

# BACK BAY observer

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



## EPHEMERALS august 2010

**08/05**

BBAA Monthly Meeting  
Plaza Middle School Planetarium  
7:30 PM

**08/06**

Skywatch  
Northwest River Park

**08/13**

Nighthike  
Northwest River Park  
Dusk

**08/14**

Nightwatch  
Chippokes State Park  
Surry

**08/24**

Boardwalk Astronomy  
24th Street Stage  
VB Boardwalk  
5:30 PM for solarscopes  
Dusk for telescopes



## Looking Up!

I haven't received any reports of food poisoning from the picnic, so I guess I didn't do too badly. Next time I will know not to try to use the chimney starter. It's big enough for my 21" Weber (that's a Grill, not a Scope!), but it just doesn't hold enough charcoal for a fire that size. I'm used to grilling for six to eight people rather than thirty or so. I had to manually add several handfuls of charcoal to the fire pit after it was lit to get the fire big enough to cook nine burgers and ten dogs at the same time. I didn't get to sample all of the dishes that everybody brought (I'm fat enough as it is!), but those that I did try were great! I'm sure the others were just as tasty. My thanks to Kevin for watching over the grill for a few minutes so I could eat. And kudos to Georgie for making all the arrangements, doing the shopping, and setting up.

Our last Sky Watch on July 2 was well attended. I didn't get a head count, but I did keep busy talking to folks most of the evening. We had the usual broad variety of sizes and types of scopes. Even Kent Blackwell came with his humongous 25" (?) Dob. With that scope, I don't think you can see anything above 20 degrees altitude without a ladder. Fortunately Kent carries a big ladder, too.

Several of us went to Family Fun Night at Mt. Trashmore on July 16. Many of the participants were more interested in the movie (Cloudy, With a Chance of Meatballs) than in the telescopes, but we were kept mostly busy with answering questions and explaining why Mars and Saturn seemed so close together. Venus made a good target while the clouds cooperated, as did the near-first-quarter Moon. I managed to get my SCT aligned and tracked Saturn until

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## The Sun Can Still Remind Us Who's Boss

by Dr. Tony Phillips

Grab your cell phone and take a good long look. It's indispensable, right? It tells time, surfs the web, keeps track of your appointments and, by the way, also makes phone calls. Modern people can hardly live without one.

One good solar flare could knock it all out.

"In the 21st century, we're increasingly dependent on technology," points out Tom Bogdan, director of NOAA's Space Weather Prediction Center in Boulder, Colorado. "This makes solar activity an important part of our daily lives." Indeed, bad space weather can knock out power systems, telecommunications, financial and emergency services—basically, anything that needs electronics to work. That's why NOAA is building a new fleet of "space weather stations," the GOES-R satellites.

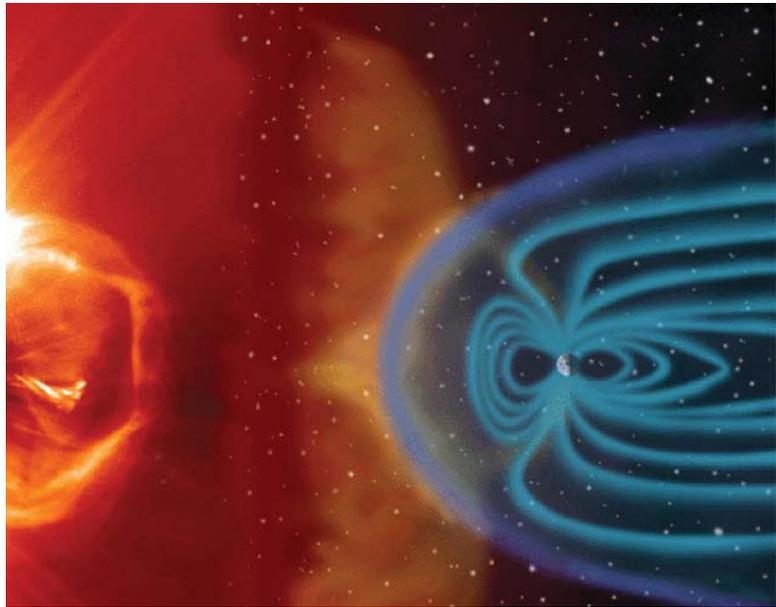
"GOES-R will bring our existing fleet of weather satellites into the 21st century," says Bogdan. "They're designed to monitor not only Earth weather, but space weather as well."

