

NGC2237 (Rosette Nebula) was taken by Kent Brenton on 1/23/12 with a Borg 77mm ED refractor and a 0.85x corrector giving a final f ratio of 5.6. Five 8-minute exposures were stacked. Kent does all of his imaging with a SBIG ST8300c CCD camera (one-shot color) using Nebulosity 2 for capturing and post processing. All guiding is done with PHD (freeware).

The [Rosette nebula](#) is located in the constellation Monoceros (the Unicorn), which is rather faint, but can be located between Procyon and Sirius in a particularly rich area of the Milky Way. The nebula is about 5000 light years distant from Earth and measures about 130 light years in diameter. A cluster of very hot, young stars in the core of the nebula have heated the surrounding gas to temperatures approaching 6 million degrees K, causing the gas to emit a range of radiation wavelengths including x-rays and ultraviolet light. Atomic hydrogen in the gas is ionized and is the source of the visible red color seen in this image.

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image credit: Kent Brenton

The EAS newsletter, **Observer**, is published monthly. Anyone wishing to contribute articles or photos may mail them to the club's PO box: EAS, PO box 3474, Evansville, IN 47733, or e-mail them to the editor at: gneireiter@wowway.com

Local Events and Information

The **Evansville Astronomical Society** (EAS) is a non-profit organization fully incorporated in the state of Indiana. It has, as its primary goal, the advancement of amateur astronomy. Founded in 1952, the society seeks to:

- 1... maintain adequate facilities for its members and for the public in order to extensively study the skies, and
- 2... promote an educational program for those who wish to learn more about the science of Astronomy.

Meetings are held the third Friday of each month, except June, when the annual EAS picnic is held. The society also sponsors monthly Open House events during the warmer seasons that afford the public an opportunity to tour the observatory.

EAS 2014 Officers and Contacts

President - Scott Conner 812.604.7164
ssconner24@gmail.com

Vice President - Tony Bryan

Secretary - Charleen Kaelin 812.303.1711

Treasurer - Ted Ubelhor

Counselors - Michael Borman, Kent Brenton, and Ken Harris

Webmaster - Michael Borman

Program Director - open

Newsletter Editor - open

For more information about EAS or directions to the Observatory, visit the club's web page:
<http://www.evansvilleastro.org/>



Telescope mount upgrade status... (as of Dec. 31, 2013) ... I wanted to take this time to wish all of you a Happy New Year. I hope that you all had a good Christmas. With the new year starting tomorrow, I wanted to bring you up to speed on the status of the mount. All the pieces required to install the new Paramount ME II mount are ready. Our next step is to get it installed. I plan to make some calls to companies that have cranes this coming week (for removing the old mount). I only have two on my list at this point. I am going to see if I can get one to agree to do it at a lower cost since we are a not-for-profit. It is very likely that we will have to pay full price to get this done, so it may be an expensive endeavor. I should know something by the end of the week.

Once we get this last major hurdle done, it will be time to do the install (of the new mount). I would really like to keep the installation time down to one month if at all possible. We will be needing help from many members when the time comes. The timing for the install will be to begin in February, and be finished in March.

While we are installing the mount, we can also do some needed repair to the dome roof if the weather cooperates as well. I will try and keep you up to date on progress through email, and on Facebook.

Happy Holidays! Scott Conner, President EAS

Welcome new EAS Officers for 2014...

From the November elections, the following positions for 2014 are:

President	Scott Conner
Vice President	Tony Bryan
Secretary	Charleen Kaelin
Treasurer	Ted Ubelhor
Counselors	Michael Borman Kent Brenton Ken Harris

Thank You ! ... To Scott Bishop who capably served as EAS Treasurer for seven years (2007 - 2013). Besides paying the usual monthly bills for the utilities for Wahnsiedler facility, Scott provided monthly reports to members at the regular meetings, collected annual dues, maintained the membership database, provided annual nonprofit reports to the Indiana agency, and interfaced with the Astronomical League. He actively worked to keep costs for insurance to a minimum while maximizing returns on EAS investments. This past year, Scott was instrumental in helping kick-start the fundraiser for replacing the mount in the dome and collecting/ tabulating the donations. This is just a short list of his many contributions. Thank you Scott !

... **Rosette** ... < continued from page 1 >

NGC2237 is used to denote the entire nebula, however, various regions of it are defined as NGC2238, NGC2239, NGC2244 (the open cluster within the nebula), and NGC2246. The mass of the Rosette is estimated at around 10,000 solar masses.

For more discussion about the infrared radiation generated, see the [Thorny Rose](#) at the Spitzer Space Telescope website.

Evening Sky Maps... If you don't receive the weekly newsletter from [Year In Space](#), you might not be aware of an excellent web site for obtaining free monthly, downloadable sky maps. The 2-page PDF is loaded with helpful information to accompany the approximately 7" diameter map. In particular, there is a series of tables delineating what can be seen that month with the Naked Eye, with Binoculars, and with a Telescope. In addition to the free Evening Sky Map, there are many other larger format maps, informative books, and star atlases available for purchase. Check out [Sky Maps.com](#).

