FIRST LIGHT

Journal of the South Bay Astronomical Society – September 2008
on line at www.geocities.com/sbas_elcamino

Monthly General Meeting: Friday, September 5th, 7:30 PM

Guest Speaker: Ron Rennie, Dr. Steven Morris & Dr. Perry Hacking

The August 1st Solar Eclipse

The August General Meeting

President Ken Rossi called the meeting to order at 7:35 PM, noting that the crowd was rather thin this evening due to the number of members who were away to view the solar eclipse in various parts of the world and others who were attending the Julian Star Fest. Ken also noted that we had a new host of the observatory this evening, Jeff Kincaid, a lab assistant, who was filling in for the traveling Dr. Hacking. President Rossi provided a brief report from John Evans, Joe Fierstein and Ron Rennie who had checked out the Chadwick School as a site for a club observatory. Disappointingly, the school, although enthusiastic about the idea, has little room and very little available parking. Debbrah Kito-Bridges introduced herself as a new attendee and also joined the club during the meeting.

Members of Scout Troop 394 and Family
Visit SBAS At Ranhco Del Mar School 7 / 26 /08
Scouts Seek Astronomy Merit Badge

A brief discussion was held of recent observing sessions. President Rossi noted that the viewing at the alternate site at the Rancho Del Mar High School was cut short due to fog; although Greg Benecke pointed out that it arrived there much later than at the Ridgecrest site. Elliot Silverstein and Steve Pedersen told of observing the solar eclipse via live webcast from China. Ken Munson recapped an odd but entertaining encounter with a family from Slovenia out at Joshua Tree National Park.

After a brief social break, President Rossi introduced the speaker for the evening, Lt. Col. John Varljen (pronounced Var-lyen), whose family name, by coincidence happens to come from the country next to Slovenia (Croatia)! Lt. Col. Varljen was here to give us a talk on "Satellite Applications in Military Space". He began with a brief overview of the nation's military-related spacecraft and gave the audience a reassurance that those assets are safe. Although no spacecraft can be completely 'hardened' against attack, the ability to mount an attack against space-based assets is so cost-prohibitive that the few countries who are even close to having this ability are all our friends.

Lt. Col. Varljen provided a history of military spacecraft. The earliest military spacecraft were for reconnaissance,

launched in 1962, which took film pictures that were then dropped out of orbit and picked up by aircraft while riding a parachute down. As the advantages of an eye-in-the sky became more and more obvious, the satellites have grown bigger and more complex. Instead of film canisters, new satellites use all digital technology and beam down pictures in near real-time. Military weather satellites provide global coverage from both geostationary orbit (GEO) and low-earth-orbit (LEO) and can give detailed information about the atmosphere all the way down to ground level. Military communications satellites now provide instantaneous links from intelligence gathering stations to field commanders anywhere in the world. Global Positioning Satellites (GPS) provide the means for anyone, anywhere to fix their exact position on the globe.

An interesting sidebar to his talk was his experiences while working at the Pentagon. There, Lt. Col. Varljen saw first-hand the complexities of military acquisition. He echoed the warning of President Eisenhower who said to 'beware of the military-industrial complex'. It was very eye-opening to hear how conflicting requirements from the different branches of the service and even other branches of the government can drive the cost of what started out as a simple mission into sky-high costs.

Lt. Col. Varljen ended his talk with a story taken from the invasion of Iraq which demonstrated how powerful the use of space-based military assets can be. In order to prevent another mess like the destruction of the oil fields of Kuwait, it was necessary to insert covertly teams of Special Forces troops to secure the oil fields before they could be sabotaged. To do this, the mission planners accessed data from the weather satellites to assess what the weather was likely to be on the night of the attack. Reconnaissance data from, both visual and electronic, from both space and aerial drones provided information on how many and where the Iraqi forces were. There was only one question that they forgot to ask: what was the condition of the ground? The day before the attack, it had rained. Had anybody bothered to ask, the satellite data would have shown them that the ground was still muddy from the recent rains. The result was that the ground troops, after being inserted, had a long, slow slog across muddy desert to reach their targets which put them dangerously behind schedule. Their displeasure with the planners was noted upon their safe return!

The small but very appreciative group had lots of questions which Lt. Col. Varljen answered as fully as he was able. President Rossi finally had to call a halt to the discussion and presented Lt. Col. Varljen with a plaque and a small honorarium for his presentation. The meeting ended at 9:50.

