



# UNOLS NEWS

Volume 25, No. 1

Spring 2008

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**Executive Secretary**  
Michael Prince

## A Message from the UNOLS Chair...

Mike Prince, Vern Asper, and I returned from a meeting of the Consortium for Oceanographic Leadership where we participated in a discussion with other oceanographic leaders on future directions in research, infrastructure, education, and advocacy. In the discussion on oceanographic infrastructure, which I ended up leading, we included all oceanographic assets (ships, satellites, observatories, etc.) regardless of who was responsible for the operation, and considered the following questions:

- What types of infrastructure should be run by a Principal Investigator? An Institution? A Consortium? A Federal Agency? What are the criteria that distinguish these cases?
- What influence can Ocean Leadership have on facilities/infrastructure that it doesn't operate, and how does it get that influence?
- How do we deal with the very different time scales for planning and fund raising for infrastructure versus science, when science needs to drive infrastructure, not the other way around?
- How do we plan, build, and maintain infrastructure and infrastructure programs that are flexible and nimble ("constantly reinventing themselves") so that they continue to serve the community's science needs, as it is generally easier to evolve an existing facility than to sunset one and start another?
- How does the community set priorities among infrastructure needs?

Certainly these questions are very relevant to UNOLS as we plan for ships and other facilities that will still be operating 30 years from now! But the discussion certainly raised my consciousness on the last point: how important it would be for UNOLS to establish some best practices on how to set priorities that could be expanded and adopted by Ocean Leadership. History has shown that communities with well-ordered priorities tied to clearly articulated and united goals will fare much better than squabbling communities that bicker amongst themselves.

The current situation is that UNOLS committees with purview over new ships, deep submergence facilities, aircraft, icebreakers, marine technical support, etc., provide recommendations directly to agencies and operating institutions. While these recommendations are often, but not always vetted and approved by the UNOLS Council, there is no attempt to comment, in a limited resource environment, whether any of

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the requests are considered higher priority than any others. Recent examples of recommendations from UNOLS committees with significant cost implications range from a request to NSF for an additional \$10M for the replacement of the human-occupied submersible, to smaller requests for a new multibeam system for an icebreaker and seismic system spares. Of course, every time a new ship enters the UNOLS fleet it has cost implications as well.

If UNOLS as an organization cannot prioritize among the facilities under its oversight, it is hard to imagine that the oceanography community will be able to do better at any larger level. I believe it is time for the UNOLS Council to adopt a policy that all significant recommendations

from UNOLS standing and ad-hoc committees be reviewed, approved and endorsed by the UNOLS Council before being transmitted to the Federal Agencies and facility operating institutions. “Significant” would mean any recommendation or endorsement that would involve major direct expenditure of funds or would have a major impact on the level of effort by facility operators that would result in added costs or compromise other efforts.

Furthermore, UNOLS through the UNOLS Council should recommend relative priorities for major infrastructure investments and facility operating budgets. In order to do this, Council will need to be much better educated on the science driving the facilities needs across all aspects of

oceanography and on all of the matters before the various committees, and it will be the responsibility of those committees to make compelling cases based on the science needs, not on emotion. Council and committee members will have to learn about each others’ fields of interests and where the real frontiers are that are driving the facilities upgrades. If we were to make these changes, we would be significantly “raising the bar” for service on UNOLS Council and Committees. The expectations for service to the community would be elevated, but I believe that our community would benefit from more widely knowledgeable ocean leaders.

Marcia McNutt  
UNOLS Chair

### MEETING ANNOUNCEMENT

## The 2008 UNOLS Annual Meeting

October 2-3, 2008

The National Science Foundation  
Stafford II - Room 555

4201 Wilson Boulevard, Arlington, VA 22230

*\*Keynote Speaker\**

Dr. Robert B. Gagosian, President and CEO  
Consortium for Ocean Leadership

*The meeting schedule is as follows:*

**Day 1 - Thursday, October 2nd - 1PM to 5PM**

*An evening reception will follow immediately afterward*

**Day 2 - Friday, October 3rd - 8:30AM to early afternoon**

## The UNOLS Office will Transfer in May 2009

The Cooperative Agreement to host the UNOLS Office by Moss Landing Marine Laboratories will expire on April 30, 2009. A solicitation for a new host was announced in early 2008 and in response three proposals were received. They were received from the University of Miami - RSMAS, from Columbia University – LDEO, and from the University of Rhode Island - GSO.

The proposals will be evaluated by a committee including Dr. Robert Knox, Scripps Institution of Oceanography (Chair); Dr. Vernon Asper, University of Southern Mississippi; and Dr. Clare Reimers, Oregon State University. The Evaluation Committee will recommend their top-ranked proposal in early September. The recommendation from the Evaluation Committee will be reviewed and endorsed by the UNOLS Council and then by the UNOLS membership by October 1st. Following this evaluation and endorsement process, the single top-ranked proposal, together with the UNOLS endorsement, will be submitted to NSF and ONR by the selected institution.



## R/V *Marcus G. Langseth* Begins Service as a UNOLS Vessel

By W. Steven Holbrook, *MLSOC Chair*

### Introduction

UNOLS' newest research vessel, the R/V *Marcus G. Langseth*, is now operational and has successfully completed its first two cruises.

The *Langseth* (Figure 1) is a former industry seismic vessel that was refit for use as an oceanographic research vessel. The vessel is owned by the National Science Foundation (NSF) and operated by Columbia University's Lamont-Doherty Earth Observatory (LDEO) as a national facility. Oversight responsibility for the facility rests with the Marcus Langseth Science Oversight Committee (MLSOC), a UNOLS standing committee.

After a lengthy refit process, the *Langseth* passed its Coast Guard and NSF inspections last autumn and conducted shakedown activities from November through January. From February to April, 2008, the *Langseth* began science operations with linked cruises off the Atlantic and Pacific coasts of Costa Rica and Nicaragua. Here I report on the capabilities, performance, and challenges of the newest addition to our fleet in light of the first two cruises.



