



# THE OBSERVER

SAN BERNARDINO VALLEY AMATEUR ASTRONOMERS

Member THE ASTRONOMICAL LEAGUE

*"Celebrating Forty-Seven Years of Amateur Astronomy"*

VOLUME #47 ISSUE #08

August 2005

## MOON PARTY at San Bernardino County Museum Saturday, August 13th Set-Up at 7:30PM

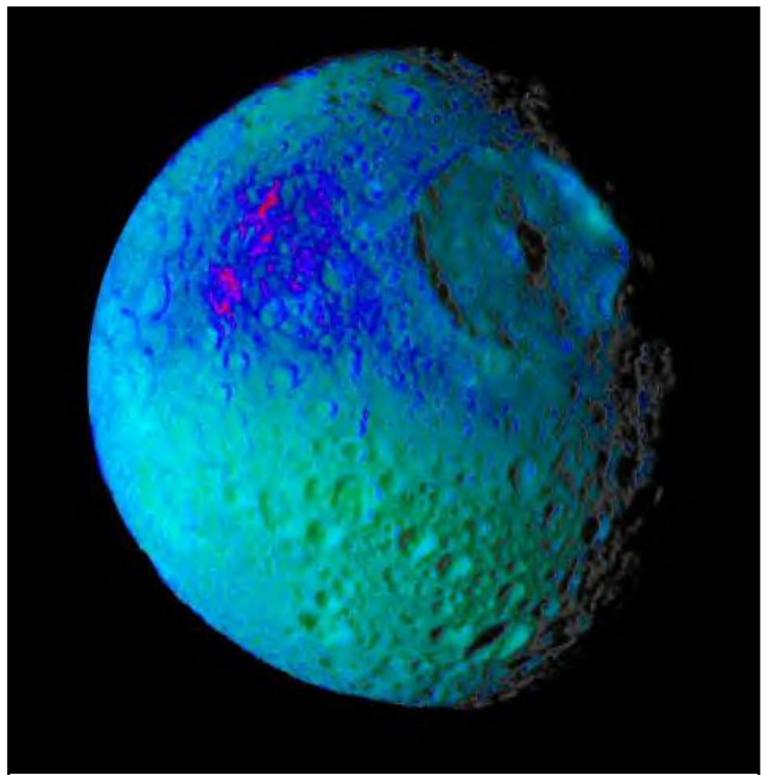
### Cassini Flies by Saturn's Tortured Moon Mimas

On its recent close flyby of Mimas, the Cassini spacecraft found the Saturnian moon looking battered and bruised, with a surface that may be the most heavily cratered in the Saturn system.

False color images of Saturn's moon, Mimas, reveal variation in either the composition or texture across its surface.

On Aug. 2, 2005, the Cassini spacecraft narrow-angle camera obtained multi-spectral views of the moon from a range of 228,000 kilometers (142,500 miles). JPL/NASA

See more information on page 8 of the Online Color PDF.



## SUMMER POTLUCK/BBQ August 20th, 2005: Set-Up at 5:30PM

SAN BERNARDINO COUNTY MUSEUM

CALIFORNIA STREET EXIT FROM INTERSTATE 10

## SBVAA OFFICERS

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[www.sbvaa.org](http://www.sbvaa.org)

## SBVAA

### CALENDER OF EVENTS 2005

Meetings held at the  
 San Bernardino County Museum  
 For information, call Chris Clarke at (909)  
 888-6511, ex.1458

August 20.....Club Barbecue (3rd Sat)  
 September 3.....Star Party (new moon)  
 September 17.....Meeting (3rd Saturday)  
 October 1.....Star Party (Grandview---2  
 days before new moon)  
 October 15.....Meeting (3rd Saturday)  
 November 5.....Star Party (3 day old  
 moon)  
 November 12.....Meeting (2nd Saturday)

## Moon Parties at the Museum!

By Chris Clarke

Well, it's time to dust off our telescopes again and take them down to the Museum to share views of the moon with the public. On Saturday, August 13, we'll be viewing the first-quarter moon from 8:00 to 9:30 pm (setup @ 7:30), and again on Saturday, September 10 from 7:30 to 9:00 pm (setup @ 7:00).

