



## EPHEMERALS NOVEMBER 2008

DATE	WHEN	WHAT & WHERE
1	Dusk	Nightwatch @ Chippokes Plantation
5	7:00p	Astronomy @ Bayside Library
6	7:30p	BBAA Meeting @ TCC in Virginia Beach
7	7:00p	GardenStars @ Norfolk Botanical Gardens
10	7:00p	Math & Science Night @ Great Bridge Intermediate in Chesapeake
21	Dusk	Skywatch @ NWRP Equestrian Area
24	6:30p	Cub Scouts # 418 @ United Methodist Church, VB
29	Dusk	Nightwatch @ Chippokes Plantation

## Looking Up!

I am composing this on the eve of leaving for my pilgrimage south to the newly reincarnated Chiefland Star Party. Looks like I am “staff” down there now as we expect over 235 registered attendees thus far. Not too bad for an event that was cancelled over two years ago. So I will be absent and missing all of you at this fall’s reincarnation of the fabulous ECSP. It’s only 90 minutes away vs. 13 hours Hmmmmmmmmmmmmm?

Also looks like the washed out Tuckahoe SP last month has a rain date that coincides with ECSP. Let’s hope ours is the one everyone chooses to attend. The more the merrier as Kent is prone to say (among other things!). As I write this, the long range weather forecast looks very good. Perhaps a looming recession will serve to avoid “astro depression”.

## CONTENTS

Ephemerals	1
Looking Up	1
October Meeting Minutes	2
NASA Space Place	3
BBAA INFO	4
How Convection Affects Stars	5
Observer’s Corner	6
Ten Commandments for Astronomers	6
ECSP 2008	7
Monthly Calendar	8

The good news for all is that after what Wall Street handed us over the past month, the skies will be clear for years as no one can afford to purchase that “next” scope! Ouch! Well retirement wasn’t all that I thought it would be. To our young members – start saving now!

Back to astronomy. Please remember that our November Club Meeting will have another **TCC planetarium feature** courtesy of Kenny. I’m hoping for yet another clear night so we can get another trip to the terrific new observatory in the back. For those of you yet to see the new planetarium or observatory, you are missing too many meetings! Enough said!

Hope everyone has some great times at ECSP and enjoys the picnic and prizes. See you soon.

*Bruce "Doc" Bodner*

# The Back Bay Amateur Astronomer's Observer

## October's Meeting Minutes

### Members in Attendance:

There were 14 members in attendance at the October meeting of the Back Bay Amateur Astronomers held at TCC in Virginia Beach.

Neill Alford, Bruce Bodner, Jordan Bramble, Kenny Broun, Larry Channel, Jan Cromwell, Mark Gerlach, Chuck Jagow, Ben Loyola, Matt McLaughlin, Bill McLean, Track McCreary, Jim Miller, Rob Schonk.

### Treasurer's Report:

The Club treasurer reported the following club fund balances:

\$4,446.76 Total

\$2,116.80 Scholarship Fund.

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\$2,329.96 Available For Club Ops

### Secretary's Report:

Meeting minutes are posted on the club website and club newsletter.

### Old Business:

None.

### New Business, announcements and observing reports:

The Virginian Pilot is planning to run a newspaper article on Saturday about the RRRT.

GardenStars is scheduled for Friday night, October 10th.

Kent Blackwell will once again be host to the East Coast Star Party in Coinjock. The dates this year are October 24th through October 26. The Skywatch for that weekend will most likely be cancelled due to the ECSP.

Nightwatch at Chippokes will be Saturday, November 1st.

BBAA will possibly host the VAAS convention in 2010

or 2011.

Annual elections of club officers will be held at the November meeting. Current officers have been re-nominated for re-election, but anyone wishing to put their hat in the ring is welcomed to do so. New nominations will be accepted until voting begins at the November meeting.