NOAA's existing fleet of Geostationary Operational Environmental Satellites (GOES) already includes some space weather capabilities: solar ultraviolet and X-ray telescopes, a magnetometer and energetic particle sensors. GOES-R will improve upon these instruments and add important new sensors to the mix.

One of Bogdan's favorites is a particle detector named "MPS-Low," which specializes in sensing low-energy (30 eV – 30 keV) particles from the sun.

Who cares about low-energy

particles? It turns out they can be as troublesome as their high-energy counterparts. Protons and other atomic nuclei accelerated to the highest energies by solar flares can penetrate a



**In spite of Earth's protective magnetosphere, solar storms can wreak havoc with Earth satellites and other expensive electronics on the ground.**

satellite's exterior surface, causing all kinds of problems when they reach internal electronics. Low-energy particles, particularly electrons, can't penetrate so deeply. Instead, they do their damage on the outside.

As Bogdan explains, "Low-energy particles can build up on the surfaces of spacecraft, creating a mist of charge. As voltages increase, sparks and arcs can zap electronics—or emit radio pulses that can be misinterpreted by onboard computers as a command."

The Galaxy 15 communications satellite stopped working during a solar wind storm in April 2010, and many researchers believe low-energy particles are to blame.

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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/newsletters/newsletter.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: [BBAAErica@yahoo.com](mailto:BBAAErica@yahoo.com) or BBAA Observer, P.O. Box 9877, Virginia Beach, VA 23450-9877

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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 August Meeting will be held at the Plaza Middle School Planetarium.** Directions available at [www.backbayastro.org](http://www.backbayastro.org).

## BBAA Internet Links

### BBAA Web Site

<http://www.backbayastro.org>

### Yahoo! Group

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

### BBAA Observer Newsletter

[www.backbayastro.org/observer/newsletter.shtml](http://www.backbayastro.org/observer/newsletter.shtml)

## Star Quest 7, Green Bank, WV

*Bill McLean*

My 19 year old son Sam and I left Norfolk the morning of July 7 for Green Bank, West Virginia for the 7th Star Quest. It's held on the site of the National Radio Astronomy Observatory- home to the world's largest steerable radio telescope whose dish is just over 2 acres in size. On our way there, we stopped on top of one of the ridges of the Appalachians to take a walking tour of Fort Johnson, a Confederate breastwork built to defend the Shenandoah Valley from the Yankees.

We got to Green Bank around 4:30 and drove down to the field reserved for us observational astronomers, set up the tent and then checked in and had a ham and potato dinner at the observatory cafeteria. Daryl, Mike and Kelly from VPAS and Chuck and Dale from BBAA were already there. Wednesday night's sky was lousy, cool, good sleep.

Thursday after hanging around the visitor center shooting the breeze we went to Durbin for a steam train

ride along the Greenbrier River. The ride was slow and easy and a lot of fun. It was an hour out and an hour and a half back- they filled up the tender from the river! We had lunch before the trip for - get this - \$10 for 2 lunches and drinks. \$2.95 for a BLT! It's an economically depressed area so we not only enjoyed the restaurants; the prices were from the '60s. The reason the US government chose this area in the '50s for a radio observatory was because little growth was projected. They figured people wouldn't move there bringing their radio interference with them. And they didn't- in '58 there were 15,000 living in Pocahontas County, now there are 9,000. I didn't know there was negative growth anywhere in the world. Thursday night- hazy- crummy, good sleep.

Friday, Sam and I went on tours of the observatory and listened to astro talks, ate ice

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## Looking Up! Continued from page 1

well past when it was visible to the naked eye. Thanks to Courtney and Tony Flonta for manning the info table. George Reynolds had his Dobsonian, and Zack Colvin brought out his brand new 8" Dob, too. As soon as the movie was over Parks people turned on these monstrous spot lights so that the crowd could find the path out. I suggested to them that they could have moved the lights away from us and closer to the exit and they would have been just as effective, and not interrupted the viewing.

Boardwalk Astronomy was on Tuesday, the 20th. It was threatening rain all evening, so I only set up my Astro-binocs. It stayed mostly cloudy the whole time. We got a few glimpses of the moon and were able to see Venus for a short while. I think as many people looked at the ships on the horizon with the binocs as saw Venus thru the scopes. About 9:30 we started seeing lighting to the north, and the Droid weather apps were showing some heavy clouds to the West, so we packed it in a little early.

Upcoming events are on the calendars in this newsletter as well as on our websites, so I won't reiterate them here. But I would like to remind everyone that the richest annual meteorite shower, the Perseids, should peak on the evening of August 11th – 12th.

