

Smoky Mountain Astronomical Society

S. C. R. A. P. S.

Society's Chronological Astronomical Papers

An expert is a person who has made all the mistakes that can be made in a very narrow field. -Niels Bohr

Volume 31, Number 9
September, 2008



From the President: Scott Byers

I want to take this opportunity to thank everyone who helped with the Heritage center event we had last month. What a success! This goes a long way for reaching out to the community, which I believe is very important for us.

A question was raised recently about why club outreach is so important. Our constitution states that the goal of SMAS is to “facilitate the study and enjoyment of astronomy amongst its members and to promote an accurate understanding and appreciation of astronomy and related physical sciences in our community.” I am convinced that our outreach is implicit in the goal of our club, particularly as it relates to the following people:

New astronomers – Our club’s most valuable resource is its members, particularly their knowledge and experience. Hopefully our club will reach new astronomers who don’t know about this resource.

Potential astronomers – How many of us started our love of the night sky when we were young? For me it was when I was in the second grade. However, I did not actually ‘get into’ amateur astronomy until a SMAS club member invited me to a meeting. If we just spark a little interest in astronomy in a child or teenager, they may become the next Galileo, Halley or Cassini or even a future SMAS president!

Public at Large – Developing a public appreciation for the stars may go a long way in helping amateur astronomy. One of the biggest problems facing us today is light pollution. Increasing public awareness through our club outreach may help in reducing this problem.

Members – Public outreach actually helps us, too. Talking to the public about what they are looking at through one of our telescopes or going to a school to give an astronomy presentation requires us to be knowledgeable about the subject of our discussion. This facilitates the need for study and also increases the enjoyment of astronomy among ourselves.

I believe this a good way for us to fulfill the goal of our club to have a robust outreach program that is satisfying to both the public and our club members.

Minutes of August meeting By Lee Erickson

At the August 8, 2008 meeting, we had two new members join,

Vicente Diaz and Elissa Chelser

Welcome to you both!

Treasurer's report. Treasurer Lee Erickson confessed that he could not account for one dollar out of the check book balance and was about to plead for someone not prone to transposing digits to look at the numbers, when the past treasurer pointed out that there is a \$0.25 fee for each of our four checks, which explained the difference. Crises and scandal averted! Overall, we are right at \$1000 to the good, with no significant expenditures pending.

Scott Byers explained a couple of systems for measuring NELM (Naked Eye Limiting Magnitude.) I hope to use the chart he provided for Delphinus at the next star party. I have to worry that the astigmatism I have (which spreads out point light sources) may make my observations of the NELM poorer than the NELM which younger more acute eyes will report.

Michael McCulloch took us on a tour through the heart of the galaxy. I remember the three dark nebula in the Sagittarius Star Cloud M24 and hope to look for them at the next Unicoi Crest. The dark nebula have "B" numbers after E. E. Barnard, who first cataloged them. (Barnard was a native of Nashville, became a world-famous astronomer.) When I see Michael again I will ask if Barnard first observed them visually or photographically.[*] The map of Deep Sagittarius is already in my box of sketching tools, and I hope it makes it to the star party.

[* This is addressed in Barnard's book "A Photographic Atlas of Selected Regions of the Milky Way". See <http://www.library.gatech.edu/barnard/intro.html> --Ed.]

Dining after the meeting at Chili's was fun, with good conversation.

* * *

Announcement:

Bay's Mountain annual Star Fest will be held October 24-26 at Kingsport. Information and registration are available at:

<http://www.baysmountain.com/planetdept/starfest/starfest2008.html>



SEPTEMBER CAMPING AND PUBLIC OBSERVING AT BANDY CREEK

SMAS has reserved the E-1 Group Campground at Bandy Creek in the Big South Fork National River & Recreation Area for the weekend of September 26-28. The E-1 campground has 16 campsites. Hookups and water are not available at each site, but the group campground does

have several water spigots, a common pavilion with electrical outlets, a private bathhouse with hot showers, and a large sink for washing utensils. Ice is available at the Visitors Center only a few yards away.

SMAS members may arrive on Friday any time after 2 PM. Campsite selection is first-come, first-serve. We are required to vacate the campground by noon on Sunday.

SMAS members may reserve a campsite by contacting SMAS Treasurer Lee Erickson and submitting \$15 for both Friday and Saturday nights, or \$7.50 for a single night. The Sept 12th SMAS meeting at PSTCC would be an excellent time to do so. Lee prefers payment by personal check. Your check will not be deposited in the SMAS account until after the event.

The current plans for the weekend are tentative and subject to change, but these are the order of events as currently discussed:

- Arrive at campground after 2 PM on Friday Sept 26th
- Private dark-sky observing by SMAS members at a location near the campground on Friday night



One of 16 individual campsites in campground E-1

- Quiet rules until at least 9 AM on Saturday morning, please
- Informally organized hike by SMAS members to the Twin Arches on Saturday afternoon
- Public observing hosted by SMAS in the Bandy Creek Visitors Center parking area on Saturday night
- Vacate the campground by noon on Sunday Sept 28th

We would prefer that you run any generators during the daytime hours and limit use as much as possible so as not to disturb the group area.

SMAS has flexibility to cancel the event up to a couple of days before if the weather does not cooperate. In that event, your reservation fee will be returned in full. We plan to call everyone that reserves a couple of days before the event to confirm your attendance.

We need adequate participation by SMAS members in order to cover the campground fees and host the public event on Saturday night. Please consider attending as camping in the group areas and observing with your fellow SMAS members can be a very enjoyable experience given cooperative weather.



