

# THE FLINT RIVER OBSERVER

NEWSLETTER OF THE FLINT RIVER  
ASTRONOMY CLUB  
An Affiliate of the Astronomical League

**Vol. 13, No. 11** **January, 2010**

**Officers:** President, **Bill Warren:** (770)229-6108, [warren7804@bellsouth.net](mailto:warren7804@bellsouth.net); Vice President, **Larry Higgins;** Secretary-Treasurer, **Steve Bentley.**

Board of Directors: **Tom Moore; Joel Simmons; Tom Danei;** and **Felix Luciano.**

Alcor/Webmaster, **Tom Moore;** Ga. Sky View Coordinator, **Steve Bentley;** Observing Coordinator, **Dwight Harness;** NASA Contact, **Felix Luciano;** Event Photographer, **Tom Danei;** and Newsletter Editor, **Bill Warren.**

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Please notify **Bill Warren** if you have a change of home address, telephone no. or e-mail address.

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**Club Calendar. Fri.-Sat., Jan. 8-9:** Cox Field observings (at dark); **Thurs., Jan. 14:** FRAC meeting (7:30 p.m., Stuckey Bldg. on the UGa-Griffin campus); and **Fri.-Sat., Jan. 15-16:** Cox Field observings (at dark).

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**President's Message.** It's almost time for us to elect officers and board members again. In accordance with Art. 7, Sect. 1 of our Bylaws, a nominating committee of volunteers was formed at the Nov. meeting to come up with a slate of candidates to be nominated at the Feb. meeting when voting will take place.

There are two reasons why a nominating committee is necessary: first, to ensure prior to the election meeting that we'll have a full slate of candidates who are willing to serve if nominated and elected; and second, to serve as a guide for new members who don't know the candidates and might benefit from the nominating committee's recommendations.

That's not to say, of course, that those candidates will automatically be elected. With two exceptions, any member in good standing is eligible for nomination to any officer or board position. Honorary members may vote, but not run for elected office. And this year we're initiating a new policy of rotating Board members off, one per year, in order to expand the club's leadership in new directions. **Tom Moore** has volunteered to step aside in 2010. In the future, the rotation system will be based on seniority. It will not prevent an outgoing Board member from running for any Officer position.

The Board rotation system was the brainchild of the Board members themselves. They unanimously agreed that the policy should not extend to Officers because of the difficulties involved in closing bank accounts and opening new ones every time a new treasurer takes office.

At any rate, these are the candidates that the committee will nominate at the Feb. '10 meeting: President: **Bill Warren;** Vice President: **Larry Higgins;** Secretary-Treasurer: **Steve Bentley;** and Board Members: **Felix Luciano, Tom Danei, Joel Simmons** and **Dwight Harness.** All have agreed to serve in those positions if elected.

Dwight, the "new kid on the block" selected by the committee to replace Tom Moore, was a logical choice, given his work with our club trip to The Cove and his service as the club's Observing Chairman.

Finally: FRAC has one less member now, and there's one new star in the heavens. My brother **George**, 75, passed away in California after a lengthy illness. Georgie was always "the smart one in the family," possessing a massive intellect that was too high to be measured by standard intelligence tests. He leaves behind a wonderful wife, **Tina**, two grown children, **Jennifer** and **Nick**, and a legacy of 48 published books. The world will not see his like

again, and he will be sorely missed by all who knew and loved him.

-Bill Warren

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**Last Month's Meeting/Activities.** A nice crowd of 25 members attended our Christmas party at Hong Kong II buffet restaurant: **Steve & Betty Bentley** and their granddaughter, **Brianna Mills; Stephen Ramsden; Tom Danei; Charles Turner; Larry Higgins; Curt & Irene Cole; Bev & Jerry Williams; Dwight, Betty & Laura Harness; Carlos & Olga Flores; Cynthia Armstrong; Kevin Murdock; Patsy & Lou Lwowski; Alan Bolton; Dan Pillatzki; Felix Luciano; Dr. Richard Schmude;** and **yr. editor**. We had 29 door prizes, so everyone got at least one and four lucky attendees got two. Thanks to Betty, Brianna, Dan and Laura for helping with the door prizes, and to everyone else for attending and making it such a fun evening.

