Sonoma Skies

Newsletter of the Sonoma County Astronomical Society
A nonprofit scientific and educational organization
www.sonomaskies.org

July 2006 Volume XXIX No. 6

Needed: 2007 Striking Sparks Coordinator

by Dickson Yeager

In another three months it will be time to start work on the 2007 Striking Sparks essay contest. The SCAS Board, therefore, is looking for someone to fill the roll of coordinator.

While I very much enjoyed being the 2006 coordinator and found it very rewarding, I will be unavailable to repeat. The person that steps forward will receive strong support from myself and the Board. They will also receive strong club support on the day of the event. Without someone stepping forward to fill that position, the Striking Sparks program will be unable to continue in 2007.

So, please give serious consideration to volunteering as the 2007 Striking Sparks coordinator. Please call (539-2385) or email (sparks@sonomaskies.org) me if you have questions or, better yet, wish to volunteer.

Astro-Stuff to Sell? Silent Auction To Be Held at SCAS Monthly Meetings

Do you have astronomy-related items you're no longer using? Would you like to sell them? Bring them to the monthly SCAS meeting for a silent (shhhh!) auction.

Here's how it will work:

A table will be set up at the back of the meeting hall with a sign saying "Silent Auction." Come early and place your sale items on the table. There will be post-its on which you will write your name and the starting price (the lowest bid you will accept).

Members can peruse the offerings before and after (not during!) the meeting. To place a bid, write your name and bid on the post-it. To raise the bid, write your name below the previous one along with the new amount.

Bidding will close 15 minutes after the meeting ends. The President will announce the end of the silent auction. At that time, the highest bid written on the post-it wins. Buyer and seller meet at the table to complete the transaction. If no one has bid on an item, the seller must retrieve it. The Board takes no responsibility for items left behind.

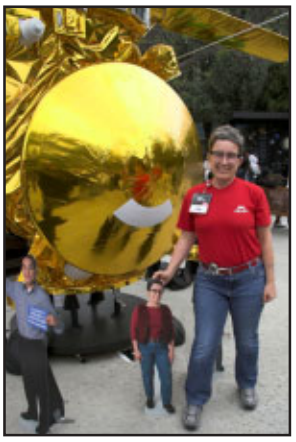
This is a trial to see if members wish to take advantage of the opportunity. We'll do it for three months and then assess whether to continue.

SCAS Welcomes back Jane Houston Jones

SCAS *July 12* Meeting, Proctor Terrace School

A long time leader of the northern California amateur astronomy community and frequent visitor to, and occasional speaker at SCAS meetings, returns on July 12th to tell us about recent events, discoveries and outreach activities associated with the Cassini Mission.

Jane Houston Jones served 5 years as president of the Astronomical Association of Northern California before accepting a job as Senior Outreach Specialist for the Cassini Program at NASA's Jet Propulsion Laboratory and relocating to Pasadena, CA. Jane coordinates 350 international amateur astronomers from 50 countries who do public outreach for the Cassini Mission's Saturn Observation Campaign *http://soc.jpl.nasa.gov/index.cfm*



From 1998-2002 Jane participated in the NASA Leonid Multi-instrument aircraft campaign, serving as part of the meteor flux measurement team around the world, both in the air and on the ground.

She is happily married to Morris Jones *http://www.whiteoaks.com/* They have two cats, eight reflectors and four refractors.

SCAS Scopes Auction July 12

We will be auctioning the SCAS loaner scopes at the July meeting. We have an 8" Dobson that is *autographed by the man himself*, a 12" homemade Dobson reflector, and a 6" Orion Dobson reflector, an older version of the Striking Sparks scopes we awarded last year. Come take a look.

Young Astronomers See page 6

Sonoma County Astronomical Society (SCAS)

Membership Information

Meetings: 7:30 PM on the second Wednesday of each month, in the Multipurpose Room of Proctor Terrace Elementary School, 1711 Bryden Lane at Fourth Street, Santa Rosa, unless otherwise announced in this publication. The public is invited.

Dues: $25, renewable June 1 of each year. New members joining between December 1 and May 31 pay partial-year dues of $12.50.

Star Parties: See the Events section for dates and times.

