



Upcoming SAAA Events...

Club Meeting: Thursday, April 19 @ 7:00 PM

- *Macatawa Bay School Planetarium*
- *Park Township - Lunar and Planetary Motion*
- *Refreshments: Robin Hudson*

Observing Session: Friday, April 20 @ 8:30 PM

- *Vivekananda Monastery, 6723 122nd Ave, in Fennville*
- *Weather Permitting*
- *Sunset at 8:32 PM EDST*

National Astronomy Day: Saturday, April 21

- *Setup in grassy area next to JP's Coffee and Espresso Bar, 8th Street in downtown Holland*
- *Morning, Afternoon and Evening shifts*
- *Distribute brochures and share with Public.*
- *Public viewing of Saturn beginning at sunset*

Board Meeting: Thursday, May 3 @ 5:30 PM

- *84 East Restaurant, 84 8th Street in downtown Holland*

Celestial Highlights:

Apr. 2
Full Moon

Apr. 10
Last-quarter Moon

Apr. 17
New Moon

Apr. 19
Crescent Moon between
Venus and Pleiades.

Apr. 24
First quarter Moon near
Saturn

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Spitzer captures the Pleiades in infrared light

March meeting minutes

The general meeting of the Shoreline Amateur Astronomical Association was brought to order by Jim Reier on Thursday, March 15, 2007 at 7:15 p.m. Ten members and guests attended the meeting which took place at Macatawa Bay Middle School in the Planetarium. Peter Burkey provided refreshments.

The meeting opened with old and new Club business.

Old Business

- Reviewed board minutes from our March newsletter.
- Recapped guest speaker Dr. Cole's presentation on Meteorites and Meteor-Wrongs.
- Robin Hudson to provide refreshments in April.

New Business

- Solicited ideas for National Astronomy Day on April 21st. Peter Burkey proposed setting up a telescope and meeting with public in the grassy area next to JP's Coffee and Espresso Bar. The group consented to finalize details at the next board meeting.
- **Final Notice: Sky & Telescope subscriptions must be submitted to Mark Logsdon at the April meeting. We need 2 more subscriptions to meet the minimum order to get our club discount. Cost is \$32.95 and checks can be made out to the SAAA. This is more than 50% savings over the cover price. If you've ever considered getting this magazine, this is a great offer.**

Meeting Topic: Planetarium Software for Your PC

Jim Reier prepared a live demo of four Planetarium software titles that covered a variety of commercial, shareware and freeware products. Titles included: Starry Night Pro, Stellarium, Hallo Northern Sky and NASA World Wind.

All titles are available on the Internet and in many cases can be downloaded for free. Demo products are available for commercial programs like Starry Night Pro.

Jim Reier shared his knowledge of Starry Night Pro. He explained how easy it is to identify objects and create a list of deep sky objects for a night's observing session. Jim presented the field of view (FOV) feature explaining how it assists him with eyepiece selection for a given object.

Freeware programs like Stellarium and Hallo Northern Sky are useful tools for novices new to astronomy who want to learn the locations of constellations and deep sky objects.

NASA World Wind is wonderful for viewing the visible universe collected by the Sloan Deep Sky Survey (SDSS). It is also useful to view the geography of select solar system objects like Mars, Venus, the Moon, Jupiter and the Earth.

The meeting came to closure at 8:50 PM.

Board meeting minutes

SAAA officers and at-large members assembled for a board meeting on April 5, 2007 at the Beechwood Inn restaurant in Holland. President Jim Reier brought the meeting to order at 5:30 p.m.

In attendance were Jim Reier, Peter Burkey, Robin Hudson and Mark Logsdon.

Mark Logsdon provided a treasury report indicating \$782.13 in the treasury. Mark noted that in April, our contribution to Vivekananda Monastery is due. The board unanimously consented to contribute \$50 to the Monastery.

Jim Reier volunteered to issue a letter with an observing schedule to accompany our contribution to Vivekananda Monastery.

In April, we host Park Township. The topic is the solar system with emphasis on lunar and planetary motion. We will discuss Earth's axis of rotation and the reason behind the four seasons. We will explain the spring and fall equinoxes and the summer and winter solstices.

Our presentation will be split into two 30- minute sessions; a planetarium session and a classroom video. The title of the video is 95 Worlds and Counting © 1998 by Discovery Channel Video.