Figure 1: The R/V *Marcus G. Langseth* (Photo: Columbia University)

### The Costa Rica survey

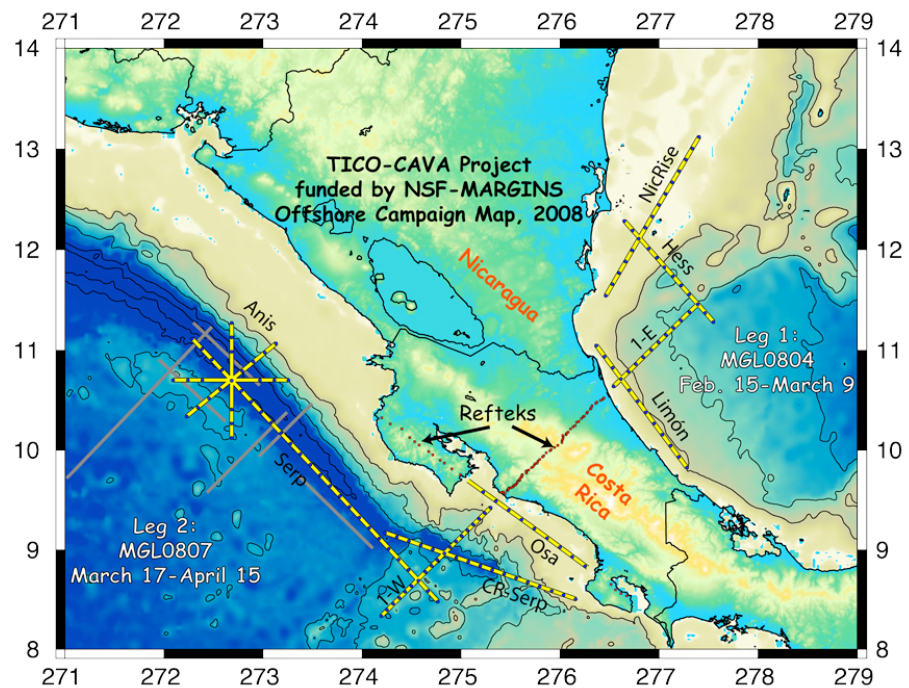
The *Langseth's* first two cruises, MGL0804 and MGL0807, comprised the backbone of "Transects to Investigate the Composition and Origin of the Central American Volcanic Arc" (TICO-CAVA), a lithospheric-scale seismic study of the volcanic arc in Costa Rica, funded by the NSF-MARGINS program. Co-chief scientists for these two cruises were W. Steven Holbrook (University of Wyoming), Daniel Lizarralde (Woods Hole Oceanographic Institute), and Harm van Avendonk (University of Texas). The scientific objectives of the project are to (1) constrain the composition and flux of the primary magma that formed the Costa Rican volcanic arc; (2) investigate the lateral heterogeneity in crustal structure along the arc; (3) test and constrain recent results indicating that lithospheric faults produce serpentinitized upper mantle in the Cocos plate that, in turn, influences the "slab signature" of the Central American arc lavas; (4) assess the degree to which low upper-mantle velocities are due to anisotropy rather than serpentinitization; and (5) determine the crustal structure of the provinces that comprise the upper plate of the arc in Costa Rica and Nicaragua with transects in the Caribbean back-arc.

The main focus of the seismic work was a 500-km-long transect crossing the entire subduction zone, from the downgoing Cocos Plate, across the volcanic arc, and into the Caribbean backarc (Figure 2). This transect was designed to allow the acquisition of onshore-offshore seismic data, recorded on an array of 80 portable IRIS/PASSCAL seismometers, with the goal of providing bottoming points within the arc. In addition, the *Langseth's* shots were recorded by ocean-bottom seismometers (deployed by the *Langseth* on the Atlantic leg, and by the R/V *New Horizon* on the Pacific leg), as well as by an 8-km-long, 2D streamer towed by the *Langseth*. The marine field work was preceded in 2005 by a major onshore explosion refraction survey, which acquired explosion data on two transects, the main arc-crossing line and a second along-arc line that covered the entire active volcanic arc in Costa Rica.





Figure 2: Map of *Langseth* cruise tracks acquired during the TICO-CAVA survey. Yellow lines are major offshore transects; blue dots are ocean-bottom seismometer locations; red squares onshore are locations of portable IRIS/PASSCAL seismometers that recorded onshore-offshore data. Data was successfully acquired on all transects shown, as well as on numerous reflection-only lines not shown here.



Operationally, these two cruises were completely successful. The Atlantic cruise (MGL0804) sailed to and from Puerto Limón, Costa Rica, and acquired seismic data on four transects (1-E, Limón, Hess, and NicRise), as well as a grid of seismic reflection lines across the Hess Escarpment. Following a one-week transit of the Panama Canal, the Pacific cruise (MGL0807) sailed to and from Puntarenas, Costa Rica. During this leg, we completed the main onshore-offshore transect (1-W) and acquired data on several lines (Serp, CR-Serp, and Anis) designed to quantify the distribution of partially serpentinized mantle in the downgoing Cocos Plate.

### Capabilities and Data Examples

The *Langseth* offers the scientific community a fundamentally new capability -- 3D seismic profiling -- which will first be used in a summer 2008 cruise to the East Pacific Rise to be led by John Mutter and Suzanne Carbotte of LDEO. However, the *Langseth* will continue to conduct a large number of 2D seismic studies, which will benefit from substantially improved 2D seismic capabilities, described below.

**Long-Streamer Capability.** The *Langseth* is able to tow a significantly longer 2D streamer than its predecessor, the R/V *Ewing*. On MGL0804/0807, the *Langseth* achieved a UNOLS first by towing an 8-km-long, 636-channel streamer, constructed by combining two kilometers of one streamer with the full six km of a second streamer. This streamer enabled recording of reflections and refractions that would otherwise not have been observed. The example in Figure 3 shows data on a single shot gather that includes, at the longest offsets, refractions and post-critical reflections that will provide substantially enhanced velocity models and reflection images.

