

Smoky Mountain Astronomical Society

Volume 29, Number 11
November 2006

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

Society's **Ch**Ronological **A**stronomical **P**aper**S**

Nov. 10th SMAS MEETING

PSTCC, Main Campus,
Hardin Valley Road
7:30 pm, Alexander Bldg, Room 223



From the President - Lee Erickson

Several of us are just coming down from the high feelings we got from participating in the October 21, 2006 star party in the Great Smoky Mountain National Park at Cades Cove.

I want to thank all of the SMAS volunteers and helpers who participated.

Our efforts were appreciated by the public as many of them told us so, then and there.

We gave out lots of SMAS flyers, and we have received some thank you notes back off of our web site, which I attached below:

From a Mr. Hall

Subject: Cades Cove event

Comments: My two boys and I want to thank the SMAS members who took the time to organize and host the star party at Cades Cove on Oct. 21. We had a great time on a beautiful evening and we appreciate the effort!

Name: Christina

Subject: Star Party

Comments: Just wanted to say what a GREAT time Saturday evening was in Cades Cove! How wonderful to see the sky "as the Native Americans" did - as one of your members stated. It seemed to be a great turnout - I think at least 100 or so people. Hard to count in the dark :). Everyone that manned a telescope was very nice, knowledgeable and patient. I hope to attend more parties...hopefully at another Sevier County location as I live in Pigeon Forge.

Thanks again!

Christina

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And finally park ranger, Mike Maslona, (with whom Mike Littleton coordinated the Star Party) sent in this:

All of your efforts were greatly appreciated for this first time event.

Bringing 15 folks (and 10 scopes) out was a life saver, given the unexpected LARGE crowd. If we do decide to do this next year sometime, I would probably try looking at another site that is not distracted by the hayride noise and vehicle lights. I thought we had it timed that we would start after a wagon had returned and after another had left - but they were running a 1/2 hour late on the hayrides due to the volume of traffic and bear sightings along the loop.

I do have another site picked out and we can get your vehicles in there to park as well. We could also brainstorm some more, and see what other ideas folks had for a future program, with expectations of the same number of visitors attending.

Thank you all so much for providing the knowledge, skill, and enthusiasm for our visitors - and making this happen.

Michael Maslona
Supervisory Park Ranger
Cades Cove District

Thanks again to Mike Littleton who worked so hard to make this possible!

Call for Volunteers.

A teacher from Ft. Craig Elementary School, Maryville has requested help with Astronomy. Please contact Lee Erickson at leeerickson@earthlink.net or 865-977-1242 if you can help. So far Owen Hoffman and possibly Lee Erickson have volunteered, but we could use about two more.

Details of the request follow:

November 30th, Astronomy presentation for Ft. Craig Elementary School Maryville.

My name is Karen Dwyer, and I wonder if you can help with an Astronomy presentation for Ft. Craig Elementary School Maryville.

In the past, you have come to our school and spoken to our 3rd and 4th grade children, and brought your telescopes. We are again studying astronomy, and would like you to come speak at the end of Nov.

This is what we are looking at: 3 groups of children (each group will have 40 children) start at 10:00 AM, presentation to last 25 min. for each group, so presentation times would be 10:00, 10:30 & 11:00, a telescope for outside (that the kids can look through)

Thanks,
Lee

Cades Cove Star Party - Oct. 21, 2006



Night falls on the Cades Cove Star Party - photo by Carl Hoffman (Owen's son)

I am just home from the Star Party and I wanted to say that I hope everyone had as much fun as I did.

Many thanks to Mike Littleton for heading up this year's SMAS/GSMNP star party effort. Thanks too to Erik Iverson and Mike Littleton for creating the cheat sheet material last year that we finally put to use this evening.

I think I overheard that there were about 300 visitors who got to look through our scopes. I know we gave away lots of SMAS flyers, Sky and Telescope Getting Started in Astronomy brochures, and about 24 Astronomy magazines. Good work to our telescope operators and our crowd controllers.

Behind me, people were seeing M31. I hear some "WOW" sounds exclaimed in the dark that were quite gratifying.

I also heard good questions about globular clusters and star formation.

Before my scope fogged over, I had quite a few youngsters tell me that the smaller of the two

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stars in Alberio was blue or bluish white. I hope we inspired some youngsters to learn some astronomy and science tonight. I can even hope that because of us one our star party visitors may be the first astronaut to walk on Mars.

Lee Erickson

From Owen Hoffman's Journal

10/22/06

To everyone interested in learning about the "other half" of our park:

Yesterday, the GSMNP partnered with the Smoky Mountain Astronomical Society to conduct an all volunteer-run star party at Cades Cove. The GSMNP and SMAS advertised the event among campers and nearby communities. The result was over 300 enthusiastic attendees last evening. The conditions were near perfect.