These outreaches are always lots of fun and the Museum has advertised them, so we will probably see lots of folks. The more scopes, the merrier, too. We will set up just outside the main entrance, or if the trees are in the way, over on the other side of the parking lot on the east lawn.

There is nothing like the moon to get people excited about the wonders of astronomy, and late summer observing offers the most pleasant viewing conditions. Afterwards, most members go out for delicious desert and delightful conversation, which adds further pleasure to the event. We'll hope to see you there!

## Annual Club Potluck/Barbecue

On Saturday, August 20, the club will hold its Summer Potluck at the Museum. Bring your favorite dish to share and sit down to lots of eating and talking!

Everyone always enjoys this feast, and it gives us a chance to relax and socialize in a most pleasant setting.

Tina and Randy Kromas are graciously bringing their BBQ, so that we can enjoy that amenity; the rest is up to you! Setup time is 5:30 pm and the Potluck will be in full swing from 6:00 to 9:30 pm. As usual, we will be out in the back patio, near the old locomotive.

Bring a hearty appetite and your goodies to share---see you there!

**Perseids Meteor Watch**  
**Thursday night,**  
**August 11, 2005**  
**at the**  
**Angelus Oakes**  
**helipad**

## President's Message

Jerry L. Day

Jerry\_day@eee.org

Another month has flown by, seemingly lost in the heat shimmer of an endless summer day. Fortunately, the summer nights offer cool respite from the day's heat and many opportunities to enjoy stargazing under the splendid silvery arch of the summertime Milky Way.

For the club, the summer has certainly sizzled with activities.

The most recent star party was held Saturday, August 6, at the Owl Canyon group site. Unfortunately, the eight or so club members who braved the late afternoon desert heat and long drive to the Rainbow Basin BLM area were to be disappointed by poor weather conditions. Persistent high hazy clouds and poor seeing forced an early cancellation of the star party, in favor of a quick stop at the local Carrows restaurant in Barstow for a late night snack, before the long trek back home.

Other club members who struck out that weekend for favored dark sky sites at Mt. Pinos and at Grandview fared no better and were met with even poorer weather conditions. Clouds and late afternoon thunderstorms fueled by a strong monsoonal flow of warm moist air, so common to this time of year throughout the southwest, plagued these locations, too.

Still, despite being a wash for stargazing, at least these outings proved a welcome break from the daily grind and an opportunity to take a mini-vacation with friends to some impressively scenic locations. Better luck next month for stargazing!

In the very near future, the Perseids meteor shower peaks this week. We will be holding a Perseids meteor watch Thursday night, August 11, at the Angelus Oakes helipad. The best viewing for the Perseids is after midnight. Fortunately, the Moon will have set earlier in the evening, leaving the skies dark for optimum viewing of the meteor shower.

And if you can't make it out to view the meteor shower on a work night, don't worry. The Perseids meteor shower puts on a strong show for several days before and after the peak. This is also one shower where backyard meteor watching is fine, even from moderately light-polluted areas. (Just don't forget the bug spray!)

Looking ahead, there will be a public outreach Moon Party at the SBC Museum on the evening of Saturday, August 13 (see event announcement for details). Here's a great opportunity to share with the public our fascination for and knowledge of astronomy.

Also this month is the club picnic, to be held Saturday, August 20, 5:30 PM, at the picnic area behind the San Bernardino County Museum. The picnic is potluck, so bring some good food and a good appetite!

Please note that there will be no meeting this month due to the club picnic.

Looking further ahead, the next star party will be held Saturday, September 3, at Johnson Valley. The next meeting will be held Saturday, September 17.

I look forward to seeing you all at these upcoming events. Clear skies.

**SBVAA**  
**Star Party**  
**September 3, 2005**  
**Johnson Valley**

**See Tom Lawson,**  
**Star Party Coordinator**

# MARS ROVERS UPDATES

## **SPIRIT UPDATE:**

This Image shows several gusts and whirlwinds carrying dust as they move toward NASA's Mars Exploration Rover Spirit. It consists of frames taken by the navigation camera on Spirit during the afternoon of the rover's 501st martian day, or sol (May 31, 2005). The camera was facing into the wind.