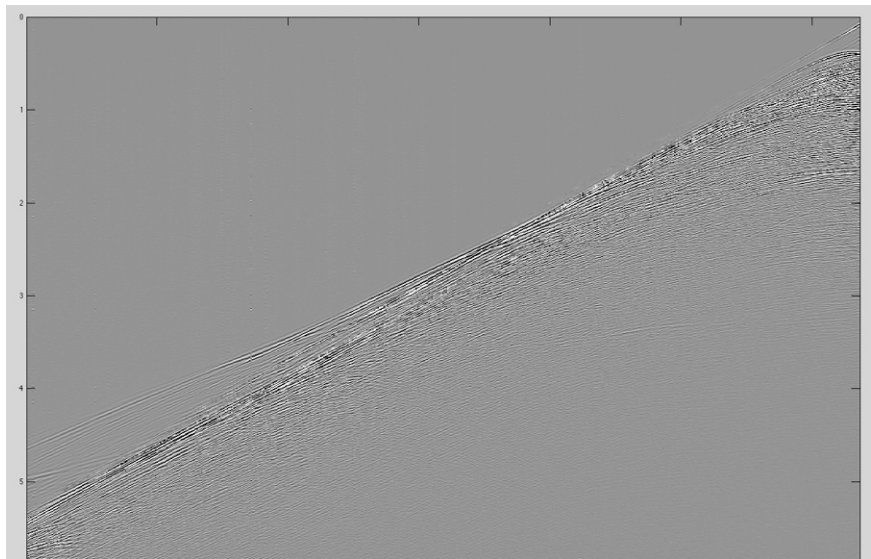


Figure 3: 8-km-long shot gather from cruise MGL0804. Offsets increase from right to left. Vertical axis is two-way travel-time in seconds.



**Airgun array with High-Resolution Capability.** The *Langseth* boasts a four-string, 40-gun linear airgun array, which produces a clean, broadband source signature. This airgun array produces useful energy at frequencies generally considered "high" by reflection seismologists -- out to at least 800 Hz. Recording these frequencies requires setting the Syntrak recording system to its most dense sample rate, 0.5 ms, which provides a Nyquist frequency of 1000 Hz. We tested this on MGL0804 on a line crossing the Hess Escarpment and were surprised by the quality of the high-resolution data. Figure 4 shows a standard stack and a high-resolution stack created from the very same data. By filtering to pass only the highest frequencies, a high-resolution image is created that shows much more detail of fault structure. Somewhat surprisingly, frequencies as high as 600 Hz are returned from several hundred meters beneath the seafloor. These results show that the *Langseth* has hitherto unappreciated capabilities to acquire high-resolution seismic data, with the simple flip of a switch to decrease the sample interval. (Note that decreasing the sample interval to 0.5 ms comes at a price -- data throughput on the streamer limits the user to 240 active streamer channels [3 km] -- but for some high-resolution targets this will be a price well worth paying.)

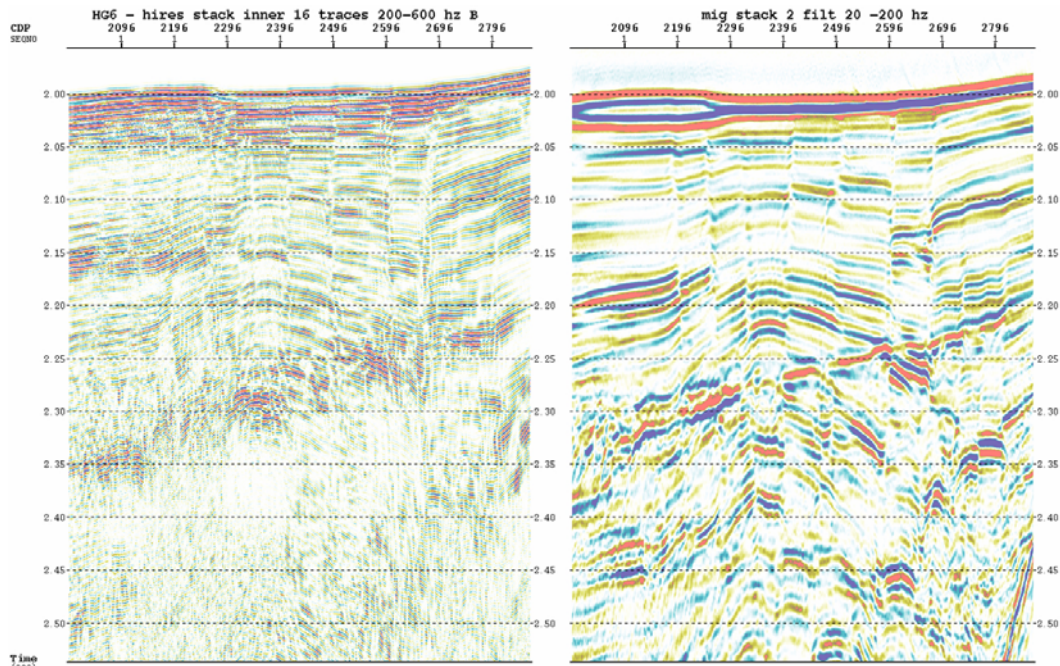
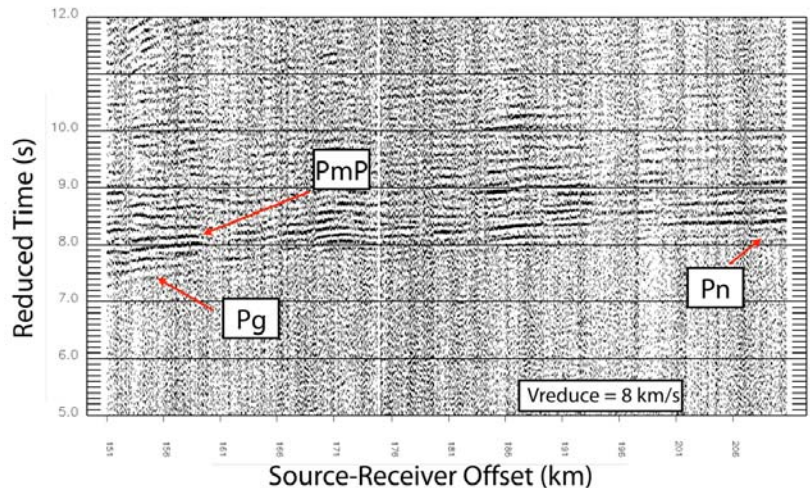


