The Flint River Observer
Newsletter of the Flint River Astronomy Club

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Club mailing address: 190 West James Circle, Hampton, GA 30228
Web page: www.flintriverastronomy.org
Discussion group: FRAC@yahoogroups.com

Please notify **Steve Knight** if you have a change of address, telephone number and or new e-mail address.

President's Message: Currently we have 28 households making up the FRAC roster. There's a core of about a dozen people, roughly half the club, who regularly participate in the club activities. Those who do come out to meetings and observings, seem to enjoy it quite a bit. What I'd like to see is more of the other half of the membership come to meetings and field sessions. I'm aware of several people who regularly work Thursday, Friday and Saturday nights, so understandably we may never see them at functions other than maybe the Georgia Sky View, where it's worthwhile to take a few vacation days to relax and do some viewing through their scopes. I value their membership as much as that of those who I see all the time, and hope that we get to see them more often in the future.

There are a couple of opportunities during the year other than GSV that they can get together with the rest of us. One is the annual club picnic in October. Another is the Christmas party. There isn't a lot of shop talk at the party, just the glorious consumption of calories and some door prizes are given away. So I extend the club invitation, to all those who aren't able to get with us often, to find their way to the Hong Kong II in Griffin on Friday, December 15th, at 7:00 P.M., for our annual Xmas party.

Club Calendar: November 9, 7:30 PM, Club Meeting at UGA campus, Griffin
Club observing dates: Nov. 17, 18 & 24, 25 at Cox Field.
Christmas parade: The club will participate in the McDonough Christmas parade Saturday night, December 2, and the Griffin Christmas parade, Sunday, December 3 (1:30 P.M. line up time). We currently only have access to a small 5' x 8' & 5' x 10' trailer and there was a lot of interest expressed at the meeting so we may need

a larger trailer. **Steve Knight** may be able to borrow one but if anyone else has access to one, please let us know. Details will be on the Yahoo Group or call Curt.

October Meeting Minutes: Members at the October meeting were: **Tom** & **Brit Danei**, **Steven** "**Smitty**" **Smith**, **Felix**, **Luciano**, **Steve Knight**, **Steve** & **Betty Bentley**, **Curt** & **Irene Cole**. **David Ward** has paid for the club web site for another year-$65. The club will reimburse him. Club's liability insurance lapsed but has been paid-$327. Astronomical League dues have been paid. Clear Sky Clock owner will be paid when his address is received. Camp McIntosh has been reserved for GSV '07, April 19-22. Deposit of $500 made. Additional rent payment of about $1116 will be due at the event. The club picnic and three public observings for October were discussed. **Tom** presented a "treatment", a rough draft you might say, for the promotional video he and **Brit**, with assistance of club members, will make for the club. **Felix** is stepping down as public observing liaison. **Curt** will temporarily assume that role but would like a volunteer to take over the position. We have been requested to do a class for UGA Griffin in the spring. Late April will be the date. Reports were given on recent observing sessions. It was decided that the club will participate in the McDonough and Griffin Christmas parades, December 2nd and 3rd. The club Xmas party will be at the same Hong Kong II buffet restaurant as previous years, December 15. **Curt** suggested using bumper stickers to promote the club. It was decided the club will buy 25 stickers at about $2 each and will be sold to members at or near cost. Design to be decided on. The Christmas Party was set for December 15, 7:30 PM at the same restaurant as the last few years, Hong Kong II in Griffin.

Club Member Erica Anstey Receives Sky Puppy Award:
Charles Anstey's daughter **Erica** is the latest FRAC member to receive an award from the Astronomical League. She completed the tasks for the Sky Puppy Club and has received her award from the League. Congratulations **Erica**.

November Meeting Agenda: The program for the Nov. meeting will be by **Bill Warren**, who is Master Observer #4 and has 14 A. L. observing club pins (including the Globular Cluster Club pin.) He's going to talk about the Globular Cluster Club and how to fulfill its requirements. (From G. C. Club creator and coordinator Mike Hotka regarding Bill's observations: "I must say this has been the finest observing report I have ever read. I didn't stop where most editors would have stopped...I read on to see what else you had to say.")

