



STAR STUFF

The Newsletter of the Ford Amateur Astronomy Club

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October 2008

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Great Lakes Star Gazing

President's Corner

Doug Bauer, FAAC President



Photo by Jon Blum

The Great Lakes Star Gaze took place September 25 - 28 at the River Valley RV Park in Gladwin. This is an annual event and I believe this was the sixth

...continued on page 2



The Chemical Weather Report

"Sunny tomorrow with highs in the mid-70s. There will 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 should 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...

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STAR STUFF

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FORD AMATEUR ASTRONOMY CLUB
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Club Information:

The Ford Amateur Astronomy Club (FAAC) meets on the fourth Thursday each month, except for the combined November/December meeting on the first Thursday of December – at Henry Ford Community College, Administrative Services and Conference Center in Dearborn. Refer to our website for a map and directions (www.boonhill.net/faac).

The FAAC observes at Spring Mill Pond within the Island Lake State Recreation Area near Brighton, Michigan. The club maintains an after-hours permit, and observes on Friday and Saturday nights, and nights before holidays, weather permitting. The FAAC also has use Richmond Airport, Unadilla, given prior permission, and Lake Erie MetroPark. See the FAAC Yahoo Group* for more information.

Observing schedules and additional info are available on our website, or via the FAAC Yahoo Group.* Or call the **FAAC Hotline**, for info, and leave a message, or ask questions: **248-207-2075**. Or send email inquiries to fordastronomy@comcast.net.

Membership in the FAAC is open to anyone with an interest in amateur astronomy. The FAAC is an affiliate of the Ford Employees Recreation Association (F.E.R.A.). Membership fees:

Annual – New Member:	\$30	(\$15 after July 1)
Annual – Renewal:	\$25	(\$30 after January 31)

Membership includes the *STAR STUFF* newsletter, discounts on magazines, discounts at selected area equipment retailers, and after-hours access to the Island Lake observing site.

Astronomy or Sky & Telescope Magazine Discounts

Obtain the required form from the FAAC club treasurer for a \$10 discount. Send the completed form directly to the respective publisher with your subscription request and payment. Do not send any money directly to the FAAC for this.

Star Stuff Newsletter Submissions

Your submissions to *STAR STUFF* are more than welcome! Send your story and/or images to the editor at dake00k@yahoo.com. Email text or MS Word is fine. *STAR STUFF* will usually go to press the weekend prior to each general meeting. Submissions received prior to that weekend can be included in that issue.

* FAAC Members are welcome to join our **FordAstronomyClub** Yahoo! Group. Messages, photos, files, online discussions, and more! URL: groups.yahoo.com/group/FordAstronomyClub.

President's Corner... (continued from page 1)

one. The RV Park has a campground and a field that is higher than the campground and bordered by large trees so that the light from the campground doesn't reach the observing field which is also used for participant camping. The event organizers are members of the Sunset Astronomical Society, but the event is organized independent of the Sunset Club. It is very well run, with several interesting guest speakers. This year the speakers included our own John Kirchoff, talking about Astro Photography, Web Cam Style, Michael Bakich, Editor for Astronomy Magazine, with a presentation on the ABCs of Astronomy, Michael Foerster gave a presentation called To Infinity and Beyond 50 years after Sputnik, and Norb Vance of E.M.U. talked about Rocket Launches and actually launched one of his rockets in the field.



Photo
by
Sandra
Macika

There were also several vendors there so that you could stock up on some must-have items. On Saturday morning there was a swap meet – more opportunities to buy stuff. On Saturday evening the main event is a door prize drawing. And they have a lot of door prizes and it always draws a big crowd. All children in the event win something in the drawing.



Photo by Jon Blum

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President's Corner... *(from page 2)*

This year they had a special raffle for at Televue 13mm Ethos eyepiece. Many of us dreamed of winning it, but our Jim Moscheck actual won it. He brought it by in the evening to let several of us try it in our telescopes. Then we returned to our own narrow views of the universe. To me, the best thing about the event is the opportunity to get together with our astronomy buddies and socialize. We had a very big turnout from FAAC, I counted around 20 people. Several of us setup close together so that we could share views during the observing.



Photo by Jon Blum

Some, we'll call them the Astrophoto group -- Jim Frisbie, Gordon Hansen, and Bob FitzGerald -- camped in a secluded area next to the very social Seven Ponds folks. Those Seven Ponds guys had a feast and party going on every night. Their chili was fantastic!