Carlos Salgado from Norfolk State University would like to offer a class in Spherical Astronomy for the Spring 2008 semester. Contact Ted Forte, Matt McLaughlin or Carlos Salgado for the latest info.

This month's presentation was a showing of the BBC's - "The Sky At Night". The show title was "Double Vision". It was about The Large Binocular Telescope. The Large Binocular Telescope in Arizona promises a revolutionary way to look at the night sky. The light from its two 8.5m mirrors will produce images of unprecedented clarity and power, offering a glimpse beyond our solar system to the very beginning of time.

Once the presentation was completed; the meeting was adjourned at 8:40 PM, Thursday, October 2, 2008.

*Matt McLaughlin*

## MAP TO THE TCC BBAA MEETING LOCATION

Don't confuse the Adult Learning Center with the Advanced Technology Center, they are **NOT** the same buildings. The Adult Learning Center is the building is in front when you first turn off of Concert Drive, ignore it and turn right on University Drive and proceed to College Crescent where the parking lots begin. Then just walk South of the ATC and go in the Science Building and find the stairs closest to the planetarium and go upstairs to classroom JC12.



# The Back Bay Amateur Astronomer's Observer



## The Chemical Weather Report

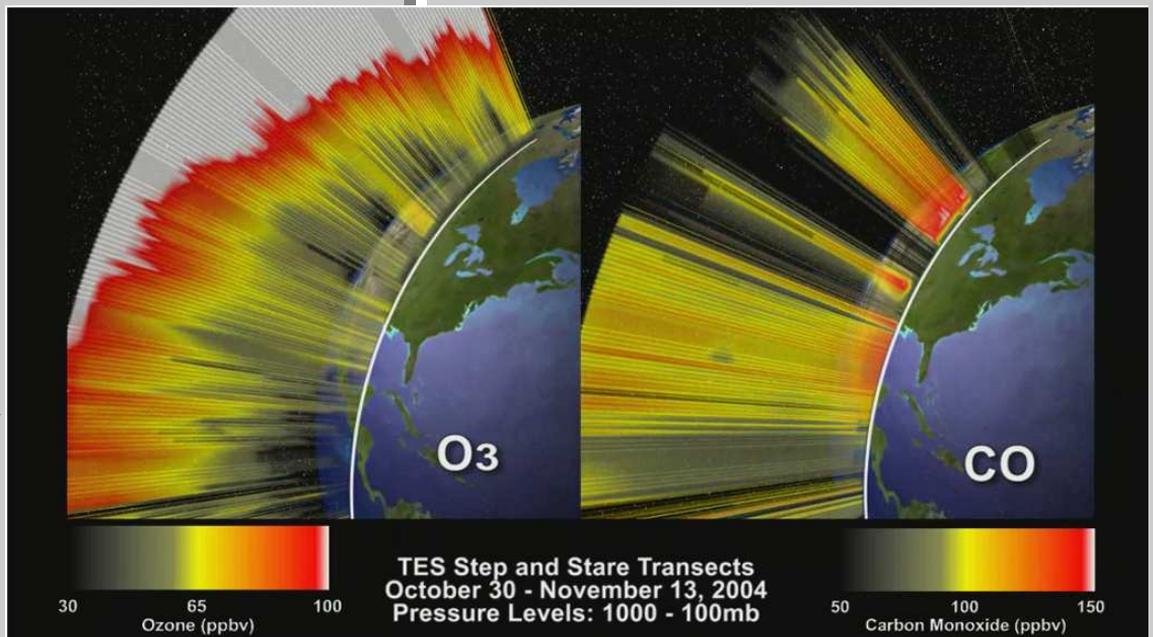
provided by the Jet Propulsion Laboratory, California Institute of Technology

“Sunny tomorrow with highs in the mid-70s. There’s going to be some carbon monoxide blowing in from forest fires, and all that sunshine is predicted to bring a surge in ground-level ozone by afternoon. Old and young people and anyone with lung conditions are advised to stay indoors between 3 and 5 p.m.”

