



BACK BAY observer

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

EPHEMERALS april 2012

04/05

BBAA Monthly Meeting
TCC VA Beach
Building J, Room JC-12
7:30 pm

04/06

Mt. Trashmore Star Party
5:30 pm

04/13

Skywatch
Northwest River park

04/21

Nightwatch
Chippokes State Park
Surry, VA

04/27

Garden Stars
Norfolk Botanical Gardens
7:00 pm



Looking Up!

Greetings Skywatchers!

It's April and spring is in the air! Hopefully the pleasant weather, blossoming trees and colorful flowers are making the end of winter's long, clear nights a little easier to take. With any luck you've found time to observe, especially with Mars well into its once-every-26-month opposition. Club members have recently reported amazing telescopic views of our neighboring red planet (be sure to read Observing Reports on page 7).

The club is also blossoming forth with renewed growth and enthusiasm. We have new members, new officers, a new webmaster and a new newsletter editor. You can see evidence of change in our web site (see page 3) and our newsletter. You should have received last month's newsletter as an email attachment (if you didn't be sure to let us know). We hope receiving the newsletter by email will make it easier to keep up with BBAA's many activities. Our club is open to change, so keep communicating your ideas for improvement.

Let me close by saying that spring is also a wonderful time to participate in outreach events. In April we have Yuri's Night and National Astronomy Day. Both events have become favorites for many club members. If you haven't attended them before, then I encourage you to join us (details are on the last page)!

Good seeing and great viewing,

Courtney Flonta, President

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The Planet in the Machine

By Diane K. Fisher and Tony Phillips

The story goes that a butterfly flapping its wings in Brazil can, over time, cause a tornado in Kansas. The “butterfly effect” is a common term to evoke the complexity of interdependent variables affecting weather around the globe. It alludes to the notion that small changes in initial conditions can cause wildly varying outcomes.

Now imagine millions of butterflies flapping their wings. And flies and crickets and birds. Now you understand why weather is so complex.

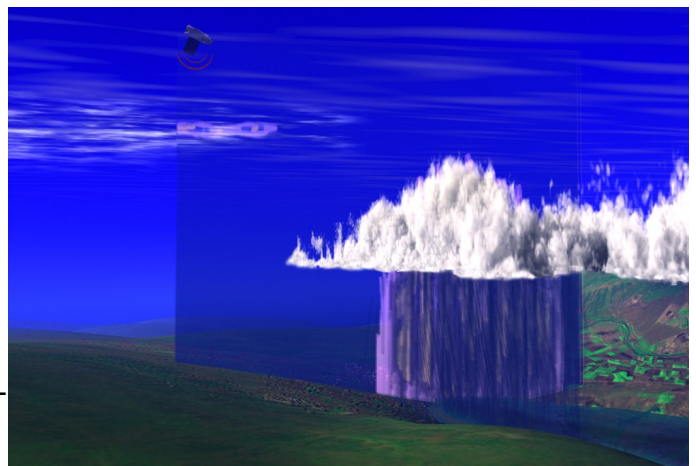
All kidding aside, insects are not in control. The real “butterfly effect” is driven by, for example, global winds and ocean currents, polar ice (melting and freezing), clouds and rain, and blowing desert dust. All these things interact with one another in bewilderingly complicated ways

And then there’s the human race. If a butterfly can cause a tornado, what can humans cause with their boundlessly reckless disturbances of initial conditions?

Understanding how it all fits together is a relatively new field called Earth system science. Earth system scientists work on building and fine-tuning mathematical models (computer programs) that describe the complex inter-relationships of Earth’s carbon, water, energy, and trace gases as

they are exchanged between the terrestrial biosphere and the atmosphere. Ultimately, they hope to understand Earth as an integrated system, and model changes in climate over the next 50-100 years. The better the models, the more accurate and detailed will be the image in the crystal ball.

NASA’s Earth System Science program provides real-world data for these models via a swarm of Earth-observing satellites. The satellites, which go by names like Terra and Aqua, keep an eye on Earth’s land, biosphere, atmosphere, clouds, ice, and oceans. The data they collect are crucial to the modeling efforts.



