



BACK BAY observer

The Official Newsletter of the Back Bay Amateur Astronomers
P.O. Box 9877, Virginia Beach, VA 23450-9877

EPHEMERALS march 2014

3/06, 7:30 pm
BBAA Monthly Meeting
TCC Campus, VA Beach
Building J, Rm. JC-11

3/07, 7:00 PM
Garden Stars
Norfolk Botanical Garden

3/08, 7:30 PM
Star Party
Virginia Living Museum
Hampton, VA

3/10, 6:00 - 7:45 PM
PTA Science Night
Deep Creek Elementary School

3/21, 7:00 PM
Skywatch
Northwest River Park

3/27-30
Staunton River Star Party
Staunton River State Park
Scottsburg, VA



Looking Up!

Well it is now March and, at least in the Tidewater area, the skies have not been very cooperative with us from an astronomical point of view. We can only hope that March will be kinder to those who really love to get out and look at the night skies without the clouds.

March looks to be a quiet month astronomically with the dreaded Daylight Savings Time on the 9th, and the March Equinox on the 20th. Jupiter will be high in the sky and headed west with first Mars, and then Saturn showing up in the late evening. Currently Mars comes up a bit after 10PM and Saturn after Midnight.

In my article this month I would like to pose a question to the BBAA membership:

What can we, the leadership of the BBAA, do to help you be confident enough to help us with outreach events?

I want to ask this question because we now have access to a wide variety of training resources via the [Night Sky Network](#) (NSN) that are designed to help us educate our members on how to help out at our outreach events. The NSN defines "Outreach" as any event, and they mean any, regardless of how many are involved, where education is passed along while using the resources provided by the NSN.

Recently, Leigh Anne Lagoe has been using the free resources provided by the NSN to provide after school education about the history of astronomy. I would like to see this same method used to help our members by giving them the confidence and knowledge to share their passion for astronomy with the public.

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Looking Up, continued from page 1

Our club really needs your help to perform our outreach functions, sometimes in areas that might not immediately come to mind. For example, I have learned that for our larger events, like our monthly Skywatch at Northwest River Park, we actually could use more than just the telescopes and their operators. It would be nice if we had members to assist with parking so that guests don't try to drive down and park near the scopes. With more members to help we could also have a welcome table at these large events and even hold small group sessions where we can use the NSN resources to show folks how the universe works.

If some of this seems daunting, don't worry, we will provide training and education for all of these things. Also, I would like to point out that, regardless of how big your telescope is, if you can find something in the night sky, and have a little something to say about it, in most cases you will know more than the person who came to look through your scope. We can even help you with that as well. I have in mind things like a Mentorship

Program, where the older club members guide the newer members through a public event.

And mentorship programs need not be limited to outreach, they can be tailored to helping members obtain whatever knowledge they need to fully enjoy our hobby. How about Astronomical League Program group events where we can team up and work together as a group to complete an observing program, like say, the Planetary Nebula Program? If there is enough interest we can even get a classroom at TCC. I would like to start holding a once-a-month Saturday morning training session.

The club's leadership is committed to making astronomy enjoyable and educational for all and we would like to see more of the 80+ club members come out for our events at the schools, parks, and the beach. You can start small and just come to a school event, but the idea is to come out and learn as you teach. To do this we need to know what you would like in the way of guidance/help to make you feel confident enough to come out and enjoy sharing astronomy with the public, so until next month...

Clear Skies, *Jim Tallman*

February 6, 2014 Meeting Minutes

The February 2014 meeting was called to order at 7:34 PM in room JC-11 at TCC in Virginia Beach by president Jim Tallman.

Members in attendance were: Neill Alford, Bob Beuerlein, Kenny Broun, Scott Cadwell, Tom Flatley, Mark Gerlach, Jeff Goldstein, Michael Hiser, Chuck Jagow, Chris Jarvis, Leigh Anne Lagoe, Curt Lambert, Ben Loyola, Matt McLaughlin, Bill McLean, Bill Newman, Maya Ogaldez, Bruce Powers, Joey Quinn, George Reynolds, Jim Tallman, Paul Tartabini, Bird Taylor, and Michael Webster. **Guests** were Devan Dunbar, Kirk Leppert, Michelle Phillips, Janice Taylor, Melvin Spruill, and Kent Versland.

Treasurer's Report: Chuck Jagow reported that there is \$1714.58 in the General Fund and \$2383.67 in the Scholarship Fund, for a total of \$4098.25. The club has several members delinquent on their annual dues.

