

The Mason-Dixon Astronomer



January Meeting:

- Wed., January 14th – 7:30 pm
Bear Branch Nature Center
- **Annual Business Meeting**
Elections and other club business.

Pre-Meeting Dinner

- Wed., January 14th – 6pm.
- Harry's Main Street Grill
65 W Main Street
Westminster, MD 21157

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St*r Points

Moon Shadows on Jupiter

January 2015 – Curt Roelle

Were you lucky enough to get a telescope for the holidays? Perhaps you'd like to find something that's unusual this month to view with your telescope – whether it's brand new or an old classic. We'll look at a couple things coming up this month and then look ahead at upcoming events for 2015.

A comet discovered last summer is reaching eye visibility at the time of this writing (late December). Comet C/2014 Q2 (Lovejoy) was discovered on August 14 by Australian astronomer T. Lovejoy. Although it remains low for North American observers, it is brightening rapidly. A Google search will dig up finder charts for the comet. One particularly interesting one is an online chart at theskylive.com. The chart updates the comet's current position in real time. Another good source for online charts is SkyAndTelescope.com.

As January opens, Comet Lovejoy will be passing by Rigel, Orion's knee, and then through Taurus. Although it is reaching naked eye visibility a pair of binoculars would be handy for locating and viewing the comet.

Although the moon is an interesting telescopic target, new telescope owners cannot wait to move on to more exotic targets. Jupiter rises in the evening and by midnight is well placed for viewing. It is situated directly in front of the face of Leo as it leads the lion during the apparent nightly rotation of the stars overhead.



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President's Message

January 2015 – Tony Falletta

Greetings My Fellow Astronomers

I am writing just a short message to wish you all a Happy New Year and let you all know that January is WASI's annual business meeting and election of officers. I encourage everyone to attend to get the latest information on our observatory and plans for 2015. This past year has been an exciting and history making year for WASI and 2015 looks to continue our progression. If anyone is interested I encourage you to run for an officer position. I can tell you it is a very rewarding experience running this fine organization.

I hope to see you all at the meeting.

Clear Skies,

Tony Falletta

January Meeting – Annual Business Meeting

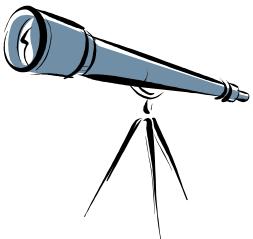


Annual Business Meeting

This is the one meeting, each year, that is devoted to club business. Now...I know what you are thinking..."Why should I put on my coat and boots...clear off the car...drive all the way to Bear Branch....and listen to business talk?" Well, my astronomical friends...here is why. This is your chance to help shape the club and the direction we will be taking over the next 12 months. During this meeting we will conduct our officer elections. If you are a member in good standing, you may run for any of the offices. We will also discuss several issues related to the observatory projects, outreach, and club programs.

Last year had time to do a quick tour of the planetarium and this would be a good time to tour the new observatory and get any questions answered.

Upcoming Events From Our Calendars



- ❖ **Soldiers Delight Public Stargazing** January 10th, 8 p.m., at Soldiers Delight Natural Environment Area in Owings Mills
- ❖ **Monthly Meeting** January 14th, 7:30 p.m., at Bear Branch Nature Center (BBNC)
- ❖ **Planetarium Show** January 31st, 7:30 p.m., at Bear Branch Nature Center (BBNC)

Join The Westminster Astronomical Society...

Joining WASI gives you a great opportunity to meet fellow astronomers and provides group memberships to the [Astronomical League](#) and the [International Dark-Sky Association](#). Additionally, benefits include access to our [Library](#) (over 500 astronomy-related books), the ability to borrow [club scopes](#), a subscription to the Astronomical League's *Reflector*, access to members-only observing sessions and sites, and club discounts on astronomical magazine subscriptions.

Adult Membership is still only \$25 per year.



NEW THIS YEAR – JUNIOR MEMBERSHIP

Yearly Membership For Anyone Under 18 Is Now Just \$5!
(YES...JUST FIVE DOLLARS!)

<http://www.westminsterastro.org>

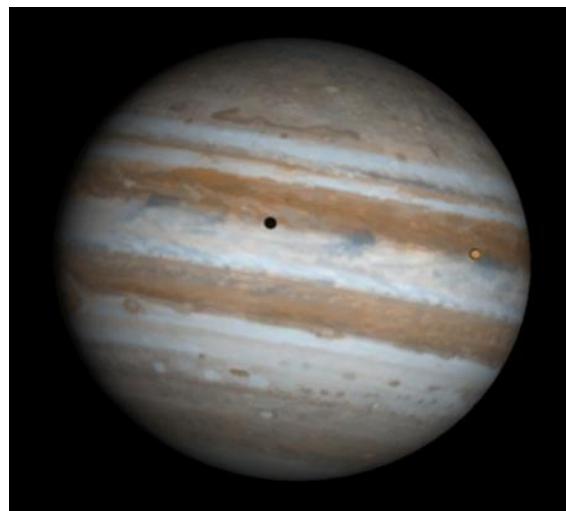


St*r Points for January...

