

Vandenberg Amateur Astronomical Society
presents
The Sidereal Times



Messier 31 (see page 5)



Meeting News:

The November meeting we discussed the October 31st VAAS Annual picnic. Also club officers candidates for next operating Year (same as present officers). Discussed Outreach for Clarence Ruth elementary school for 20 November. Watched a video about The winter sky, thanks Dave Covey.

**Reminder: VAAS meeting December 11th at 7:00 PM
Manzanita school, Hope to see you there.**



Lunar Calendar:

New Moon 11th
Full Moon 25th

Wishing you a



And Happy New Year

Presidents Message



We hope all the members and their families had a wonderful Thanksgiving Holiday with their families and friends. For our December Meeting we are having a **Christmas Party**, and encourage the members to bring a light snack of sweet, or salty, or fruit, or veggies & dip. We collect our dues in Dec and Jan. The January Meeting is always a fun time as we meet at MiAmore's for Pizza.

We had a really good turnout of club members and their telescopes at Clarence Ruth School for the 3rd grade Astronomy Night they had on Nov. 20. I was in the classroom teaching about Mars and Pluto, and want to thank all the VAAS members who attended. Everyone had a good time.

The Trident II Missile Launch from a submarine off the Calif. Coast on Nov. 9 created quite a stir when people saw an unusual light in the sky colored gray, green, or blue (depending on your camera), that was seen over much of the Calif. coastline. Our VAAS members at the star party that night witnessed it also and knew it was a missile, but noticed a different trajectory as it streaked green across the sky. One reason not to miss the Star Parties- you never know when a meteor or missile may make an appearance!

Our Dec. Program will include the latest information about Pluto and Mars, given by Jana. We hope to see you there! **We wish all Members a very Merry Christmas !**

Hoping for Clear skies.....after the Rains! Jana

Events

Dec 5th *Star party at the observatory.*



Dec 7th Conjunction of the Moon and Venus just before sunrise. The crescent Moon will come within 2 degrees of Venus in the Early morning sky.

Dec 12th *Star party at the observatory.*



Dec 12 & 13th Geminids meteor shower is the king of meteor showers and produces up to 120 multicolored meteors per hour at its peak. It is produced by debris left behind by an asteroid known as 3200 Phaeton. It peaks on the night of the 13th and morning of the 14th. Meteors will radiate from the constellation of Gemini but can appear anywhere in the sky.

Dec 19th *Star party at the Observatory*



Dec 21 & 22nd Ursids meteor shower is a minor shower producing 10 meteors per hour. It is produced by dust grains left over from Comet Tuttle. It peaks this year on the night of the 21st and morn of the 22nd. Meteors will radiate from the constellation of Ursa Minor but can appear anywhere in the sky.

Dec 22nd December solstice occurs at 40:48 UTC. The south pole of Earth will be tilted toward the Sun. The Sun will be directly over the Tropic of Capricorn 23.44 degrees south latitude. This is the first day of winter in the northern hemisphere and the first day of summer in the southern hemisphere.

Dec 29th Mercury will be at its greatest Eastern elongation of 19.7 Degrees from the Sun. This is the best time to view Mercury since It is at its highest point above the horizon in the evening sky. It Will be low in the Western sky just after sunset.



Star Party and Events

Oct 24th VAAS was asked to support this event with the CCAS. Joe, Ron and Scott (CCAS members) and Vince and Dave (VAAS members) gathered at the winery about 5:30PM. Together there were 4 scopes setup and Joe did the astronomy presentation. The sky was mostly covered in high thin overcast. We could see the Moon but not many stars were visible. We did what amounts to a “trust me” alignment it worked well enough. Later in the evening after dinner, the Winery guest gathered around the scopes. The sky condition was not much better. The Winery guests and staff enjoyed the presentation and viewing the night sky objects that we could find Moon and Albireo. The Astronomy Night Event ended at 9PM and wound down by letting the Winery staff view through our scopes. We departed around 10PM. All in all it was a fun night. (see page 6 photos).

Oct 31st VAAS picnic at River Park in Lompoc. We had a good turnout about 19 club members, wives and guests. The weather was near perfect but a bit on the warm side. Vahan did the cooking and Jana and Red organized the event and set tables etc. Others pitched in and helped. The menu was Tri-Tip, Beans and garlic bread, salads, cupcakes and various other treats the membership shared. Lots of interaction of the membership. A fun time was had by all. See page 6 & 7 for photos.

