

The Anchor



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Kudos!

Gretchen Imahori and CCOM/JHC alum **Shep Smith** were among the recipients of the 2005 Department of Commerce Bronze Medal for forging an historic, long-term partnership with Mexico to increase the safe marine transportation of goods and services; including energy shipments, in shared boundary waters. The Bronze Medals were presented at the Andrew Mellon Auditorium in Washington, DC, on Friday, March 17th. Congratulations!

Briana Sullivan is employee of the month!

On April 21st, CCOM staff surprised **Briana Sullivan** with a party in the CCOM cafeteria. Briana will be taking the summer off after the birth of her baby in late May.



Ben Smith in the Caribbean, aboard the Mother of Perl

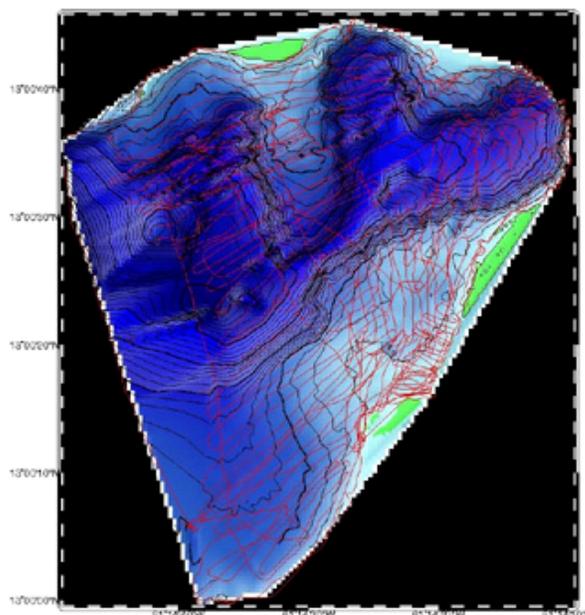
The image below is a bathymetric plot of Admiralty Bay in Bequia. The black contour lines are at 1-meter depth intervals. The red line is the path of the survey boat. The image was generated using Ben's Perl scripts and GMT (General Mapping Tools by Paul Wessel, University of Hawaii, and **Walter Smith** of NOAA).



Briana, Shachak Pe'eri and Fan Gu

Welcome Back!

Ben Smith is back at CCOM after his winter of sailing and bathymetric surveying in the Caribbean. This last winter he sailed to the Tobago Cays, but spent most of his time in Bequia, the northern-most of the Grenadine Islands, where he collected bathymetric data using his dinghy and a self-made, low cost bathymetric surveying system. He has been processing the data using GMT and Perl, the computer programming language that is the namesake of his boat, a 45-foot steel ketch, Mother of Perl.





Ben Smith's boat, *Mother of Perl*, off the coast of Virgin Gorda

Chase Engineering Lab/CCOM Addition

On April 5th **Larry Mayer, Andy Armstrong, Brian Calder and Nathan Paquin** met with several members of the campus Facilities Design and Construction team to discuss expanding the Chase Engineering building, to accommodate our growing department. Also in attendance were representatives from Oak Point Associates, who have been hired to do the feasibility study. An initial review of building code and other restrictions has deemed that a new addition can have no more than 12,000 square feet (for reference our current building is 8,000 sq. feet) and can be no more than two stories high (24,000 sq. feet total). Budget constraints will, most likely, result in a much smaller building or one that we share with other occupants. As a first step in the design process, CCOM senior staff will meet in late April to discuss potential use for the new space (e.g. offices, open lab space, graduate student space, etc.) and possible ways to integrate and modify our existing space. Several options are being considered for the location of the addition, including the wooded area behind CCOM.

Conferences and Workshops

From March 27th through the 30th, **Larry Mayer** was in Salt Lake City, Utah at the ORION (Ocean Research Interactive Observatory Network) Design and Implementation workshop. The workshop presented the conceptual design of the global, regional and coastal ocean research observatory network, to be implemented under the ORION program, to the ocean research community. Larry chairs the Cyberinfrastructure Committee for ORION.

Cyberinfrastructure has been defined as the coordinated aggregate of software, hardware, and other technologies, as well as human expertise required to support current and future discoveries in science and engineering.

