



EPHEMERALS FEBRUARY 2009

DATE	WHEN	WHAT & WHERE
3	6:30p	GREEN RUN SCIENCE FAIR
5	7:30p	Monthly Meeting @ TCC in VB
6	7:00p	GARDENSTARS @ Norfolk Botanical Gardens
13	Dusk	Skywatch @ NWRP Equestrian Area
21	Dusk	Nightwatch @ Chippokes Plantation

Looking Up!

If it's February then winter is more than half over! Ah, you have to love Tidewater even if the weather for our avocation is not quite like Arizona. But have you ever tried the sea food there?

Despite the weather, lots of good things continue to happen for the club. Kevin, George and Matt have developed a terrific AV presentation for the public. They debuted it at the Founders Inn last month and all were quite pleased. They plan on doing more and require a lecture hall (theater-like) to present it in! WOW! We will try to arrange a showing for the entire club at a future meeting soon at TCC. Kenny, can you help? GardenStars will restart this month at Norfolk Botanical Gardens. Ted has recently announced that NSU will also start planetarium presentations for the public on a regular basis as part of the IYA. Looks like yet another Thursday night affair – he will report to the club and keep us up to date.

For those brave winterized astronomers in the club, I continue to marvel at the amount of active DSO observing going on, especially on some of the coldest and naturally the clearest of nights. We all enjoy Mark Ost's and Kent's re-

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ports from the field. I like to read them in front of the fire place in the AM. <G> Now where did I put those snow boot socks and great insulated boots from L.L. Bean? Sort of reminds me of a few lines from the list entitled "You know you're a **Deep Sky Observer** when....."

- You consider Jupiter 'light pollution.'
- You consider meteors 'light pollution'.
- You consider the milky way 'light pollution.'
- You pack Dry Ice around your head to reduce the "noise" from your retina and optic nerve. – Hey, I'm an imager, it works!
- You spend most of your time looking at or for objects you can barely see. – done that, too!
- Your favorite objects are objects you can barely see. 'Kent'

(Continued on page 7)

The Back Bay Amateur Astronomer's Observer

JANUARY's Meeting Minutes

Members in Attendance:

There were 24 members in attendance at the January meeting of the Back Bay Amateur Astronomers held at Cox Communications in Chesapeake.

Neill Alford, Bruce Bodner, Jordan Bramble, Gerry Carver, Nick DePaulo, Courtney & Tony Flonta, Ted Forte, Jay Garrard, Mark Gerlach, , Don Ives, Chuck Jagow, Georgie June, Ben Loyola, Matt McLaughlin, Jim Miller, Bill Powers, Craig & Gabby Pope, George Reynolds, Bird Taylor Kevin Weiner, Barb Weiner and Shelton Williams.

Treasurer's Report:

The Club treasurer reported the following club fund balances.

\$4,476.59 Total
\$2,880.80 Scholarship Fund.

\$1,595.79 Available For Club Ops

Secretary's Report:

None.

Old Business:

None

New Business, announcements and observing reports:

BBAA is committed to support the following GardenStars Events:

Friday, February 6th, 7-9 PM Holly Room
Friday, March 6th, 8-10 PM Holly Room
Friday, April 3rd, 8-10 PM Magnolia Classroom
Friday, May 1st, 8-10 PM Magnolia Classroom

As always, we need members willing to give a short presentation and enough scopes to support the event!!!

BBAA plans on supporting Michael Pritchard of the Bayside Library in Virginia Beach. The event is in support of National Library week April 12-18. Plans are for the club to have scopes and a display. Stay tuned for details.

100 Hours of Astronomy. Friday, April 3. Backup date Sat-

urday, April 4. Mount Trashmore. Event in Support of the International Year Of Astronomy.

Saturday, April 4th. Astronomy day like celebration at the Chesapeake Main Library.

Also, May 2nd is THE Astronomy Day celebration. Some discussion about supporting multiple libraries or not.

May 16th, 3PM till Midnight. Celebrate Astronomy at Northwest River Park. Games, Scopes, Demos, Lectures and Presentations in Celebration of the International Year Of Astronomy.

January 25th, Mid-Atlantic Horticulture club at Founders Inn, Virginia Beach. 8PM, presentation and telescope observing if the weather permits.

