

Vandenberg Amateur Astronomical Society
presents
The Sidereal Times



Flame & Horsehead nebula (see page 5)

Meeting News:

The December meeting election of VAAS officers confirmed, Jana gave a presentation about Mars and Pluto. We had a brief Xmas party and viewed astrophotos on Vahan's lap top. Also discussed the New Year party at Mi Amore pizza for January 2016.

Reminder: VAAS club meeting and New Year Party at Mi Amore Pizza in Lompoc Friday January 8th at 6:00 PM. Club pays all except drinks and deserts. See you there.



Lunar Calendar:

New Moon 9th
Full Moon 23rd



More participation by the membership in VAAS activities. ©

Presidents Message

HAPPY NEW YEAR to all Members in 2016 ! We will celebrate together at **MiAmore's for Pizza** for our January Meeting. **It will start one hour earlier – at 6 pm, not 7.** Hope to see all members attend! Mi Amore's is located to the right of CVS Pharmacy in the same shopping center near the corner of H St./Central Ave.

Talking of parties- we had a really nice **Holiday gathering** for our Dec. Meeting , complete with many goodies, snacks , and we dined on Vince's homemade Mole (Mexican chili with chocolate in it)- mmm good! I showed off some of the items and photos I used in my talk about Mars and Pluto at Clarence Ruth School in Nov., and discussed the latest info about those two planets that have been in the news this last year.

Vahan , using his laptop, showed us some of his own astrophotographs of the moon and beyond, that were stunning and looked upon with admiration by all. Thanks to all who came out for that on a cold night.

Space X made history this Dec 21st with its launch from Florida, delivering 11 small satellites into orbit- but the amazing part was the **return to Earth and landing** on a precise concrete pad 10 minutes later- all a Success! **Congratulations to Elon Musk and his team!**

I received happy news just before Christmas Day- that our son Jason asked his girlfriend Kristin to marry him ! We have been waiting all year to hear that news! Plus he came home to visit us from San Diego, and we had an enjoyable time.

Clear sky's and good seeing.

Jana

Events

Jan 2nd *Star party at the observatory.*



Jan 3rd & 4th Quadrants meteor shower is an above average shower with up to 40 meteors per hour at its peak. It is thought to be caused by dust grains left behind by extinct comet 2003EH1 discovered in 2003. The shower runs annually from Jan 1-5. It peaks this year on the night of the 3rd and morning of the 4th. Best viewing is after midnight. The meteors radiate from the constellation of Bootes but can appear any where in the sky.

Jan 8th New Year Party at Mi Amore Pizza 6:00 PM Club treasury pays all except drinks and deserts. Hope to see you there.



Jan 9th *Star party at the Observatory.*



Jan 16th *Star party at the observatory.*



Jan 30th *Star party at the observatory.*



Star Party and Events

04 Dec. Star party at Observatory, Dave Covey and Craig Fair arrived at the observatory site about 4:30PM. The sky was mostly clear with some scattered thin clouds low on the horizon. Dave opened the observatory and Craig setup his scope. We viewed many deep sky objects: globular clusters such as The Great Hercules cluster (M13); Andromeda galaxy, (M31) and nebulas such as the Dumbbell (M27), Orion (M42/43), Flame (NGC 2024) and the Horsehead (B33); planetary nebulas the Ring (M57) and Saturn (NGC 7009); and open clusters the Double (NGC 869/884) and Pleiades (M45). The viewing conditions were very good except for the periodic gust of wind. No problem for the observatory but not so good for any scope outside. The wind gusts did calm down later in the evening to allow Craig to do some imaging of a few objects. No others showed up so we packed our equipment, shut down the observatory and left shortly after 10PM.

It was a great night under the stars.