With ten days left in 2009 as this is being written, the Atlanta area is within 1" of having the wettest year ever. It certainly has affected our observing, hasn't it? All of our Dec. Cox Field observations were clouded or rained out, so on Sun., Dec, 20<sup>th</sup>, **Steve & Betty Bentley** and **yr. editor** joined **Tom Danei** at The Cox to see Tom's new 20-in. Starmaster reflector in action. It has all the bells & whistles you'd expect in a top-of-the-line 'scope, and rare clear skies allowed it to show its stuff despite the presence of a 5-day-old **Moon**.

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**This 'n That.** We received a nice thank-you note from **Mr. & Mrs. Cox** for the \$100 WalMart gift card the club gave them.

\*On Thurs., Dec. 10<sup>th</sup> we received the following e-mail from **Alan Pryor**:

"Sorry I can't make it to the Christmas party tomorrow night, but I'm tied up down here in Chile. (*And yr. editor thought: That could be fun – or extremely dangerous, depending on who has him tied up, and why.*)

"It's interesting down here. I visited a dark site about 200 mi. south of Santiago. The sky was incredibly dark and clear. *Orion* was upside-down, and **Sirius** was above and to the right of Orion. The Chileans call the stars in Orion's Belt 'the Three Marias (Marys).'

"I also saw the **Southern Cross** (*the five bright stars that shape the little constellation Crux. –Ed.*). It was much smaller and brighter than the **Northern Cross** (*Cygnus*) that we're used to seeing. And I saw the southern end of the Milky Way.

"Take care,  
"Alan."

(*And yr. editor thought: There are three things you need to take with you on your next trip to Chile, Alan. First – and most important – me. Second, a small travel 'scope or binoculars. And third, a star atlas.*)

But ya done real good anyway, Alan, even if you didn't take any of us along. The sky looks very different when it's upside-down, doesn't it? It takes some getting used to.

\*Speaking of Chile, both **Steve Bentley** and **Felix Luciano** recently sent out links to an article about the first images (referred to as "first light") produced by the new 4-meter, \$60 million infrared Vista telescope at the European Southern Observatory's (ESO) Paranal Observatory atop 8,645-ft. Cerro Paranal in northern Chile.

Vista's first light was an image of **Flame Nebula (NGC 2024)**, a diffuse nebula just NE of **Alnitak (Zeta Orionis)**, the bright star at the eastern end of Orion's Belt.

Incidentally, another of Paranal's telescopes is the Very Large Telescope (VLT) consisting of four 26.9-ft.-aperture telescopes combined to produce one image. The VLT's resolving power is equivalent to splitting the headlights of a car into two separate images at a distance of 240,000 miles.

So why would they build a telescope so far from the rest of the world? Dark skies, of course – but equally important, the Atacama Desert is the driest place on the planet. It hasn't rained there in the last 400 years, and Paranal averages 340 clear nights a year. Sort of like Cox Field, huh?

\*And speaking of **Alan Pryor**, there is the following pair of e-mails, both dated 11/9/09 from FRAC's newest astrophotographer:

From e-mail #1, which contained two photo attachments, "Skies have been cloudy, but I got to try my hand with the camera once. (Actually, this is my 4<sup>th</sup> try, as I have been learning what NOT to do.) I had two exposures of Jupiter to actually show an image. One image is overexposed, but I got a lot of **Jupiter's** moons. I counted 13 objects, and I don't know how many are actually moons of Jupiter. The ones that show two dots are real bright ones where I had a coma or a tracking problem.

"On the other image, I went to minimum exposure. I had the camera on its lowest gain (i.e., light sensitivity), using an H-beta filter to reduce the light. By doing that, I got an image that wasn't burned out."

And from e-mail #2, "Based on data that I collected off the Internet about the inclination of the orbits, it appears that I got eight moons of Jupiter. It's possible that another one is also a moon, but the data from the photo and the data from the Internet did not match. I have to consider that, due to the exposure time, I could have picked up several faint stars that were not moons.

"My field of view extended only about two million km from the planet. Many of the moons that might have been bright enough to pick up in such an exposure have orbits that carry them more than two million km from Jupiter. So I can say that I was lucky enough to get eight of them."

\***Rich Jakiel**, who has been a featured speaker at FRAC meetings and GSVs in the past, has written many articles on deep-sky observing for *Astronomy Magazine*. His latest article, "Tour the Fornax Supercluster," appears in the Jan. issue (pp. 60-63).