CloudSat is one of the Earth-observing satellites collecting data that will help develop and refine atmospheric circulation models and other types of weather and climate models. CloudSat’s unique radar system reads the vertical structure of clouds, including liquid water and ice content, and how clouds affect the distribution of the Sun’s energy in the atmosphere. See animation of this data simulation at www.nasa.gov/mission_pages/calipso/multimedia/cloud_calip_mm.html.

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/newslettersnewsletter.shtml>

Please submit articles and items of interest no later than the 15th of the month for the next month's edition. Please submit all items to: paultar@gmail.com or BBAA Observer, P.O. Box 9877, Virginia Beach, VA 23450-9877

President

Courtney Flonta
757-553-4418
astrogirl12@yahoo.com

Vice President

Mark Gerlach
757-434-4220
mgerlach@verizon.net

Treasurer

Bernie Strohmeyer
757-630-0848
bdsjr@cox.net

Secretary

Kevin Swann
757-424-6242
kjswann@yahoo.com

Webmaster

Nick Anderson
nranderson.deepskyobserver@gmail.com

ALCOR

Bill McLean
preciousmyprecious@yahoo.com

Librarian

Bill Newman
billn59@verizon.net

RRRT Coordinator

Lawrence "Bird" Taylor
bird-taylor@cox.net
Kevin Weiner
kevin.weiner@cox.net

Scholarship Coordinator

Ben Loyola
benito@loyola.com

Newsletter Editor

Paul Tartabini
bbaa.newsletter@gmail.com

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 April meeting will be held at TCC in Virginia Beach, Building J, Rm JC-12 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

A Message from the new BBAA Webmaster, Nick Anderson

As most of you know, I volunteered this past month to take over as webmaster of the BBAA website. On March 5, outgoing webmaster Chuck Jagow gave me the necessary files and codes, effectively transferring the duties of webmaster.

I'm asking for your input on the website since the site is for the overall benefit of the club. If you have any suggestions for improvements or changes, please send me an email (see email address above). I would like to get an idea for what members, both new and old, would like to see on their club's website.

My main long-term goals are to make the website easier for a visitor to navigate, improve the website based on members' feedback, and make the home page more inviting and visually appealing. Short-term, you can expect documents to be uploaded to the site in a timely manner.

I've already started making minor improvements to the site, but don't expect any major changes to happen immediately as I'm still learning the ropes.

So go ahead and throw your ideas at me!

**Special thanks to Chuck Jagow
for his hard work and dedicated service as BBAA Webmaster!!**

BBAA Meeting Minutes

March 1, 2012

The March, 2012 meeting was called to order at 7:43 p.m. in room JC-13 at TCC Virginia Beach Campus by club president Courtney Flonta.

Those in attendance were Neill Alford, Kenny Broun, Courtney Flonta, Dean Giangregorio, Mary Giangregorio, Robyn Korn, Curt Lambert, Matt McLaughlin, Bill McLean, Erica Mitchell, Kate Mitchell, Joshua Monroe, Bill Newman, Bill Powers, George Reynolds, Bernie Strohmeier, Paul Tartabini, "Bird" Taylor, and Kevin Weiner. The start of the meeting was delayed while members worked on an astronomy cross-word puzzle from *Sky At Night* Magazine, brought in by Bill McLean.

Treasurer's report: General Fund \$3156.08, Scholarship Fund \$3717.12, for a total of \$6873.20 .

Secretary's report: The reading of the minutes of the February meeting was waived. Secretary Kevin Swann was not there.

ALCOR Report: Astronomical League Correspondent (ALCOR) Bill McLean encouraged the membership to pursue some of the Astronomical League observing programs, as an incentive to get out and observe.

Outgoing newsletter editor Erica was in attendance, and was applauded for her stalwart and professional work on The Observer newsletter for the past two and a half years. Paul Tartabini thanked her for her help, and said he is willing to continue as the newsletter editor.