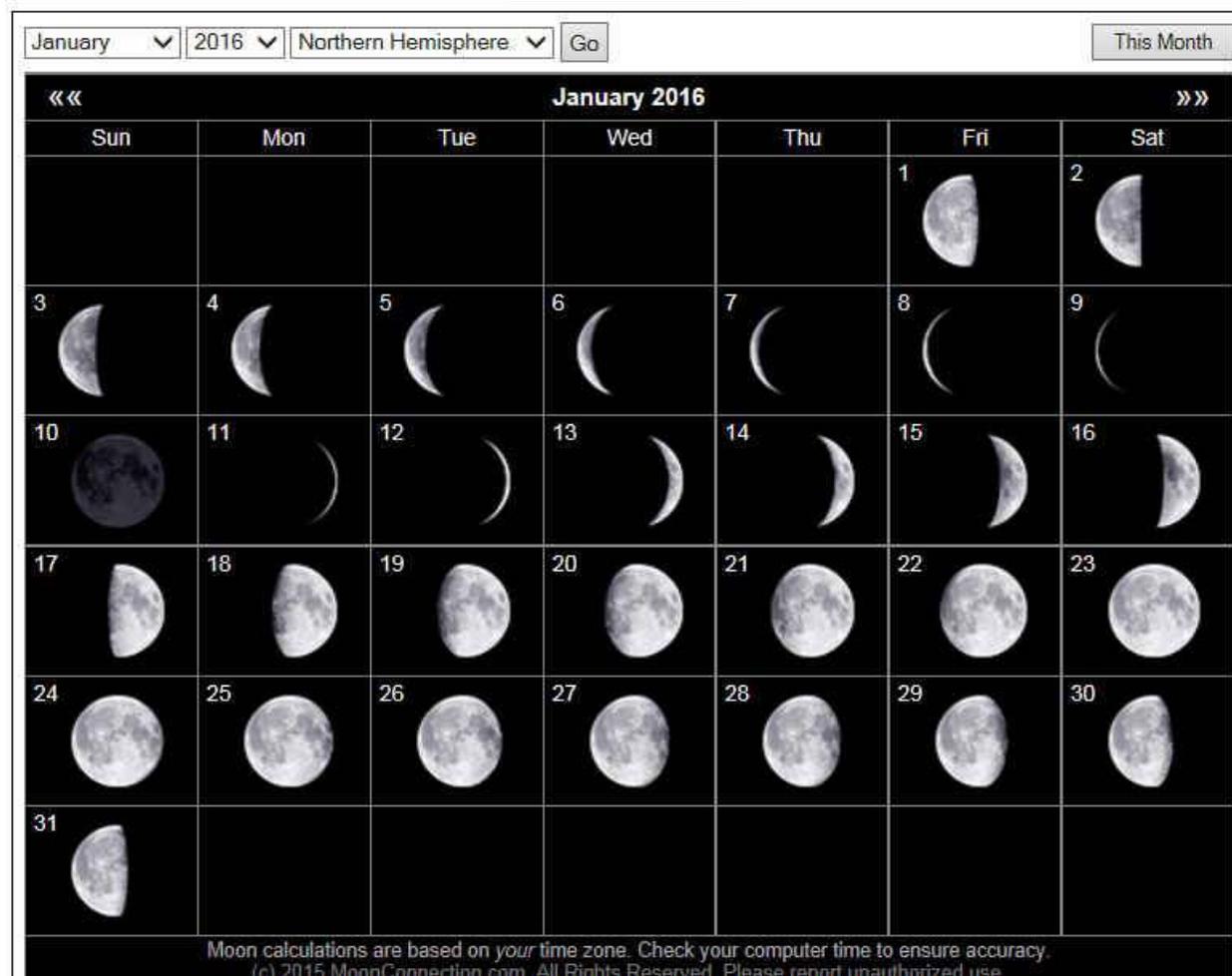
11 Dec. Christmas party at the meeting. Jana Hunking, Dave Covey, Craig Fair, Vahan Yeterian, Vince Tobin, Ken and Louise Spraker and Crag's friend in attendance. Jana presented some current events and gave a presentation on Pluto and Mars. Lots of food and deserts brought by the attendees to share with everyone. Vahan presented astro photos, using his lap top computer that he and some other members had captured with their scopes and cameras. Had some open discussion on various topics such as the New Year party at Mi Amore in January 2016. Had a very pleasant evening of conversation and camaraderie. (Photos on page 6).