Star Parties at the Virginia Living Museum for IYA. April 4th.

Yuris' Night. Contact Bird Taylor for details.

The Virginia Beach SPCA has asked for a presentation related to the Animal constellations. This event will be sometime during spring break week in April. Stay tuned for details.

2009 Chippoke's permit will be posted in the files section of the Yahoo Group as per club voice vote.

Need to get the 2009 club brochures printed.

ALCOR Report:

*** Congratulations to Jordan Bramble for completing his Messier Club requirements *** .

Main Presentation:

Kevin Weiner gave us a great overview and demonstration of SkyTools 3.

Also, Doc Bruce presented a short Sky At Night video clip.

Once the presentations were completed; the meeting was adjourned at 9:18 PM, Thursday, November 6, 2008.

*** **And a special thanks goes to Kevin and Barb for arranging the Cox meeting facilities.**

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NASA's Space Place

Severe Space Weather

by Dr. Tony Phillips

Did you know a solar flare can make your toilet stop working? That's the surprising conclusion of a NASA-funded study by the National Academy of Sciences entitled *Severe Space Weather Events—Understanding Societal and Economic Impacts*. In the 132-page report, experts detailed what might happen to our modern, high-tech society in the event of a “super solar flare” followed by an extreme geomagnetic storm. They found that almost nothing is immune from space weather—not even the water in your bathroom.

The problem begins with the electric power grid. Ground currents induced during an extreme geomagnetic storm can melt the copper windings of huge, multi-ton transformers at the heart of power distribution systems.

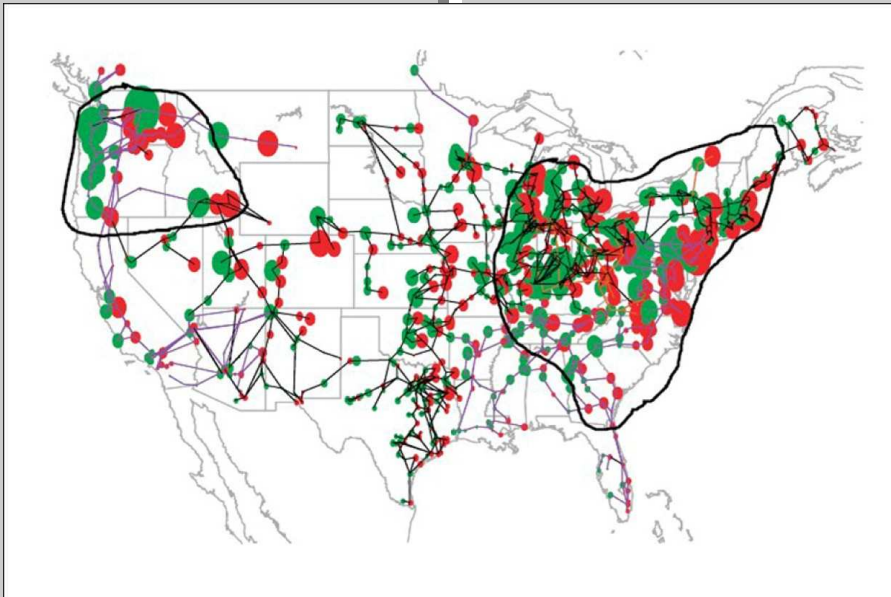
Because modern power grids are interconnected, a cascade of failures could sweep across the country, rapidly cutting power to tens or even hundreds of millions of people. According to the report, this loss of electricity would have a ripple effect with “water distribution affected within several hours; perishable foods and medications lost in 12-24 hours; loss of heating/air conditioning, sewage disposal, phone service, fuel re-supply and so on.”

“The concept of interdependency,” the report notes, “is evident in the unavailability of water due to long-term outage of electric power—and the inability to restart an electric generator without water on site.”

It takes a very strong geomagnetic storm to cause problems on this scale—the type of storm that comes along only every century or so. A point of reference is the “Carrington Event” of August-September 1859, named after British amateur astronomer Richard Carrington who witnessed the instigating solar flare with his unaided eye while he was projecting an

image of the Sun on a white screen. Geomagnetic storms triggered by the flare electrified telegraph lines, shocking technicians and setting their telegraph papers on fire; Northern Lights spread as far south as Cuba and Hawaii; auroras over the Rocky Mountains were so bright, the glow woke campers who began preparing breakfast because they thought it was morning!

