clusters. The great thing about star clusters is that no two look alike. Each has its own fingerprint, as it were. There are two Messier clusters in Cassiopeia, M52 and M103. M52 reminds me of a miniature version of M35 in Gemini. M103 is somewhat disappointing, four bright stars and about twenty fainter ones. While many fine clusters register as a faint smudge in a finder, M103 doesn't. You'll just see a tight formation of four stars. Only when you examine it in the eyepiece, do you realize you're looking at a star cluster. Much more impressive is NGC 663, a cluster about a degree east of M103. NGC 663 is about the size of M103 but its stars are much brighter. NGC 457 is an interesting cluster because of its shape. Many observers refer to it as the "E.T." or "Owl" cluster because it has two bright stars forming eyes and other stars forming a body. I like to call it the "Airplane" cluster: the two bright stars are tail lights, a straight line of stars is its fuselage, and best of all, faint lines of stars either side of the fuselage are its swept back wings!

A somewhat overlooked but beautiful cluster is NGC 7789, three degrees southwest of Caph (Beta Cas). This is a powdery aggregation of three hundred faint stars of similar magnitude, like spilled salt and pepper. At first it disappoints, but pumping the power up to 165x darkens the

The Backyard Astronomer

Continued from page 3

the background sky and these fine diamonds come to life almost filling a 0.5 degree field of an 11" SCT. The cluster is sometimes called "Caroline's Rose" in honor of Caroline Herschel who discovered it in 1783. I think I prefer that to Stephen O'Meara's "The Screaming Skull."

Our final target is the lovely triple star Iota Cassiopeia (SAO 12298). I rate this triple second only to Beta Monocerotis as the best triple star in the sky. Iota Cassiopeia is a tad more challenging because its components are somewhat

dimmer and tighter than Beta Monocerotis. In the 11", 90x splits only the AC stars. The B star just starts to reveal itself at 127x. The trio was nicely resolved at 200x.

Visit these objects to acclimatize yourself for the coming wonders of the chilly winter skies. And don't forget to stock up on cocoa.

***FULL MOON ON DECEMBER 6 AT 7:27**

LAST QUARTER MOON ON DECEMBER 14 AT 7:51

NEW MOON ON DECEMBER 21 AT 20:36

FIRST QUARTER MOON ON DECEMBER 28 AT 13:31

Looking for that perfect weekend activity?

Why not resolve to getting involved?

Contact Dave Coshow to join the staff at GRCO

Email: grco@evaonline.org



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Upcoming Meetings

December 19

January 16

February 20

March 20

April 17

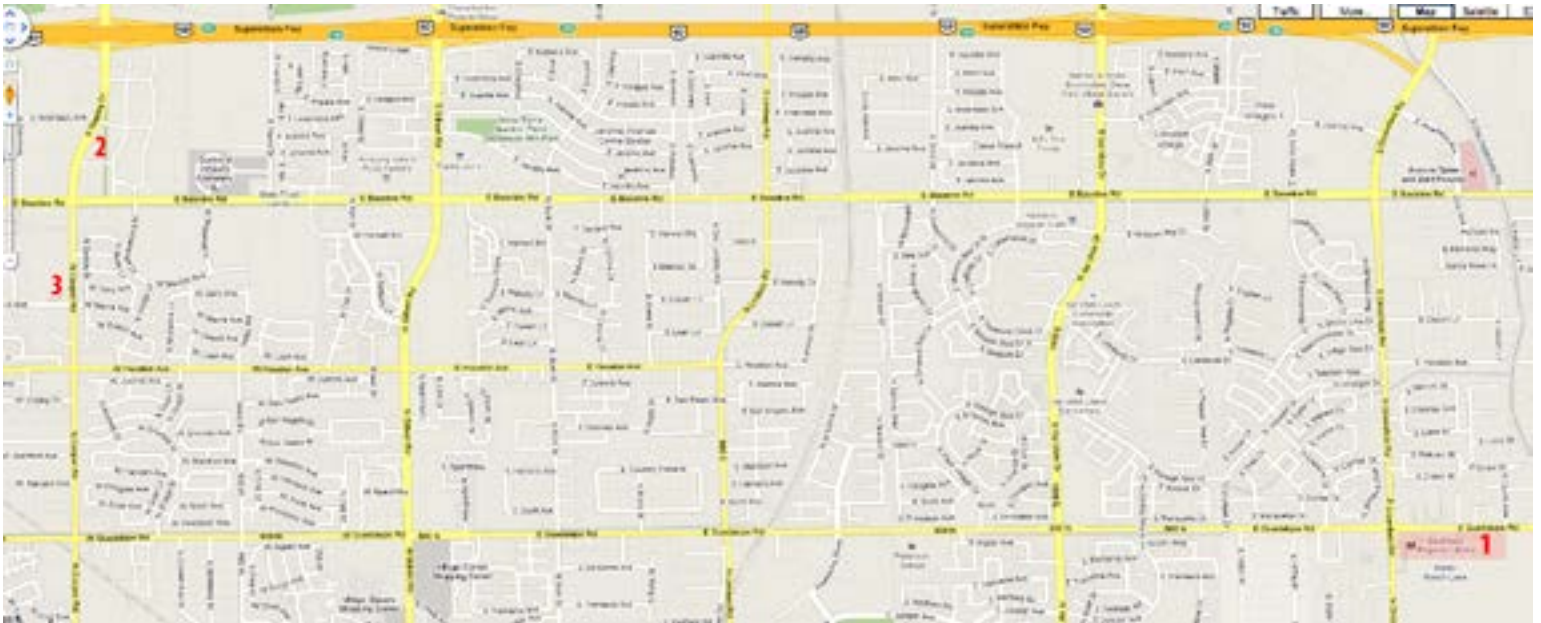
May 15

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 2014

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 2 - Smith Junior High

Dec 4 - Concordia Middle School

Dec 5 - Centennial Middle School

Dec 9 - Akimel A-al Middle School

Dec 10 - Poston Junior High

Dec 11 - Edu-Prize School

Dec 12 - Riparian Public Star Party/Skywatch

Dec 13 - Local Star Party

Dec 15 - Fremont Junior High

Dec 16/17 - Queen Creek Middle School

Dec 19 - EVAC Holiday Potluck

Dec 20 - Deep Sky Star Party

JANUARY 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

Jan 9 - Riparian Public Star Party

Jan 16 - EVAC Meeting Freestone Rec Center

Jan 17 - Local Star Party

Jan 20 - Charlotte Patterson Elementary

Jan 21 - Red Mountain Ranch Elementary

Jan 22 - Irving Elementary

Jan 24 - Deep Sky Party

Jan 28 - Assist GRCO

Jan 29 - Riggs 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.evaconline.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.

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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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www.evaonline.org

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