Many of us went out to breakfast, lunch, and/or dinner together at the Remedy Restaurant, although this year Jon Blum found a new restaurant called Surrey House which we tried one night -- it was very good.

The skies were pretty good all three nights, but by 2:30 am on Friday and Sunday mornings it clouded over. Friday night was the best with clear skies until 4:00 am Saturday (it might have been clear longer than that, but that is when I left).

There was a lot of dew every night, but dew was very bad on Saturday night. I brought my 16 inch Lightbridge, but had not purchased any dew heaters for it, luckily I had a 12 volt hair drier which saved me. I ordered dew heaters the first day back home!

This was my third Great Lakes Star Gaze, the first one was entirely rained out, but the next two were great. It was a lot of fun and I was able to get in some great observing.

If you haven't been to one of these events, I highly recommend going.

Gadgeteer - October Speaker for FAAC Meeting

Jon Blum has lived his whole life in the Detroit area, attended college and medical school at Wayne State University, and spent his career as a dermatologist in his office in Farmington Hills.

Now retired, Jon has time to pursue hobbies; his favorite, perhaps, is a long-denied interest in chasing stars. Jon says he still has his first cardboard telescope from childhood, but joined the ranks of the amateur astronomer in 2001, getting his first "real" telescope.

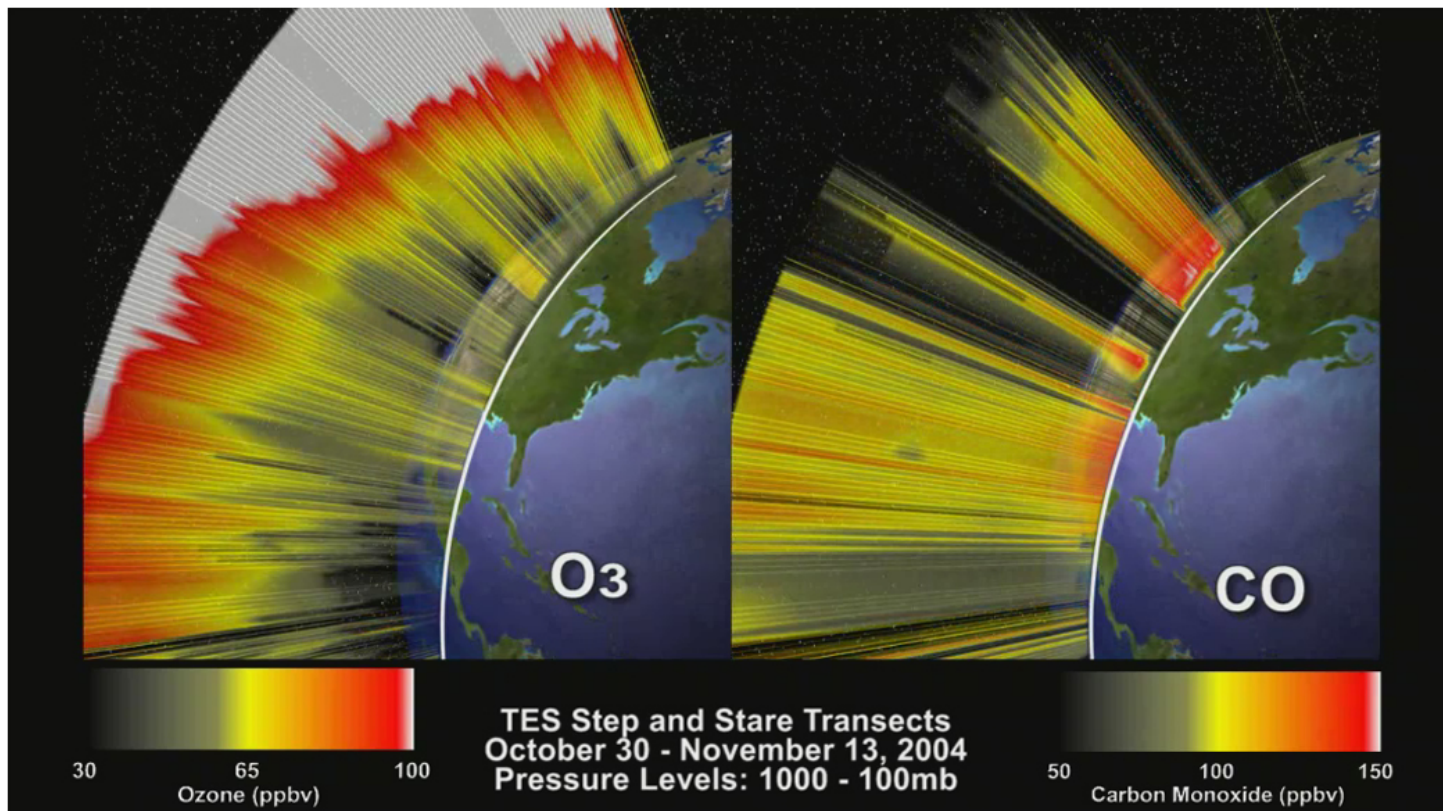
Jon "loves gadgets of all sorts," he says, and hasn't seen an astronomy gadget that he somehow didn't need. Jon will be giving a presentation, in fact, and will describe some of those gadgets, at the FAAC meeting, October 23.