Contrast has been enhanced for anything in the images that changes from frame to frame, that is, for the dust moved by wind...NASA



## **OPPORTUNITY: On an Ice-Cream-Cone Outcrop - sol 538-543, Aug 09, 2005**

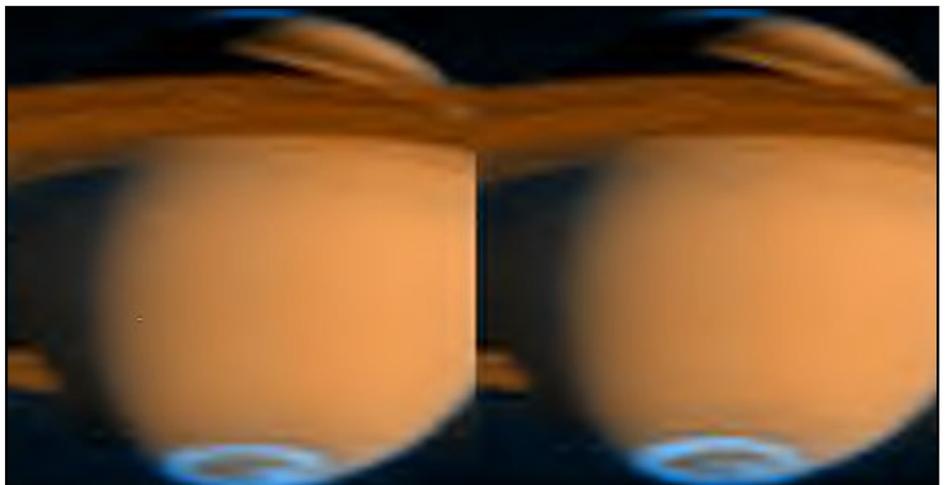
Opportunity continues to make progress south toward "Erebus" crater. The rover planners are doing an excellent job keeping Opportunity safely within the confines of the ripple troughs and determining where the rover can cross from one ripple trough into another. The rover team tries to keep Opportunity inside the ripple troughs, and plans to follow the troughs south until Opportunity can safely move into a "better" trough.

This week (July 29 to August 3), Opportunity has driven an additional 80 meters (262 feet). Opportunity's odometer now reads 5,696 meters (3.54 miles). As Opportunity continues a southward trek, team members are seeing more and more outcrop. Opportunity is still about about 50 meters (164 feet) north of the "Erebus highway" -- an area the team suspects to be highly populated with outcrop and perhaps easier to navigate. Opportunity is roughly 185 to 200 meters (607 to 656 feet) north of Erebus crater, the next large crater Opportunity will encounter...NASA

# CASSINI UPDATE

## **Saturn Puts on a Light Show for Cassini**

The Cassini spacecraft has obtained new images of Saturn's auroral emissions, which are similar to Earth's Northern Lights. Images taken on June 21, 2005, with Cassini's ultraviolet imaging spectrograph are the first from the mission to capture the entire "oval" of the auroral emissions at Saturn's south pole.



# CLASSIFIEDS

**Classified Ads are free to all members.**

Please keep the ads short.

Before the Submission Deadline, send all ad copy to the  
SBVC Planetarium, 701 S. Mt. Vernon Ave, San Bernardino, CA 92410  
or e-mail Newsletter Editor at: WSMyer@aol.com

The following items have been donated to the club.

One item is a fund-raiser, the others are FREE!

If you're interested, contact Chris Clarke

Work—(909) 384-8539

Home—(909) 875-6694

## **Orion "Skyview" 90mm Refractor.**

Comes with an alt-azimuth mount and aluminum tripod.

There is no finder, but it does come with a 15mm Plossel eyepiece.

\$110.00

## **Jason 60mm Refractor.**

Comes with alt-azimuth mount on wooden tripod.

Has finder, but no eyepieces.

FREE!