Figure 4: High-resolution data acquired on MGL0804. Both panels are created from the same stacked data, but filtered to pass different frequency bands. Right panel shows a typical 20-200 Hz passband. A clear bottom-simulating reflection (BSR) crosses strata, centered at 2.25 s. Left panel shows 200-600 Hz pass-band, creating a high-resolution image. Notice increased resolution of strata and faults. At these frequencies the BSR appears as enhanced stratal reflections.

**Wide-angle data.** The maiden voyages of the *Langseth* also showed the efficacy of the *Langseth's* airgun array at long offsets, on both ocean-bottom seismometers (OBS) and onshore-offshore data. Figures 5 and 6 present two examples of high-quality wide-angle data that show that interpretable data out to 210 km offset.

Figure 5: Onshore-offshore seismic data acquired during MGL0804. Useful data were acquired out to 210 km offset, including a Moho reflection (PmP), a crustal refraction (Pg), and a refraction through the upper mantle (Pn).





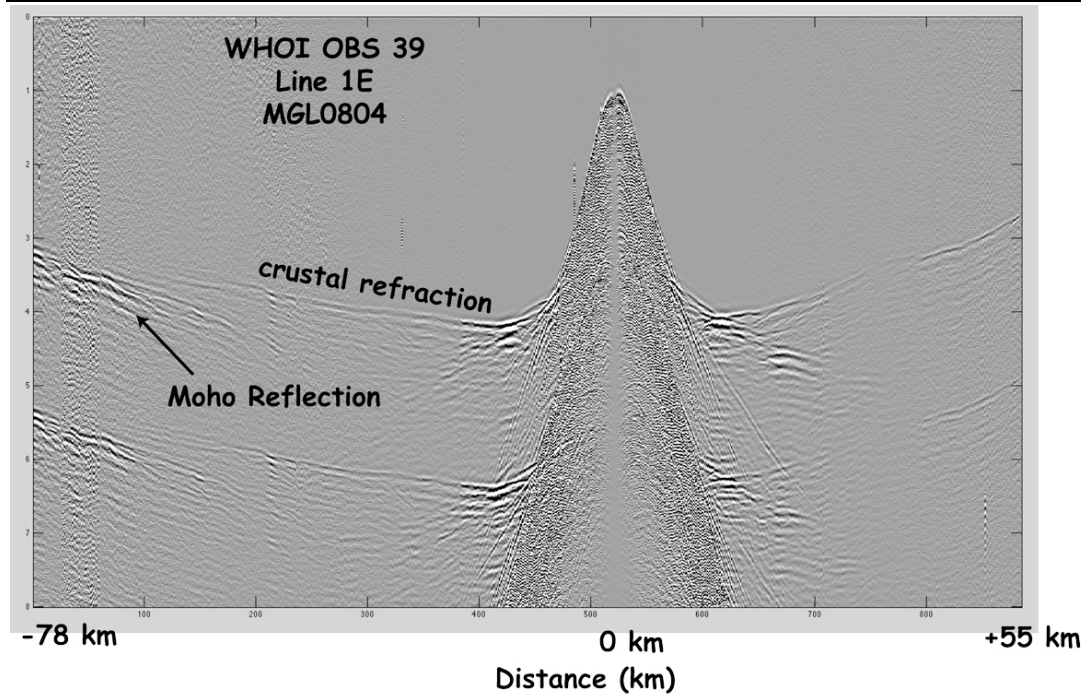


Figure 6: Ocean-bottom seismometer data acquired during MGL0804. Data quality is high and shows clear crustal refractions and a Moho reflection.

**Water-column imaging.** A secondary goal of MGL0804/0807, co-funded by NSF-PO, was to pursue a relatively new application of reflection seismology, namely "seismic oceanography," or the imaging of oceanic thermohaline fine-structure. We deployed several hundred expendable bathythermographs (XBT's) that measured ocean temperature, for comparison to our reflection data. The *Langseth's* airgun array proved to be an excellent source for imaging oceanic fine-structure, as shown in Figure 7. The reflections come from slight jumps in ocean temperature, in many cases as small as 0.03 °C.