- Ken Munson

A Google for Satellites: Sensor Web 2.0

If you could see every satellite passing overhead each day, it would look like a chaotic meteor shower in slow motion.

Hundreds of satellites now swarm over the Earth in a spherical shell of high technology. Many of these satellites gaze at the planet's surface, gathering torrents of scientific data using a dizzying array of advanced sensors — an extraordinary record of our dynamic planet.

To help people tap into this resource, NASA researchers such as Daniel Mandl are developing a "Google for satellites," a web portal that would make requesting data from Earth-observing satellites almost as easy as typing a search into Google.

"You just click on it and it takes care of all the details for you across many sensors," Mandl explains.

Currently, most satellites are each controlled separately from the others, each one dauntingly complex to use. But starting with NASA's Earth Observing-1 (EO-1) satellite, part of the agency's New Millennium Program, Mandl and his team are building a prototype that stitches these satellites together into a seamless, easy-to-use network called "Sensor Web 2.0."

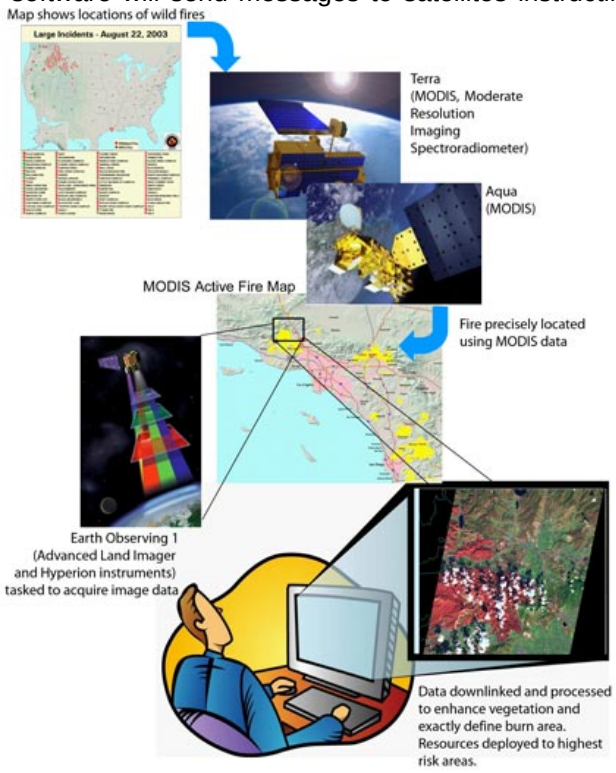
The vision is to simply enter a location anywhere on Earth into the website's search field along with the desired information types — wildfire maps, vegetation types, floodwater salinity, oil spill extent — and software written by the team goes to work.

"Not only will it find the best sensor, but with proper access rights, you could actually trigger a satellite to take an

image in the area of interest," Mandl says. Within hours, the software will send messages to satellites instructing them to gather the needed data, and then download and crunch that raw data to produce easy-to-read maps.

For example, during the recent crisis in Myanmar (Burma) caused by Cyclone Nargis, an experimental gathering of data was triggered through Sensor Web 2.0 using a variety of NASA satellites including EO-1. "One thing we might wish to map is the salinity of flood waters in order to help rescue workers plan their relief efforts," Mandl says. If the floodwater in an area was salty, aid workers would need to bring in bottled water, but if flood water was fresh, water purifiers would suffice. An early and correct decision could save lives.

Thus far, Mandl and his team have expanded Sensor Web 2.0 beyond EO-1 to include three other satellites and an unmanned aircraft. He hopes to double the number of satellites in the network every 18 months, eventually weaving the jumble of satellites circling overhead into a web of sensors with unprecedented power to observe and understand our ever-changing planet.



To learn more about the EO-1 sensor web initiatives, go to http://eo1.gsfc.nasa.gov/new/extended/sensorWeb/sensorWeb.html. Kids (and grown-ups) can get an idea of the resolution of EO-1's Hyperion Imager and how it can distinguish among species of trees—from space at http://spaceplace.nasa.gov/en/kids/eo1_1.shtml .