12 Dec. Star Party at Observatory, Dave Covey, Craig Fair and Vahan on site. Dave opened the observatory and Craig set up his scope and equip to do some Astro photography, Vahan just there to help out and also enjoy some observing. Dave performed star alignment both sides of the meridian with the 14 inch scope. Some of the objects viewed were the Double Cluster, M 33, Crab nebula M 1 and Orion nebula M 42 to name a few. Craig shot some long time exposure photos of M1 the Crab nebula. Also a few shots of the double cluster. The seeing was good this evening. Vahan had fun viewing the objects in both scopes. Secured the site and departed about 9:15Pm it was getting a bit windy and cold. It was a brief but good night under the stars.

19 Dec Star Party at the Observatory, Cancelled due to weather.



January Moon



Full 23rd, New 9th, 1st Quarter 16th, Last Quarter 2nd

Moon Facts

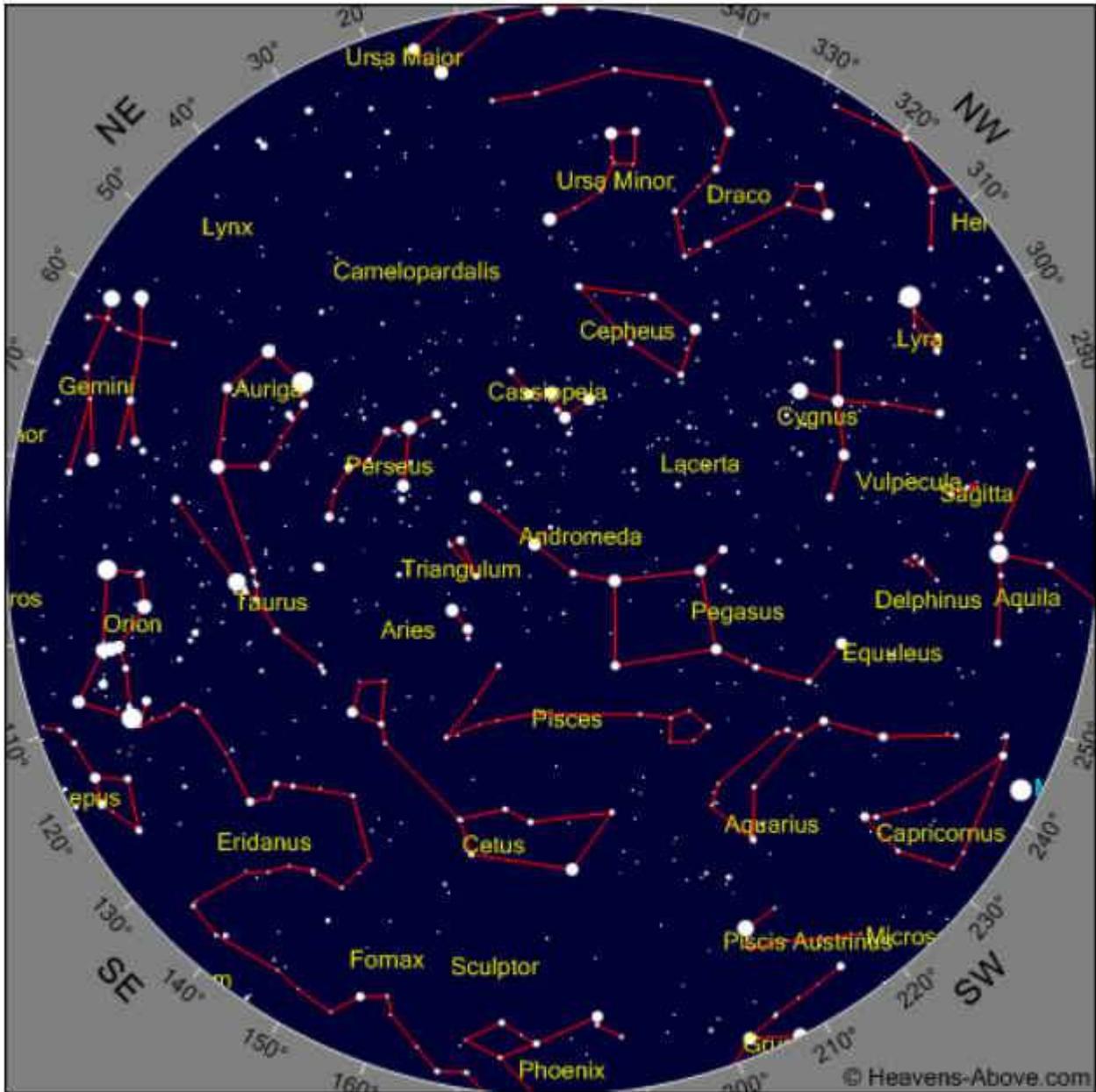
The moon is not round (or spherical). Instead, it's shaped like an egg. If you go outside and look up, one of the small ends is pointing right at you. And the moon's center of mass is not at the geometric center of the satellite; it's about 1.2 miles (2 kilometers) off-center.