Public Observing Reports: The PTC Cubs Scouts pack leader canceled the observing event scheduled for last month. The leader requested to have the event rescheduled for the month of November or next spring.
At Cox Field on Friday night, Oct. 20, 2006, FRAC members hosted about 10 kids and 6 parents associated with Cub Scout Pack 42 from Newnan. Club members showed 'em the usual suspects. This group was a little more, shall we say, rambunctious, than most of the kids we host. But there were several who were interested and well informed so overall it seemed rewarding for all involved.

Club Members Visit Texas' McDonald Observatory

By Curt Cole

On September 21-22, 2006 **Irene** & I visited McDonald Observatory in west Texas. It's located in the Davis Mtns. about 115 miles north of Big Bend National Park. This is a very dark area of Texas. It's about 1300 miles from Atlanta. Camping and a motel is available in the nearby Davis Mtns. State Park.

As early as 1934, a 12" scope was being used at the McDonald site for public programs. The first big scope, an 82", was installed here in 1939 and was the second largest in the world. A 107" was installed in 1969, and was at the time the third largest in the world. In 1997, the HET scope was installed that has an effective aperture of 9.2 meters (362"), and is the world's 4th largest optical telescope. The scopes are located at over 6,000 feet, in an area that gets only about 13 inches of rain each year. It's 160 miles to El Paso, the nearest large city. So you have dry, clear, dark skies.

We signed up for an evening on the 36" reflector, costing $40 each. There were 15 people total in our group. Since the observatory is located in such a remote area, I was expecting a dedicated group of amateur astronomers, but **Irene** and I were just about the only ones who had ever looked through a scope, much less owned one. It was a Thursday night, so no school-age kids attended.

About 8:15 P.M, our guide Frank, who has a degree in astronomy, let us begin viewing the first of 10 objects we would see that night. All eyepieces were 2" Televue Naglers and Panoptics. What views! The first target was Albireo, a double star. Then M13. This cluster filled the FOV and looked fantastic. Other clusters seen were M11 and M2. The Swan, Veil and Saturn nebulae showed quite a bit of detail. Got a look at M57 too, at about 767x! We usually only spent about 30 seconds at the eyepiece so I didn't have time to study things a lot. I did the best I could, then, after each view, filled out my log as I sat outside the dome. The galaxy NGC 7331, Deerlick, presented a fine view at about 455x. I couldn't detect spirality, but did see some concentricity. Had I been more experienced and familiar with these objects I'm sure I could've noted much more detail. Afterward, I looked forward to getting back to Cox Field with my 10" Dob to see how the view compares. The final object of the night, seen about 11:30, was Uranus. By then, most folks were ready to go. Some were cold, some bored. But I could've stayed till dawn!

The next day we toured the grounds and watched a presentation of solar viewing with a Celestron 14" fitted with three CCD cameras. The feed was piped into the auditorium where we watched it. We got a tour of the 107" scope. The guide pointed out some bent angle iron on the scope and a scraped pier where an astronomer had gotten careless in slewing. We also toured the big HET. The mirrors on these scopes are blown clean with carbon dioxide. In the evening we attended a star party. Again, most of the crowd was probably new to astronomy. Out back of the visitor center are the two public domes with 16" and 22" scopes, and a large circular amphitheater that seats hundreds. All of the lighting is low wattage red. Frank started off in the center of the amphitheater telling us about the mechanics

of the sky and, using a zillion watt spotlight, shielded by a cardboard tube, pointed out various constellations, stars and Jupiter. After this session was over, we all headed to the scopes. In addition to the two in the domes, employees had set up 4 or 5 other scopes, some as large as 22" truss-tube Dobs. We viewed pretty much the same things as the previous night, with the addition of M31. Lastly that night, back in the auditorium, we viewed more live camera shots of stars and M31. Then we participated in a demonstration of the movement of the sun and constellations. **Curt** was the sun, **Irene** was the Earth, and 13 other people were the constellations. All in all it was a very enjoyable two nights for us. It's also possible to get time on the 82" and 107" scopes, but only near full moon.