Whoever heard of a weather report like that?

Get used to it. Weather reports of the future are going to tell you a lot more about the atmosphere than just how warm and rainy it is. In the same way that satellite observations of Earth revolutionized basic weather forecasting in the 1970s and 80s, satellite tracking of air pollution is about to revolutionize the forecasting of air quality. Such forecasts could help people plan around high levels of ground-level ozone—a dangerous lung irritant—just as they now plan around bad storms. “The phrase that people have used is chemical weather forecasting,” says Kevin Bowman of NASA’s Jet Propulsion Laboratory. Bowman is a senior member of the technical staff for the Tropospheric Emission Spectrometer, one of four scientific sensors on NASA’s Aura satellite. Aura and other NASA satellites track pollution in the same way that astronomers know the chemical composition of stars and distant planetary atmospheres: using spectrometry. By breaking the light from a planet or star into its spectrum of colors, scientists can read off the atmosphere’s gases by looking at the “fingerprint” of wavelengths absorbed or emitted by those chemicals. From Earth orbit, pollution-watching satellites use this trick to measure trace gases

such as carbon monoxide, nitrogen oxide, and ozone. However, as Bowman explains, “Polar sun-synchronous satellites such as Aura are limited at best to two overpasses per day.” A recent report by the National Research Council recommends putting a pollution-watching satellite into geosynchronous orbit—a special very high-altitude orbit above the equator in which satellites make only one orbit per day, thus seeming to hover over the same spot on the equator below. There, this new satellite, called GEOCAPE (Geostationary Coastal and Air Pollution Events), would give scientists a continuous eye in the sky, allowing them to predict daily pollution levels just as



meteorologists predict storms. “NASA is beginning to investigate what it would take to build an instrument like this,” Bowman says. Such a chemical weather satellite could be in orbit as soon as 2013, according to the NRC report. Weather forecasts might never be the same.

Learn more about the Tropospheric Emission Spectrometer at [tes.jpl.nasa.gov](http://tes.jpl.nasa.gov). Kids can learn some elementary smog chemistry while making “Gummy Greenhouse Gases” out of gumdrops at [spaceplace.nasa.gov/en/kids/tes/gumdrops](http://spaceplace.nasa.gov/en/kids/tes/gumdrops).

### Image Caption:

Example of visualization of data from the Tropospheric Emission Spectrometer. These frames are from an animation that steps through transects of the atmosphere profiling vertical ozone and carbon monoxide concentrations, combining all tracks of the Aura satellite during a given two week period.

# 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 November meeting will be on Thursday November 5th at 7:30 PM at the new Science building of the Advanced Technology Center on the Virginia Beach TCC campus in Virginia Beach. The meetings are usually held in classroom JC12 or the Planetarium.

## **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>

## **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.

**President**  
Bruce Bodner  
757-627-7980  
bbodner@worldnet.att.net

**Vice President**  
Chuck Jagow  
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**Secretary**  
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**ALCOR**  
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**Librarian**  
Gerry Carver  
popcarg@aol.com

**Web Master /  
RRRT Coordinator**  
Ted Forte  
twforte@cox.net

**Scholarship Coordinator**  
Ben Loyola  
benito@loyola.com

**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 November for the December 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

## Bubble, bubble, toil and trouble: How Convection Affects Stars

### Editors Note:

This article is part of a source of information being made available to astronomy newsletter editors. The AAVSO collects astronomy related material and makes it available for republication as long as the author is given credit, their blog or original publication is credited and a link is displayed to their blog or publication is provided.

Provided by Kurtis Williams

<http://blog.professorastronomy.com/>

As I mentioned yesterday, this week I'm at a conference in Baltimore on the ages of stars. Many of yesterday's talks centered around calculating the ages of stars from theory. We do this by "building" a star in a computer, letting the computer age the star according to physics, and seeing what happens.

As a general idea, this is a fairly simple concept.