“A contemporary repetition of the Carrington Event would cause ... extensive social and economic disruptions,” the report warns. Widespread failures could include telecommunications, GPS navigation, banking and finance, and transportation. The total economic impact in the first year alone could reach \$2 trillion (some 20 times greater than the costs of Hurricane Katrina).



The report concluded with a call for infrastructure designed to better withstand geomagnetic disturbances and improvements in space weather forecasting. Indeed, no one knows when the next super solar storm will erupt. It could be 100 years away or just 100 days. It's something to think about ... the next time you flush.

One of the jobs of the Geostationary Operational Environmental Satellites (GOES) and the Polar-orbiting Operational Environmental Satellites (POES) operated by NOAA is to keep an eye on space weather and provide early warning of solar events that could cause trouble for Earth.

You can keep an eye on space weather yourself at the National Weather Service's Space Weather Prediction Center, www.swpc.noaa.gov. And for young people, space weather is explained and illustrated simply and clearly at the SciJinks Weather Laboratory, scijinks.gov/weather/howwhy/spaceweather.

Image Caption:

In this power-grid map of the United States, the black-circled areas are regions especially vulnerable to collapse during an extreme geomagnetic storm. Inside those boundaries are more than 130 million people. Credit: National Academy of Sciences report on severe space weather.

The Back Bay Amateur Astronomer's Observer

B B A A I N F O

The BBAA meet the first Thursday of every month. While school is in session we meet at the VA Beach TCC campus.

The February meeting will be on Thursday February 5th at 7:30 PM at the Tidewater Community College Campus in Virginia Beach.

WHERE IS THE MEETING?

TIDEWATER COMMUNITY COLLEGE CAMPUS

The TCC Campus is located in Virginia Beach off of Princess Anne road. The following should help you locate the campus.

FROM Interstate I-64:

Proceed to the I64 / I264 junction and take I264 East .

Take the S. Independence Exit, 17A, right hand lane and proceed (.000000040879639 AU) (3.8 mi).

Turn LEFT onto Princess Anne road and proceed (.000000011833579 AU) (1.1 mi).

Turn LEFT onto Concert Drive and proceed (.000000001426233 AU) (700').

Turn LEFT and then turn RIGHT on University Drive go (.000000002151559 AU) (0.2mi).

Proceed to College Crescent and then park in one of the lots in front of the Advanced Technology Center.

The Science Building is immediately south of the ATC building. Walk toward the ATC entrance, but bear left, the Science building is straight ahead. Find the rounded part, this is the Planetarium. Locate the stairs nearest the planetarium and upstairs you will find classroom JC12 on the next floor.

COX COMMUNICATIONS CAMPUS

The COX Communications Campus is located in Chesapeake's Greenbrier section. The following should help you locate the facility.

FROM Interstate I-64:

Take exit 289B (between the Indian River & Battlefield exits).

South on Greenbrier Parkway (.7382 miles).

Turn RIGHT onto Eden Way West (.9231 miles).

Turn RIGHT on Crossways Blvd (.88901 miles).

Turn Right into the Cox Campus

The meeting is usually held in the Silver room located on the North side of the facility. Enter and tell the guard that you are with the BBAA and they will issue a badge and direct you to the room.

BBAA INTERNET LINKS

BBAA WEB SITE

<http://www.backbayastro.org>

YAHOO GROUP

<http://groups.yahoo.com/group/backbayastro>

BBAA OBSERVER NEWSLETTER

<http://www.backbayastro.org/newsletters/newsletter.shtml>

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What do you want to do?

OBSERVER INFO

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/newsletters/newsletter.shtml>

Please submit articles and items of interest no later than the 15th of February for the March issue. Please submit all items to:

ObserverBBAA@cox.net / chuck@jagowds.com

OR

BBAA Observer
P.O. Box 9877
Virginia Beach, VA 23450-9877

The Back Bay Amateur Astronomer's Observer

WHAT EYEPIECES SHOULD I BUY?