Telescopes and accessories for sale... As mentioned in last month's issue, Mike Borman still has some excellent telescope equipment and imaging accessories for sale. Some of the gear has already been sold. If interested, go to Mike's web page. Here is the link:

<http://www.mborman.org/forsale.htm>

NASA Space Place... Just wanted to highlight what has been a staple of the Observer newsletter since before I became editor. The monthly articles are very informative and not targeted just at kids.

This month, author Kieran Mulvaney, discusses the new R-series of advanced Geostationary Operational Environmental Satellites (GOES) soon to be launched. In particular, one component is the Advanced Baseline Imager (ABI) that allows focussing on a smaller scale of a storm (1000 km x 1000 km) with 1-minute acquisition of images. When viewed in sequence, it is almost like watching a movie.

At the end of the article is a web link comparing the existing and the new time scale -- very impressive. Check it out (p.5).

My last issue... This will be my last issue as editor of the Observer. It has been a great educational opportunity over the past three years. But, it is time to move on to other volunteer efforts of interest to me.

I thank the EAS Board for allowing me a lot of freedom in changing the format and introducing a digital focus to the newsletter. I have tried to incorporate numerous web links that expanded on a topic for reader's interest or, at the least, gave credit to the source.

Also, I thank all of you members who encouraged me in this position with your positive feedback. Likewise, I thank all of you who provided content, either images that captured an EAS event or an astronomical view, or text reports of activities.

Regards... George Neireiter

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February 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6 First 	7	8
9	10	11	12	13	14 Full 	15
16	17	18	19	20	21 Regular Mtg.	22 Last 
23	24	25	26	27	28	Mar 1 New 

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January Events (reminder)....

Regular Meeting Jan. 17 (Friday) 7:30 pm Wahnsiedler Observatory
 Board Meeting ??

February Events...

Regular Meeting Feb. 21 (Friday) 7:30 pm Wahnsiedler Observatory

Moon phase times (Evansville local time)

First quarter	Feb 6 1:22 pm	Full Moon	Feb 14 5:53 pm
Last quarter	Feb 22 11:16 am	New Moon	Mar 1 2:00 am

courtesy of [Time and Date](#)

The Big Picture: GOES-R and the Advanced Baseline Imager



By Kieran Mulvaney

The ability to watch the development of storm systems – ideally in real time, or as close as possible – has been an invaluable benefit of the Geostationary Operational Environmental Satellites (GOES) system, now entering its fortieth year in service. But it has sometimes come with a trade-off: when the equipment on the satellite is focused on such storms, it isn't always able to monitor weather elsewhere.

“Right now, we have this kind of conflict,” explains Tim Schmit of NOAA’s National Environmental Satellite, Data, and Information Service (NESDIS). “Should we look at the broad scale, or look at the storm scale?” That should change with the upcoming launch of the first of the latest generation of GOES satellites, dubbed the GOES-R series, which will carry aloft a piece of equipment called the Advanced Baseline Imager (ABI).

According to Schmit, who has been working on its development since 1999, the ABI will provide images more frequently, at greater resolution and across more spectral bands (16, compared to five on existing GOES satellites). Perhaps most excitingly, it will also allow simultaneous scanning of both the broader view and not one but two concurrent storm systems or other small-scale patterns,

such as wildfires, over areas of 1000 km x 1000 km.

Although the spatial resolution will not be any greater in the smaller areas than in the wider field of view, the significantly greater temporal resolution on the smaller scale (providing one image a minute) will allow meteorologists to see weather events unfold almost as if they were watching a movie.

So, for example, the ABI could be pointed at an area of Oklahoma where conditions seem primed for the formation of tornadoes. “And now you start getting one-minute data, so you can see small-scale clouds form, the convergence and growth,” says Schmit.

In August, Schmit and colleagues enjoyed a brief taste of how that might look when they turned on the GOES-14 satellite, which serves as an orbiting backup for the existing generation of satellites.

“We were allowed to do some experimental imaging with this one-minute imagery,” Schmit explains. “So we were able to simulate the temporal component of what we will get with ABI when it’s launched.”

The result was some imagery of cloud formation that, while not of the same resolution as the upcoming ABI images, unfolded on the same time scale. You can compare the difference between it and the