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**Upcoming Meetings/Activities.** We'll have Cox Field observings on **Fri.-Sat., Jan. 8<sup>th</sup>-9<sup>th</sup>**, and again on the following weekend, **Fri.-Sat., Jan. 15<sup>th</sup>-16<sup>th</sup>**. Between those dates, we'll have our club meeting at **6:30 p.m. on Thurs., Jan. 14<sup>th</sup>**, on the 2<sup>nd</sup> floor of the

Stuckey Bldg. on the UGa-Griffin campus. Our speaker, **Carlos Flores**, will give a powerpoint presentation on his visit to Arizona's Kitt Peak Observatory and the Steward Mirror Lab.

On **Wed., Jan. 20<sup>th</sup>**, yr. editor and others from FRAC will attend a luncheon meeting of the Griffin Kiwanis Club to talk about FRAC.

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**The Sky in January.** Mighty **Jupiter** (mag. -2.1) has graced the night sky during the few decent evenings for observing that we've had in the past few months. The King's time onstage will run out in the latter portion of January, though; until then, you can find him easily, the brightest "star" in the NW sky. He'll be a tough act to follow, but we're confident that **Mars** (mag. -1.3) will be up to the task.

The Red Planet won't be as close as it was in 2003 (when it moved to within 34.6 million miles of us), but like an insomniac or the neighbors' cat it will be up all night. From 62 million miles away Mars will be close enough for us to see the polar icecaps and faint surface markings - telescopically, at least.

**Saturn**, ½ mag. fainter than Mars, will rise about 10:30 p.m., give and take an hour at the beginning and end of the month. The rings are still mostly closed to us, as they will be throughout 2010.

Mag. 8 **Neptune** will be 2° -- that's two pinky-widths -- to the lower right of Jupiter during the 1<sup>st</sup> week of January, its blue disk easily recognizable but tiny. So if you can find Jupiter, you should be able to find Neptune too.

**Uranus**, 2 mags. brighter than Neptune, will reveal its little blue-green disk to 7x50 binoculars or a small telescope. To find Uranus - and no wisecracks here, **Larry Higgins!** - first find the **Great Square of Pegasus**. Just below it to the south you'll see a circle of five mag. 3 and 4 stars, cleverly called **The Circlet**. The mag. 4 star at the lower left (southeast) corner is **Lambda Pisces**; well, Uranus will be about 5° -- that's three finger-widths held at arm's length against the sky -- south of Lambda. You'll know Uranus when you see it, since there aren't any blue-green stars in the sky.

A dependable meteor shower, the **Quadrantids**, peaks on Jan. 3<sup>rd</sup>, two days past Full Moon. That will significantly reduce the number of meteors we'll see, but since Quadrantids meteors tend to be brighter than most they probably will put on a good show anyway.

The radiant, or place where the Quadrantids meteors will appear to be coming from, will be near **Arcturus**. That will be helpful if you get up in the morning to see the peak, but on the preceding evening just look to the northeast.

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## **THE END OF THE WORLD**

article by **Bill Warren**

The apocalyptic movie "2012" is, of course, a fantasy. It's based on an alleged prediction by the ancient Mayan calendar that the world will end on Dec. 21, 2012.

There was no such prediction, of course – but like all effective myths, it contains a grain of truth: the date 12/21/2012 was important to the Mayan culture.

But why was it important? Because on that date, their primitive (but highly accurate) calendar, like a well-used automobile's odometer, ran around to zeros across the board. To the Mayans, 12/21/2012 would herald the end of one major calendar cycle of 144,000 days (called a *baktun*) and the beginning of the next *baktun*. The 2012 *baktun* is #13; Dec. 22<sup>nd</sup> begins *baktun* #14. (Twenty *baktuns* equalled one *pictun*, in case you were wondering.)

To sensationalists hoping to sell "end-of-the-world" books, however, it's important that there not be a Dec. 22<sup>nd</sup> on that year. It's like a cartoon I saw in which a man was carrying a placard reading "THE WORLD WILL END TODAY!!!" When the Sun went down that day and rose the next morning, there he was, busily X-ing out "TODAY!!!" and penciling in "TOMORROW!!!"

There's never a shortage of people willing to buy into such claptrap. And there's something strangely appealing to many people about the notion that ancient cultures had access to knowledge that, for all our sophistication, we don't have today.

In the case of the 2012 myth, though, the doom-and-gloom prophets had to up the ante because the Mayans didn't predict continents falling apart or asteroids raining down on Earth like confetti in a parade. All the Mayans saw was Day 144,000 as a bunch of zeros and the next day as a bunch of zeros with a "1" at the end.