Question: I have the original 25mm and 10mm eyepieces that came with my Orion XT8 telescope, and a 2x Barlow lens. I am ready to acquire two or three more. What should I buy? I would like to keep expenditures as low as possible, so give me a couple of recommendations. And give me one option if money were no object.

Answer: Choosing eyepieces for a telescope is a very subjective task. A lot depends on the type of telescope and the purpose you want to use it for. Do you primarily want to look at the Moon and planets, or are you more interested in deep-sky objects? I'll give you my opinion. "Your mileage may vary."

Since you have the two basic eyepieces that came with your telescope, now you need a good (a) low-power (long focal length) eyepiece in the 35-45mm range, for wide-area views and (b) a medium-range ep between your 25 and 10mm lenses, for general viewing. A third option would be to get a higher-power (shorter FL) eyepiece than 10mm, but I wouldn't recommend it. You probably would not use it very much, due to the limiting conditions of the atmosphere. You already have a 2x Barlow, so you essentially have a 5mm high-power ep already.

You did not say what you prefer to view, planets or deep space objects. I would imagine in a light-polluted urban area, planets and the Moon would be easiest.

In the low-price range, GSO (Guan Sheng) and University Optics eyepieces are good buys. The GSO 2-inch 42mm Superview is an excellent low-power eyepiece for searching the skies. Your XT8 should already have a 2"-to-1.25" adapter on your focuser. The GSO has a 65° FOV and, coincidentally, has a \$65 USD price tag from agenaastro.com. The UO Orthoscopic 12.5mm ep is a good medium-range lens, good for planets. It sells for \$79.95 USD from universityoptics.com.

As for the "no-limit" priced eyepiece, you cannot go wrong with a Pentax, in any focal length. The Pentax SMC XW 10mm would be a great replacement for

your Orion 10mm Plössl, or you could get the 14mm or the 7.5mm -- your choice. At \$359 from Anacortes, the Pentaxes are indeed pricey . . . but worth the price! They have a wide FOV (about 70°) and a comfortable eye relief. The Pentax is a good all-around eyepiece, good on planets and deep sky.

Along the same high-priced lines, a TeleVue Type 6 Nagler 7mm, 12mm, or 13mm eyepiece will give you good service on deep sky objects, with good sharpness to the edge of the field. They run \$290 each from B&H Photo-Video-Audio. A great planetary eyepiece is the TeleVue Radian 18mm, which is sold for \$250 USD at B&H, Adorama, and ScopeCity.com. It has good resolution and good eye relief.

My recommendation is to get the two inexpensive eyepieces (GSO and UO) in the low- and medium-power ranges. If you save up your money and can afford to buy just one expensive ep, I highly recommend the Pentax. I have two Pentax eyepieces, 21mm and 14mm, and they are my most-used lenses, in conjunction with my Celestron 2x Barlow. I wish I could afford another Pentax or two!

Sources of information:

<http://tinyurl.com/dzks6f> (Google search on Nagler Type 6)

<http://tinyurl.com/aulb4o> (Agena Astro Products {GSO})

<http://tinyurl.com/bf1l5> (Radian 18mm Google search)

<http://www.universityoptics.com/> (University Optics – UO)

<http://www.buytelescopes.com/> (Anacortes Telescope and Wild Bird)

Best wishes on your eyepiece choices. I hope this sheds some light on how to go about choosing.

George Reynolds

The Back Bay Amateur Astronomer's Observer

OBSERVER'S CORNER

January 2009 - I went to frozen Chippokes armed with a list of comets that Skyhound says should have been visible and tried to see them all.

67P Churyumov-Gerasimenko, while actually above the clear horizon low in the west, was not detected. I didn't give it all that much effort, since it was rather uncomfortable so far down and there wasn't much hope of seeing it.