## An Invitation To Join

### The San Bernardino Valley Amateur Astronomers

- Monthly Meetings/Speakers
- Monthly Star Party
- The Observer Newsletter
- Learn about Astronomy
- Learn about Telescopes
- Learn about Astrophotography

Fill out and mail this form along with \$30.00 Annual Membership Fee. Add an additional \$33.00 to include a one (1) year subscription to "Sky and Telescope" magazine and or \$29.00 for one (1) year subscription to "Astronomy" Magazine.

Make check payable to: San Bernardino Valley Amateur Astronomers.

Mail to: **Fidel Hernandez, SBVAA Treasurer,  
27799 21st St, Highland, CA, 92346**

Name \_\_\_\_\_

Address \_\_\_\_\_

City and State \_\_\_\_\_

Zip \_\_\_\_\_ Phone \_\_\_\_\_

Internet E-mail Address \_\_\_\_\_

## MEMBER GALLERY: Jerry Day

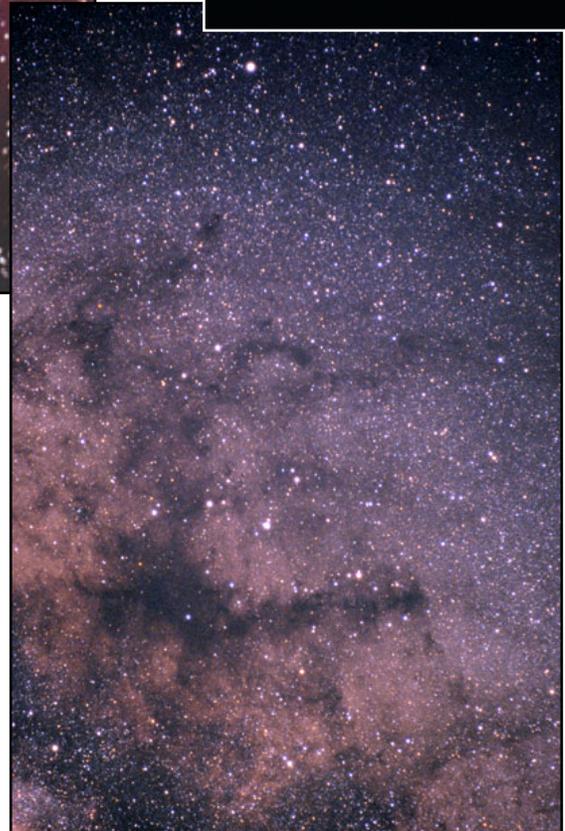
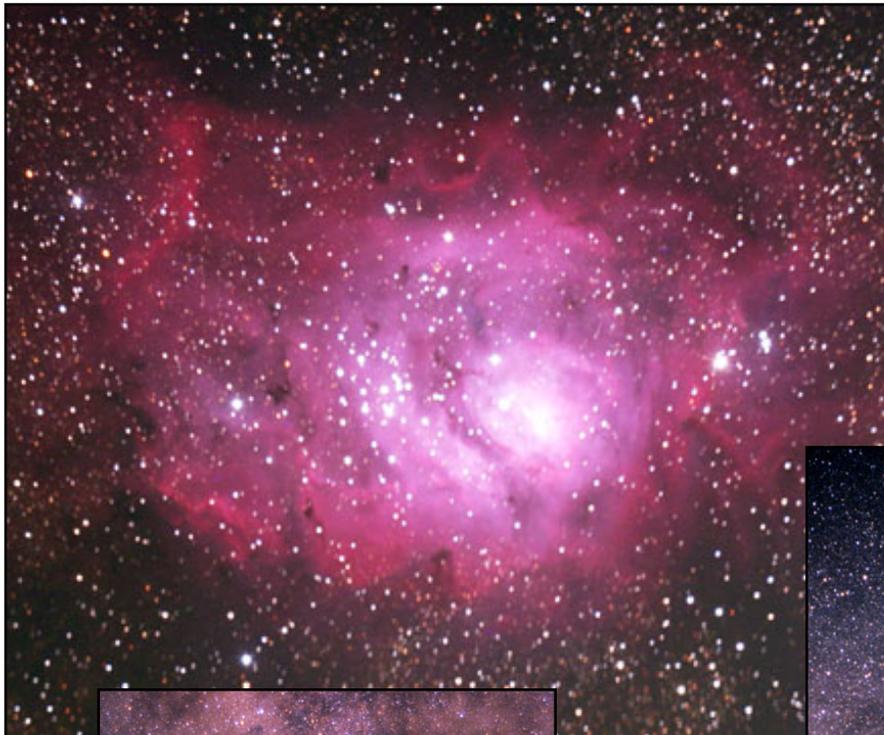
Thursday, July 28, 2005 8:47:38 AM