You need to tell the computer how massive the star is, what material the star is made out of, and then just give it a list of physics: nuclear reactions, gravity, temperature and pressure laws, and other such stuff. The computer then calculates the life cycle of the star. Essentially, at the core of the star, nuclear fusion converts hydrogen to helium. When the hy-

drogen runs out, the star begins to die.

But the devil is in the details. One of the biggest issues that we've struggled with for decades is called *mixing*. Parts of stars undergo a slow roiling, like the material in a lava lamp. Blobs of hot material rise up, cool off, and sink back down. The motion of these blobs stirs up the material in a star, and can bring some fresh fuel down to the nuclear reacting core of a star. The problem is, this motion is very hard for computers to model. We can put simplified versions of mixing into computers, but it's a bit of a guess as to how much.

Physics doesn't tell us how much things will get mixed up by this roiling, because we don't have enough information about the exact conditions in a star. So, we just put a knob on the computer models, and slowly turn it from no mixing to a lot of mixing. When astronomers do this, the age of a given star can change by almost a factor of two. And that's not so great; it's like you asking me how old John Q Public is, and I respond that he's between 40 and 80 years old.

But all is not lost. The mixing does more than just bring some fresh fuel to a star's nuclear furnace. It also subtly changes what the star looks like from the outside. So, the job then falls to people like me, an observer, to measure what large numbers of stars look like and to compare that with the various computer models. And, when we do this with stars, we find that there needs to be some moderate mixing, which makes stars a little older than we thought. So, I could use that to tell you that John Q Public is in his mid to late 60s. That may not be as accurate as you'd like, but it's better than the earlier answer.

This was part of the point of this conference, to bring both theorists and observers together to compare our data and computer models, and to let each other know our newest and best results.

# The Back Bay Amateur Astronomer's Observer

## OBSERVERS CORNER

**October 2008** - Occasionally you get a chance to take stock of just where you stand in the greater scheme of things and with Jupiter and Venus putting on a show in the sky it seemed like a good time to orient oneself. Standing in the front yard with my back to the ocean I could visualize the orientation I had to the ocean and thus the continent. To my right was the north pole 36 degrees below Polaris so we know where we are in space and on the surface of the globe. To my left the bright planets marked out the plane of the Solar system. By inference I knew where the sun was by the twilight of the sunset and merely had to picture Venus orbiting on the inside with Jupiter on the outside. Having gained an idea of where I stood in the solar system and in what attitude, it was easy to picture the galaxy flowing overhead through Cygnus to Cassiopeia. The center of the galaxy hung below Jupiter.



At an angle to the right lay Andromeda at almost right angles to the milky way.

Past this it becomes a bit too hard to orient yourself but what a moment to be able to truthfully say you knew where you stood in the universe and how few other people (maybe none) had that privilege for that one moment. Sometimes it is nice to put away the telescope and just for a moment look at where you are.

Mark Ost

## The Ten Commandments for Amateur Astronomers

1. Thou shalt have no white light before thee, behind thee, or to the side of thee whilst sharing the night sky with thy fellow stargazers.
  2. Thou shalt not love thy telescope more than thy spouse or thy children; as much as, maybe, but not more.
  3. Thou shalt not covet thy neighbor's telescope, unless it exceeds in aperture or electronics twice that of thy wildest dreams.
  4. Thou shalt not read "Astronomy" or "Sky & Telescope" on company time, for thine employer makes it possible to continue thine astronomical hobby.
  5. Thou shalt have at least two telescopes so as to keep thy spouse interested when the same accompanies thee under the night sky or on eclipse expeditions to strange lands where exotic wild animals doth roam freely.
  6. Thou shalt not allow either thy sons or thy daughters to get married during the Holy Days of ECSP.
  7. Thou shalt not reveal to thy spouse the true cost of thy telescope collection; only the individual components, and that shall be done with great infrequency.
  8. Thou shalt not buy thy spouse any lenses, filters, dew shields, maps, charts, or any other necessities for Christmas, anniversaries, or birthdays unless thy spouse needs them for their own telescope.
  9. Thou shalt not deceive thy spouse into thinking that ye are taking them for a romantic Saturday night drive when indeed thou art heading for a dark sky site.
  10. Thou shalt not store thy telescope in thy living room, dining room, or bedroom, lest thou be sleeping with it full time.
- Addenda:
11. Verily, observe not through thy neighbor's AP or Tak, lest thee be utterly consumed by the lust of apo-fever, and thy brain and thy bank account shall shrivel and wither like branches in a flame...
  12. Verily, observe not through thy neighbor's Dob of Goliath, lest thee be lain bare to the fires of aperture-fever, and thy sanity, thy sacroiliac and thy life savings be crushed as ye grapes of wrath...