C/2008 T2 Cardinal was a different story. At about 50 degrees altitude in Casseopeia and with a listed magnitude of 11 I wondered why I hadn't heard anyone speak of it. As it turns out, it's really a tough one. In fact, after scanning the position for more than half an hour we settled on a mottled looking spot that might have been the comet, but Georgie and I both agreed that it probably wasn't visible and recorded an 'ain't no' in my notes. However, I carefully sketched the star field and x'ed the suspect spot in relation to a triangle of 11th magnitude stars. Imagine my surprise this morning when I checked and found that my x was within a minute of arc of the comets predicted position! I realize that an averted vision maybe in an 18-inch isn't much of a recommendation for a comet, but it was probably the best catch of the night in retrospect. 144P Kushita was great! Very easy, large, round fuzzball. We thought there was a tail but what we settled on doesn't fit the geometry it seems, so it was most likely imaginary. But it's a really good comet, reminds me of a miniature Comet Holmes. I viewed it with various powers from 67x through 197x with and without the comet filter. It was the first time I actually noticed how very magnification dependent the filter performance is. At low power, and through the 12mm the unfiltered view was much better, but at 117x (20mm Nagler) the filtered view was definitely best. I thought maybe the comet was superimposed on a background star, the nucleus seemed so very stellar, but to the best I can tell it never came that close to a star while I was viewing it. It appeared to us that it had a second central concentration that I took for the actual nucleus, but now I'm wondering if the 'star' was part of the comet? We had several visitors last night and I showed a few of them Kushida much later, with the comet rather low in the west, and it was still easily visible.

C/2006 OF2 Broughton is smaller and nearly a magnitude fainter but was easy to see. I don't think the filter helped this one at all. 138x was the best view, but the filter just dimmed things at every power, I tried several magnifications from 67x through 293x.

I gave 29P Schwassman Wachman a quick try but never saw anything, and was distracted before I could give it a real look-for.

I had hoped to make it until Lulin, but that will have to wait. It was just too damn cold to pull an all-nighter.

Other noteworthy observations included Uranus which is still fairly close to Venus (Venus was actually a problem early on . it was so BRIGHT, it could have been the moon!) As I said above we had a total of eight visitors last night. One was a teen who was there pretty early with his mother and two sisters, but then returned a couple of hours later with two of his friends. These brothers were very interested and very excited and were wowed by everything I showed them. My "you could have had a V8" moment of the night came while they were pulling out of the parking lot. I was looking over Leo and puz-

RASC Handbooks

Once again, for the third year, I took orders for the annual edition of the *Observer's Handbook* of the Royal Astronomy Society of Canada (RASC). Fifteen BBAA members and five others in VPAS (Virginia Peninsula Astronomy/Stargazers) placed orders, and have now received their handbooks. The advantage of ordering in bulk as a group gives us a tremendous discount in the cost of the book, almost a 50% reduction in price, compared to purchasing just one copy.

The RASC *Observer's Handbook* is chock-full of good information for general observing and for observing specific objects or categories of objects. It has been published annually for 101 years by the Royal Astronomical Society of Canada, updated every year as "a companion which the observer would wish always to have in his pocket or on the table before him." (Quote from C. A. Chant, originator of the publication in 1906)

The Handbook is composed of various chapters: Basic Data; Time; Optics and Observing; The Sky Month by Month; Eclipses and Transits; The Moon; The Sun; Planets and Satellites; Asteroids; Meteors, Comets, and Dust; Stars; and Nebulae and Galaxies. Each chapter is made up of sections with extended information.

For instance, the "Basic Data" chapter explains terminology and symbols used in astronomy, info about orbital motion, the solar system's structure, and a table of precession for the next 50 years. The "Time" chapter helps the amateur astronomer understand time scales, time zones, sidereal time, Julian dates, and astronomical twilight.

"Optics and Observing" goes into telescope parameters, magnification, limiting magnitude, filters, weather, light pollution, logging, and deep-sky observing hints for the active stargazer. These tips are especially helpful for newbies, but are a good refresher and reference for the experienced astronomer as well.

The chapter on "The Sky Month by Month" lets you know what to look for each day of each month; what planets are visible and when, when to look for meteor showers, how to recognize the moons of Jupiter and Saturn, and much more.

I could go on and on, but space does not permit. If a club member would like to see a sample of the RASC Handbook, there will be a copy of the 2008 Handbook in the BBAA library collection. Just ask librarian Gerry Carver to bring it to a meeting so you can check it out.

George Reynolds

zling (in my sleep deprived semi frozen stupor) over the extra star in the constellation when it dawned on me that I had neglected to offer Saturn as a telescopic treat. It would have blown them away (it looked really COOL this morning) and I missed showing it to them . DUH!