From: jerry\_day@esri.com

Hi all,

Here are a few images from Grandview that may interest you. Crescent Moon & M8 images used the Canon 300D at prime focus & ISO 400 on a Meade Schmidt-Newtonian (9" f/4?). Focus was still slightly off that night, but close. M8 image is composite of 9 X 5 min registered & stacked images. The Sagittarius & Pipe nebula images are ~50 min with OM1 camera & Fuji Provia 400 F (last roll). The Joshua Tree image was taken last month on a near-last quarter Moon nightphoto outing.

Jerry



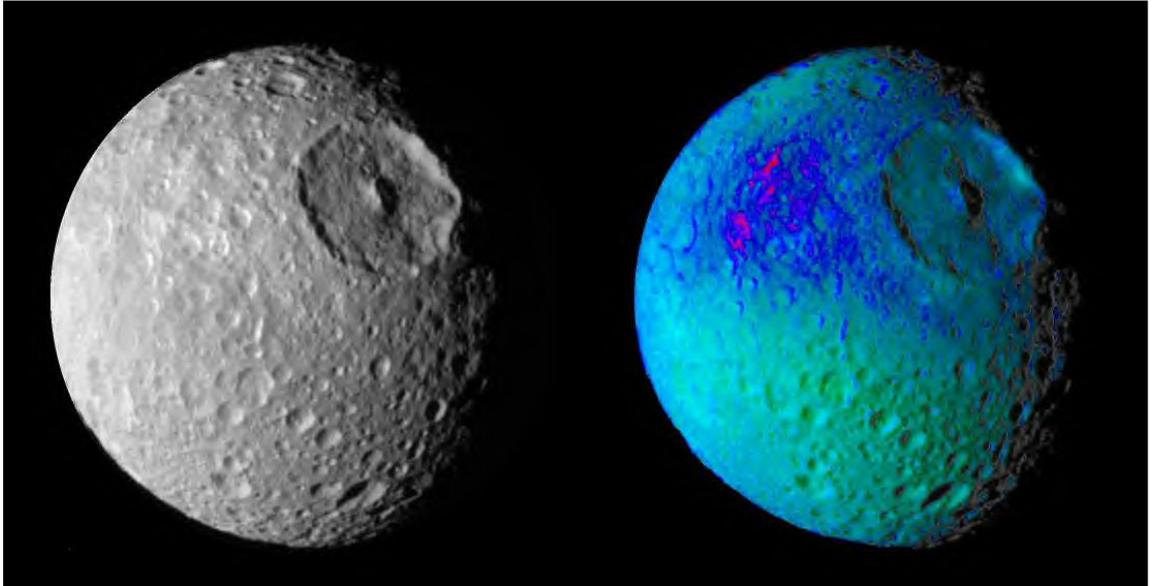
# MEMBER GALLERY: Jerry Day



# Mimas Showing False Colors

August 5, 2005

False color images of Saturn's moon, Mimas, reveal variation in either the composition or texture across its surface. During its approach to Mimas on Aug. 2, 2005, the Cassini spacecraft narrow-angle camera obtained multi-spectral views of the moon from a range of 228,000 kilometers (142,500 miles).