So the doomsayers have had to resort to other ways to make 12/21/2012 more believable as the date when you and your credit cards expire.

Some of them have predicted a (nonexistent) planetary alignment on Dec. 21, 2012 that will trigger the disasters. Even if it were to occur, though -- as happened in 2000 when **Mercury, Venus, Mars, Jupiter** and **Saturn** lined up in a row extending straight out from the **Sun** -- nothing out of the ordinary would happen. But no such alignment will occur on 12/21/2012, as a chart on p. 26 of **E. C. Krupp's** fine article, "The Great 2012 Scare" (*Sky & Telescope*, Nov. '09, pp. 22-26) clearly shows.

Others have alluded to a prediction by **Nostradamus** that supposedly pinpoints 12/21/2012 as the end of the world. In reality, though, the only specific date he mentioned was July, 1999, in *Century 10, quatrain 72*. (That's how he organized his predictions.):

*The year 1999, seventh month,  
From the sky will come a great King of Terror:  
To bring back to life the great King of the Mongols,  
Before and after Mars to reign by good luck.*

*But, we might ask, even if the Mongol King  
(whoever that is) manages to find a way to rise from  
the dead on 12/21/2012, what is he going to reign  
over if the Earth is destroyed on the same day?*

(To be fair, I might point out that Nostradamus's prediction missed Sept. 11, 2001, by just two years and two months. And he *did* accurately predict that the terror would come from the sky.)

Still other writers have pinpointed Dec. 21, 2012 as the date when the winter solstice Sun will cross the Milky Way's equator. (Astronomers say that the margin of error for such an event is something like 78 years on either side of 2012.) And when that happens, the naysayers say, our planet's rotational axis will

suddenly reverse – it usually takes between 1,000-25,000 years for Earth’s polarity to reverse – bringing about global disasters that will make the biblical Armageddon look like a backyard spat between neighbors.

An even farther-out web site has hinted that the Sun is being dragged toward the black hole at the center of the Milky Way. (If so, it will have to pick up its pace considerably to arrive there in 2012, since the Sun presently is 25,000 light-years from the galaxy’s center.) But even that has been topped by another writer who contends that a secret planet, **Nibiru**, is even now careening toward the Earth for a cataclysmic rendezvous on 12/21/2012. (Presumably, the name “Niribu” was chosen because we wouldn’t believe it if the mysterious planet was named “Joe.”) NASA knows about it, of course, it’s just another government coverup like the remains of an alien creature and spaceship that are hidden at Area 51.

None of those scenarios is factually accurate – but it sells books, and that’s what all this is really about.

As Sherlock Holmes pointed out, “When you have eliminated the impossible, whatever remains, *however improbable*, must be the truth.” And since it’s impossible that, in today’s dumbed-down world, we’ll run out of people willing to believe that the world will end on Dec. 21, 2012 because ancient Mayans living in Mexico and Guatemala said it would – they didn’t say it, but that’s beside the point if you choose to believe otherwise – one thing is sure. You can expect a whole lot more books and movies about the predicted doomsday date of Dec. 21, 2012 between now and then. (I’ve seen two TV shows on it in the past week.)

Those of you who are no longer teenagers will recall that, in 1999, we were constantly warned that, at the stroke of midnight on Jan. 1, 2000 – actually, the date should have been 2001, since that’s when the new millennium officially began – all of the computers in the world would fail and the Earth would be plunged into a new Dark Ages. But it didn’t happen on either date.

Prior to that, in 1910, an earlier era of doomsayers predicted that the world would end in a fiery rain of meteors when the Earth passed through the tail of

**Halley’s Comet**. And when our planet went through the comet’s tail – nothing happened!

Hey, nothing out of the ordinary is likely to happen on 12/21/2012, either, unless you fail to watch out for traffic on that date while crossing a busy street.

Now, at least, you’ll know what to tell people when they tell you what the “experts” are saying will happen on Dec. 21, 2012.

Just tell them what an “expert” really is: an “ex” is a has-been, and a “spurt” is a drip that fizzled.

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### **The Fire Came By**

**book review by Bill Warren**

The book: *The Fire Came By: The Riddle of the Great Siberian Explosion*

The authors: John Baxter & Thomas Atkins

Publisher: Warner Books, 1976

So why would I want to review a book that was written in 1976 and is out of print now?

Because, more than any other book ever written, it gives an up-close-and-personal sense of what similar events such as the Wetumpka and The Cove meteorite blasts must have been like.