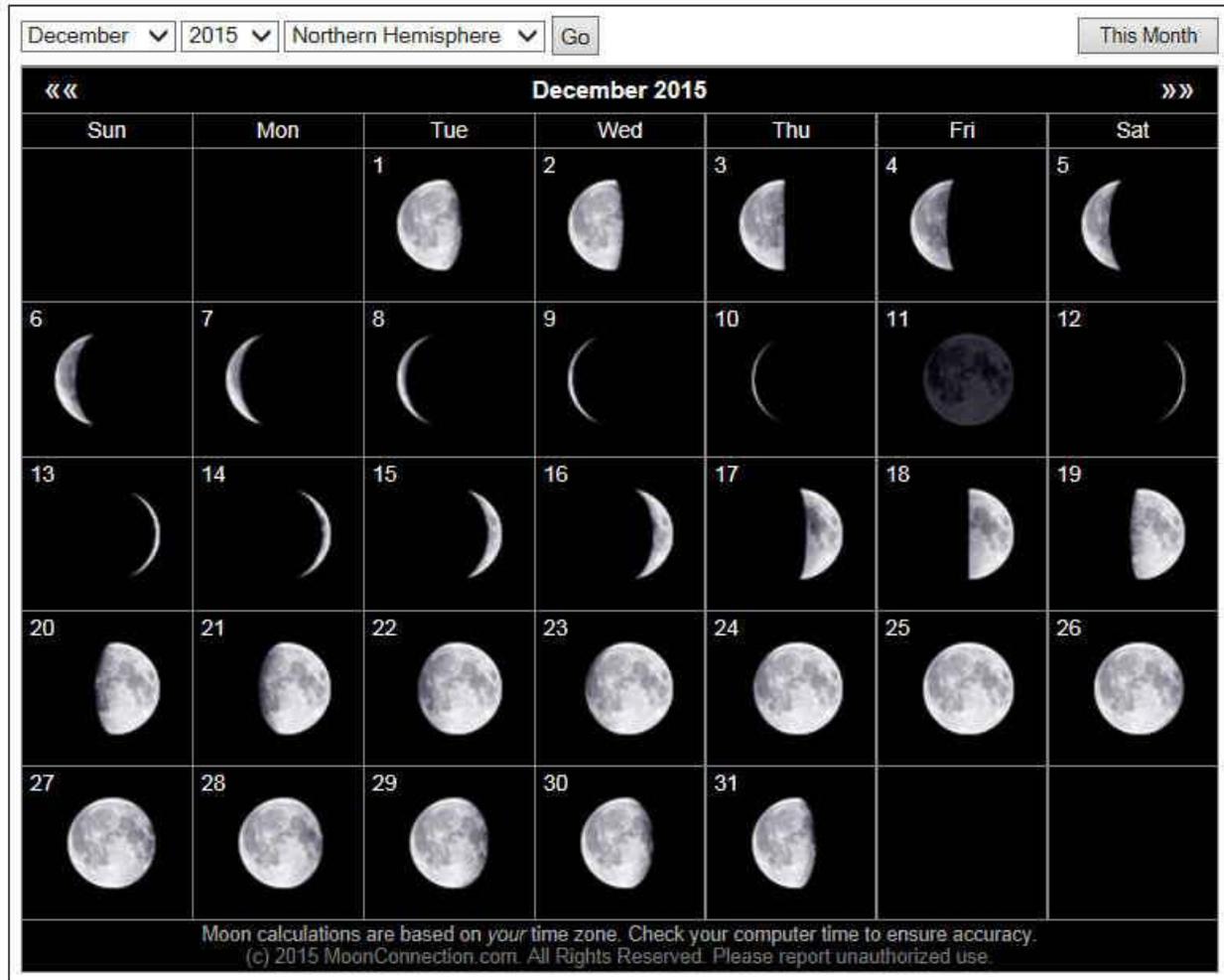
Nov 7th Star party at the observatory. Vince, Dave McNally, Vahan and Susan and her boys on site. Also some of Vince’s students showed up. Craig and Jon went to Figueroa site. The night sky was clear and we could see the Milky Way and several clusters with the naked eye. In the observatory Vince selected several celestial targets for all to see, M27, M57, Neptune, Uranus, M13 and M31 just to name a few. We did observe a strange light display passing overhead, turned out to be a missile launch from a submarine a Navy test launch. It was a bit cool here but very cold at Figueroa site. It was another good night under the stars.