Rental Telescopes: Members are eligible to borrow telescopes from the club. Five telescopes are available: 8" and 5" SCTs, 8" and 12.5" Newtonians on Dobsonian mounts; and an 80mm refractor. Contact John Roush at 792-1199, *jroush@spamlion.com*.

Egroup URL: Connect with other members about going observing, observing reports and chat about astronomy and news items from AANC and *Sky & Telescope*. Hosted by Robert Leyland at *r.leyland@verizon.net*. Any SCAS member is welcome to join. Visit *http://groups.yahoo.com/group/scas* and click the "Join" button, or send an email to *scas-subscribe@yahoogroups.com*

Discount Subscriptions: For ***Sky & Telescope***, new subscribers may send a check for $32.95 payable to "SCAS", with your complete mailing address, directly to: Larry McCune, 544 Thyme Place, San Rafael, CA 94903. For renewals, send him your check with the completed renewal card and return envelope. Discount subscriptions to ***Astronomy*** Magazine occur annually in October. Check ***Sonoma Skies*** for details.

Library: SCAS Librarian Joan Thornton hosts a library of astronomy books that may be checked out by members at SCAS meetings, to be returned at the next meeting. Videotaped lectures on astronomy may be rented for $3 per month.

Sonoma Skies is the monthly newsletter of the Sonoma County Astronomical Society (SCAS). Subscription is included as part of membership. Articles and member announcements are welcome and are published on a first come, first served basis, space permitting, and may be edited. **The deadline for submissions is the last Wednesday of each month.** Mail to: Editor, SCAS, P.O. Box 183, Santa Rosa, CA 95402, or email *publications@sonomaskies.org*

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Librarian: Joan Thornton, 762-0594 *phonyjoanie@earthlink.net*

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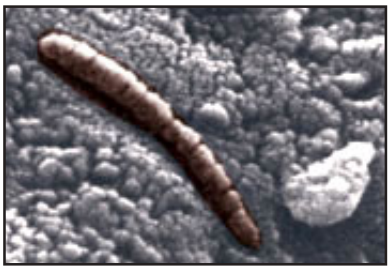
Arctic, Antarctic, Mars

by Henry Bortman

The city of Hammerfest lies at the northern tip of Norway, well above the Arctic Circle. If you board a ship heading north from there, just before you reach the polar ice cap you run into a group of islands known as the Svalbard archipelago.

For the past two summers, a group of scientists has traveled to the largest of these islands to study an environment that sheds light on a notorious meteorite, discovered at the opposite end of the Earth, in Antarctica.



Close-up of famous shapes measuring 20 to 200 nanometers across in Allen Hills meteorite [ALH84001], found at Allen Hills, Antarctica, showing what has generated debate and controversy around claims of ancient fossilized microbial life. "Several lines of evidence suggest that the volume of a sphere about 200 nanometers across is needed to house the chemistry of a cell that has a biology familiar to us." —A. Knoll Around 28 Mars meteorites have been identified so far.

Image Credit: NASA

The meteorite, ALH84001, began as a rather unremarkable piece of volcanic rock that formed about 4.5 billion years ago, on Mars. About a billion years later, its interior was chemically altered through interaction with water. After that, it remained on the martian surface until about 16 million years ago, when a massive impactor - a comet or asteroid - slammed into Mars, spewing material into space evidence of martian life. Most researchers, however, now think that its various microscopic features can be explained purely by geologic and chemical processes. Recent discoveries made in Svalbard bolster the majority opinion.

Although the ALH84001 carbonate globules were novel at the time the meteorite was discovered, scientists have since discovered that rocks in Svalbard contain carbonate globules remarkably similar to those found in ALH84001. They were anxious to learn what they could about how the Svalbard carbonate globules formed. Researchers can only speculate about how the carbonate globules in ALH84001 formed, billions of years ago and millions of miles away. But in Svalbard, says Andrew Steele, "the geology's in context."

Steele, who is with the Carnegie Institution of Washington, is a member of AMASE (Arctic Mars Analog Svalbard Expedition), an international team of scientists who for the past three years have been studying the Svalbard environment. The major aspect of their work is to test out life-detection instruments that will be used on future missions to Mars. But it was the discovery of Svalbard's carbonate globules that first caught their attention.