On a more personal note, back in May on Memorial Day weekend, I took my mother to visit her childhood home in Claiborne, MD. She lived there from age 4 to 12, leaving in 1925. We met a few folks there who were fascinated by her stories of who lived where and what businesses were along the main street. The lady who runs the Bed & Breakfast there has invited us back for the annual town picnic on August 22. Claiborne is on the bay side on the Delmarva peninsula, west of Easton, Md., and is far from any major light sources. I let her know I would bring my scope up and set it up Saturday night so anyone interested could take a look at whatever might be visible that night. She put that in her little monthly newsletter that she distributes to the town. Hopefully the skies will cooperate. I will be back in time for Boardwalk Astronomy.

I'd like to go off on a tangent for a bit. Established cosmologic thought maintains that all elements were created by the stars, whether by fusion or by thermonuclear processes in novae; so there is some tie in. I want to talk a little about two of these elements, Ag and Au, Silver and Gold. This is not a political discussion, but economic. Bear with me, this could save or make you some money. Everyone has seen these television ads encouraging you to sell them your old or broken gold jewelry. Don't do it. In case I didn't make that clear: Don't Do It. These guys are spending big bucks to purchase tv time. What are the chances that they are going to pay you a fair market price? Zero. Gold has been hovering around the \$1200 per Troy ounce for the past few months. (A Troy ounce is 31 grams, as opposed to 28 for an avoirdupois ounce.) Silver is around \$18 per Troy ounce. If you sell to these TV guys, you would probably be lucky to get half of that. And if you buy from a bullion dealer, you will pay several per cent over these "Spot" prices. You can go on the internet and find all kinds of information on the Gold and Silver markets and how they are manipulated. Based on the 1980 peak prices, Gold should be at about \$2600, accounting for inflation. Add that to the suspicion that Ft. Knox is empty (it hasn't been audited since the 1950's) and that there is demand for 50% more Silver than is mined each year, and you can see why some metals market experts are expecting Gold to go to \$3000 to \$5000 per ozt, and Silver to \$100 to \$200 within the next couple of years. Some writers go so far as to predict that the price of Silver could surpass gold, because almost all the Gold that has ever been mined in the history of Man is still around, whereas almost all the Silver ever mined has been used up. There is less Silver available (above ground) than Gold. So if you have any Silver or Gold, I would advise you to hang on to it. If you have some spare money to invest, I suggest you think about precious metals. I could be wrong, but I think they really are Looking Up!

*Mark Gerlach*

## Star Quest 7, continued from page 3

cream in the visitor center snack bar and talked. Friday night- rainy. Lots of sleep.

Saturday we took a tour of the lab where they build everything for the radio telescopes, on site and the control room. Very sweet! The forecast for Saturday night was looking great, so I knocked out a nap and got excited for the sun to set. Later in the day I caught a talk by Michelle Shin on gravity assist anomalies which I found thrilling and later a talk by Carolyn Shoemaker on, of course, NEOs, in which she shared her personal story of finding, among others, SL9. It was wonderful to hear her. I was itching to head down to the observation field and get set up, but first I watched Dale win most of the raffles.

All this was enough and I was happy with revisiting friendships from my previous time at this star party and making new friends, and the general socializing with like-minded folk. Then came Saturday night.

Saturday night was exquisitely clear. Finally the sky dried out and the humidity was low (east coast wise). By midnight when it was truly dark the Milky Way was brightly visible horizon to horizon. I was like a kid in the candy shop. I wanted to try everything. The Veil nearly wrecked my night vision. Sam was flitting between my scope and Howard "Real Rocket Scientist" Dew (works at Goddard) who was across the dirt road

from us with his 16" DOB. I took a look at the Andromeda galaxy, and have never seen it this big. It was clearly an entire FOV on each side of the core which is all I see here in Norfolk. I don't know what the FOV is using a Nagler 17mm, but I know it's pretty wide. I spent a good deal of time lying on my lounge chair using binos. or nothing at all. Such a beautiful sky. It was so incredibly clear and dark I could clearly see the spiral arms and knots of stars in M51 in my 10", and being blind in one eye and can't see out of the other- I was happy.

On top of all this the public was invited in to have a look through the scopes, and I really enjoy public outreach. When I wanted to get down to observing I just stopped calling people over. There were lots of other scopes there and no one had to wait in line anyway. Fog rolled in at 0230 and I went to bed shortly afterward. This night was like icing on a cake that was good already.