Vice President Report: Please log in to the Night Sky Network (NSN) to sign up for events.

All members should have received an email with their log-in information. .

Calendar discussed at meeting:

- 2/7 - Garden Stars at Norfolk Botanical Gardens, 7:00 PM
- 2/19 - Ladstown High School Astronomy Club Meeting, 2:15-3:15 PM
- 2/21 - Skywatch at Northwest River Park
- 2/21 - STEAM Night at Greenbrier Middle School, 6-8 PM
- 2/22 - 4H Space Camp at the Airfield Conference Center in Wakefield, 7-9 PM
- 3/1 - Nightwatch at Chippokes Plantation State Park, dusk
- 3/6 - BBAA monthly club meeting at TCC in Virginia Beach, 7:30 - 9 PM
- 3/7 - Garden Stars at Norfolk Botanical Gardens, 7-9 PM
- 3/9 - Daylight Savings Time begins
- 3/10 - PTA Science Night at Deep Creek Elementary School, 6 - 7:45 PM
- 3/21 - Skywatch at Northwest River Park, dusk
- 3/27 - 3/30 - Staunton River Star Party at Staunton River State Park

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The Back Bay Amateur Astronomer's Observer

The BBAA Observer is published monthly; the monochrome version is mailed to members who do not have internet access. Members who do have Internet access can acquire the full color version on the Internet at <http://www.backbayastro.org/observer/newsletter.shtml>

Please submit articles and items of interest no later than the date of the monthly meeting in order to be in the next month's edition.

Please submit all items to:
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BBAA Meetings

The BBAA meet the first Thursday of every month except for July. While school is in session, we meet at the VA Beach TCC Campus. The March 6, 2014 meeting will be held at TCC in Virginia Beach, Building J, Room JC-11 at 7:30 PM.

Directions available at www.backbayastro.org.

BBAA Internet Links

BBAA Website
www.backbayastro.org

Yahoo! Groups
tech.groups.yahoo.com/group/backbayastro

BBAA Observer Newsletter
www.backbayastro.org/observer/newsletter.shtml

The Observer's Corner

Nick Anderson's sketch of the Supernova in M82 skillfully captures the essence of an eyepiece view of the 12 million year old stellar explosion. If you haven't seen this one yet, be sure to do so before it fades.



Row Labels	Sum of Member's Volunteer Hours	Sum of Miles Driven
George Reynolds	17.5	209
Jim Tallman	21.5	334
Leigh Anne Lagoe	29	120.6
Paul Tartabini	1.5	6
Grand Total	69.5	669.6

Above is the latest monthly volunteer report for BBAA based on input to our [Night Sky Network page](#). If you volunteer or do outreach, be sure to enter your hours and mileage so we can keep track of our club's performance. See this [tutorial](#) to learn how.

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The Big Picture: GOES-R and the Advanced Baseline Imager

By Kieran Mulvaney

The ability to watch the development of storm systems – ideally in real time, or as close as possible – has been an invaluable benefit of the Geostationary Operational Environmental Satellites (GOES) system, now entering its fortieth year in service. But it has sometimes come with a trade-off: when the equipment on the satellite is focused on such storms, it isn't always able to monitor weather elsewhere.

“Right now, we have this kind of conflict,” explains Tim Schmit of NOAA’s National Environmental Satellite, Data, and Information Service (NESDIS). “Should we look at the broad scale, or look at the storm scale?” That should change with the upcoming launch of the first of the latest generation of GOES satellites, dubbed the GOES-R series, which will carry aloft a piece of equipment called the Advanced Baseline Imager (ABI).

According to Schmit, who has been working on its development since 1999, the ABI will provide images more frequently, at greater resolution and across more spectral bands (16, compared to five on existing GOES satellites). Perhaps most excitingly, it will also allow simultaneous scanning of both the broader view and not one but two concurrent storm systems or other small-scale patterns, such as wildfires, over areas of 1000km x 1000km.

Although the spatial resolution will not be any greater in the smaller areas than in the wider field of view, the significantly greater temporal resolution on the smaller scale (providing one image a minute) will allow meteorologists to see weather events unfold almost as if they were watching a movie.

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So, for example, the ABI could be pointed at an area of Oklahoma where conditions seem primed for the formation of tornadoes. “And now you start getting one-minute data, so you can see small-scale clouds form, the

convergence and growth,” says Schmit.

In August, Schmit and colleagues enjoyed a brief taste of how that might look when they turned on the GOES-14 satellite, which serves as an orbiting backup for the existing generation of satellites.