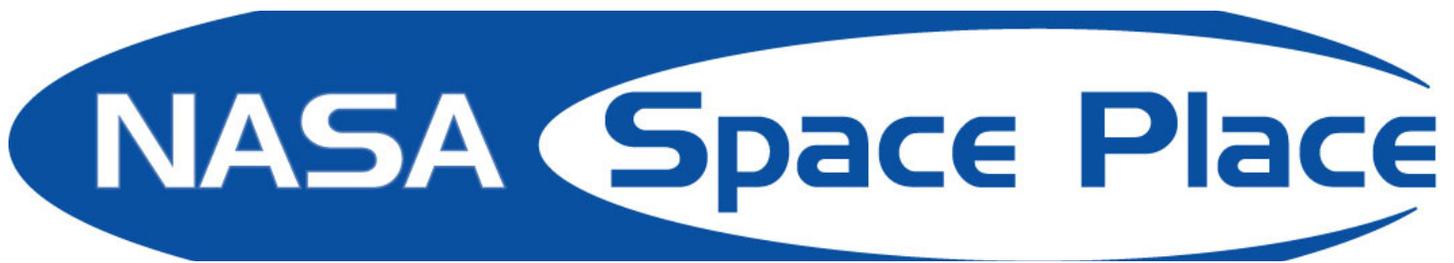
The image at the left is a narrow angle clear-filter image, which was separately processed to enhance the contrast in brightness and sharpness of visible features. The image at the right is a color composite of narrow-angle ultraviolet, green, infrared and clear filter images, which have been specially processed to accentuate subtle changes in the spectral properties of Mimas' surface materials. To create this view, three color images (ultraviolet, green and infrared) were combined into a single black and white picture that isolates and maps regional color differences. This "color map" was then superimposed over the clear-filter image at the left.

The combination of color map and brightness image shows how the color differences across the Mimas surface materials are tied to geological features. Shades of blue and violet in the image at the right are used to identify surface materials that are bluer in color and have a weaker infrared brightness than average Mimas materials, which are represented by green.

Herschel crater, a 140-kilometer-wide (88-mile) impact feature with a prominent central peak, is visible in the upper right of each image. The unusual bluer materials are seen to broadly surround Herschel crater. However, the bluer material is not uniformly distributed in and around the crater. Instead, it appears to be concentrated on the outside of the crater and more to the west than to the north or south. The origin of the color differences is not yet understood. It may represent ejecta material that was excavated from inside Mimas when the Herschel impact occurred. The bluer color of these materials may be caused by subtle differences in the surface composition or the sizes of grains making up the icy soil.

The images were obtained when the Cassini spacecraft was above 25 degrees south, 134 degrees west latitude and longitude. The Sun-Mimas-spacecraft angle was 45 degrees and north is at the top. The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the mission for NASA's Science Mission Directorate, Washington, D.C. The Cassini orbiter and its two onboard cameras were designed, developed and assembled at JPL. The imaging operations center is based at the Space Science Institute in Boulder, Colo.

For more information about the Cassini-Huygens mission visit <http://saturn.jpl.nasa.gov>. The Cassini imaging team homepage is at <http://ciclops.org>. Credit: NASA/JPL/Space Science Institute