Luciano Fonseca recently returned from Ireland, where

he presented “Remote Estimation of Surficial Sediment Acoustic Properties through the application of AVO Analysis to Multibeam Sonar Data” at the Seabed Habitat Mapping technical workshop, held at the University of Ulster on March 30th and 31st. The purpose of the workshop, which was part of the MESH (Mapping European Seabed Habitats) project, was to assess the utility of multibeam backscatter data for habitat discrimination. Researchers were invited to bring examples of their own approaches/techniques for open discussion, and to critically evaluate techniques and approaches for processing and interpreting MBES backscatter data in order to improve understanding, identify future areas of research, and provide recommendations of how MBES backscatter data is used for mapping seabed habitats.

CCOM Hosts Jack Dunnigan

On April 6th, CCOM/JHC had the honor of hosting Jack Dunnigan, NOAA's Assistant Administrator for Oceans and Coastal Services, as part of his two-day visit to UNH. Mr. Dunnigan is responsible for the overall execution of activities in NOAA's National Ocean Service (NOS). NOS is one of the nation's premier institutions in marine navigation, operational oceanography and geopositioning, and marine and coastal management and science. **Larry Mayer, Andy Armstrong and John Kelley** spoke with Mr. Dunnigan as part of the *Innovative Environmental Technologies for Coastal and Ocean Needs* portion of his visit. The program also included Dr. Amy Merten, Environmental Scientist, NOAA, Dr. Nancy Kinner, Co-Director, Coastal Response Research Center, Dr. Richard Langan, Co-Director, Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET), and Dr. Dwight Trueblood, NOAA, Co-Director, CICEET. During his visit, Mr. Dunnigan also attended university presentations on *Integrated Ocean Observing and Regional Atmospheric Sciences, Regional Ecosystem and Fisheries* and *The UNH Earth Systems Observatory—A System of Systems*.

CCOM Welcomes Japanese Visitors

Mr. Shigeru Kasuga, Director of the Hydrographic Surveys Division of the Japan Hydrographic and Oceanographic Department (JHOD), and Mr. Yasutaka Katagiri, (both colleagues of **Taisei Morishita** and **Tsuyoshi Yoshida**), visited CCOM/JHC in early April. Mr. Katagiri will be back at the center in August as one of next year's GEBCO students. **Larry Mayer** traveled to Japan in March as a lecturer at the JHOD International Workshop on Continental Shelf Surveys.

The following is an account of Roland Arsenault's two-week Northwest Fisheries Science Center Advance Technology Cruise last October.

I spent the last two weeks of October, 2005 cruising down the west coast from Seattle, Washington to Port Hueneme, California. I was aboard the Thomas G. Thompson, a research vessel operated by the University of Washington. Elizabeth Clarke of the NOAA Fisheries Service, led the Northwest Fisheries Science Center Advance Technology Cruise with the goal of exploring new technologies to help study and assess ground fish stocks off the Pacific coast.

The star of the show was Woods Hole Oceanographic Institution's SeaBED autonomous underwater vehicle (AUV). Hanumant Singh and his team designed SeaBED as a versatile underwater platform capable of many scientific tasks, such as taking high-quality photographs of the seafloor and collecting multibeam data.

Traditionally, ground fish sampling and monitoring is done using bottom trawls and other fishing techniques. In contrast, SeaBED gently hovers from two to three meters above the bottom, taking a series of pictures from which scientists can estimate the population of various bottom-dwelling creatures. SeaBED allows harsh terrain that can't be trawled to be surveyed, and does so in a non-invasive manner.



An image of bottom-dwelling creatures, taken by SeaBED

My role in this project is to develop mission planning, monitoring, and review tools for SeaBED. GeoZui4D is being used as the framework for this project. GeoZui4D's ability to interactively display various types of georeferenced data in 3D allows for a more intuitive approach to planning AUV missions. Time, the fourth dimension in GeoZui4D, allows a planned

mission to be simulated. A small sample of data available in real time while the AUV is running the mission, allows the monitoring of the AUV using GeoZui4D along with other available data such as the ship's position. Finally, the full dataset collected by the AUV can also be played back in GeoZui4D once the AUV has been recovered.

In addition to the data collected by SeaBED, multibeam data and imagery were collected by Oregon State University's Chris Goldfinger and his team. Conductivity, temperature and density readings in the water column were also being measured, as well as currents, with an acoustic Doppler current profiler. A video plankton counter was also being tested. When we got sick of being up to our ears in data, a quick game of ping pong provided a nice break.