Robin Hudson received a generous packet of educational astronomy handouts from NASA that will be distributed to our guests. Many thanks to Robin Hudson and Nancy J. Leon at NASA for their generous contributions.

National Astronomy Day is Saturday April 21st

The SAAA will show a local presence in the Holland community this year. We have permission to setup in the grassy area next to JP's Coffee and Espresso Bar in downtown Holland. We will setup a telescope (tube capped during the day) and distribute brochures to the Public. We will not solicit donations from the Public. Beginning at sunset, we will sponsor Public viewing of Saturn and other objects easily visible from downtown Holland. Jim Reier will issue and email later in the week asking for volunteers to assist with the day's events. Please show your support and volunteer an hour or so this coming Saturday.

SAAA to host Girl Scout Troop in May

The SAAA is proud to host the Girl Scouts from Lakewood Elementary School at our May 17th Club meeting. The scouts are preparing for a camping trip and need to learn constellations to earn a merit badge. We will cater the meeting to their needs and present the evening sky on the planetarium dome.

Reminder, the SAAA owns two telescopes that club members may borrow. We have a 4.5" and a 6" Dobsonian reflector. Please notify a board member if you would like to borrow one of these two instruments.

What's up in the sky?

April, 2007

By Peter Burkey

This month one of the most famous constellations dominates the southern sky. Go out around 10:00 p.m. About two thirds of the way up from the southern horizon you should see bright Saturn and to the east (left) of Saturn is the constellation Leo, the Lion. Leo faces the viewer's right (west). Look for a backward question mark or sickle pattern of stars - that's his head and mane - facing Saturn. To the left is a triangle of stars representing his hindquarters.