We had also spent a few days camping, hiking and rafting in Big Bend National Park, which also has very dark skies. I worked on adding some Binocular Messier objects to my log. While in Texas we also visited Odessa Meteor Crater. It results from a meteor impact. Estimates of the meteor's size range from 2 meters to at least 10 meters. This crater is about 550 feet in diameter and over the millennia has filled to within about 6 feet of the rim. A shaft was dug to a depth of 165 feet and tons of meteorites were removed but no intact large object was found. Our last major stop in Texas was the Johnson Space Center in Houston, where we saw Gemini and Apollo capsules, and a Saturn V rocket, as well as the Mission Control Center that was used during those missions. So don't forget that you don't have to travel all the way to New Mexico or Arizona for great viewing. Try the Lone Star State sometime.

Check out these web sites for McDonald Observatory.
http://mcdonaldobservatory.org/visitors/programs/
http://www.as.utexas.edu/mcdonald/het/het.html

Member Profile: Steve Knight

Another native Georgian, **Steve Knight**, 33, has been one of the most active members of the club. He is a past FRAC president and is current acting treasurer and has been very involved with the club since he joined about 7 years ago. He was a driving force behind creating Georgia Sky View, FRAC's annual star party, and has been, and may well be permanent, GSV chairman. It takes a lot of planning and a big commitment of time to successfully host a star party and **Steve** has done an excellent job of it.

Steve got his first scope when he was about 12 years old. It was a 40mm refractor, a Halleyscope. He's come a ways since that scope. His baby now is a 14" Discovery Dobs. He also has a 6" Hardin Dob and a 4.5" Celestron. **Steve's** primary interest is deep sky viewing. He has earned a Messier pin and is working on the Herschels.

When not working as an auto mechanic at a dealership, he enjoys geocaching, hiking, old cars and his motorcycle.

Astronomy Highlights for November

Mercury Transit: There will be a transit of the sun by Mercury on Wednesday, November 8. It begins around 2:15 P.M. and ends around 7:10 P.M. (Sunset is at 5:41.) We may try a club get-together for this but it is a weekday so stay tuned. To find out the latest details check the YahooGroup or call one of the FRAC officers if you don't have computer access. http://sunearth.gsfc.nasa.gov/eclipse/OH/transit06.html

In May, Mercury crosses the ecliptic heading south, and, in November, the planet intercepts the ecliptic moving north." Astronomy Magazine, November 2006, page 80.

November 17 & 18 look for the Leonids meteor shower.

Saturn comes out by midnight and is high in the skies by dawn.

The Smoke Ring (and it's not M 57)

Leaders get asked to solve lots of problems. Some are easy to solve, some a bit harder. Ask any politician! A touchy subject has been brought before me by a club member, so it's my duty as the Prez to try to delicately come up with a workable way to deal with it. I'll try to handle it diplomatically. Please forgive me if I fail since it will, like most things in life, require some effort and compromise on both sides. This isn't the first comment from a FRAC member that I've heard on this subject but it's the most strident so it's time to deal with it.

Recently it was suggested to me that the club should have some kind of policy concerning tobacco use at club events. For physical or emotional reasons some folks are much more bothered by smoke than others, particularly cigarette, cigar & pipe smoke. People who wear a lot of perfume have been the subject of news articles lately in Atlanta TV news programs and newspapers. I know folks who aren't too enthused about incense either. So the problem involves mainly the quantity of smoke, but sometimes the type of smoke as well.

A lot of people will, rather than risk hard feelings, just keep quite about things that annoy them and either stew over it or quit the group. There isn't a single member of FRAC that I'd like to see go. So it will take effort on both sides to deal with the problem.

The folks who find smoke objectionable will have to realize that smokers aren't doing it to annoy people. They're good people, and not dummies. From what I've seen in the club smokers are pretty good about trying to stay downwind of others, but when there are a dozen people there and all moving around it gets hard to stay downwind of the non-smokers, who outnumber the smokers. A smoker may be

consciously trying to stay downwind, but then the non-smoker also unconsciously moves downwind. So that's not the smoker's fault.

If you're in a group shooting the bull, and they see everybody suddenly shift to their upwind side, they'll probably figure out what caused everybody to move. If you want them to be certain of the reason, simply say to them "Excuse me, let me move upwind of you while we talk". That way they won't have to read your mind. The more people politely speak up, the more the problem will diminish.

Picking up your scope and moving it upwind of the smoker is a little more difficult. So what I'd like to see is for those who must smoke at a club function, such as at Cox Field, to check the wind direction before setting up a scope, then set up downwind of the non-smokers. It will also help if the people who get there first make note of the wind direction and direct the new arrivals to an appropriate place depending on whether the new arrival smokes or not.