February is the only month of the year that can have no full Moon. The last such February was in 1866.

When the Moon is waning the line separating the light from the dark is called the evening or sunset terminator.

January Sky

Some Objects of interest, M1, M31, M42



Time

Year	2016	Month	1	Day	3	Hour	18	Minute	5
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Photo Courtesy Jon Walke



The Flame Nebula and the Horsehead Nebula are located in the region of the Orion molecular cloud complex at a distance of approximately 900 to 1500 light years. The Cloud complex contains Dark nebulae, emission nebulae, reflection nebulae and HII regions. The bright star Alnitak (Zeta Ori), the East most star in the belt of Orion shines energetic Ultraviolet light into the cloud and knocks electrons away from the great clouds of hydrogen gas. Much of the glow results when electrons and ionized hydrogen recombine. At the center of the Flame is a cluster of newly formed stars. This stellar nursery can contain over 100 known kinds of organic and inorganic gases as well as dust, some of the latter is made up of large and complex organic molecules. In the Horsehead nebula base are newly forming young low mass stars. The heavy concentrations of dust and gas in the Horsehead nebula and neighboring Orion Nebula are localized resulting in alternating sections of nearly complete opacity and transparency. The darkness of the Horsehead is caused by thick dust blocking the light of stars behind it. Image capture was with C8 1280mm at f/6.3, 160mm w/PHD guide. Daves Mod T3i iso 1600 3x300s lights, 3Darks/40Bias/40Flat.



For What its Worth

The Whirlpool Galaxy Messier 51 NGC 5194 is located in the constellation of Canes Venatici (The Hunting Dogs) approximately 23,400,000 light years distant. It is an interacting grand-design spiral galaxy with a Seyfert 2 active galactic nucleus. It exhibits a red shift (moving away) of 463+/- 3km/sec. It's diameter is approx. 60,000 light years. It was the first galaxy to be classified as a spiral galaxy. The pronounced spiral structure appears to be due to interaction with its companion galaxy NGC 5195. Professional astronomers study M51's structure to better understand spiral structure. Among astrophysicists one of the Whirlpool's highlights is the abundance of supernovas. There has been a veritable cornucopia of supernovas in the Whirlpool in 1994, 2005 and 2011. Three supernovas in 17 years is considered a lot for a single galaxy. The reasons for this are being debated among the astronomical community. It is also noted for its closeness to companion galaxy NGC 5195 that may be affecting the structure of the whirlpool itself.

Xmas Party December 11th 2015 VAAS meeting



Club Officers



President
Jana Hunking

Vice President
Dave Covey



Treasurer
Vince Tobin

Newsletter Editor
Vahan Yeterian

*“Astronomy compels the soul to look upward,
and leads us from this world to another”.*
(Plato)



Club Meeting

Reminder Club meeting and New Year Party
Jan 8th 6:00 PM Mi Amore Pizza in Lompoc.
Hope to see you there.

Star Parties (as always weather permitting)

Other Astronomy Club Meetings

Central Coast Astronomical Society

Link to web site...

<http://www.centralcoastastronomy.org/>

Santa Barbara Astronomical Unit

Link to web site...

[http:// www.sbau.org/#AU_EVENTS_Calendar](http://www.sbau.org/#AU_EVENTS_Calendar)

Night Time Bright Objects (no scope required)

Link to “Heavens Above” web site

[http:// www.heavens-above.com/](http://www.heavens-above.com/)

(Iridium Satellite)

(ISS Visible Pass)

Be sure to set the nearest location from their
pull-down menu.

The web site link below will take you to some
Great Milky Way interactive images and how
It was developed. (Type it in the search box.)

<http://skysurvey.org/>

VAAS.

Dave McNally is the VAAS Web Site Serf/Minion