Lots of dew had condensed on our tent so we were in no rush to get out of there Sunday as we waited for the tent to dry. We finally got on the road at 10:30 and had a nice chat on the drive home talking about our dad n lad time at Green Bank. I love my life.

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## Space Place, continued from page 2

GOES-R will be able to monitor this population of particles and alert operators when it's time to shut down sensitive systems.

"This is something new GOES-R will do for us," says Bogdan.

The GOES-R magnetometer is also a step ahead. It will sample our planet's magnetic field four times faster than its predecessors, sensing vibrations that previous GOES satellites might have missed. Among other things, this will help forecasters anticipate the buildup of geomagnetic storms. And then there are the pictures. GOES-R will beam back striking images of the sun at X-ray and extreme UV wavelengths. These are parts of the electromagnetic spectrum where solar flares and other eruptions make themselves known with bright

flashes of high-energy radiation. GOES-R will pinpoint the flashes and identify their sources, allowing forecasters to quickly assess whether or not Earth is in the "line of fire."

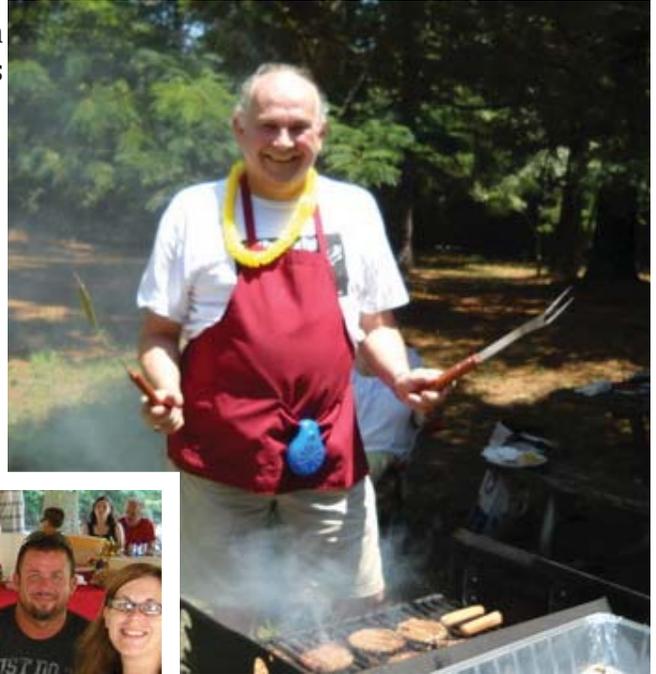
They might also be able to answer the question, Is my cell phone about to stop working?

The first GOES-R satellite is scheduled for launch in 2015. Check [www.goes-r.gov](http://www.goes-r.gov) for updates. Space weather comes down to Earth in the clear and fun explanation for young people on SciJinks, <http://scijinks.gov/space-weather-and-us>.

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

# 2010 Family Picnic

President and Chef Mark Gerlach  
burning burgers



Dale Carey, Michelle Shinn and friends



Bernie and his big smile



Kevin Rasso, Chuck Jagow, Ted and Hali Forte

*Thanks (or blame) to Mark, George  
and Ted for help with captions.*

# Boardwalk Astronomy



Kent, Ted, Roy and Dee Diffrient with their grandson, Travis



Kent and his "mobile binoculars"



Ted aiming his 18-inch Dob



Ah, a day at the beach - BBAA style!



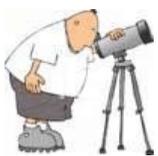
Welcome New Members!



BACK BAY **observer**

## August 2010

BBAA Events	Special Outreach	Astronomical Events
		03 Last Quarter
05 Meeting TBA at 7:30 PM		
06 Skywatch at NWRP		
		10 New Moon
13 Nighthike at NWRP		
14 Nightwatch at NWRP		16 First Quarter
24 Boardwalk Astro, 5:30 PM; dusk		24 Full Moon



### *Sneak Peak into September*

*09/02 Meeting at TCC VA Beach, Building J, Room JC-12 at 7:30 PM*

*09/03 Skywatch at Northwest River Park*

*09/07 Boardwalk Astronomy at 24th Street Stage on VB Boardwalk at 5:30 PM for solar scopes and dusk for telescopes*

*09/11 Nightwatch at Chippokes State Park, Surry, VA*

*09/21 Boardwalk Astronomy at 24th Street Stage on VB Boardwalk at 5:30 PM for solar scopes and dusk for telescopes*

*09/24 Nighthike at NWRP*