Remember, nobody I know reads minds. And most people we know are reasonable people. Keeping quite won't solve a problem. Opening a polite dialog with people of different persuasions is the best way to deal with a situation.

Astronomy News

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 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 .

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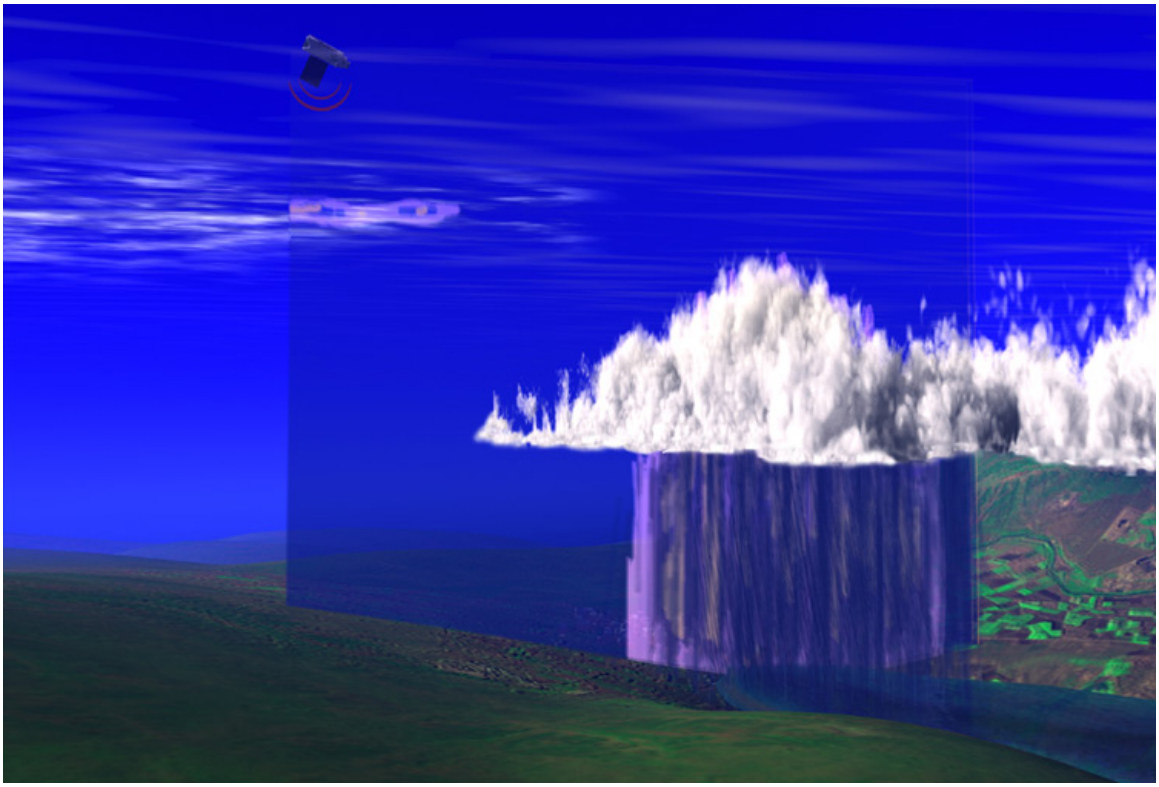

Caption:
CloudSat is one of the Earth observing satellites collecting data that will help develop and refine atmospheric circulation models and other types of weather and climate models. CloudSat's unique radar system reads the vertical structure of clouds, including liquid water and ice content, and 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.

November

Sun	*Mon*	*Tue*	*Wed*	*Thu*	*Fri*	*Sat*
			1	**2**	**3**	**4**
5 Full Moon	**6**	**7**	**8** Mercury transits the Sun, beginning 2:12 PM local time	**9** Club Meeting 7:30 PM, UGA	**10**	**11**
12 Last Qtr Moon	**13**	**14**	**15**	**16**	**17** Cox Field Observing, Leonids Meteor Shower	**18** Cox Field Observing, Leonids Meteor Shower
19	**20** New Moon	**21**	**22**	**23** Thanksgiving	**24** Cox Field Observing	**25** Cox Field Observing
26	**27**	**28** First Qtr Moon	**29**	**30**		

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