“We were allowed to do some experimental imaging with this one-minute imagery,” Schmit explains. “So we were able to simulate the temporal component of what we will get with ABI when it’s launched.

The result was some imagery of cloud formation that, while not of the same resolution as the upcoming ABI images, unfolded on the same time scale. You can compare the difference between it and the existing GOES-13 imagery here:

<http://tinyurl.com/goes13-14compare>

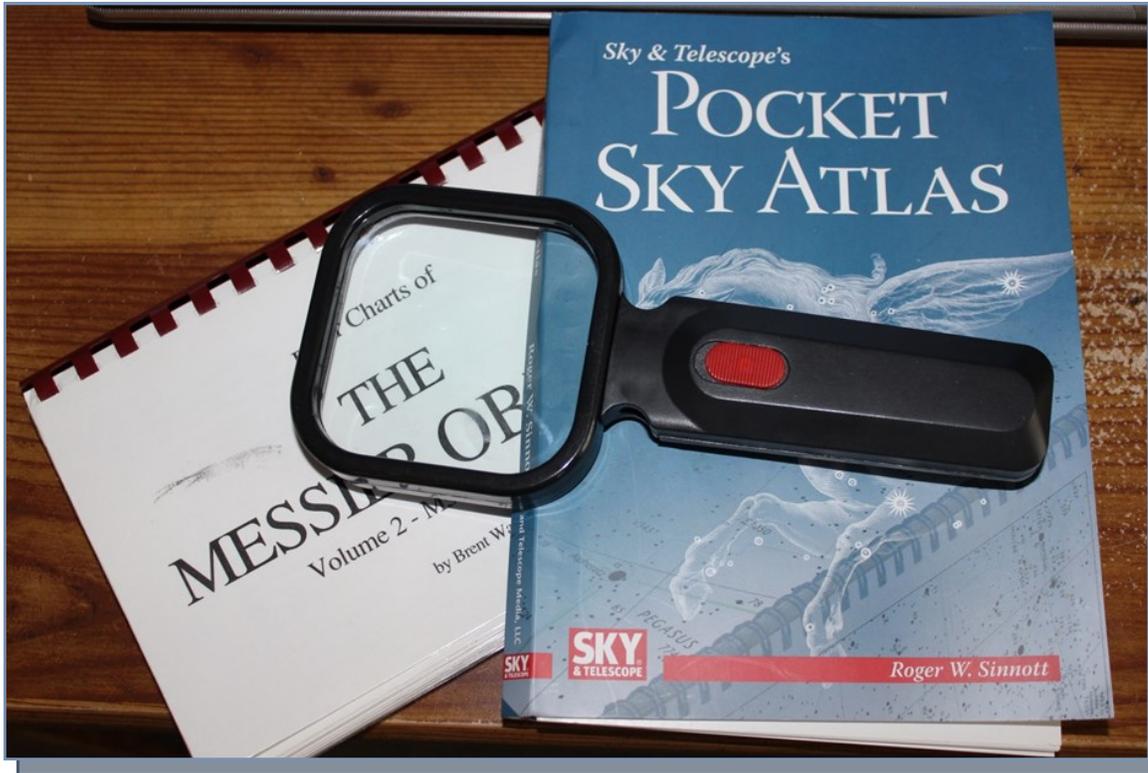
Learn about the GOES-R series of satellites here: <http://www.goes-r.gov>. Kids should be sure to check out a new online game that’s all about ABI! It’s as exciting as it is educational. Check it out at <http://scijinks.gov/abi>.



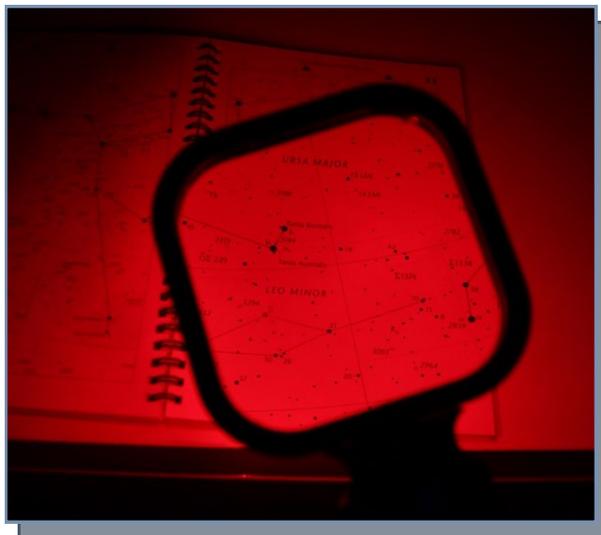
The Advanced Baseline Imager. Credit: NOAA/NASA .