The fish weren't too concerned with our presence over the fishing grounds of Daisy Bank and Coquille Bank, but some local fisherman weren't very happy. The local newspaper ran a story about our intrusive research vessel. One fisherman was quoted as saying "The Thompson was tacking east-west, sometimes going faster than 10 knots, sometimes slower, and making unpredictable movements.....I just thought it was pretty rude of them to be there in the middle of us. Did they have to be there at that time?"

Once we were done playing chicken with the local salmon fleet, we kept on heading south to St. Lucia Bank for some more ground fish surveys. For a bit of variety, our last site was less than a mile from Santa Barbara. Methane seeps in that area provide great testing sites for AUV missions that can adapt their plans based on changes in chemical concentrations sensed along their paths. This might lead to AUV's capable of "sniffing" out new hydrothermal vents or other interesting underwater processes.

Finally, we arrived on shore at Port Hueneme, about an hour north of Los Angeles, late one afternoon. The problem was that when I booked my airline ticket, the plan was for us to arrive in San Diego that day! Who could ever guess that an adjustment in a ship's schedule could wreak havoc on travel plans? A rental car and a grad student/navigator who needed a ride to Orange County got me to San Diego in time for an early flight the next morning. As we sped through the LA freeways, my grad student/tour guide also did a great job pointing out the major Hollywood landmarks such as the Hollywood sign, Rodeo Drive, Melrose Place, and of course the Church of Scientology! The only thing slowing us down was having to decide what to order from In-n-Out Burger's vast menu selection.....

*Roland
Arsenault, in
Seattle,,
aboard the
Thomas G.
Thompson*



Time and Effort Reporting

At CCOM/JHC, we are required to complete a Time and Effort certification report once per academic year, and once for the summer semester (if applicable). The PI may sign yours for you, or you may be asked to sign the report. **Abby Archila** and **Linda Prescott** attended a NOAA Grants Management Workshop with **Andy Armstrong** in Silver Spring, MD in March, where the importance of accurate effort certification was one of the many topics covered. Grantees are required to maintain a system of distributing salary charges to federal grants that result in a reasonable allocation of salary charges to each grant. When you sign your Time and Effort report, you are certifying that the distribution of activity represents a reasonable estimate of the work you performed. For example, you may be certifying that you worked 30% of your time on one grant, and 70% of your time on another grant. These reports are kept by the UNH Office of Sponsored Research and may be examined in the event of a future audit. Inaccurate effort reporting has been a major issue in research-related False Claims Act settlements over the last several years. Before you sign your Time and Effort certification report, make sure that the percentages given are an accurate reflection of your work during the previous reporting period. Please let Abby Archila know if there have been significant (more than 5%) changes in work activity, so that a distribution change notice can be completed.

UNH Calendar

The UNH calendar provides an up-to-date listing of campus holidays and events going on each day. Go to <http://calendar.unh.edu>

May 8th is the last day of classes and final exams begin on May 11th. On Monday, May 29th the University will be closed for the Memorial Day holiday.

Did You Know?

UNH defines **fabricated equipment** as self-constructed equipment having a useful life of more than one year and a total cost of \$5,000 or more upon completion. Fabricated equipment can not be purchased off the shelf. It does not include upgrades to existing equipment and refers only to the construction of a new piece of equipment. We need to notify the Property Control department that an item is being fabricated, maintain supporting documentation of all purchases associated with the piece of equipment, and let them know when it's completed. Before a fabricated equipment project begins, Property Control will assign a PTAG number (formerly called FATX number). When you are making a purchase for an item that will be used as part of a fabricated equipment project you need to include the project name on the pre-purchase form. A separate file is kept on all purchases made for that piece of equipment. Current CCOM fabricated equipment projects are:

- Public Kiosk
- Transponder
- Sonar Tow Body
- Transducers
- Marine Radar System
- Custom Circuit Boards
- Underwater Positioning System

Staff Professional Grant Program

The Professional Development Grant Program provides the opportunity for staff to attain new skills or knowledge to enhance the staff member's performance or eligibility for promotion, in a manner that will be of specific benefit to the department, college or University System. Such opportunities might include:

- Conferences, workshops and seminars.
- Academic courses not offered at UNH
- Travel and accommodations for off campus courses, workshops, etc.
- Special projects, including but not limited to research and publication.

EE, OS and PAT staff are eligible to apply for the grant. The maximum award is \$750.00. Reimbursements will not be made to departmental budgets; only to individuals. The grant is awarded four times per year; the deadline for the next award is June 1st. For more information and an application, go to www.unh.edu/hr/pod/pdfs/Staff-Prof-Dev-Grant.pdf