"Originally we didn't set out to try and confirm or refute" whether the carbonate globules in ALH84001 were "formed by biology or not. We basically went up there to look at the context and find out just how these things are formed on Earth, and then try to draw some conclusions about their formation mechanisms on Mars," said Steele.

The ALH Meteorite, about the size of a softball and one of more than two dozen Mars samples available for study on Earth today. [ALH84001] was found at Allen Hills, Antarctica. Image Credit: NASA

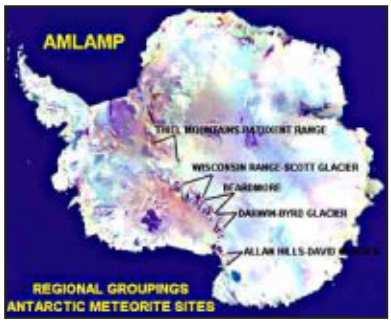
The context is a volcano, Sverrefjell, that erupted about a million years ago, forcing magma up through an overlying glacier. The carbonate globules in the Svalbard rocks were found embedded inside material that was spewed out when the volcano erupted. An analysis of the material surrounding the globules - a mineral known as olivine, for its dull green color - showed that it came from the Earth's mantle, some 40 to 50 kilometers (25 to 30 miles) beneath the surface. Before the eruption, it was in a molten state, deep underground. Within a few days of being ejected onto the surface, it had cooled and hardened in the freezing glacial environment aboveground. During this cooling process, the carbonate globules became deeply embedded within the surrounding rock.

"This is an abiotic production method," said Steele. No living organisms could have been present in the molten subterranean depths. Nor could microbes have colonized the molten material in the short span of a few days during which the rocks cooled and hardened, sealing the globules deep within.

Armed with the knowledge that the Svalbard globules were formed abiotically, Steele and his colleagues performed a painstaking comparison between them and the ALH84001 globules. Using one of the most sophisticated instruments of its type in the world, a Raman spectrometer, the AMASE team examined thousands of tiny spots both within exactly the same as the martian globules and are formed in exactly the same conditions," Steele said, "but it gives us a window into that formation process. There is a formation mechanism for them that doesn't rely on biology."

The ALH84001 saga is not over. There will undoubtedly be discussion about its various unusual features for many years to come. But by showing how carbonate globules, similar to those in the martian meteorite, formed without the involvement of living organisms, Steele and his colleagues have made less compelling the argument that the visiting rock from our planetary neighbor contains evidence of life.

—Article provided by Astrobiology Magazine



Major investigated regions of Antarctica where meteors have been successfully identified. At any given moment, the interplanetary sample transit works out to about one Martian meteorite landing on Earth each month. Scientists had thought it took a serious wallop to instigate these interplanetary exchanges. Impacts of this size and larger occur every 200,000 years or so on Mars. Yet research now finds that craters as small as 1.9 miles (3 kilometers) wide on Mars could have been the starting points for meteorite launches towards Earth. Credit: JSC/NASA

Social Amenities

Thanks to Artie Davis for providing coffee, cake, peach cobbler and watermelon to attendees of the June meeting.

SCOPE CITY
New Member Bonus!

Scope City at 350 Bay Street, San Francisco, is offering a **$25 merchandise discount to new members**.

Manager Sam Sweiss has supported SCAS and Striking Sparks and offers a huge selection of telescopes, accessories and more. Obtain a receipt from Walt Bodley, Membership Director, showing you have paid the $25 SCAS membership dues. To arrange for your merchandise discount, contact Sam at 415/421-8800 or at *sanfrancisco@scopecity.com*

Reminder: Don't forget to renew your membership!

Events

Robert H. Ferguson Observatory

Public Viewing Saturday, July 22 & July 29
Solar Viewing: 12:00 AM - 4:00 PM
Night Viewing begins 9:00 PM

The Observatory: Three scopes are operating: The 14-inch SCT with CCD camera in the East wing, the 8-inch refractor under the dome and the 24-inch Dobsonian in the West wing. No admission fee for the solar viewing, but donations are appreciated. The Park charges $6 per vehicle for entry. A $2 donation is requested from adults 18 and over for admission to the observatory during night viewing sessions.

SCAS members may set up telescopes in the observatory parking lot to assist with public viewing. Auto access closes at dusk; late arrivals must carry equipment from the horse stable parking area.