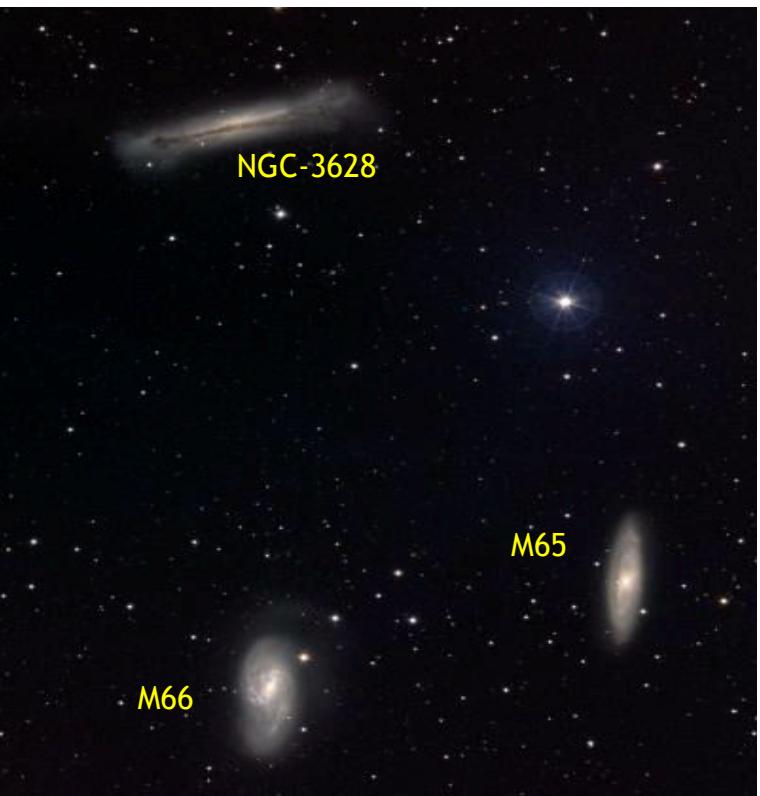
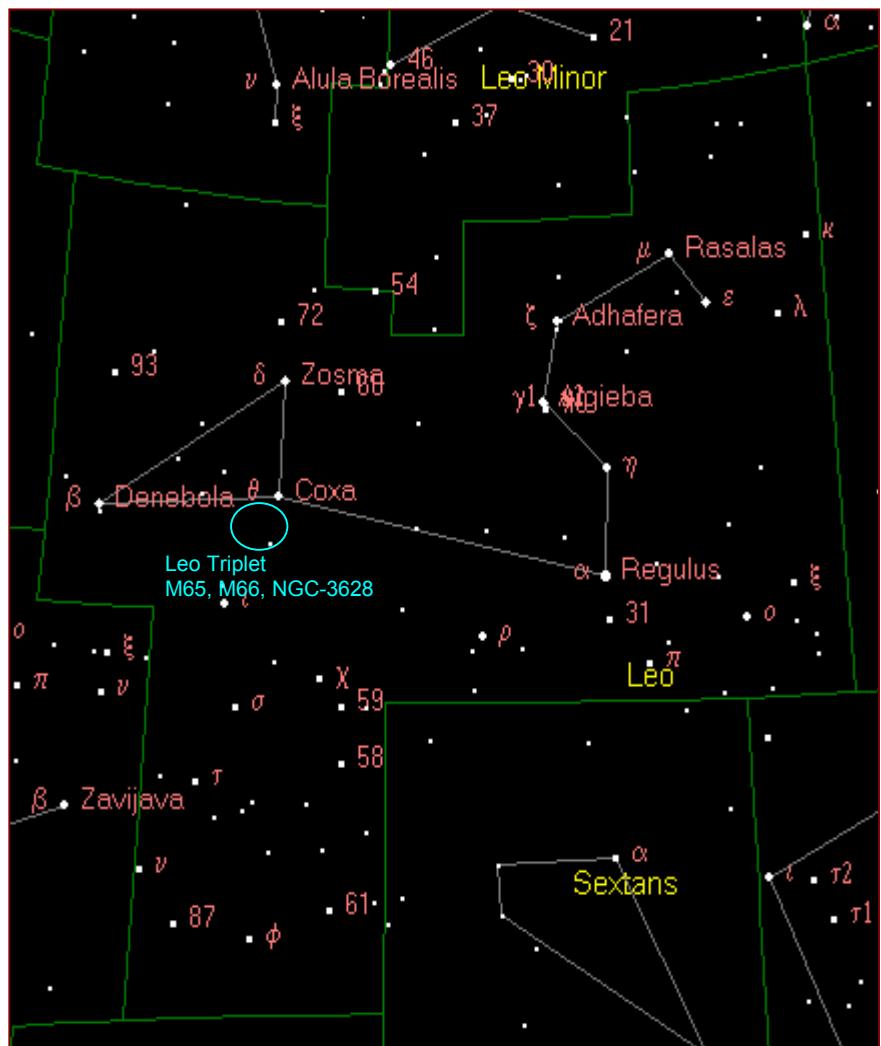
At the bottom of the sickle is the star Regulus, "The Little King". Although many ancient civilizations had names for this star that were similar in meaning - Malikiyy, "the Kingly One" in Arabia, and Regia, "The Star of the King" in ancient Greece, for example - the modern name, Regulus, was given by Copernicus.

Leo's image appears on coins from ancient Greece and Babylon and observations of Regulus are recorded on Babylonian tablets that date from about 2100 BC.

It is in this constellation that the point from which the famous Leonid meteors appear to radiate is located. The displays were particularly spectacular in 1833, 1866, and 1966, just after the comet that leaves the meteor-causing debris had passed by. Witnesses reported up to 150,000 meteors per hour and said they had a sensation of the earth's motion through space.

The star Wolf 359 is located in Leo. This extremely faint red dwarf is the third nearest star and one of the least luminous stars known. Another interesting star is Algieba, the brightest star in the curve of the sickle. It is one of the finest double stars in the sky and a good test for a small telescope.

Leo is home to a fine pair of spiral galaxies, M65 and M66, which can be seen together through a low-power telescope. M95 and M96 are another interesting pair. For more information on how to view these and other objects in Leo, consult a field guide or periodical such as Sky and Telescope or Astronomy magazines, or on the web at http://www.seds.org/Maps/Stars_en/Fig/leo.html.