Covered pavilion, with picnic tables and benches and a real fireplace.



Bath house for E-1 campers, with hot water, private showers, and normal amenities.

GSM Heritage Center Event, by Michael McCulloch

SMAS members hosted a public star party in partnership with the Great Smoky Mountains Heritage Center in Townsend, TN on the evening of August 9th. We used various means to promote the evening including mention on our website, posting of flyers at Townsend businesses and visitors centers, and mention by the weather anchors on WATE. The majority of visitors said they found out about the star party via TV.

Our observing spot was tolerable as there were no lights shining directly down upon us, but the surrounding lighting was at times problematic due to the reflections in our optics. The Moon and Jupiter were easy targets, and drew gasps from some visitors upon viewing, but other than bright double stars (Alberio, Mizar, Cor Caroli) it was hard to see much detail in fainter targets.

Nevertheless, our SMAS members were troopers and made the best of it. We had several members and telescopes available to show the public the night sky including our 20" dob, several other 10" dobs, some refractors, and a CAT or two. Thanks to all the SMAS members that attended as your participation is key to the success of such events.

We had perhaps 70 visitors and many stayed the majority of the evening. This included a diverse mix of ages and astronomy knowledge, but the feedback was universally positive. Nancy said she had many positive comments and zero negative ones. A table covered with back issues of astronomy magazines was cleared in record time!

Lee Erickson started the official proceedings with a talk that began just before dusk. Lee presented some basic rules the visitors should observe and then proceeded in a quiz-like format where he asked questions and urged responses from the visitors about various aspects of the night sky. One lady in particular seemed to have all the answers and we wondered if she had an advance copy of the quiz!

I personally had one youngster that asked the most difficult questions, but he was obviously a young mind interested in knowing much more. I did the best I could and gave him some study items to look up on the Internet. He took a handful of magazines. He seemed specifically fascinated by supernova and how far they "reach".

Next events for public outreach to put on your calendar:

Sept 27th at Bandy Creek Visitors Center, Big South Fork
Oct 4th at Cades Cove in partnership with NPS

SMAS needs your participation in these events!



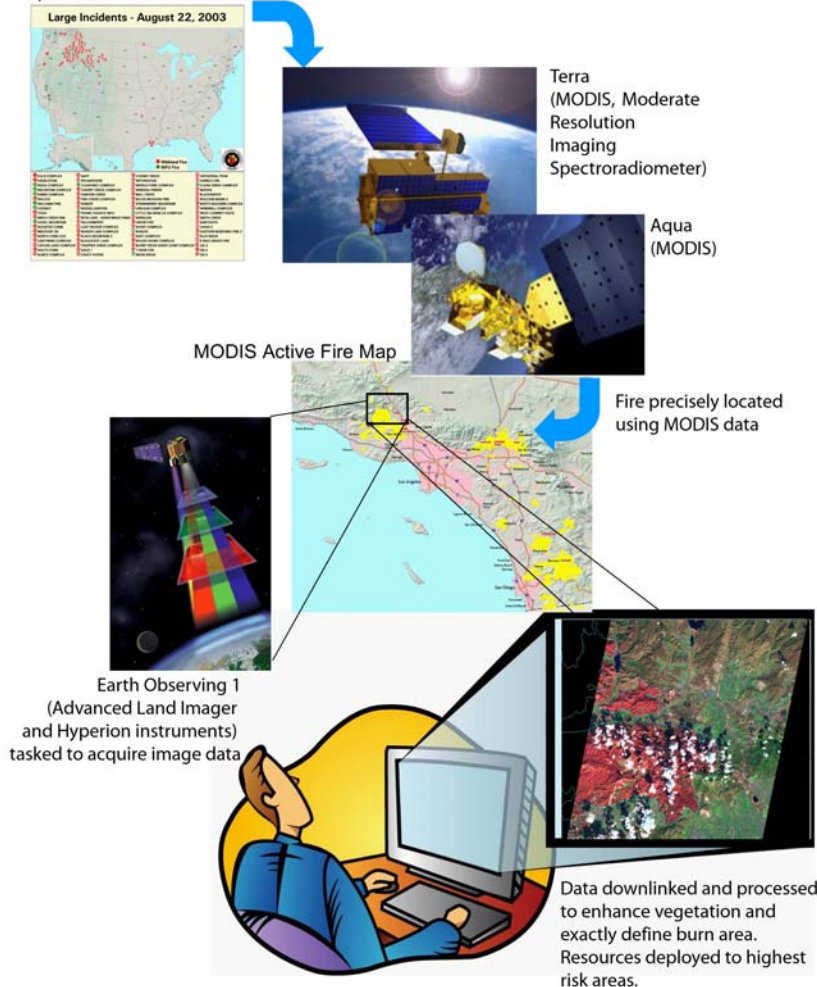
A Google for Satellites: Sensor Web 2.0

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 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 typing a search into Google.

Map shows locations of wild fires



“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.”

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

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 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 and 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 2008

SUN	MON	TUE	WED	THU	FRI	SAT
	1 SCRAPS depends Upon its friends	2 Help! Help!	3	4	5 UTK	6 SMAS Star Party LR #1 TAO
7	8	9	10	11	12 SMAS Meeting PSTCC 7 pm	13
14	15	16	17	18	19 UTK	20 TAO
21	22	23	24	25	26 BIG	27 SOUTH
28 FORK	29 New Moon	30			UTK—roof of Neilson Physics Building on The Hill at UT 1st & 3rd Fridays TAO —Tamke-Allan Observatory Public Stargaze Watts Bar Lake, Roane County 1st & 3rd Saturdays	