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Jupiter's four bright "Galilean" satellites, its creamy bands, dusky belts and elusive red spot have been favorite telescopic targets for amateur astronomers since the time of Galileo. A good test of a telescope's optics is to observe the shadows of the Galilean moons, projected by the sun, as they cross across Jupiter's cloud tops. There are a couple of good weekend opportunities this month for observing multiple shadows at once, thanks to the UniverseToday.com web site.

On Friday night, January 16, the moons Io and Europa will cast double shadows between 10:53 and 11:58 p.m. Then early in the morning on Saturday, January 24, moons Io, Europa, and Callisto will cast triple shadows from 01:26 to 01:54 a.m. A telescope at moderate magnification on a steady mount will be beneficial for seeing these phenomena.



Like 2014 before it, 2015 will have two total lunar eclipses visible from Maryland. The first one is scheduled for Saturday, April 4. Unfortunately, the moon will be setting and the sun will be rising on the east coast just as the total eclipse is preparing to get under way.

A better lunar eclipse for us occurs on Sunday night/Monday morning, September 27-28. There will be no solar eclipses visible from Maryland this year.

A lunar occultation happens when the moon passes in front of a more distant body. The moon will occult the very bright star Aldebaran in Taurus on September 5, and again on November 26. During the afternoon of December 7 the moon occults the planet Venus in broad daylight. Weather permitting these events should be visible with the unaided eye.

There are also several close planetary conjunctions: Venus and Mars in February, Venus and Uranus low in the evening March sky, and Venus and Jupiter in July.

Also in July, NASA's New Horizons spacecraft finally reaches Pluto after a nine year journey. The space vehicle was built in Maryland at Johns Hopkins University Applied Physics Laboratory.

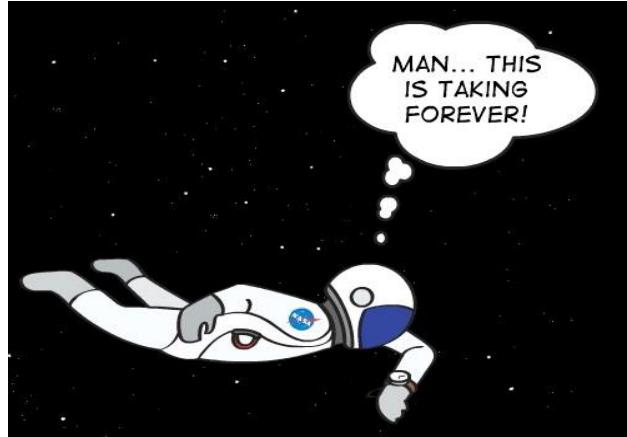
These and other events will provide plenty to talk about and look forward to throughout 2015.



Cliff-jumping

Have you ever wondered where the tallest cliff in the solar system can be found? What about what it would be like to take a jump off of such a cliff. Take a guess? Here's a hint: it would take you over eight minutes to reach the bottom, and when you got there, you wouldn't be going that much faster than a car on a highway. Find answers to both of these absurdly cool questions in the latest Space Place article!

<http://spaceplace.nasa.gov/cliff-jumping>.



WASI Café Press Store...

Ever wonder where all that great, WASI logo, gear comes from? Well...wonder no more!

Visit our CafePress store http://www.cafepress.com/wasi_store and find dozens of items with our logo. Items such as hats, shirts, mugs, baby clothes, dog clothes, clocks, cell phone cases, license plate frames, and much, much more.

A portion of each sale comes back to the club. So help the club and get some really cool things for yourself or your loved ones!





Keeping an Eye on Storms and More

By Kieran Mulvaney

In late July 2013, Tropical Storm Flossie barreled furiously toward Hawaii. The question was not if it would strike, but when and where it might do so.

During the afternoon hours of July 29, forecasts predicted landfall later that week on the state's Big Island; however, by the time residents of the 50th state awoke the following morning things had changed. NOAA's Central Pacific Hurricane Center warned that the islands of Oahu, Molokai and Maui were now at a greater risk.

This overnight recalculation was thanks to the Day/Night Band viewing capabilities of the Visible Infrared Imaging Radiometer Suite, or VIIRS, on board the Suomi National Polar-Orbiting Partnership (Suomi NPP) satellite. VIIRS is able to collect visible imagery at night, according to Mitch Goldberg, program scientist for NOAA's Joint Polar Satellite System (JPSS), of which Suomi NPP is a part. That means it was able to spot some high-level circulation further north than expected during the nighttime hours. This was an important observation which impacted the whole forecast. Without this forecast, said the Hurricane Center's Tom Evans, "we would have basically been guessing on Tropical Storm Flossie's center."