Classes, Other Events

Jul. 18 Night Sky Summer Series, 7:30 PM
Jul. 21 Shared Docent Observing, 2:00 PM
Jul. 23 Observing Lab (Binaries), 8:00 PM
Jul. 25 Night Sky Summer Series, 7:30 PM
Jul. 26 Observing Lab raincheck, 8:00 PM

Classes are held at the Observatory. Reservations recommended. (707) 833-6979, *http://www.rfo.org* or *nightsky@rfo.org*

UC Berkeley Astrophysics Club

Institute for Particle Astrophysics Journal Club Seminars

Jul. 7—Kem Cook, Institute for Geophysics and Planetary Physics, Lawrence Livermore National Laboratory, speaking on microlensing exoplanets

Jul. 14—Jon Thaler, University of Illinois at Urbana-Champaign, speaking on Dark Energy Survey

Lectures: 12:00 Noon. Location: Bldg. 50, room 5026, Lawrence Berkeley National Laboratory, 1 Cyclotron Rd., Berkeley. Contact Vitaliy Fadeyev *VAFadeyev@lbl.gov*. Information: *http://stokstad.lbl.gov/INPA/journalclub.html#aboutjclub*

Chabot Space & Science Center

July 28, 8 - 11PM in the Lunar Lounge Express

Full access to Chabot Space & Science Center: Interactive Exhibits, Sonic Vision - a new alternative music planetarium show, Telescope viewing in our Observatory Complex, Video Artist: Steve Cooley, Food for purchase from Celestial Cafe, Beer and refreshments from our cash bar And much more!!

Featuring Special guest: Total Eclipse Band An impressive mix of rock and pop tunes from the mid 70's to the new wave progression of the 80's!

Admission: $15/Adults $10/student (with I.D.)

For more info email: *ngillespie@chabotspace.org*

SCAS Star-B-Que Saturday, August 19

Come to the SCAS Annual Star-B-Que at the Robert Ferguson Observatory in Sugarloaf Ridge State Park! Get to know your fellow astronomers and their families in daylight! After dark there will be a sky tour, pointing out the different constellations and many interesting features and names in our Summer Sky.

It's a good time for beginners to get help learning the sky or using a telescope. Striking Sparks winners can get help adjusting their new telescopes. Bring your scope and its instruction manual, your planisphere, and a list of questions you'd like to ask.

Times and what to bring: We are allowed in at noon. Solar viewing will begin at 2 PM. The barbecue fire will be started about 5 PM so we can begin cooking around 6 PM. SCAS will provide the barbecue fire and marshmallows. You bring food to barbecue, a favorite potluck dish to share, other food, drinks and utensils, red celophane for your flashlight, and a measure of good cheer.

To camp overnight: Immediately around the Observatory is the Group Campground parking area, campsites, running water, large barbecue pits, and outhouses. You may camp overnight (no RV hookups). Everyone must leave by noon Sunday. Please remember the Star-B-Que is for SCAS and YA members, Striking Sparks winners, their families and a few guests.

Directions to Sugarloaf Ridge State Park: Take Hwy. 12 from Santa Rosa toward Sonoma. Turn left onto Adobe Canyon Rd. just before you reach Kenwood. It is 8.6 miles from Fourth and Farmer's to the Adobe Canyon Rd. turnoff. From Sonoma, it's a right turn after Kenwood. The Park is 3.4 miles farther.

Fees and Parking: At the Park entrance kiosk, identify yourself as part of the Sonoma County Astronomical Society headed for the Star-B-Que at the Observatory. There will be no individual fees. Pets must be kept on a leash, with a $1.00 charge for each animal. Parking is limited, so carpool if possible. To minimize jarring white light from backup lights after dark, please park by backing in. Park close together, with just enough room to open your door. Parking on pavement is prohibited. If you arrive after 8:30 PM, or if campground parking is full, park next to the group campsite entrance gate, about 100 yards away.

Call Len Nelson at 763-8007 or email *lennelsn@comcast.net* if you have questions. Hope to see you there!