# The Back Bay Amateur Astronomer's Observer

## ECSP 2008

For several of us the ECSP started a little early this year as we set up on Wednesday evening for some early stargazing. This night found only a few souls sneaking in early before the crowd.



The first night was fairly clear, but was plagued with thin high clouds for the imagers yet it was enjoyable all around. Thursday brought a few more people and much of the same skies.

By Friday morning the grey clouds were already building and starting to hint at what was to come. The day brought more people and more clouds. Dee fed everyone a wonderful Spa-



ghetti dinner and as the clouds began their war dance we all prepared the best way we knew how - YELLOW TAIL, and lots of it.

When the rain finally began, we moved under a couple of shelters already erected and continued the anti-rain/cloud ceremony until the wee hours of the morning.

Saturday morning was a bit rough for some, expecting sun and

clear skies and finding clouds and rain threatening. A hearty Breakfast in Grady helped, but Kent agonized about having the cookout in the Cedars or at the multipurpose building all day. Ultimately he decided upon the Cedars. And just as we fired up the BBQs to cook the burgers and dogs, it began to rain.

The festivities continued, a significant amount of food was consumed, many prizes were awarded, and costumes were judged. The rain continued until the wee hours of the morning. It cleared about three AM and folks jumped at the chance for a



few hours and observed in the damp coolness.

Kent graciously extended an invitation for everyone to spend Sunday night if they could as it looked as though it would be clear.

A few souls stuck it out and stayed Sunday evening and were



Costume Winners, Adult - Telescope dude, Child - Fairy

treated to an evening of clear skies that they knew the ECSP could deliver.

Despite the rain & clouds everyone, as always, had an exceptional time at the Fall 2008 ECSP.

*Chuck Jagow*

# The Back Bay Amateur Astronomer's Observer



## NOVEMBER 2008

BBAE EVENTS	SPECIAL OUTREACH	ASTRONOMICAL EVENTS
01 = NIGHTWATCH @ Chippokes State Park, Dusk		
06 = BBAA Monthly Meeting @ TCC Campus, Virginia Beach, 7:30 PM	05 = ASTRONOMY NIGHT @ Bayside Library, 936 Independence Blvd, VA Beach, VA @ 7:00 PM - POC: Chuck Jagow	05 = FIRST QUARTER
	07 = GARDENSTARS @ Norfolk Botanical Gardens, Norfolk, VA @ 7:00 PM - POC: Chuck Jagow	
	10 = MATH & SCIENCE NIGHT @ Great Bridge Intermediate, Chesapeake, VA @ 7:00 PM - POC: Chuck Jagow	13 = FULL MOON
24= SKYWATCH @ NWRP, Dusk	24 = CUB SCOUTS PACK 418 @ United Methodist Church, 804 Gammon Rd, VA Beach, VA @ 6:30 PM - POC: Jordan Bramble	19 = LAST QUARTER
25 = CLOVERWATCH @ Franklin Fairgrounds, Dusk - POC Cliff Hedgepeth <b>ON HOLD!!!!</b>		
29 = NIGHTWATCH @ Chippokes State Park, Dusk		27 = NEW MOON