This month in history:

- Apr. 2: First photograph of the Sun - 1845
- Apr. 7: Deployment of Compton Gamma Ray Observatory - 1991
- Apr. 9: Original seven Mercury astronauts selected by NASA - 1959
- Apr. 12: Yuri Gagarin becomes first human in space - 1961
- Apr. 12: Columbia is first space shuttle to be launched - 1981
- Apr. 16: First captured V2 rocket launched from White Sands, NM - 1946
- Apr. 20: Apollo 16 lands on the Moon - 1972
- Apr. 25: Deployment of Hubble Space Telescope - 1990
- Apr. 28: Eugene Shoemaker born - 1928



Clouds from Top to Bottom

By Patrick L. Barry

During the summer and fall of 2006, U.S. Coast Guard planes flew over the North Pacific in search of illegal, unlicensed, and unregulated fishing boats. It was a tricky operation—in part because low clouds often block the pilots' view of anything floating on the ocean surface below.

To assist in these efforts, they got a little help from the stars.

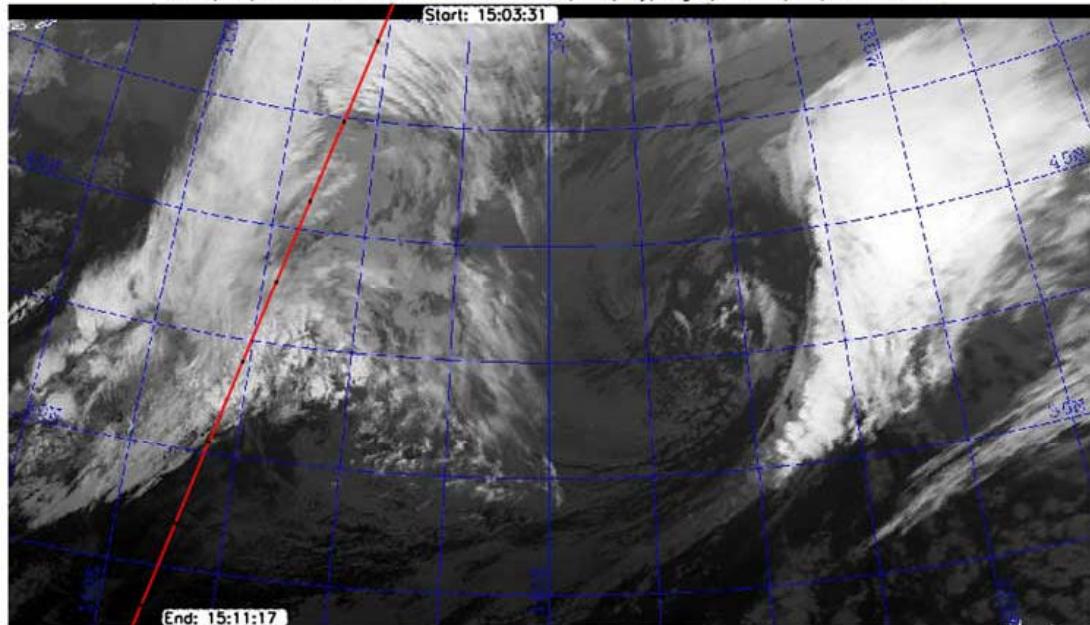
Actually, it was a satellite—CloudSat, an experimental NASA mission to study Earth's clouds in an entirely new way. While ordinary weather satellites see only the tops of clouds, CloudSat's radar penetrates clouds from top to bottom, measuring their vertical structure and extent. By tapping into CloudSat data processed at the Naval Research Laboratory (NRL) in Monterey, CA, Coast Guard pilots were better able to contend with low-lying clouds that might have otherwise hindered their search for illegal fishing activity.

In the past, Coast Guard pilots would fly out over the ocean not knowing what visibility to expect. Now they can find out quickly. Data from research satellites usually takes days to weeks to process into a usable form, but NASA makes CloudSat's data publicly available on its QuickLook website and to users such as NRL in only a matter of hours—making the data useful for practical applications.

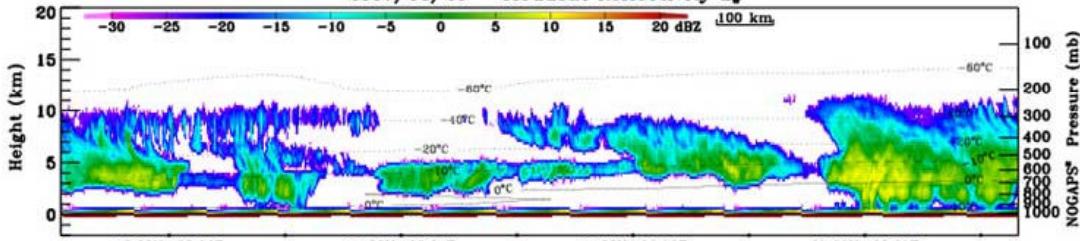
"Before CloudSat, there was no way to measure cloud base from space worldwide," says Deborah Vane, project manager for CloudSat at NASA's Jet Propulsion Laboratory.