San Francisco Amateur Astronomers

July 19, 7:30 PM: "Crowds Around Asteroids" —Dr. Franck Marchis, Assistant Research Astronomer, UC Berkeley

Meetings are held at the Randall Museum, 199 Museum Way, San Francisco. For more information go to: *http://www.sfaa-astronomy.org/sfaa/lectures/index.shtml*

Events

Yosemite Challenge

July 28 and 29

Len Nelson has informed us that this year's Yosemite trip is all booked up. That is certainly a positive sign! Last year's trip was quite fun, as all the members present would testify.

However, stand-by is available, as some folks withdraw at the last moment. Contact Len to get your name on the list.

This year I would like to extend an invitation and chllenge to any willing member to ascend half dome with the Zalunardo brothers. Last year's ascent was beatiful with Vernal and Nevada Falls overflowing and the Mist Trail lush and green. This year should be even wetter than last due to the late snowfalls. There are many other worthwhile hikes as well, such as the Taft and Sentinal Dome hike, Bridevail Falls, Glacier point to the valey floor (and back—a real killer), as well as Yosemite Falls and countless others. The only limit is time. So if hiking is to be part of your day I would encourage an early start and careful planning, because we do not want to miss the real reason we are here, Astronomy at Glacier Point!

At approximately 7000 ft aproximitely the seeing has the possibility of being absolutely stellar, weather permitting. This year we will have a new moon. This should allow for some stunning deep sky views of summer constellations. If the crowd is anything like it was last year, be prepared to be swamped. Many members had lines ten to fifteen people long for prolonged periods. Every language and people imaginable wanders on by, the crowd thinning later and the diehards sticking through to the later hours. It does not take much to impress most visitors and a little enthusiasm goes a long way. Be prepared to have fun...there is no way not to!

Mt. Tamalpais Astronomy

July 1, 8:30PM: "A 'Swift' View of the Universe"—Dr. Lynn Cominsky, Sonoma State University

NASA's Swift mission studies gamma-ray bursts, the most powerful explosions in the Universe. Learn how black holes are created when stars die, and how one galactic neutron starquake changed our Earth's atmosphere.

July 29, 8:30PM: "The Tenth Planet and Beyond"—Dr. Eugene Chiang, UC Berkeley

Since 1992, astronomers have discovered over 1000 icy, rocky objects beyond Neptune, one larger than Pluto. What is known about this "Kuiper Belt" of bodies and what are the implications for the formation of our planetary system?

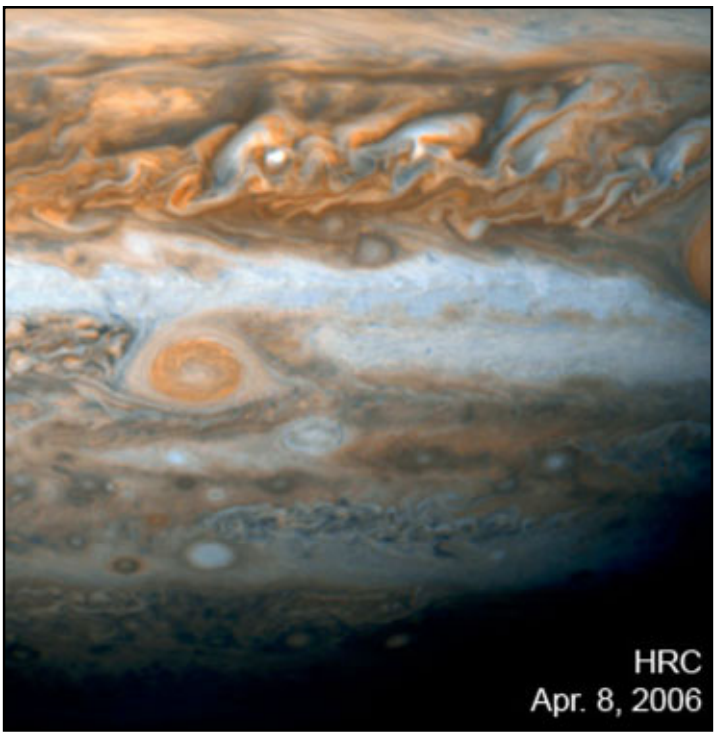
Sponsored by the Mt Tamalpais State Park and coordinated by volunteers of the Mt Tam Interpretive Association. All programs are FREE and open to the public. Families and students encouraged to come.