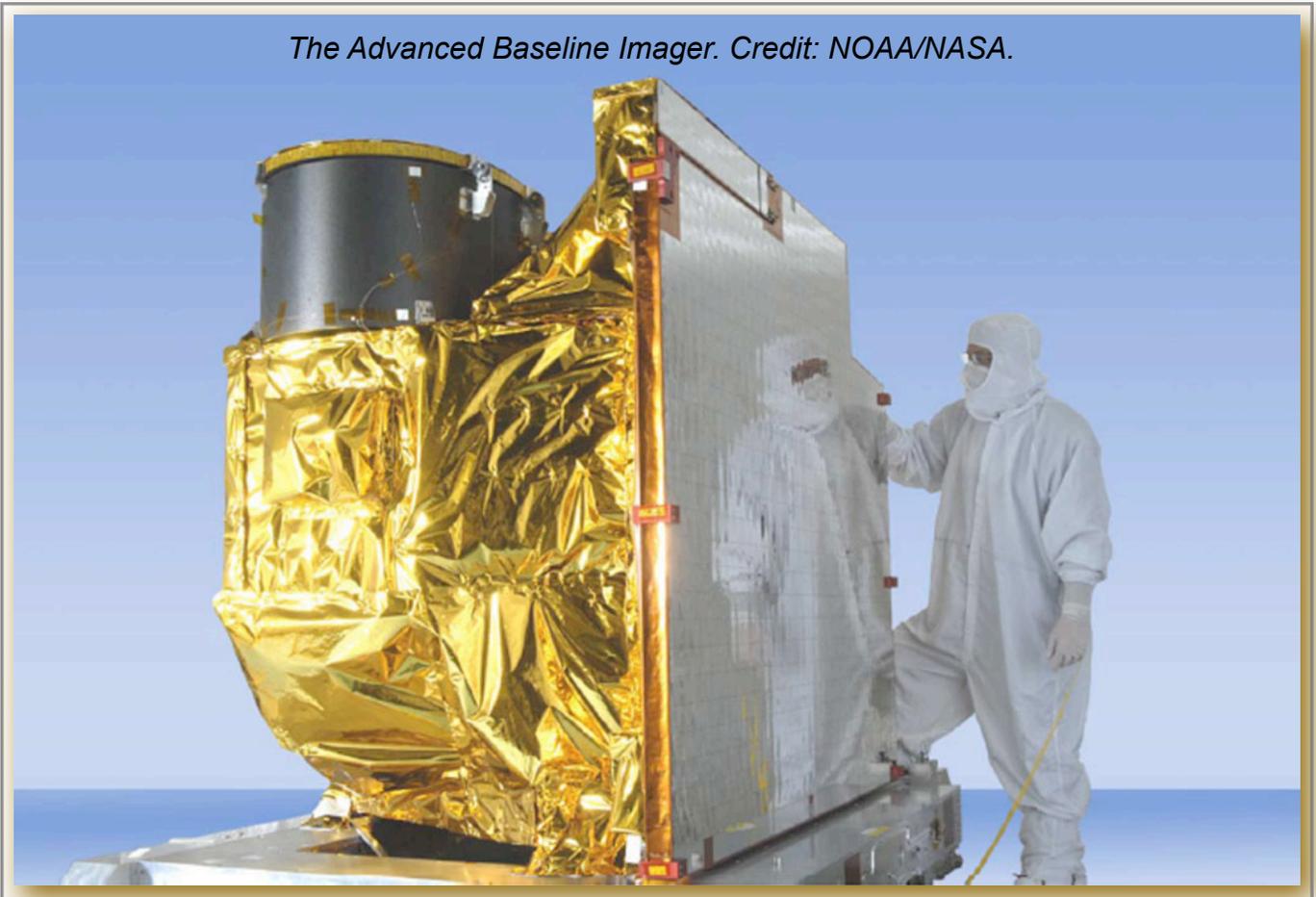
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existing GOES-13 imagery here: [http://
cimss.ssec.wisc.edu/goes/blog/wp-content/
uploads/2013/08/
GOES1314_VIS_21AUG2013loop.gif](http://cimss.ssec.wisc.edu/goes/blog/wp-content/uploads/2013/08/GOES1314_VIS_21AUG2013loop.gif)

Learn more about the GOES-R series of satellites here: <http://www.goes-r.gov>.

Kids should be sure to check out a new online game that's all about ABI! It's as exciting as it is educational. Check it out at <http://scijinks.gov/abi>

The Advanced Baseline Imager. Credit: NOAA/NASA.



Upcoming Programs...

January

Date: Friday the 17th, at about 8:15 pm, following the Business Meeting

Presenter: TBD

Topic: TBD

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EAS Meeting Minutes -- December 20, 2013

The E.A.S. meeting for December 20, 2013 was called to order by President Scott Conner around 7:35 pm. There were 16 members and a couple of guests present.

The Minutes from the November 2013 meeting were accepted as printed in the December Observer newsletter. (www.evansvilleastro.org)

Our Vice President Tony Bryan told us about the next event on the schedule. It is a **Regular Meeting on Friday, January 17 at 7:30pm.**

He then asked our guests to introduce themselves.

Scott Bishop our Treasurer, told us about our finances.

NEW BUSINESS

Scott Conner reported that the support structure for the Mount is finished and is now at powder coating. It is being painted gray.

There is no new news on the EAS - Crane Educational partnership.

OLD BUSINESS

The elections were held last month and the only change was that we have a new Treasurer. Ted Ubelhor is going to be our new treasurer. Thanks to Scott Bishop for his many years of service as Treasurer.

We have not made a decision on moving meetings to the Evansville Museum at this point. If we decide to do so, we will post it in the Observer newsletter. At this point, there are issues that involve show times at the new planetarium.

The meeting was adjourned around 7:50 pm.

The business meeting was followed by the annual Christmas Party and Astronomy Quiz, which was presented by Scott Conner. The winner of the quiz was Mike Borman. Several really nice prizes were given out to the participants who did not do as well, so they can have things to help them with their knowledge of astronomy.

Submitted by,

Scott Conner, President