Product Review: AstroGizmos Illuminated Magnifier | Jim Tallman

This year for my birthday my girls bought me the *AstroGizmos Illuminated Magnifier* so that I could use it to read my Pocket Sky Atlas or finder charts for Messier objects without having to don my readers, which is a pain in the neck to keep putting on and off when wearing a cap to keep your ears warm.



The magnifier is very nice and has a large 3 inch square magnifier with four LEDs that can be turned on to provide night time viewing in the dark. You can choose to get the red or the green LEDs depending on your tastes. It is about 6 inches long and doesn't take up much room. For power you don't need any exotic batteries as you do with other red light products, it takes regular old AA batteries which should last a while with only 4 small LEDs to run. It weighs just over half a pound so it is lightweight to boot.



So how well does it work? For me it is probably the best red light tool I have ever used! It is clear and sharp and really makes it easy to read my charts. This alone will likely get me to start using them more. Messier program here I come!

Pros: Light weight, LED colors, large magnifier, AA batteries, low cost!

Con: The battery cover is on the bottom side of the handle and tends to open when using the light switch. Nothing a bit of electrical tape can't overcome though.

AstroGizmos, \$25 plus shipping

<http://shop.astrogizmos.com/product.sc?productId=280>

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ALCOR (Astronomical League Coordinator): showed videos like [this one](#) of the hexagon shaped jet stream.

Bill McLean reported that **Chris Jarvis, Tom Jarvis and Mark Gerlach** received their Outreach Awards.

Observing Reports:

- Jeff Goldstein has assisted in the discovery of exoplanets through zooniverse.org.
- Skywatch was very cold, but kept warm with heaters and warm beverages. The supernova in **M82** was easily visible.
- Ben Loyola has been working on finding the Messier objects.
- Bird Taylor and Paul Tartabini observed a Galilean moon transit while viewing Jupiter with students at Poquoson primary school.

Old Business:

- Bird Taylor reported that a tornado took out a building near the observation dome at the GAP, but the dome is intact. The area is condemned until it can be cleared so VPAS is temporarily holding its twice-monthly observing sessions at Gosnold's Hope Park with access any time of day. Outreach at Gosnold's will be the 1st and 3rd Fridays.

New Business:

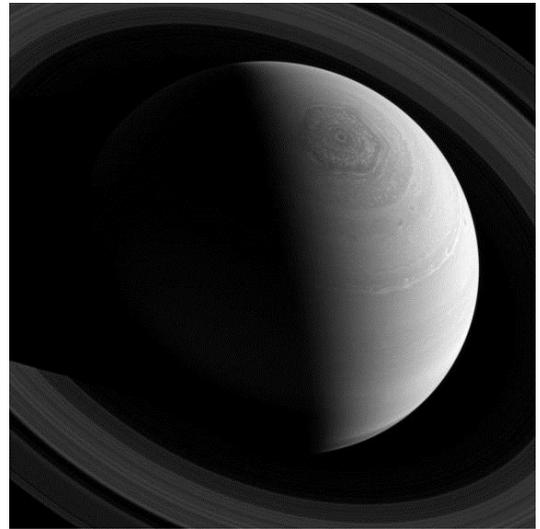
- Boardwalk Astronomy will resume Tuesday, May 13 and we are scheduled for five events. Paperwork has begun to incorporate the club. Becoming incorporated will relieve the officers of liability should someone take legal action against the club.

Meeting Presentation:

The guest speaker was Dr. Kunio Sayanagi, an assistant professor in Atmospheric and Planetary Sciences from Hampton University. Dr. Sayanagi discussed the unique Hexagon Polar Vortex at Saturn's North Pole. The fascinating presentation featured images from the Cassini Imaging Science Team. Using false color images that depicted the range in depth of the clouds and images to demonstrate jet stream rotation, it was explained that the hexagon feature on Saturn is a current of air (jet stream) that keeps smaller particles in and larger particles out. Dr. Sayanagi also



Dr. Kunio Sayanagi explains the science behind the captivating images obtained from the Cassini Mission to Saturn at the February 2014 BBAA meeting.



A view of Saturn's Hexagonal jet stream surrounding its North Pole. The image was captured by NASA's Cassini spacecraft. Credit: NASA/JPL-Caltech/Space Science Institute.