President Courtney Flonta remarked that some of our members are not present at the meeting because they volunteered to support the event at Greenbrier Intermediate School. Those we know of who were to participate are Ted Forte, Georgie June, Chuck Jagow, and Jim Tallman.

Observers' Corner: Paul Tartabini reported that he had just observed the occultation of a star 114 Tauri by the Moon, outside the TCC science building before the meeting.

Some calendar items for March & Beyond:

- Outreach events are scheduled for 21 March at Cape Henry Collegiate and 29 March for Nansemond-Suffolk Academy.
- No one could remember the date for Deep Creek Elementary School outreach night. [EDITOR'S NOTE: The date for Deep Creek ES 4th Grade Science Night is 12 March.]
- Virginia Living Museum will be showing the film, "The City Dark", by the International Dark Sky Association this Saturday, March 3 at 6:00 P.M. The cost will be \$8 for non-members, \$6 for VLM members. More info can be obtained at www.TheVLM.org.
- Daylight Savings Time begins Sunday, 11 March.
- Skywatch will be Friday, March 16, and Night-watch will be Saturday, March 24.
- Garden Stars is scheduled for Friday, March 30.
- The next BBAA meeting will be April 5 at TCC.
- Mount Trashmore Star Party will be Friday, 6 April.
- Yuri's Night at the Virginia Air and Space Center will be Saturday, 14 April.
- The star party at Green Bank will be 20-23 June.
- Kenny Broun said that TCC will be having an event June 5th for the transit of Venus. Some discussion followed as to whether any other activities are planned. No consensus.

Old Business:

- Garden Stars Ad Hoc Committee chairman Bill McLean reported that Betty Ann Galway and Gil Elhart at Norfolk Botanical Garden have been contacted regarding the promotion of Garden Stars. Bill left the samples of posters that Dino Giangregorio had made, and left it up to them to decide what to do with them. When Bill suggested a poster be set up in the

Continued on page 5

Space Place, continued from page 2

Some models aim to predict short-term effects—in other words, weather. They may become part of severe weather warning systems and actually save lives. Other models aim to predict long-term effects—or climate. But, long-term predictions are much more difficult and much less likely to be believed by the general population, since only time can actually prove or disprove their validity. After all, small errors become large errors as the model is left to run into the fu-

ture. However, as the models are further validated with near- and longer-term data, and as different models converge on a common scenario, they become more and more trustworthy to show us the future while we can still do something about it—we hope

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics

Meeting Minutes, continued from page 4

lobby of the NBG main building, he was told there was “no room” for one. It was suggested that we make our own posters and put them in the public libraries and a few other public places.

The question was, “does NBG actually want Garden Stars?” Bill reported that they did say they were going to lower the admission fee. A discussion followed concerning the 50% that NBG gives BBAA for each Garden Stars. It was suggested that we ask them to open it back up to families, and that we would be willing to do it for free. Historically, it was NBG who originally came to us and offered payment; we never asked for it. Former GS participants Kevin Weiner and Matt McLaughlin remembered that Steve Hamilton was the original BBAA point of contact for Garden Stars. Kevin suggested Steve might be contacted for background information. A suggestion was made that if NBG really is not interested, that BBAA cease participation in Garden Stars. The Ad Hoc Committee will meet and decide on a plan of action.

New Business: None

Member Presentation:

Kevin Weiner gave an excellent presentation on the basic appearance and use of SkyTools 3, the observing and logging program. He explained that the program is so full of features that he could only scratch the surface in his introduction to it; that it could take a month-long course to learn all that the program can do. Kevin showed how to set up an observing list, based on parameters of telescope, eyepiece(s), date and time, location, viewing conditions, and observer’s experience level. He accessed the Web site to show that there are a Starter Edition, with a free trial available, a Standard Edition, and a “Pro” edition. Volume discounts are available, in case several club members would like to get together and order copies of the program. The basic price is \$99.95, with a 25% discount if 2 to 9 copies are ordered. Upgrades from SkyTools 2 to version 3 are available at 50% of the new price. For more information, the link is <http://skyhound.com>.