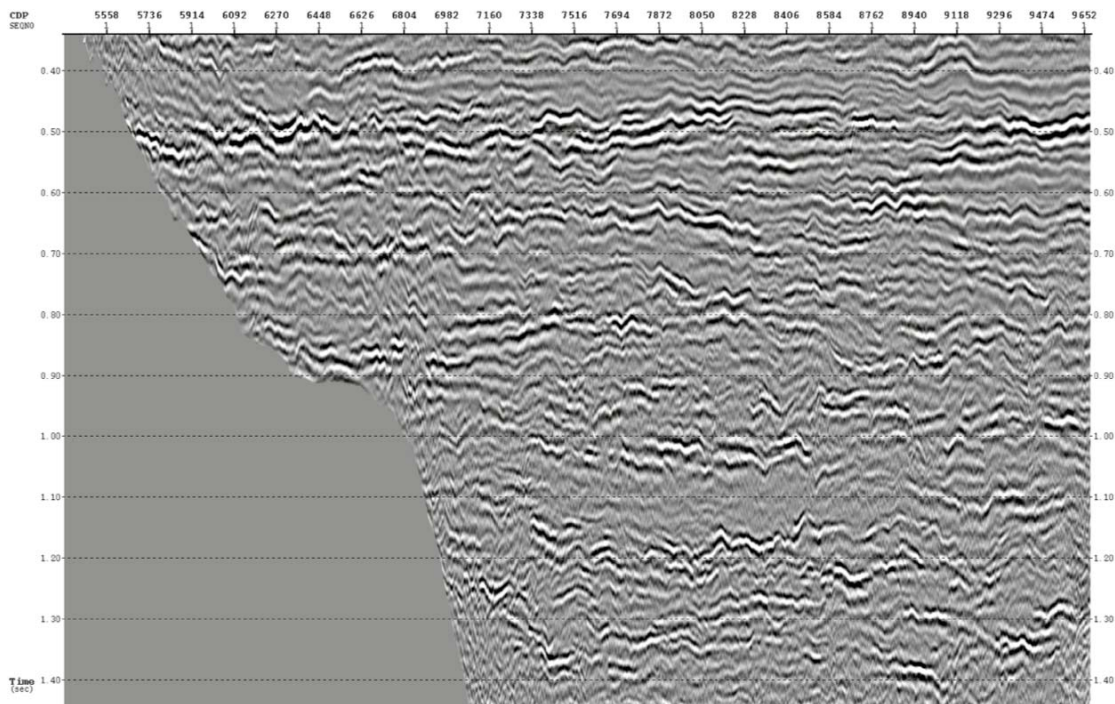


Figure 7: Image of oceanic finestructure from MGL0807, showing reflections from small temperature contrasts near the Pacific continental slope of Costa Rica. Image is approximately 25 km across by 900 m deep. Undulations of reflections represent internal-wave displacements.



## Toward the Future

As the examples above show, the *Langseth* is off to a good start, with the best (hopefully) yet to come. Nevertheless, as might be expected from the maiden scientific voyages of a "new" vessel, there are still some issues to be worked out. Some of these issues are specific to the *Langseth* and are the focus of ongoing improvement efforts; these include habitability, the condition of cross-decked equipment (e.g. winches) and the development of standardized data flows.

In addition, the *Langseth* is subject to the same external pressures as the rest of the UNOLS fleet to keep a fully funded schedule, especially given the relatively high day-rate of this specialized vessel. The high price of oil produces a double-whammy for the *Langseth*: not only does it increase fuel costs (as it does for every UNOLS vessel), but it also brings stiff competition from a well-financed industry for technical staff with the specialized skills to acquire seismic data at sea. This issue must be solved if the *Langseth* is to become a robust facility with a stable core of technical staff.

Given these pressures, LDEO and NSF will need to come up with creative ways to fill the *Langseth's* schedule. International collaborations and other non-NSF sources of funding may become a critical piece of the puzzle. A small-scale example of this occurred on MGL0807: two days of ship time were paid for by German sources to support acquisition of site-survey seismic data at proposed IODP drill sites over two seafloor mounds that happened to be near the TICO-CAVA transects. MLSOC, NSF, and LDEO should encourage and facilitate similar opportunities in the future, to help make the *Langseth* an international asset, not just a national facility.

*Steve Holbrook is Chair of the UNOLS Standing Committee, Marcus Langseth Science Oversight Committee. Figures 2 – 7 were provided by Steve Holbrook.*

## WHOI's New Long Coring System is Ready for Service

After almost a decade of planning, design, and development, the UNOLS Fleet now has a long coring capability. A new coring system has been developed by Woods Hole Oceanographic Institution (WHOI) that can extract cores up to 45-meter (150-foot) in length from the seafloor. The corer weighs more than 25,000 pounds when assembled and is nearly twice as long and five times as heavy as existing coring systems in the academic fleet.

Corers are used to obtain long stratified plugs of the seabed. Analysis of these sediments allows scientists a look back in history to reveal the past conditions of the world's oceans and climates. Longer cores, allow scientists to look further back in history.

Developing the long core system was met with many challenges. Historically, coring systems have encountered problems recovering undisturbed sediment samples because the large mass of the equipment stretched the cables that were needed

to lower it to the seafloor. When the elongated cable recoiled elastically, the internal piston of the corer would in turn be jerked upward and distort the stratified layers of the sediment sample. A custom-made synthetic rope, with a breaking strength of 180 tons was designed for the WHOI long-coring system. A high ratio of rope strength to weight of system was the goal to minimize elastic rebound during core release and penetration. On-shore laboratory tests showed that the new rope will stretch less than 10 feet with a 25,000-pound load hanging in 15,000 feet of water.

R/V *Knorr*, one of UNOLS' largest ships, required special modifications in order to safely accommodate the handling of the long corer system's length and weight. The Naval architectural firm Glosten Associates, Inc. was hired to engineer the modifications that would be required to allow *Knorr* to successfully recover 50 m cores. Based on models of *Knorr's* stability, projected long core pullouts would be

unsafe if rigged on the starboard side, but analysis showed that even the most extreme pullouts could be handled with a minimum factor of safety of 6 to 1 when deployed from a reinforced area on the centerline of the stern.

A design was developed for coring on *Knorr* that included starboard side lowering of the core to a vertical position, transfer of the core from the starboard side to the center line of the stern using a transom mounted 'Grapple' system, coupling of the core to the release and winch system using the new A-frame handling system, and finally transferring the system load to the transom and lowering the core to the sea floor from the ship's stern sheave. Animations of the coring sequence can be viewed on WHOI's website at <http://www.whoi.edu/page.do?pid=19101>.

Several major developments were involved with implementing the design: *Knorr's* deck was strengthened to handle the weight of







Figure: Aft view of RV *Knorr* during long coring operations, KNR191, September 2007. (photo: Woods Hole Oceanographic Institution)

the winch and the pullout tensions. A new A-frame was added with a boom extension and a transom grapple installed to transfer the piston core from the starboard side to the center line of the stern. A new winch system and a new 7500 m trawl rope were developed. Three new, computer-controlled davits were built for the starboard rail to raise and lower the core from horizontal to vertical positions. A new corer was designed and built which includes a variable-weight core head, teflon-coated core barrels, which taper in wall thickness

from top [heaviest] to bottom all with a 5 inch inside diameter. The system is lined with thread-coupled PVC pipe with a 4.375 inch ID. The corer can be deployed in lengths up to 46 meters.