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

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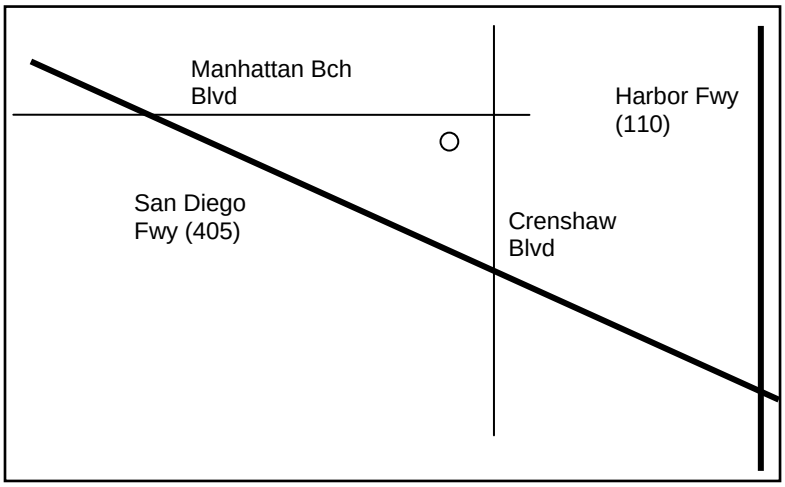
Monthly General Meetings

We normally meet on the first Friday of each month at 7:30 p.m. in the Planetarium at El Camino College (16007 Crenshaw Bl. In Torrance). If the first Friday is on or close to a holiday, we usually defer the meeting until the second Friday of the month. The Planetarium is on the south side of Manhattan Beach Blvd., one block west of Crenshaw Blvd. (near the center of the map at left).

The planetarium is the only round, domed building on campus. There is on-street parking, and we can often use campus parking: check inside to see if you need a FREE parking permit for your car.

We enjoy the planetarium facilities through the courtesy of the El Camino College Administration, and have several faculty members of the Astronomy Department as members of our Club. Our meetings always include an informal opening, when new attendees are invited to introduce themselves and let us know about their interests in astronomy. Members share their latest news and observations at this time. The rest of the evening is devoted to guest speakers, who range from amateur astronomers to professional astronomers to representatives from local aerospace companies to college professors. We are fortunate to have all these talented people in our area, willing to come and talk to us.



Monthly Planning Meeting

Committee members (and anyone else with an interest in Society activities) meet each month, usually on the Monday following the general meeting. Meetings are sometimes rescheduled due to travel and other circumstances. Exact date and time of each month's meeting will be announced in the schedule of events in FIRST LIGHT each month, and should also be verified with a committee member. The September 8th planning meeting will be held at the home of Ron and Jenn Rennie. The address is: 25911 Saddle View Road, Lomita. From the intersection of Crenshaw Blvd. and PCH take PCH South towards Long Beach. At the second traffic light Turn Right onto Pennsylvania Avenue, turn first right (Esther View Road) and follow down one block. Turn left on Saddle View Road to second house on right - No 25911.

Membership Dues Schedule

Month Join/Due	Member (Family) USMail	Member (Family) Email	Student	Expires
January	$38.50	$33.00	$22.90	12/2008
February	$35.00	$30.00	$20.85	12/2008
March	$31.50	$27.00	$18.75	12/2008
April	$28.00	$24.00	$16.70	12/2008
May	$24.50	$21.00	$14.60	12/2008
June	$21.00	$18.00	$12.50	12/2008
July	$17.50	$15.00	$10.45	12/2008
August	$14.00	$12.00	$8.40	12/2008
September	$10.50	$9.00	$6.25	12/2008
October	$49.00	$42.00	$29.20	12/2009
November	$45.50	$39.00	$27.10	12/2009
December	$42.00	$36.00	$25.00	12/2009

To simplify the dues, we suggest that all membership expire in December. Dues are $42.00/year for FirstLight via US Mail, or $36.00 via Email notification ($25.00/year for students) and expire on December 31, of the current year. New members use Month Join, and current members select your expiring Month to calculate the amount. Members that expire in October or November may wish to write one check and include next years membership. Make checks payable to the South Bay Astronomical Society. Dues may be paid at the general meeting or mailed to:

South Bay Astronomical Society

Attn: Arnie Stodolsky

P.O. Box 1937

Redondo Beach, CA 90278

SBAS Yahoo Group

Join our own YAHOO group for up-to-the-minute club news; see astro photos taken by members and be part of the growing online community of the South Bay Astronomical Society. A YAHOO userid is needed (free) then click on GROUPS and search for SBASTRO. Use the JOIN function and you will get notification from the Group's administrator that your application has been accepted. This group is limited to SBAS members. You can specify to have emails sent to your normal email address when you signup. The Executive Board is working to use this vehicle more and more this coming year to deliver information to our members. 25% of our membership has joined. Don't be left out. If you need assistance or have any questions, contact any Board member.