The meeting was adjourned at 9:00 pm.

Observer's Corner

Observation reports from BBAA Members during the month of March

BBAA Observers were quite busy during the month of March, and its no wonder why, with Mars at opposition, a recently discovered bright supernova in the Leo galaxy, M95, and an intriguing NASA rocket launch from Wallops island that left ghostly clouds lighting up the night sky. These events and others were detailed on the BBAA's Yahoo message board. You can keep up to date on what members are observing as well different club activities and outreach events by checking the club's Yahoo site often:

tech.groups.yahoo.com/group/backbayastro

The following observation reports originally appeared in postings to the Back Bay yahoo Group during March 2012.

Remarkable Detail on Mars

By Mark Ost

I finally got to spend several hours looking at Mars last night (3/09/2012). As it got higher (around 2230) the seeing improved to a remarkable degree. Syrtis Major was rolling on to the planets face. Detail could be seen quite well during steady conditions. Orographic clouds were obvious over the summit of Olympus Mons. This was the clearest I have seen these features in perhaps five Mars campaigns. The blue clearing was very deep last night, and Polar hazes were also obvious.

Typically Syrtis Major and Olympus Mons are too far apart to be seen at one time, but we had excellent conditions that night and the timing was perfect. How rare is that? This is the first time I have been able to do it, and frankly Olympus Mons' clouds can be difficult in even the best of circumstances.

Supernova in M95

By Nick Anderson

In the early morning of March 23, 2012 the clouds managed to clear up for a few hours for the first time in over a week in Blacksburg! It's been a real frustrating month for observing and I was afraid I was going to start having withdrawal symptoms!

Although there were clear skies, seeing was average (6/10) and transparency was moderately poor (4/10). Regardless I still observed for 90 minutes from 1:00 to 2:30 am.

After a short time on Mars my next target was M95 and its recently discovered supernova, SN 2012aw. The transparency probably muddled the view of the galaxy, but the core was still visible as an easy averted vision object. The supernova was only slightly harder to spot than the galaxy itself, but it required a magnification of 96x in my 8-inch to be seen. The most difficult part was identifying which direction was south (this should emphasize that it was not difficult to spot). M95's core spanned only about an arcminute and I would estimate that the supernova was located about 2 arcminutes from the core. If I get a night of better transparency, I plan to sketch M95 & SN 2012aw.



SN2012aw taken by Ian Stewart on 3/23/2012.

ATREX Launch

On March 27, 2012 NASA successfully launched five rockets for the Anomalous Transport Rocket Experiment (ATREX) project. The experiment consisted of five sounding rockets launched out of NASA's Wallops Island Flight Facility on Virginia's Eastern Shore. The rockets were launched sequentially, 80 sec apart, with each releasing an environmentally safe chemical tracer that created milky, white clouds at the edge of space. The objective of the experiment was to visualize the high altitude jet stream located 60-65 miles above Earth. A number of club members were able to view this exciting event. From Back

Bay Member, **Bob Buerlin** who observed from Gosnold's Hope Park in Hampton:

I arrived at 1:30AM, and fellow BBAA member, Bird Taylor joined me soon afterwards. Winds were high and cold. We tracked the web video for a while, sheltered in my car. We had short visits from two of Hampton's Finest and later two Hampton City workers. We gave them each information on ATREX and shared views of Mars and Saturn in my binoculars.

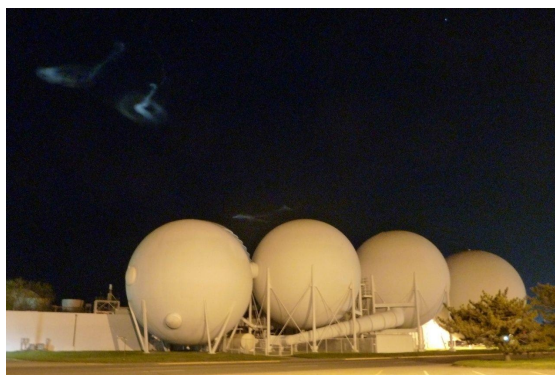
At 4:00 AM we almost called it quits for the night when NASA reported a 40 minute delay because of a ship in the launch path. At 4:30 they started the 15 minute countdown, and held once again at the 8 minute mark for a short while. The first rocket finally launched at 4:58 AM, only two minutes before the close of the launch window!