Door Prize Drawings:

- Winner of Astronomy Calendars: Janice Taylor & Leigh Anne Lagoe.
- Winner of Constellation Coffee Mug: Michael Hiser

Minutes taken by Secretary Leigh Anne Lagoe

Note: Minutes were modified due to space constraints. Full minutes can be viewed at <http://backbayastro.org/minutes/2014-02-minutes.pdf>

February Outreach Reports

BBAA visits a Space Camp and helps to honor Sir Isaac Newton

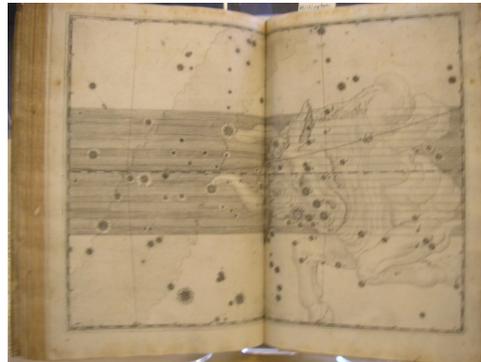
Newton Day at William & Mary

Feb. 22, 2014

On a bright sunny winter day with not much to do, I decided to take my daughters to Newton Day at the College of William and Mary. What a fabulous event organized by university's physics department! Highlights included seeing a first edition 1687 copy of [Newton's Principia](#), his masterpiece that included the Laws of Motion and Universal Gravitation. Also on display was a copy of Johannes Bayer's [Uranometria](#) from 1655, opened to the page showing Aldeberan and Taurus the Bull.

We also saw the university's freshly planted "Newton Tree", a cutting derived from the original apple tree in England whose falling fruit inspired Newton to develop his theory of gravitation in 1666. Among the numerous physics-related demonstrations and activities available for the public to try was solar observing on the roof. And who was operating the telescopes? You guessed it, BBAA members **Bird Taylor** and **Bob Beuerlein**. We enjoyed views with Bird and Bob and then all of us headed to a nearby lecture hall for a reading of noted scientific author Dava Sobel's play about the [life of Copernicus](#), "And the Sun Stood Still." Ms. Sobel introduced the play which was then read in a most entertaining fashion by students from the drama department.

After a quick dinner my daughters and I headed back to the Physics building for night time observing on the roof. Bird and Bob were busily showing off the sights. I was quick to lend a hand when Bob said he needed a break. You don't have to twist my arm to get me to operate his excellent 8" computerized telescope. I had fun showing off M42 and the Winter Albireo, not to mention numerous other jewels of the night sky. All said, a super event that may become an annual event at W&M. Let's hope so. *Paul Tartabini*



Bird Taylor answers a question about the Sun while a guest admires solar prominences (left). W&M's freshly planted Newton Tree (center). A page out of a 360 year old copy of Bayer's Uranometria (right).

4-H Space Camp

Feb. 22, 2014

We had a beautiful, clear night with DARK skies at the 4-H "Airfield" Center in Wakefield. At 7 pm I gave an indoor presentation to the group of about 60 kids, aged 9 to 13, and 10 adults and older teens, after which we went outside and had a wonderful view of the sky. **Jim Tallman** and **Chuck Jagow** had their 14-inch Orion goto dobs set up, and the kids "oohed" and "aahed" at Jupiter and the Andromeda Galaxy.

I borrowed Chuck's green laser and gave the group a brief "tour" through the constellations, and told them my favorite mythical story about Perseus rescuing the maiden Andromeda. (I think they were more awed by the green laser pointer than by the stars in the sky). Toward the end, we showed a few stragglers the supernova in galaxy M82. We packed up and headed for the long drive home, shortly after 9 pm. The kids and counselors had a good time, and so did we. *George Reynolds*



March 2014

BBAA Events	Special Outreach	Astronomical Events
3/06 BBAA Monthly Meeting		3/08 First Quarter Moon
3/07 Garden Stars @ Norfolk Botanical Gardens	3/08 Princess Anne Library Outreach Event	3/16 Full Moon
	3/10 PTA Science Night @ Deep Creek Elementary	3/23 Double Shadow Transit on Jupiter
		3/23 Last Quarter Moon
3/21 Skywatch @ Northwest River Park		3/30 New Moon



Sneak Peek into April

Thu 4/03/2014 BBAA Monthly Meeting, TCC Campus, 7:30 pm
 Fri 4/11/2014 Garden Stars at Norfolk Botanical Gardens, 8:00 pm
 Fri 4/18/2014 Skywatch at Northwest River Park
 Sat 4/26/2014 Nightwatch at Chippokes State Park, Surry VA.