The sea trials for the new long core system took place aboard R/V *Knorr* on August 28 to September 14 and included ten days of field work on Bermuda Rise and New Jersey margin. During the cruise all system components were tested. At the Bermuda Rise, seven cores measuring in lengths from 26 meters to 38 meters

were recovered. On the New Jersey margin, one core 24 meters long was recovered. The disturbance of the sediments was minimal in these cores, with no evidence of stretching caused by the coring process. Full details of the sea trials are available at <http://www.whoi.edu/page.do?pid=19105>.

The first dedicated science cruise that will utilize WHOI's long core system is scheduled for January 2009 in the North Pacific near Hawaii. Dr. Steven D'Hondt (URI) is the Principal Investigator and his project will study the oceanographic control and global distributions of seafloor microbial life and activity.

The cost of the long corer system construction and ship modifications was more than \$6 million. The National Science Foundation provided most of the funds for development, purchase and installation of the system equipment, with significant financial support also provided by the Cecil and Ida Green Foundation, the Grayce B. Kerr Fund, and WHOI.

For further information about the system capabilities or inquiries about access to the system, please contact Bill Curry <[wcurry@whoi.edu](mailto:wcurry@whoi.edu)> or Jim Broda <[jbroda@whoi.edu](mailto:jbroda@whoi.edu)>.

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Information for this article was obtained from WHOI's website: <http://www.whoi.edu/projects/longcore>.

## UNOLS Goals and Priorities

The continuing goals and priorities for UNOLS are to: 1) Promote broad, coordinated access to oceanographic research facilities, 2) Support continuous improvement of existing facilities, and 3) Plan for and foster support for the oceanographic facilities of the future. The UNOLS Council also adopted additional goals and priorities for 2007/2008. These are to:

- Enlarge the group of supporters for the UNOLS fleet both in terms of capitalization and operations.
- Extend our planning horizon to ensure that we are building a UNOLS fleet that really meets what the infrastructure needs will be for ocean sciences in the coming decades.
- Continuously work to lower barriers to effective use of UNOLS ships caused by disabilities, gender, or other special situations

Details about these goals can be found at <<http://www.unols.org/info/issues.html#goals>>. UNOLS welcomes community input regarding these issues and hopes that the membership will work to help us achieve our goals.





## Transportation Worker Identification Credential (TWIC)

### *What Does TWIC mean for UNOLS?*

Many seagoing scientists and students have heard about the new regulations requiring Transportation Worker Identification Credentials (TWIC) and wonder how these regulations will affect them when using UNOLS research vessels. TWIC was established by Congress through the Maritime Transportation Security Act (MTSA) and is administered by the Transportation Security Administration (TSA) and U.S. Coast Guard. TWICs are tamper-resistant biometric credentials that will be issued to workers who require *unescorted access to secure areas* of ports, vessels, outer continental shelf facilities and all credentialed merchant mariners. Under the MTSA, certain UNOLS vessels and port facilities are required to have approved Vessel Security Plans (VSP) and Facility Security Plans (FSP) that make it necessary to implement TWIC regulations by April 15, 2009.\*\*

Because they would be considered transportation workers under these regulations, seagoing scientists and students who regularly sail on research vessels with a VSP or that will operate from secure facilities are strongly encouraged to obtain a TWIC in order to be allowed unescorted access to secure areas [**Foreign students and researchers should read “Special Notice” below**]. In particular, those sailing as Chief Scientists, Principal Investigators (PI) and party chiefs should obtain a TWIC. Scientists and students that do not have TWIC cards will require escorts by approved personnel with TWIC cards in order to access secure facilities and vessels. The number of people that can be escorted

by any one person is limited to five, therefore leaving this responsibility to vessel crews and technicians would be very disruptive for mobilization, demobilization and science operations at sea and would not be supportable.

UNOLS vessels that have or are in the process of finalizing VSPs and are therefore required to implement TWIC regulations include all of the Global Class and Ocean Class vessels (*Atlantis, Knorr, Roger Revelle, Melville, Thompson, Kilo Moana* and *M. G. Langseth*) and several of the Intermediate Class vessels (*Oceanus, Seward Johnson, New Horizon, and Atlantic Explorer*). Other UNOLS vessels do not currently have a VSP and will not require a TWIC for unescorted access on the vessel but may operate from secure facilities when away from homeport where a TWIC may be required for unescorted access to the vessel. Table 1 (page 10) lists the TWIC requirements by UNOLS facility. (The R/V *Sproul* is home ported at a secure facility.) Scientists should always check with ship operators well in advance of a cruise to determine the details regarding access to the vessel and facilities whether or not the vessel has a VSP.

Within the UNOLS community, Woods Hole Oceanographic Institution (WHOI), Scripps Institution of Oceanography (SIO), Harbor Branch Oceanographic Institution (HBOI) and the University of Hawaii (UH) operate marine facilities that are secure (i.e. they have an approved FSP). In all cases, vessels and facilities have secure and restricted areas where it is necessary to have permission for access. A TWIC card does not automatically guarantee

access, but it is required under the MTSA for unescorted access to secure facilities after April 15, 2009.\*\*

Many UNOLS institutions are or will offer assistance to their scientific personnel in order to facilitate obtaining a TWIC. Check with your marine facilities personnel if available or with the UNOLS Office for assistance. The Transportation Security Administration and the Coast Guard maintain websites to assist applicants for TWIC cards.