From our vantage point, we saw three rocket flares (probably missed the other two while watching clouds being dispersed, since they would have been visible). We saw all eight tracks (from the chemical tracers). Wow what a sight! They were very bright and made a distinct zigzag pattern in the night sky. The dispersal of the clouds was a lot slower than I thought, lasting 20 to 30 minutes. We watched in awe.

From Back Bay Member, **Nick Anderson**, who observed the event all the way from Blacksburg!

I set up my telescope at 4:30 am in Blacksburg to observe several objects in Cygnus, at least until I noticed something very mysterious at 5:03 am. There were several very conspicuous smoke trails that appeared in Pegasus to the lower left of M15 about 5-15 degrees above the eastern horizon. Had I not remembered that NASA was planning to launch the ATREX mission, it would have been easy to conclude I had witnessed a UFO.

Sure enough when I got home, I was able to confirm that the ATREX mission was launched at 4:58 am from Wallops Flight Facility. Additionally, I even tracked a few of the rockets in my 8-inch at 48x. The smoke plumes did not seem uniform as seen through the eyepiece.



ATREX Tracer Clouds as seen from NASA Langley Research Center in Hampton (photo by Mark Croom).

Back Bay Amateur Astronomer Club Member News

New Members

A warm welcome to the following members who have joined BBAA since December 2011:

December: **Matt Young, Dean & Mary Giangregorio**

January: **Max Rakestraw**

February: **Robyn Korn, Alexander Woronow**

We value your membership and look forward to your participation in our many club activities and outreach events. Once again, welcome!

Member Honors

- On page 6 of the April 2012 Sky & Telescope, you'll see under a list of names as Contributing Editors, our very own **Ted Forte**. Congratulations, Ted, it's good to know that the benefits you have brought BBAA throughout the years will now be shared with astronomers across the world.

- Congratulations to Nick Anderson for having earned the Astronomical League's Honorary Messier Award. To earn this award, Nick observed and logged **all** 110 Messier objects. A noteworthy accomplishment that is even more remarkable when you consider that Nick has only been observing since last summer. Excellent work, Nick!
- Associate member John Kalman has completed his Boy Scout Astronomy Merit badge. Congratulations John, great job!
- Although not BBAA members, Jim "RapidEye" Elliott and his daughter Jenna are well known to many of us. Jenna (age 12) recently won Astronomy magazine's 2012 Youth Essay Contest on what she loves best about Astronomy. Her winnings? An all-expense-paid-trip for her & Dad to the Northeast Astronomy Forum & Telescope Show (NEAF). Way to go, Jenna!



April 2012

BBAA Events	Special Outreach	Astronomical Events
5 BBAA Meeting		6 Full Moon
	6 Mt. Trashmore Star Party	13 Last Quarter
13 Skywatch at NWRP	14 Yuri's Night at VA Air & Space center	15 Saturn at Opposition
21 Nightwatch @ Chippokes State Park		21 New Moon Lyrid Meteor Shower Peaks
27 Garden Stars at Norfolk Botanical Gardens	28 National Astronomy Day at VA Beach Central Library	22 Jupiter shines below the young crescent Moon
		29 First Quarter



Sneak Peek into May

Tue 05/01/2012 Boardwalk Astronomy near 24th St Stage, 6:00 p.m.

Thu 05/03/2012 Meeting at TCC VA Beach, Building J, Room JC-12, 7:30 p.m.

Fri 05/11/2012 Skywatch at Northwest River Park

Sat 05/19/2012 Nightwatch at Chippokes State Park, Surry VA.

Sat 05/30/2012 Garden Stars at Norfolk Botanical Gardens, 7:30 pm