In this talk, Jon hopes to convey just how far the gadget thing can go -- how it is that one can no longer quite live without such things as blinky lights, metric Allen wrenches, binocular mounts, a hair dryer, seven simultaneous dew heaters, a RACI finderscope, bright yellow eyepiece caps, two inches of pipe foam insulation, a Hummer, and a dozen other sundry things.

In addition to astronomy, Jon's other hobbies are grandchildren, digital photography, and creating web pages. Jon has a website about Maui, including many photos, at www.mauihawaii.org. His astronomy photos (trips, not astrophotos) are at www.jonrosie.com/astronomy.

Jon also writes about Maui, where he and his wife Rosie live under clear skies during the winter. His past talks to our club have included how he shopped for and selected his current telescope, astronomy in Scandinavia, Astronomers Inn B&B in Arizona, and astronomy on Maui. Future talks might include why Jon belongs to six astronomy clubs, and another one about more astronomy gadgets that did not fit into this month's presentation.

Weather... (from page 1)



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.

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 a “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. 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.

“NASA is beginning to investigate what it takes to build an instrument like this,” Bowman says. Kids, see spaceplace.nasa.gov/en/kids/tes/gumdrops

These SPACE PLACE articles are provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with NASA.



A Google for Satellites: Sensor Web 2.0

If you could see every satellite passing overhead each day, it would look like a chaotic meteor shower in slow motion. Hundreds of satellites now swarm over the Earth in a spherical shell of high

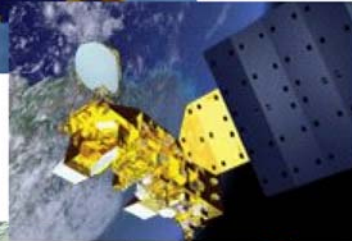
technology. Many of these satellites gaze at the planet's surface, gathering torrents of scientific

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Map shows locations of wild fires



Terra
(MODIS, Moderate Resolution Imaging Spectroradiometer)



Aqua
(MODIS)

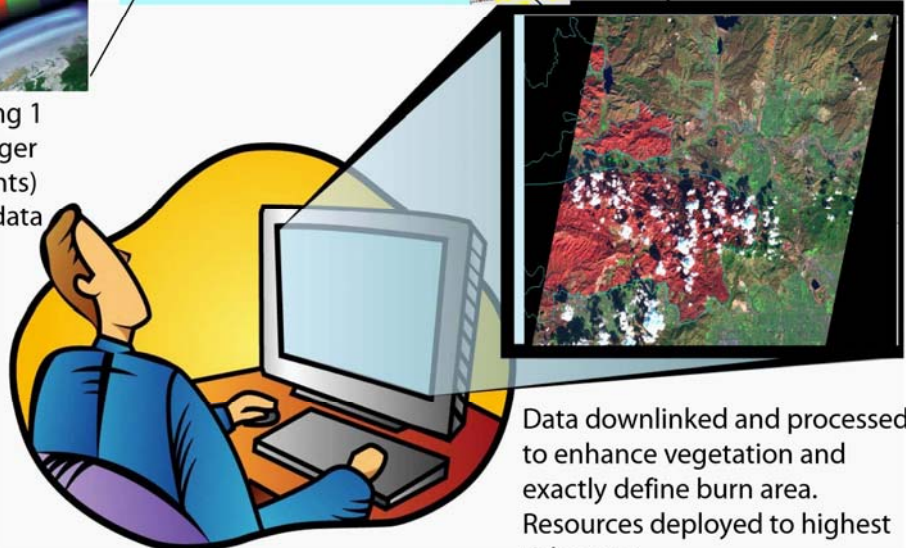
MODIS Active Fire Map



Fire precisely located using MODIS data



Earth Observing 1
(Advanced Land Imager and Hyperion instruments)
tasked to acquire image data