Polar-orbiting satellites, like Suomi NPP and the future JPSS-1 and JPSS-2 (scheduled for launch in 2017 and 2021, respectively), sweep in a longitudinal path over Earth as the planet rotates beneath them—scanning the globe twice a day. VIIRS, the imager that will be aboard all the JPSS satellites, images 3,000 km-wide swaths on each orbit, with each swath overlapping the next by 200 km to ensure uninterrupted global coverage. This high-resolution, rapidly updating coverage allows researchers to see weather patterns change in near real-time.

Instruments on Suomi NPP allow scientists to study such long-term changes too—things like, "the patterns of sea surface temperature, or coral bleaching," says Goldberg. They are even used by the World Bank to determine how much energy is burned off and wasted from natural gas flares on oil drilling platforms.

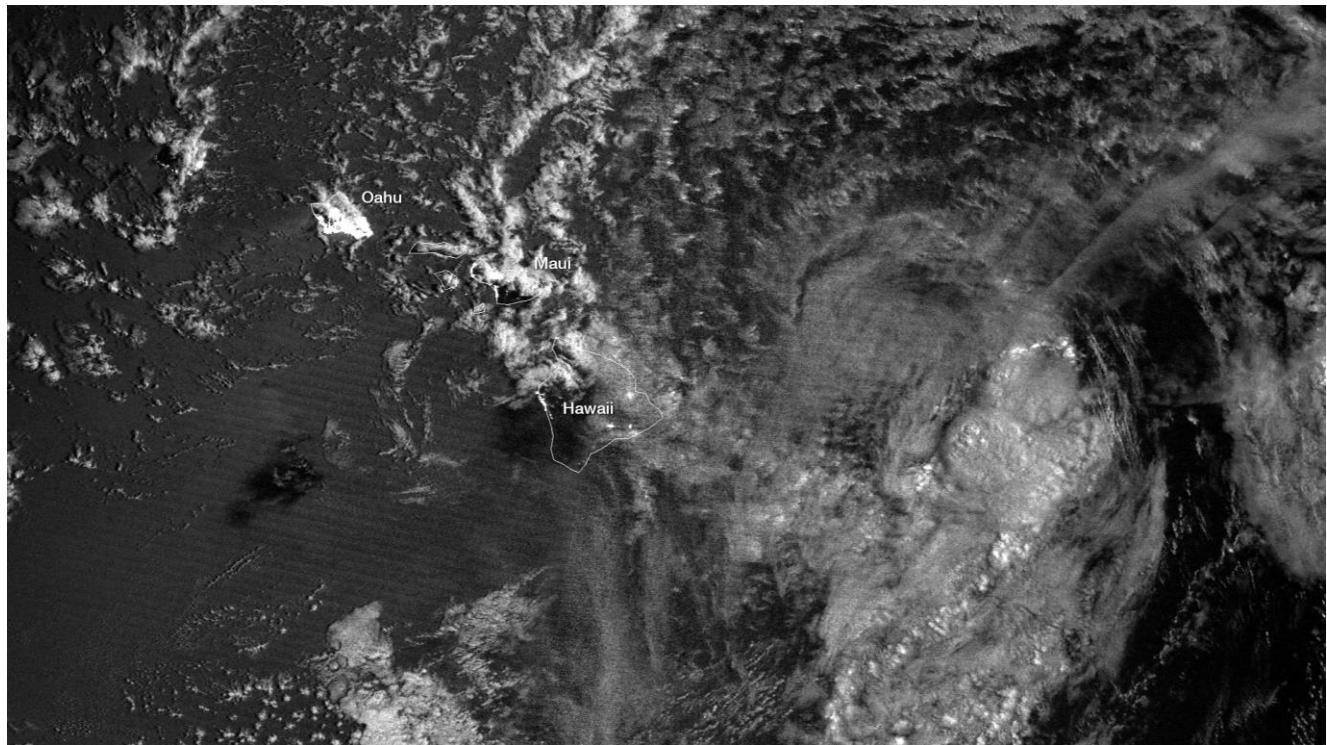
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While scientists are excited by the JPSS series' wide range of capabilities, the ability to address pressing immediate concerns is, for many, the most tangible value. That was certainly the case in July 2013, when thanks to Suomi NPP, authorities had ample time to close ports and facilities, open shelters, activate emergency procedures, and issue flash flood warnings. Despite heavy rains, high surf, and widespread power outages, accidents and injuries were few. By the time the storm passed, Hawaii was soaked.

But it was largely unharmed.

Learn more about JPSS here: <http://www.jpss.noaa.gov>.

*Kids can learn all about how hurricanes form at NASA's Space Place:
<http://spaceplace.nasa.gov/hurricanes>*



S-NPP captured this image of Tropical Storm Flossie heading toward Hawaii using its VIIRS Combined Day-Night Band sensor. Credit: NOAA.