Presentations held in the Mountain Theatre. Viewing afterwards in Rock Springs Parking Area, provided by San Francisco Amateur Astronomers. Dress warmly and car pool if possible. Bring a flashlight! Hotline: 415/289-6636; Info: *http://www.mttam.net/*

Jupiter's New Red Spot

Backyard astronomers, grab your telescopes. Jupiter is growing a new red spot. Christopher Go of the Philippines photographed it on February 27th using an 11-inch telescope and a CCD camera. The official name of this storm is "Oval BA," but "Red Jr." might be better. It's about half the size of the famous Great Red Spot and almost exactly the same color.

Oval BA first appeared in the year 2000 when three smaller spots collided and merged. Using Hubble and other telescopes, astronomers watched with great interest. A similar merger centuries ago may have created the original Great Red Spot, a storm twice as wide as our planet and at least 300 years old.



At first, Oval BA remained white—the same color as the storms that combined to create it. But in recent months, things began to change: "The oval was white in November 2005, it slowly turned brown in December 2005, and red a few weeks ago," reports Go. "Now it is the same color as the Great Red Spot!"

"Wow!" says Dr. Glenn Orton, an astronomer at JPL who specializes in studies of storms on Jupiter and other giant planets. "This is convincing. We've been monitoring Jupiter for years to see if Oval BA would turn red—and it finally seems to be happening." (Red Jr? Orton prefers "the not-so-Great Red Spot.")

Why red? Curiously, no one knows precisely why the Great Red Spot itself is red. A favorite idea is that the storm dredges material from deep beneath Jupiter's cloudtops and lifts it to high altitudes where solar ultraviolet radiation—via some unknown chemical reaction—produces the familiar brick color. "The Great Red Spot is the most powerful storm on Jupiter, indeed, in the whole solar system," says Orton. The top of the storm rises 8 km above

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Young Astronomers

YA Members, The Annual SCAS Star-B-Que is Almost Here!

Attention Young Astronomers, including this year's Striking Sparks Winners!

Don't miss the annual SCAS Star-B-Que and Star Party! This year the Star-B-Que will be held on Saturday, August 19, and is open to all SCAS members, their families, and friends.

Striking Sparks winners can get help adjusting their new telescopes. Bring your scope and its instruction manual, your planisphere, and a list of questions you'd like to ask.

Photo: Len Nelson

Young Astronomer David Elder at last year's Star-B-Que

The fun begins at 2:00 PM at the Robert Ferguson Observatory in Sugarloaf State Park. As the evening settles in, enjoy a potluck dinner, campfire, and relaxed star gazing with fellow astronomy enthusiasts. Be sure to bring your telescope!

YA Information

Meetings: 7:30 PM the second Friday of each month of the school year, at Apple Blossom School, 700 Water Trough Road, Sebastopol, in the Multipurpose Hall. Open to all Sonoma County students. **Telescope viewing** is held in the upper parking lot after the meeting. **Directions:** From Hwy. 116 in Sebastopol, turn west onto Bodega Ave. Continue on Bodega Ave. almost two miles to Water Trough Rd. Turn left and go about 1/3 mile to the school, on your right. From Hwy. 12, go straight through Sebastopol, past Main Street, and continue as above.

YA ELECTED OFFICERS

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Librarian: Rachel Loughman
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Adult Adviser: Gary Jordan 829-5288