FYI, the restrooms are closed, the water is turned off for the winter as a cost saving effort. Luckily, one of the employees of the park that came to view with us had the key to the house there just to the west of the parking lot and opened it for us. Georgie has added her to her Christmas list.

Ted Forte

The Back Bay Amateur Astronomer's Observer

(Meeting Minutes, Continued from page 2)

Additional IYA Notes for the Meeting

We have two IYA databases on Backbayastro. One is a list of IYA related outreach events and one is a data collection vehicle for counting viewers.

I will be asking for funds – either from the treasury or for special donations to purchase IYA embroidered patches (About \$1240) and Galileo Telescope kits (about \$1,000 plus) : so 2-3 thousand dollars

Meeting with NSU yesterday to discuss their IYA Outreach activities

Salgado would like help spreading the word to schools that he is available to give talks to classes or clubs (either at the schools or in the NSU planetarium).

Dr Bowman (Astrobiology seemed amenable to giving talks too.

NSU wants to get some usage out of their Planetarium (A rather capable Minolta projector that is easy to use). The planetarium is available (with some coordination) for special events . Carlos invites us to give shows, conduct lectures etc. (I spoke to him about providing a location for our turn at VAAS). There are three all-sky canned shows and dozens of movies.

Wendy Hinton is trying to organize the development and launching of an atmospheric balloon (12 lbs payload), She needs help finding a launch and recovery site (a computer program predicts the landing based on the launch site. She would be happy to have BBAA member involvement. She may be submitting a newsletter article.

H. Allen Rowe ... Chemistry professor at NSU should be rejoining BBAA. Will try to help with some science displays at our events.

Carlos intends to provide a display for our Celebrate Astronomy festival in NWRP (May 16) and might want to participate with us at Trashmore (100 hours of Astronomy)

There will be an IYA kickoff at NSU later this month.

About April, there will be a grand tape cutting at the RRRT ... maybe a special BBAA session as well. (Field trip, picnic, observing weekend).

Carlos now has a SkyShed Dome for the 12-inch, once a fence is up, he'll be erecting the dome outside of the planetarium. The 12 will have a CCD camera (possibly feeding into the planetarium dome.)

RRRT: We need to conduct a month long certification test to prove the scope reliability. Perhaps as soon as February. WE NEED VOLUNTEERS to man the scope. Once the test is passed, the scope will be left in a ready condition and available every clear night.

Matt McLaughlin
BBAA Secretary

(Looking Up, Continued from page 1)

- You enjoy looking at faint fuzzies with the smallest possible aperture. 'Kent'
- You believe M13 ruined your dark adaptation.
- You observe M42 at the end of the sessions because it DOES ruin dark adaptation! – I've done that!
- You prep your eyes by applying pupil dilating drops until they open to 10mm. – 'Kent?'
- You actually USE 'Uranometria,' and can quote page numbers. – Ted
- You frequently disagree with Burnhams, and have seriously considered publishing your OWN "observer's guide." - Mark
- In preparation for another DSO bout, you carefully massage your eyes to make sure all your rods are discharged. – Sorry, it doesn't work.
- You have trained your bladder to hold it for up to 18 hours on those long arctic winter nights.
- You think the telescope is part of the family. All of BBAA!

More craziness about DSO Observing at stargazing.net – enjoy!

Bruce "Doc" Bodner

The Back Bay Amateur Astronomer's Observer



FEBRUARY 2009

BBAA EVENTS	SPECIAL OUTREACH	ASTRONOMICAL EVENTS
	03 = GREEN RUN SCIENCE FAIR , 6:30 PM @ Green Run Elementary, VB, POC: James Kresky - Indoor presentation followed by evening stargazing!	04 = FIRST QUARTER
05 = BBAA Monthly Meeting @ COX Chesapeake Campus, Chesapeake, VA , 7:30 PM		
06 = GARDENSTARS @ Norfolk Botanical Gardens 7:00 PM - POC Matt McLaughlin		10 = FULL MOON
13 = SKYWATCH @ NWRP, Dusk		18 = LAST QUARTER
21 = NIGHTWATCH @ Chippokes State Park, Dusk		26 = NEW MOON