Nov 14th Star party at the observatory. Vince, Dave Covey, Craig and Vahan on site. Vince and Dave in the observatory, Craig and Vahan setting up Craig’s scope and system for photo session. The sky was clear stars all over the place. Craig set for photo session and did calibrations on stars. Vahan assisted with helping set up PHD for guiding did capture one photo of M45. The weather stayed good until about 7:15PM, some dew and the marine layer slowly started moving in. Craig and Vahan called it Quits for the night. It was quite cold but still was a good night under the stars.

Nov 20th Outreach Clarence Ruth Elementary School. See page 8.

Nov 21st Star party at the observatory. Dave Covey was the only one in attendance. He viewed quite a number of Celestial objects, M13, M27, M45, Neptune, Uranus, Double Cluster and the Moon before calling it quits at 8:30PM. Seeing conditions were fair but the waxing Moon washed out fainter objects. It was a short but a good night under the stars.

December Moon



Full 25th, New 11th, 1st Quarter 3rd, Last Quarter 18th

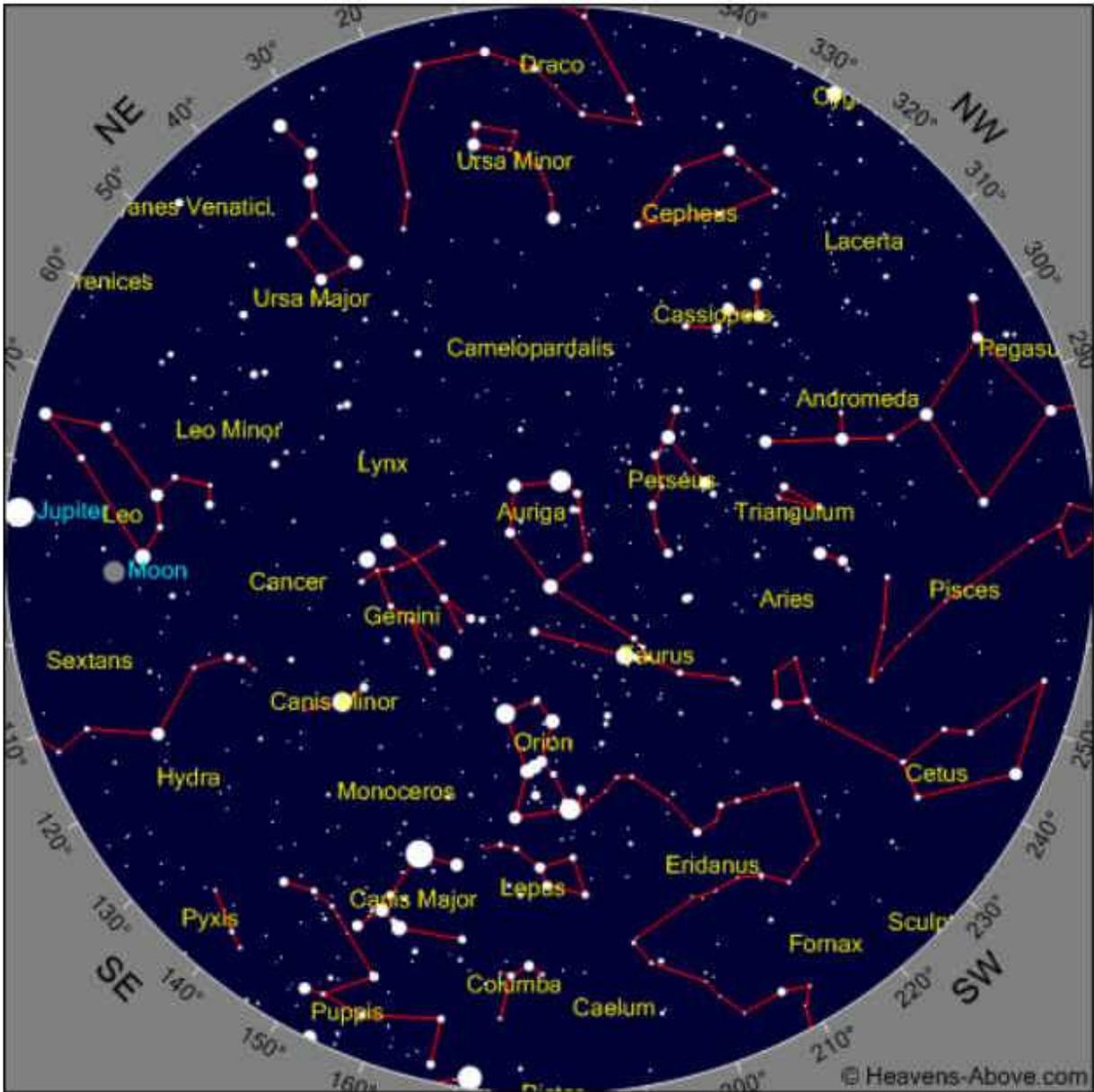
Moon Facts

The moon's heavily cratered surface is the result of intense pummeling by space rocks between 4.1 billion and 3.8 billion years ago.

The scars of this war, seen as craters, have not eroded much for two main reasons: The moon is not geologically very active, so earthquakes, volcanoes and mountain-building don't destroy the landscape as they do on Earth; and with virtually no atmosphere there is no wind or rain, so very little surface erosion occurs.

December Sky

Some Objects of interest,
M42 M1, Moon & Double Cluster



Time

Year	2015	Month	12	Day	2	Hour	8	Minute	40
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Photo Courtesy of Dave McNally



The Andromeda galaxy also known as Messier 31, NGC 224 is a spiral galaxy approximately 780 kiloparsecs (2.5 million Light years) from Earth. It is the nearest major galaxy to the Milky Way. It was named after the mythological princess Andromeda. It is 220,000 light years across and is the largest galaxy of the local group. It is the most massive galaxy of the local group. Despite earlier findings that suggested that the Milky Way contains more dark matter and could be the most massive grouping, 2006 observations revealed that Andromeda contains one trillion stars, at least twice the