NexStar 8 Available to SBAS Members

All members in good standing (with at least six months of continuous membership) can borrow the club's Nexstar8 for up to 7 days. The fee of $5 for a weekend, or $10 for an entire week, is nonrefundable and will be added to the club's Accessories Fund "Wish List" for future purchases. A fully refundable deposit of $200 cash or check is required. Loss or damage is the responsibility of the borrower. A copy of the complete South Bay Astronomical Society Nexstar 8 Borrowing Rules and Agreement is available upon request. The **Accessories Fund "Wish List"** – Member contributions of any amount or donations will be appreciated, as will any suggestions for new purchases!

SBAS Membership Benefits

Contact Arnie Stodolsky for magazine subscriptions at club rates: "Sky & Telescope" $32.95 and "Astronomy" $34.00/1 year or $60.00/2 years!

Note: S&T subscribers at the club rate renew their subscriptions by mailing their renewal notice and check or calling the 800# on the renewal notice.

Only new subscribers or subscribers converting their subscription to the club rate need to contact Arnie or send a check to the PO Box. Astronomy subscriptions and renewals still go through Arnie or via the PO Box.

New Members

We welcome new club members Debbrah Kito-Bridges and Scott Robb.

Observing Reports

Inyokern Road – I made the trek out to the Inyokern Road site on Saturday the 2nd of August as it appeared to be the best dark sky site. Upon leaving Hwy 14 for the Inyokern Road, I found my way blocked by a large SUV towing an even larger trailer. It turned out to be a couple of guys looking for a campsite and a place to do off-roading. I told them what I knew of the area and they allowed me to get around them so they could try to turn around and head back to the Dove Springs area.

Although the sky was very clear and the weather warm, there was a stiff breeze all evening and the seeing

onditions were not very good at all. Only in the early evening was it half-ways decent where I was able to catch a glimpse of the Great Red Spot on Jupiter before things got worse. I did some visual observing, running through the usual Messier Objects, some of my favorite, obscure NGS objects and even went through the list from Sky and Telescope.

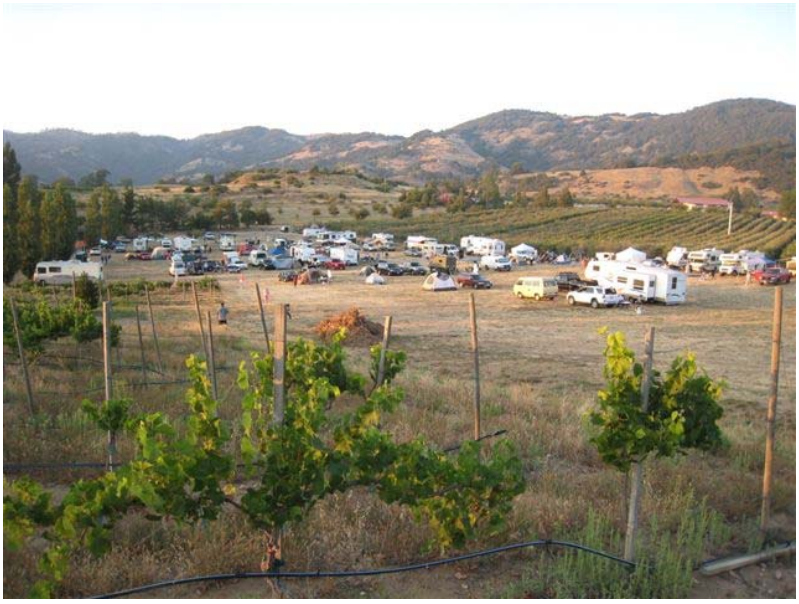
About 11 PM the breeze seemed to finally settle down and I decided to try some photography. About that time, the two guys I'd met earlier came by on their ORVs. They were curious as to what could be seen and I would have been happy to show them if I hadn't just spent so much time getting a polar alignment, and setting up for a photo run. Still, I was able to show them some spectacular sights in the binoculars and pointed out some of the constellations. They turned out to be a couple of really nice guys who were genuinely interested and we had a very nice conversation. As we talked we noticed a number of bright meteors flashing across the sky and I told them about the Perseid Meteor Shower which was due in another couple of weeks.