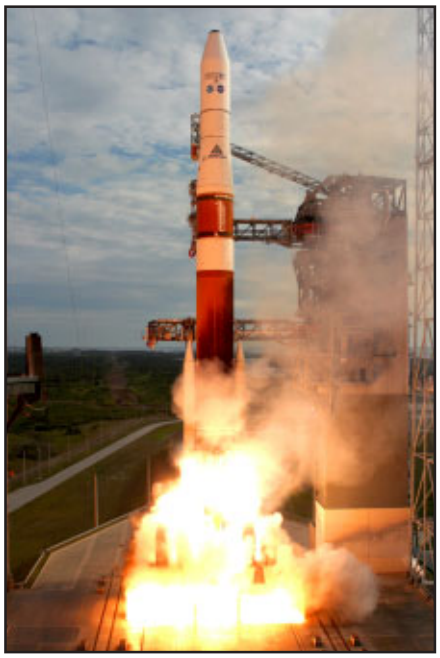
NASA Space Place

From Thunderstorms to Solar Storms…

by Patrick L. Barry

When severe weather occurs, there's a world of difference for people on the ground between a storm that's overhead and one that's several kilometers away. Yet current geostationary weather satellites can be as much as 3 km off in pinpointing the true locations of storms. A new generation of weather satellites will boost this accuracy by 2 to 4 times. The first in this new installment of NOAA's Geostationary Operational Environmental Satellites series, called GOES-N, was launched May 24 by NASA and Boeing for NOAA (National Oceanic and Atmospheric Administration). (A new polar-orbiting weather satellite, NOAA-18, was launched May 2005.)

Along with better accuracy at pinpointing storms, GOES-N sports a raft of improvements that will enhance our ability to monitor the weather—both normal, atmospheric weather and "space weather."



New GOES-N satellite launches, carrying an imaging radiometer, an atmospheric sounder, and a collection of other space environment monitoring instruments.

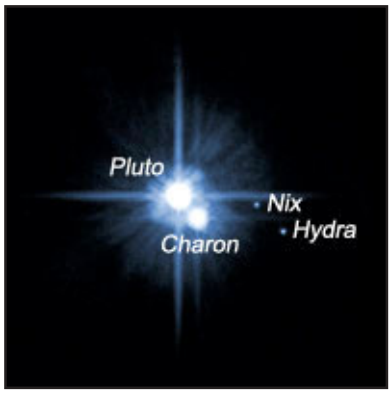
"Satellites eventually wear out or get low on fuel, so we've got to launch new weather satellites every few years if we want to keep up the continuous eye on weather that NOAA has maintained for more than 30 years now," says Thomas Wrublewski, liaison officer for NOAA at NASA's Goddard Space Flight Center.

Currently, GOES-N is in a "parking" orbit at 90° west longitude over the equator. For the next 6 months it will remain there while NASA thoroughly tests all its systems. If all goes well, it will someday replace one of the two active GOES satellites—either the eastern satellite (75°W) or the western one (135°W), depending on the condition of those satellites at the time.

Unlike all previous GOES satellites, GOES-N carries star trackers aboard to precisely determine its orientation in space. Also for the first time, the storm-tracking instruments have been mounted to an "optical bench," which is a very stable platform that resists thermal warping. These two improvements will let scientists say with 2 to 4 times greater accuracy exactly where storms are located.

Pluto's Two Small Moons Officially Named Nix and Hydra

A pair of small moons that NASA's Hubble Space Telescope discovered orbiting Pluto now have official names: Nix and Hydra. Photographed by Hubble in 2005, Nix and Hydra are roughly 5,000 times fainter than Pluto and are about two to three times farther from Pluto than its large moon, Charon.



The names were approved this week by the International Astronomical Union (IAU), the recognized authority for assigning designations to celestial bodies.

In Greek mythology, Nyx is the goddess of the night. Among her many offspring was Charon, the boatman who ferried the dead across the river Styx into the Underworld. (Because asteroid 3908 already bears the Greek name Nyx, the IAU decided to use the Egyptian equivalent, Nix, for the name of Pluto's moon.) The mythological Hydra was a nine-headed serpent with poisonous blood. The Hydra had its den at the entrance to Hades, where Pluto and his wife Persephone entered the Underworld.

"You're going to be hearing a lot more about Nix and Hydra in coming years, says co-leader of the discovery team, Alan Stern of SwRI. "Astronomers are already applying for telescope time to study their orbits and physical properties. And when New Horizons flies by Pluto in the summer of 2015, each moon will be mapped in detail."

SpacePlace, continued from previous page

Also, X-ray images of the Sun taken by GOES-N will be about twice as sharp as before. The new Solar X-ray Imager (SXI) will also automatically identify solar flares as they happen, instead of waiting for a scientist on the ground to analyz e the images. Flares affect space weather, triggering geomagnetic storms that can damage communications satellites and even knock out city power grids. The improved imaging and detection of solar flares by GOES-N will allow for earlier warnings.

So for thunderstorms and solar storms alike, GOES-N will be an even sharper eye in the sky.