number of stars in the Milky Way which is estimated to be 200-400 billion stars. A 2009 study estimated that the Milky Way and M31 are about equal in mass. The Milky Way and Andromeda are expected to collide in 3.75 billion years eventually merging to form a giant elliptical galaxy or perhaps a large disk galaxy. At 3.4^v apparent magnitude the Andromeda galaxy is one of the brightest of any messier objects. Image capture using a Sigma 170-500 F5.6 telephoto lens, Canon T3i modified Baader and Celestron CGEM hypertuned mount. Image processing using DSS 3.3.4 software. Frames 20 x 120" integration time 0.7 hours.



For What its Worth

In astronomy the Pleiades, or seven sisters (Messier 45) is an open star cluster containing middle-aged hot B-type stars. They are located in the constellation Taurus. It is among the nearest star clusters to Earth and is the cluster most obvious to the naked eye in the night sky. The cluster is dominated by Hot blue and extremely luminous stars that have formed within the last 100 million years. Dust that forms a faint reflection nebulosity around the brightest stars was thought at first to be left over from the formation of the cluster (hence the alternative name Maria Nebula after the star Maia) but now known to be an unrelated dust cloud in the interstellar medium through which the stars are currently passing. Computer simulations have shown that the Pleiades were probably formed from a compact configuration that resembled the Orion Nebula. Astronomers estimate that the cluster will survive for about another 250 million years after which it will disperse due to gravitational interactions with its galactic neighborhood.

Claiborne / Churchill winery



River Park VAAS annual picnic on Halloween day





Clarence Ruth Elementary School Outreach event 20 November

VAAS Membership in attendance: Jana, Vince, Vahan, Dave Covey, Dave McNally, Craig, Jon, Tom Gerald, Louise Gray and Selmer. Had 4 classrooms and parents attending. VAAS provided 4 telescopes and a laptop with photos. Jana conducted class room lectures on astronomy. The seeing was fair and the Moon was a major subject for viewing by the students, parents and teachers. The Outreach event was a success.





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 December 11th 7 PM
Manzanita school.
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