Data downlinked and processed to enhance vegetation and exactly define burn area. Resources deployed to highest risk areas.

A "Google for satellites" type of web portal will allow users to request real-time data from Earth observing satellites.

Google ... (from page 5)

data using a dizzying array of advanced sensors — an extraordinary record of our dynamic planet.

To help people tap into this resource, NASA researchers such as Daniel Mandl are developing a “Google for satellites,” a web portal that would make requesting data from Earth-observing satellites almost as easy as a search with Google.

“You just click on it and it takes care of all the details for you across many sensors,” Mandl explains.

Currently, most satellites are each controlled separately from the others, each one dauntingly complex to use. But starting with NASA’s Earth Observing-1 (EO-1) satellite, part of the agency’s New Millennium Program, Mandl and his team are building a prototype that stitches these satellites together into a seamless, easy-to-use network called “Sensor Web 2.0.”

The vision is to simply enter a location anywhere on Earth into the website’s search field along with the desired information types — wildfire maps, vegetation types, floodwater salinity, oil spill extent — and software written by the team goes to work.

“Not only will it find the best sensor, but with proper access rights, you could actually trigger a satellite to take an image in the area of interest,” Mandl says. Within hours, the software will send messages to satellites instructing them to gather the needed data, and then download and crunch that raw data to produce easy-to-read maps.

For example, during the recent crisis in Myanmar (Burma) caused by Cyclone Nargis, an experimental gathering of data was triggered through Sensor Web 2.0 using a variety of NASA satellites including EO-1. “One thing we might wish to map is the salinity of flood waters in order to help rescue workers plan their relief efforts,” Mandl says. If the floodwater in an area was salty, aid workers would need to bring in bottled water, but if flood water was fresh, water purifiers would suffice. An early, correct decision could save lives.

Thus far, Mandl and his team have expanded Sensor Web 2.0 beyond EO-1 to include three other satellites and an unmanned aircraft. He hopes to double the number of satellites in the network every 18 months, eventually weaving the

jumble of satellites circling overhead into a web of sensors with unprecedented power to observe and understand our ever-changing planet.

To learn more about the EO-1 sensor web initiatives, go to <http://eo1.gsfc.nasa.gov/new/extended/sensorWeb/sensorWeb.html>. Kids (and grown-ups) can get an idea of the resolution of EO-1’s Hyperion Imager and how it can distinguish among species of trees—from space at http://spaceplace.nasa.gov/en/kids/eo1_1.shtml.

September 25 Meeting Minutes

Ken Anderson

Minutes are not available in time for this edition, but will be posted on the FAAC Yahoo site under **Files** when available. See groups.yahoo.com/group/FordAstronomyClub

Meeting Agenda - October 23

5:30 pm HFCC - Rosenau CR - Admin. Services and Conference Center *

(For map see: http://www.hfcc.edu/contact/campus_maps.pdf)

Opening/Introduction/Member Observing

Presentation: Astro Gadgets – Jon Blum

Tech Talk: Wooden Bino Mount – Bob MacFarland

Club Business/Secretary/Treasurer/Equipment Reports

Club Projects/Committees/Member Support

- David McCarney (principal at Wyandotte Catholic School) Student Astronomy Club Proposal
- Outreach Farmington Hills Cub Scouts – Nov 20
- Outreach Hartland Library – Jan 5
- Follow up survey on Paul Goldsmith presentation
- 2009 IYA
- Astro-Imaging SIG – Tony Licata
- Dark Sky – Frank Ancona
- Club Telescope Committee
- Open Discussion

* **Note:** The FAAC general meeting will be held in the Hackett room on December 4, 2008. The SIG meetings will use the Hackett room on November 13, 2008, and February 12, 2009.

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