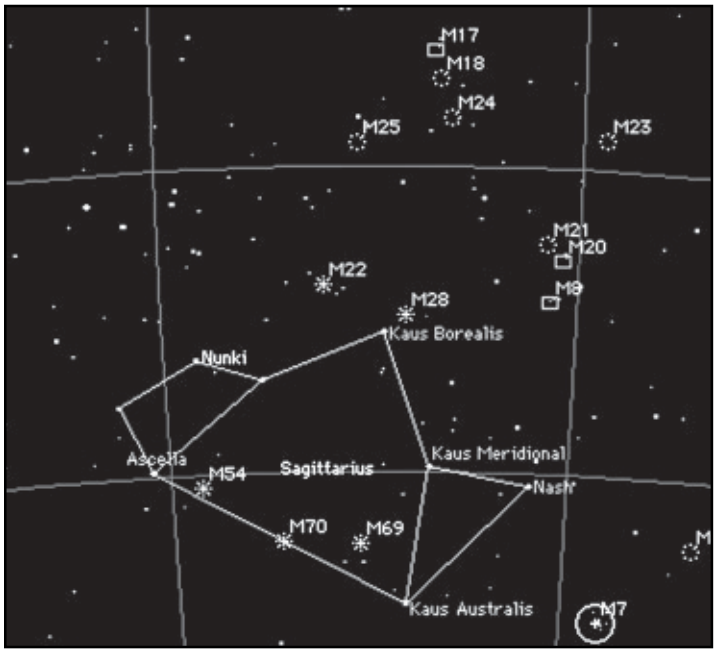
Find out more about GOES-N at goespoes.gsfc.nasa.gov/goes . Also, for young people, the SciJinks Weather Laboratory at *scijinks.nasa.gov* now includes a printable booklet titled "How Do You Make a Weather Satellite?" Just click on Technology.

This article was provided by JPL/NASA

July Star Hop

Fun in Sagittarius, The Archer!

Below are some great targets in Sagittarius, which should be a real treat on the southern horizon this month. All of these targets will be very enjoyable in even a small scope.



M8 Lagoon Nebula 18h 03.8m -30deg02'
Open cluster and Nebula, gorgeous in any size scope.

M20 Trifid Nebula 18h 02.3m -23deg02'
Even in a small scope you should be able to see some dust lanes, three to be exact.

M24 Star Cloud 18h 16.5m -18deg50'
This is huge, spend some time!

M17 Swan Nebula 18h 20.8m -16deg11'
An absolutely awesome nebula, showing a mottled texture and shape of a swan.

M22 Great Sagittarius Globular
Indeed it is great, a sparkling pile of diamonds glowing in the night sky. Only second best to Omega Centauri and Hercules Globular clusters.

Sagittarius, being located in the heart of the Milky Way's plane, has uncountable treats for any size scope, the bigger the scope, the more you'll find. Spend some time wandering this area with binoculars if you have a pair, both before and after you complete the starhop.

All of these combined are a rich evening of observing. Take time, maybe even try and draw a sketch, improve your observation skills. Then come back a week or so later and try again, they'll still be there.

Red Junior *from Page 5*

surrounding clouds. "It takes a powerful storm to lift material so high," he adds. Oval BA may have strengthened enough to do the same. Like the Great Red Spot, Red Jr. may be lifting material above the clouds where solar ultraviolet rays turn "chromophores" (color-changing compounds) red. If so, the deepening red is a sign that the storm is intensifying."

Some of Jupiter's white ovals have appeared slightly reddish before, for example in late 1999, but not often and not for long," says Dr. John Rogers, author of the book "Jupiter: The Giant Planet," which recounts telescopic observations of Jupiter for the last 100+ years. "It will indeed be interesting to see if Oval BA becomes permanently red."

See for yourself: Jupiter is easy to find in the evening sky. Step outside after sunset, look south and up. Jupiter outshines everything around it. Small telescopes have no trouble making out Jupiter's cloudbelts and its four largest moons. Telescopes 10 inches or larger with CCD cameras should be able to track Red Jr. with ease. What's next? Will Red Jr. remain red? Will it grow or subside? Stay tuned for updates.

Nasa Ames Research 2006

Silent Auction at Monthly Meetings

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See Page 1 for Details

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Sonoma Skies

July 2006

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Cassini Mission
Events and Discoveries