1. TSA TWIC Homepage website <http://www.tsa.gov/twic>
2. TSA TWIC Deployment website <http://www.twicinformation.com/twicinfo/index.jsp>
3. USCG Homeport – TWIC page <http://homeport.uscg.mil/twic>
4. List of Enrollment Centers <http://twicinformation.tsa.dhs.gov/twicinfo/schedule.jsp>

To see the UNOLS guide for application of TWIC regulations to the UNOLS community, visit the UNOLS website at: <http://www.unols.org> or email the UNOLS Office if you have questions: [office@unols.org](mailto:office@unols.org)

**\*\*Note:** TWIC implementation will be rolled-out in a phased approach. As a result, in some locations (East Coast) the deadline for implementation is earlier than April 15, 2009. You are encouraged to contact the marine superintendent at the facility in which you will be working for specific information regarding their local TWIC deadline.

**Special Notice:** Until further notice, UNOLS recommends that students and researchers from other countries that are in the U.S. on a Visa with restricted authorization to work such as an F-1 or J-1 Visa **DO NOT** apply for a TWIC. The F-1 and J-1 Visas do not meet the criteria required for TWIC authorization and the TWIC card will be denied. TWIC regulations are not required until April 15, 2009 (in most locations) and when they are in place, foreign students and researchers will still be able to go to sea on UNOLS research vessels, but may require an escort to gain access to the ship at certain secure facilities. Information on eligibility for a TWIC based on your immigration status is available on the TSA/TWIC website's "Frequently asked Questions" <[http://www.tsa.gov/what\\_we\\_do/layers/twic/twic\\_faqs.shtm#immigration](http://www.tsa.gov/what_we_do/layers/twic/twic_faqs.shtm#immigration)>.



TWIC REQUIRED for Unescorted Access		TWIC NOT required for Unescorted Access	
<i>Atlantic Explorer</i>	<i>Atlantis</i>	<i>Blue Heron</i>	<i>Cape Hatteras</i>
<i>Kilo Moana</i>	<i>Knorr</i>	<i>Clifford Barnes</i>	<i>Endeavor</i>
<i>Marcus G. Langseth</i>	<i>Melville</i>	<i>Hugh Sharp</i>	<i>Pelican</i>
<i>New Horizon</i>	<i>Oceanus</i>	<i>Point Sur</i>	<i>R.G. Sproul</i>
<i>Roger Revelle</i>	<i>Seward Johnson</i>	<i>Savannah</i>	<i>Urraca</i>
<i>Thomas Thompson</i>		<i>Walton Smith</i>	<i>Wecoma</i>
HBOI marine facility	SIO marine facility	All other UNOLS institution facilities	
UH marine facility	WHOI marine facility		

Table 1: UNOLS vessels and facilities showing the application of TWIC regulations

## Wood Packing Material Regulations and their Impact on Science Gear

Seagoing scientists who are preparing for cruises that require shipment of gear back into the U.S., should be familiar with the regulations for wood packing material.

In September 2005, U.S. Customs and Border Protection (CBP) began enforcement of the United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) import regulation for wood packaging material (WPM). The rule requires WPM, such as *pallets, crates, boxes, and dunnage* used to

support or brace cargo, to be treated and marked. In cases of noncompliance, the WPM will be subject to immediate export along with the accompanying cargo. Science gear and equipment is considered cargo.

CBP is charged with the mission of preventing terrorists and terrorist weapons from entering the United States, while also facilitating the flow of legitimate trade and travel. Facilitating trade includes administering the laws and regulations designed to prevent the introduction of pests and agroterrorism

that could prove extremely damaging to the U.S. economy.

The approved treatments for wood packaging material are 1) heat treatment to a minimum wood core temperature of 56°C for a minimum of 30 minutes, or 2) fumigation with methyl bromide. To certify treatment, the WPM must be marked with the International Plant Protection Convention (IPPC) logo. Paper certificates of treatment will no longer be required or accepted.

## Science and Education Opportunities Aboard UNOLS Vessels

If you are a Chief Scientist for an upcoming cruise, and if you have space (empty berths) on your cruise, we encourage you to consider offering these berths to individuals seeking science or education opportunities aboard research vessels.

A UNOLS web page for announcing science and educational opportunities aboard UNOLS vessels has been developed: [http://www.unols.org/info/cruise\\_opportunities.html](http://www.unols.org/info/cruise_opportunities.html). Each year, a portion of the scheduled UNOLS cruises have science parties that don't require all of the ship's berths. The goal of the new web site is to let the community know which cruises have space and can offer science and education opportunities. Opportunities are based on the willingness of the Chief Scientist to

have extra personnel participate in the cruise.

Chief Scientists can also use the new webpage to recruit "watchstanders" to assist in their research cruise. Watchstanders serve as members of the science party and are expected to participate in the daily routine as required by the scientific schedule. The general criteria for watchstanders are:

- sea-worthiness (some experience at sea or seasickness awareness);
- good health and evidence of medical insurance;
- scientific interest or background;
- ability to follow detailed instructions carefully;
- Ability to work safely on an oceanographic cruise.
- Must possess a valid passport.

The new webpage also allows individuals seeking opportunities aboard UNOLS vessels to submit an on-line form with information about their availability and areas of interest. The UNOLS Office will maintain a list of individuals who are seeking cruise opportunities and will provide it to Chief Scientists/PIs upon request.

To date, many individuals (mostly students) have come forward and are looking for opportunities on ships. However, we are still waiting for Chief Scientists to post opportunities. Your help is needed. If you are a Chief Scientist and have a future cruise with berthing available, we hope that you will consider offering the space for outreach or educational purposes.





## UNOLS Committee News

### Research Vessel Technical Enhancement Committee (RVTEC) News

By Bill Martin, RVTEC Chair

The RVTEC is actively reviewing the safe working load standard proposed from the Safety Committee. Transportation Worker Identification Credential (TWIC), Global Class science specifications, and load handling equipment are all topics of interest with our group. Our members communicate throughout the year utilizing the group email address maintained by the UNOLS Office. This email traffic allows us to find equipment, request advice and assistance, and keep up with the latest tools, hardware, and

software that can help us integrate our ships to support the science projects coming aboard.