Lee introduced the large gathering to SMAS and the value of attending astronomy club meetings and star gazing events. I gave a brief introduction to the night sky using my green laser pointer. Since the telescopes were arranged in cafeteria style, the short talks were followed by feasting on morsels of the night sky at each of 10 different stations manned by knowledgeable astronomers.

My station specialized in showing the great galaxy of Andromeda (M-31). With M-32 and M-110 both in the field of view when pointing to M-31, I told those at the eyepiece that they were getting three galaxies for the price of one view. I made a point of discussing the view with whomever was at the eyepiece and trying to entertain those waiting in line with facts and figures about what they were about to see. The lines were quite long at times.

The laser pointer was quite effective. The audience was extremely appreciative of the event, with many heart-felt "thank you's" towards the end of the evening. I personally feel that those thank you's, as well as the expression of surprise and wonderment at the eyepiece, were the rewards of the evening.

At the beginning of our event, lights were left on at the horse stables and cars were still making their way in and out of the stables parking and overflow areas. Our set-up was in a nearby open field having excellent views of the night sky surrounded by mountains on the sky-line. The views to the west and east were particularly open. To our relief, the stables cut off the lights at about 9 PM, giving us the experience of a near pristine dark night for more than an hour. The views through my 10" Dobsonian of M-31 rivaled that at Crater Lake or Unicoi Crest!

The event concluded at 10 PM, just as thick dew was forming on our equipment. Overall, yesterday was gorgeous, and the night sky was without clouds.

Following are some photos of the set up (before crowds descended on us):





The Planet in the Machine

By Diane K. Fisher and Tony Phillips

The story goes that a butterfly flapping its wings in Brazil can, over time, cause a tornado in Kansas. The “butterfly effect” is a common term to evoke the complexity of interdependent variables affecting weather around the globe. It alludes to the notion that small changes in initial conditions can cause wildly varying outcomes.

Now imagine millions of butterflies flapping their wings. And flies and crickets and birds. Now you understand why weather is so complex.

All kidding aside, insects are not in control. The real “butterfly effect” is driven by, for example, global winds and ocean currents, polar ice (melting *and* freezing), clouds and rain, and blowing desert dust. All these things interact with one another in bewilderingly complicated ways.

And then there’s the human race. If a butterfly can cause a tornado, what can humans cause with their boundlessly reckless disturbances of initial conditions?

Understanding how it all fits together is a relatively new field called Earth system science. Earth system scientists work on building and fine-tuning mathematical models (computer programs) that describe the complex inter-relationships of Earth’s carbon, water, energy, and trace gases as they are exchanged between the terrestrial biosphere and the atmosphere. Ultimately, they hope to understand Earth as an integrated system, and model changes in climate over the next 50-100 years. The better the models, the more accurate and detailed will be the image in the crystal ball.

NASA’s Earth System Science program provides real-world data for these models via a swarm of Earth-observing satellites. The satellites, which go by names like Terra and Aqua, keep an eye on Earth’s land, biosphere, atmosphere, clouds, ice, and oceans. The data they collect are crucial to the modeling efforts.

Some models aim to predict short-term effects—in other words, weather. They may become part of severe weather warning systems and actually save lives. Other models aim to predict long-term effects—or climate. But, long-term predictions are much more difficult and much less likely to be believed by the general population, since only time can actually prove or disprove their validity. After all, small errors become large errors as the model is left to run into the future. However, as the models are further validated with near- and longer-term data, and as different models converge on a common scenario, they become more and more trustworthy to

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show us the future while we can still do something about it—we hope.

For a listing and more information on each of NASA's (and their partners') Earth data-gathering missions, visit science.hq.nasa.gov/missions/earth.html. Kids can get an easy introduction to Earth system science and play Earthy word games at spaceplace.nasa.gov/en/kids/earth/wordfind.

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



CloudSat is one of the Earth observing satellites collecting data that will help develop and refine atmospheric circulation models and other types of weather and climate models. CloudSat's unique radar system reads the vertical structure of clouds, including liquid water and ice content, and how clouds affect the distribution of the Sun's energy in the atmosphere. See animation of this data simulation at www.nasa.gov/mission_pages/calipso/multimedia/cloud_calip_mm.html.

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SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
					UTK	TAO
5 <i>Full Moon</i>	6	7	8 Transit of Mercury 2:12 p.m.	9	10 SMAS Meeting PSTCC Rm 223 7:30 pm	11
12	13	14	15	16	17 UTK	18 SMAS Star Party Unicoi Crest TAO
19	20 <i>New Moon</i>	21	22	23	24	25
26	27	28	29	30	1 UTK	2 TAO