CloudSat's primary purpose is to better understand the critical role that clouds play in Earth's climate. But knowledge about the structure of clouds is useful not only for scientific research, but also to operational users such as Coast Guard patrol aircraft and Navy and commercial ships at sea.

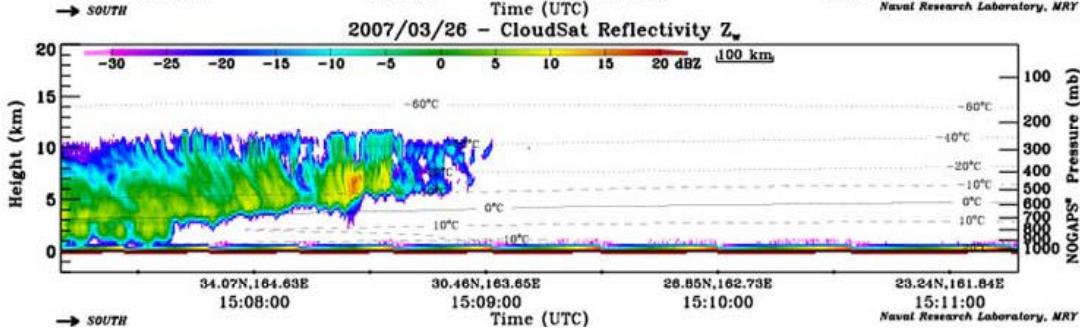
2007/03/26 CloudSat track – GMS-6 VIS/IR (Day/Night) 2007/03/26 14:56Z



2007/03/26 – CloudSat Reflectivity Z_w



2007/03/26 – CloudSat Reflectivity Z_w



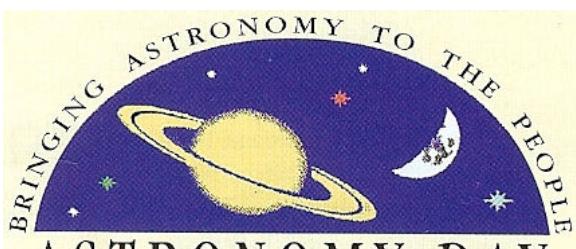
"Especially when it's dark, there's limited information about storms at sea," says Vane. "With CloudSat, we can sort out towering thunderclouds from blankets of calmer clouds. And we have the ability to distinguish between light rain and rain that is falling from severe storms." CloudSat's radar is much more sensitive to cloud structure than are radar systems operating at airports, and from its vantage point in space, Cloudsat builds up a view of almost the entire planet, not just one local area. "That gives you weather information that you don't have in any other way."

There is an archive of all data collected since the start of the mission in May 2006 on the CloudSat QuickLook website at cloudsat.atmos.colostate.edu. And to introduce kids to the fun of observing the clouds, go to spaceplace.nasa.gov/en/kids/cloudsat_puz.shtml.

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

Caption:

A CloudSat ground track appears as a red line overlaid upon a GMS-6 (a Japanese weather satellite) infrared image. CloudSat is crossing the north-central Pacific Ocean on a descending orbit (from upper-right to lower-left) near a storm front. The radar data corresponding to this ground track (beginning in the center panel and continuing into the lower panel) shows a vertical cloud profile far more complex than the two-dimensional GMS-6 imagery would suggest. Thicker clouds and larger droplets are shown in yellow/red tones, while thinner clouds are shown in blue.



ASTRONOMY DAY

**April 21, 2007 and
September 15, 2007**

As an experiment, we are trying both a fall and spring date to see which works better. Feel free to host events on either or both.

Events held on the September date are eligible for entry into the 2008 Astronomy Day Awards. For the latest information, current application forms for the Astronomy Day Award or to download the latest version of the Astronomy Day Handbook go to the [Astronomy Day homepage](#).

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