By the time they left, the breeze came back up and my photography attempts were all ruined so I went back to visual observing. Although the seeing conditions for using the 11-inch scope were not very good, the stars still looked pretty good in the 2 inch refractor. During a brief snack break, I noticed that the meteor activity seemed to be unusually intense and just sat back to watch. They seemed to be predominantly Perseids but the brightest ones usually came from south-to-north. Some of those were intensely bright. They were coming in at a rate I estimated to be 10-15 per hour until about 1:15 AM when there appeared to be a sudden mini-storm of Perseids. Suddenly, meteors seemed to be flashing across the sky east-to-west at a very high rate. I started counting and lost count after about 200 meteors by 1:30. By 1:45 the storm seemed to have passed and it dropped back to the 5-15 per hour that I'd been seeing earlier. About the height of the storm I remembered to do something I'd long wanted to do. I turned on my car radio and switched to the AM band. Fortunately, it came up between stations and I had a good amount of noise. As I sat there watching the mini-storm, not only did I see meteors but I also 'heard' them as they flash into incandescence and sparked a brief surge in the radio noise.

In spite of the weather conditions, it turned out to be a good night anyway.

- ***Ken Munson***

Julian Starfest - The inaugural Julian Starfest was held August 1 – 3 at the Menghini Winery. SBAS members Tom Bash, Shawn Belveal (and family), Craig Gates, Freddy Limas (and family) and I were treated to dark skies at 4300' elevation. The group organizers did a great job providing excellent facilities including coffee and donuts all day; BBQ lunch and dinner by the local Lions Club; and a beer and wine garden. Many major vendors and retail stores were present donating about $7000 of prizes for the Saturday night raffle. In addition to daily presentations an optional cost trip to the Mt Palomar Observatory was offered each day. I'd estimate that there were close to 100 scopes out on Saturday night. Due to a feature story in a San Diego newspaper there was a large turnout by the public on Saturday night. Fortunately, they congregated at the scopes in the vendor area and we were left alone to concentrate on observing.



Julian StarFest photo by Shawn Belveal

Treated to dark, steady skies with scattered clouds that didn't really impact my observing, I was able to accomplish my goal of observing all the Messier objects in Scorpius and Sagittarius constellations.

As the temperature allowed it, I was able to sleep outside under the Milky Way which was an added bonus to a very enjoyable weekend.

- Arnie Stodolsky

Schedule of Coming Events

30 August Saturday Night	**Out-of-Town Dark Sky Observing Session** Contact Greg Benecke to coordinate a location.
5 September Friday Night 7:30 PM	**Monthly General Meeting** Guest Speaker: SBAS's intrepid eclipse chases Ron Rennie, Dr. Steven Morris, and Dr. Perry Hacking report on the total solar eclipse of August 1st,2008.
8 September Monday Night 7:30 PM	**Monthly Planning Meeting** See directions on Page 4.
18 September Thursday 7:00 PM	**JPL's Von Karman Lectures: The Great Southern California Shakeout** Dr. Lucy Jones, A great earthquake is an inevitable part of California's future, and Californians are not ready for it. One of the most likely great earthquakes that could hit southern California is one on the southern San Andreas fault. That fault is so long that magnitude 7.8 earthquakes are common. Location: Von Karman Auditorium at JPL 3800 Oak Grove Dr. Pasadena
27 September Saturday Evening	**Out-of-Town Dark Sky Observing Session** Contact Greg Benecke to coordinate a location.
3 October Friday Evening 7:30 PM	**Monthly General Meeting** Guest Speaker: Prof. Mark Moldwin, UCLA Topic: Space Weather
6 October Monday Evening 7:30 PM	**Monthly Planning Meeting** See directions on Page 4.

South Bay Astronomical Society

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General Meeting at El Camino College Planetarium:
Friday, September 1st, at 7:30 P.M.

Ron Rennie, Dr. Steven Morris, & Dr. Perry Hacking

Reports on the Total Solar Eclipse

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South Bay Astronomical Society
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