It was 7:17 a.m. on June 30, 1908 when the comet or meteor appeared as a column of light that was brighter than the **Sun** to Tungus tribesmen located northwest of Lake Baikal in central Siberia. About 10 min. later, there was a flash and a sound similar to artillery fire. The accompanying shock waves – there were four of them, spaced about 10 min. apart – shook the ground like an earthquake for hundreds of miles around, knocking people off their feet, breaking windows and collapsing dwellings.

The site was the Lower Stony Tunguska River in one of the most remote land sites on the planet: a sparsely populated, desolate region of peat bogs, mosquitos and pine forests in central Siberia. The fireball was seen as far away as western China and Mongolia, and its deafening roar was heard 500 miles away.

Said one witness, “The fire came by and destroyed the forest, the reindeer, and the storehouses. Afterward, when the Tungus (tribesmen) went in search of the herd, they found only charred reindeer carcasses.”

And another witness, forty miles away from the blast: “I was sitting on my porch facing north when suddenly, to the northwest, there appeared a great flash of light. There was so much heat that...my shirt was almost burned off my back. I saw a huge fireball that covered an enormous part of the sky...Afterward it became dark and at the same time I felt an explosion that threw me several feet from the porch. I lost consciousness...”

And from *Siberian Life Newspaper*, July 2, 1908: “At 7:17 on the morning of June 30th, peasants in the village of Karelinski saw to the NW, rather high above the horizon, some strangely bright (impossible to look at) bluish-white heavenly body, which for 10 min. moved downwards. It appeared as a pipe (i.e., a cylinder)...

“As the body neared the ground (forest), it seemed to smudge, and then turned into a giant billow of black smoke, and a loud knocking (not thunder) was heard, as if large stones were falling or artillery was fired. The buildings shook. At the same time the cloud began emitting flames. All the villagers were stricken with panic and took to the streets, women cried, thinking it was the end of the world.”

The asteroid or comet, estimated to have measured at least 60-80 yards in diameter and possibly larger, exploded 2-5 miles above the Earth. Immediately thereafter, a thermal current of heat swept through the taiga (forest), burning and blowing down an estimated 80 million trees in an area encompassing 830 sq. mi. They lay in concentric circles with their roots pointing toward the epicenter where the blast occurred.

The Siberian taiga is, as has been mentioned, one of the most isolated spots on Earth. Sparsely settled by humans (most of whom were reindeer herdsman), the area contained no roads because no one else besides the Tungus tribesmen had any reason to go there. So word about the explosion seeped out to the outside world relatively slowly. It was not until 13 years later, in 1921, that Russian mineralogist **Leonard Kulik** visited the area. Unprepared to make

what promised to be a lengthy and arduous trek to the blast site, he spent the next six years preparing to explore the area around the Stony Tunguska River.

When Kulik finally reached ground zero in 1927 after a 3-week trek from the nearest road, he found that there was no crater, and no meteorite or fragments. Instead, he found a five-mile area of new growth among scorched trees that were devoid of branches but standing upright. Trees farther away for miles around had been burned and knocked down in a direction away from the center. Kulik later wrote, “One has an uncanny feeling when one sees 20- to 30-inch thick giant trees snapped across like twigs, and their tops hurled many meters away.”

The last half of *The Fire Came By* is devoted to considering what else besides an asteroid or a comet might have caused the Tunguska event: an atomic blast, a collision between matter and antimatter, a black hole passing through the Earth, or the explosion of an alien spacecraft. (Today’s astronomers and geologists have, for a variety of reasons, ruled out all of the possible causes of the Tunguska event except an asteroid or comet.)

I was disappointed that the authors devoted so much time and space – two chapters, 20 pp. – to the UFO explosion theory. It was somewhat understandable, though, given the climate of the times in which the book was written. **Erich von Daniken’s** *Chariots of the Gods* (1968) showed that books about ancient astronauts visiting the Earth would sell, and the fad was still going strong in 1976, thanks to other books like **Charles Berlitz’s** *The Bermuda Triangle* (1974).

Still, the first half of *The Fire Came By* is engrossing reading, which is why we included it among our door prizes at this year’s Christmas party.

If you’d like to read it, amazon.com sells it for \$0.01 (+\$3.99 S&H). It’s just 150 pp. long, and as I noted earlier, the really interesting parts are contained in the first six chapters (75 pp.) So if you visited Wetumpka or The Cove, you might want to buy *The Fire Came By*. You’ll be glad you did.

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