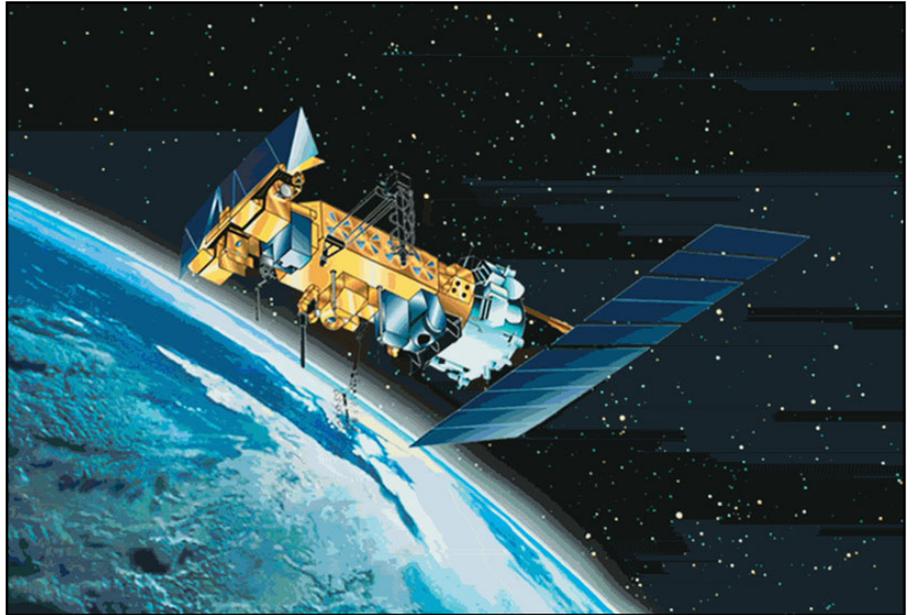
## Newest Weather Sentry Takes Up Watch

by Patrick L. Barry

Today, we've become accustomed to seeing images of the Earth's swirling atmosphere from space every night on the evening news. Before 1960, no one had ever seen such images. The first-ever weather satellite was launched that year, kicking off a long line of weather satellites that have kept a continuous watch on our planet's fickle atmosphere—45 years and counting! The high-quality, extended weather forecasts that these satellites make possible have become an indispensable part of our modern society, helping commercial aircraft, recreational boaters, and even military operations avoid unnecessary risk from hazardous weather. But satellites don't last forever. Parts wear out, radiation takes its toll, and atmospheric drag slowly pulls the satellite out of orbit. Many weather satellites have a design life of only 2 years, though often they can last 5 or 10 years, or more. A steady schedule of new satellite launches is needed to keep the weather report on the news each night. In May 2005, NASA successfully launched the latest in this long line of weather satellites. Dubbed NOAA-N at launch and renamed NOAA-18 once it reached orbit, this satellite will take over for the older satellite NOAA-16, which was launched in September 2000. "NOAA always keeps at least two satellites in low-Earth orbit, circling the poles 14 times each day," explains Wilfred E. Mazur, Polar Satellite Acquisition Manager, NOAA/NES-DIS. "As Earth rotates, these satellites end up covering Earth's entire surface each day. In fact, with two satellites in orbit, NOAA covers each spot on the Earth four times each day, twice during the day and twice at night," Mazur says.

By orbiting close to Earth (NOAA-18 is only 870 km above the ground), these "low-Earth orbit" satellites provide a detailed view of the weather. The other type of weather satellite, "geosynchronous," orbits much farther out at 35,786 km. At that altitude, geosynchronous satellites can keep a constant watch on whole continents, but without the kind of detail that NOAA-18 can provide. In particular, low-Earth orbiting satellites have the ability to use microwave radiometers to measure temperature and moisture in the atmosphere—two key measurements used for weather prediction that, for technical reasons, cannot be sensed by distant geosynchronous satellites. With NOAA-18 successfully placed in orbit, the 45-year legacy of high-tech weather forecasts that we're accustomed to will go on.

Find out more about NOAA-18 and the history of polar-orbiting weather satellites at <http://goespoes.gsfc.nasa.gov/poes>. For kids and anyone else curious about the concept, the difference between polar and geosynchronous orbits is explained at [http://spaceplace.nasa.gov/en/kids/goes/goes\\_poes\\_orbits.shtml](http://spaceplace.nasa.gov/en/kids/goes/goes_poes_orbits.shtml).



NOAA-18, the newest in a long line of weather and environmental satellites, launched May 20, 2005.

**Perseids Meteor Watch**  
**Thursday night, August 11,**  
**at the Angelus Oakes helipad**  
See Tom Lawson, Star Party Coordinator

# **SUMMER POTLUCK/BBQ**

**August 20, 2005/5:30–9:30PM**

**“Bring Scopes for Lunar and Planetary Observing”**

**SAN BERNARDINO COUNTY MUSEUM**

**2024 ORANGE TREE LANE, REDLANDS, CA**  
**CALIFORNIA STREET EXIT FROM INTERSTATE 10**



**SAN BERNARDINO VALLEY**  
**AMATEUR ASTRONOMERS**

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Ste 17  
Riverside, Ca 92501