The RVTEC 2008 meeting is scheduled for October 28-30 at Florida State University located in Tallahassee, Florida.

2008 is also the bi-annual year that the International Marine Technician (INMARTECH) Symposium meets. INMARTECH is scheduled for October 8-10 at Ifremer in Toulon, France.

### Fleet Improvement Committee News

By Dave Hebert, FIC Chair

Over the last year, the Fleet Improvement Committee (FIC) has focused its efforts on producing an updated UNOLS Fleet Improvement Plan (FIP). The Federal Interagency Working Group on Facilities (IWG-F) had its 'Fleet Status Report' published in December 2007. The IWG-F report, which covers all of the federal research and survey vessels over 40 m, provides information on the status and current renewal activities for the academic fleet. FIC hopes to have its FIP completed this fall.

At the February 2008 Council meeting, FIC's draft FIP findings and recommendations were presented. Some of the major recommendations are discussed below. One of the difficulties facing FIC in its many discussions of the FIP was separating the short-term mismatch of fleet funding, demand and capacity from the longer-term needs of the replacement of the aging research fleet.

The FIP will recommend that the Fleet renewal activities that are currently underway (Alaska Region Research Vessel (ARRV) and three Regional Class ships) and planned (two Ocean Class ships) as described in the IWG-F status report be implemented.

To continue to meet current requirements, FIC recommends that UNOLS encourage the timely replacement of the Local Class vessels and Coastal Regional vessels by institutions, state governments and regional partnerships as these ships reach their retirement age. These smaller vessels that are under 40-m are not included in the federal report.

FIC also recommends that if budget projections remain at the current low level, retirement of some of the ships that will soon reach the end of their projected service life should be considered. Ship retirement decisions versus lay-ups should be made based on multi-year projections of ship time demand. However, as retirements are considered, we must also carefully evaluate the delayed timelines for delivering the new ARRV and Regional ships into the fleet. We may find that some ships nearing retirement should have their service life extended to meet science initiatives while we wait for the new ships to come online. Ships extended beyond retirement dates must be maintained at an adequate level to ensure safe and reliable operations. Strategies for retaining experienced technical support groups and crews should be

considered.

In order to understand the limitations, if any, of the IWG-F planned 2017 academic fleet, the UNOLS Office conducted a scheduling exercise. A model was created that attempted to schedule all of the 2006 cruises onto the 2017 fleet. The fleet composition for 2017 was based on FIC and agency renewal plans. One exception was that *Sproul* and *Pelican* were included in the 2017 fleet, which doesn't match the FIC Fleet Improvement Plan (these ships would have been retired by 2017). The model keeps cruises on the same 2006 ship and time frame as much as possible. Cruises in 2006 that were originally scheduled on ships that are "retired" in 2017 were rescheduled on the remaining ships, using the ship time request as a guide when moving dates or ships. Since R/V *Langseth* was not yet in service in 2006, it was not included in the model. Also, since the ARRV was not available in 2006, there were no requests for its use. The 2017 model schedules some of the global ship work on the ARRV.

The projects that went to sea in 2006 on 23 ships, could not be scheduled completely on the planned



2017 fleet of 19 ships. Roughly 195 days of ship time could not be accommodated on the 2017 Fleet. The unscheduled projects were related to those requiring multi-ship operations in the Atlantic and projects located in remote areas that could not be accommodated because of fewer ships available. It also included days requested for the Harbor Branch Oceanographic Institution submersible, because the sub's support ship, *Seward Johnson*, would be retired by 2017.

The initial model results indicated that the 2017 schedules would be inefficient and some work would be stranded. There would be less operational flexibility and more transit days would be needed. Multi-ship programs would be difficult or impossible to carry-out. Accommodating demand during peak seasons would also be very difficult. Although, days were left unscheduled, some vessels had schedules below optimal levels. This presents a daunting challenge as we move forward: how to accommodate all funded programs with fewer ships during peak periods, yet at the same time maintain healthy schedules year round.

To realize the vision of the Ocean Commission, the UNOLS fleet must increase beyond the current projected

levels as described in the IWG-F Status Report. This will not only require increased funding for support of ocean science research and education but also for facility construction, maintenance and operation. New state-of-the-art ships with technically sophisticated equipment will require additional and advanced technical support groups.

Planning and acquisition of new ships generally takes about ten years; therefore, it is important to begin the process now for ships that will be needed in 2017 and beyond. FIC recommends that a minimum of one and preferably two new general-purpose Global Class vessels should be planned for, funded and constructed by 2022. This recommendation is predicated on the planned retirement of all but one of the existing general-purpose Global Class vessels by 2022 and the likely design and scheduling limitation that will be associated with new Ocean Class vessels for performing Global-scale expeditionary science.

In addition to working on the Fleet Improvement Plan, FIC kept abreast of recent enhancements to the academic fleet. The FIC heard presentations on the new long coring capability on the R/V *Knorr* by Bill Curry (WHOI) and the load handling system built by Caley Ocean Systems Ltd for the R/V *Hugh*

*R. Sharp* by Matt Hawkins. FIC plans to conduct debriefs of the chief scientists who use these systems to determine their capabilities, performance, and 'lessons learned' for consideration in future vessel construction.

A subcommittee, led by Terry Whitledge, produced guidelines for accommodating the Americans with Disabilities Act on UNOLS vessels. These guidelines were approved by FIC and the Council in October 2007 <[http://www.unols.org/committees/fic/ADA/ADAGuidelines for UNOLS R Vs Final Feb08.pdf](http://www.unols.org/committees/fic/ADA/ADAGuidelines%20for%20UNOLS%20R%20Vs%20Final%20Feb08.pdf)>.

With the limited response for input on the Science Mission Requirements (SMRs) for Global Class Ships, FIC has decided to propose a document similar to the Regional and Ocean Class SMRs. This report will use the present capabilities of the Global vessels and the input received to date as the draft requirements.

Lastly, Terry Whitledge (UAF) completed his second term on FIC in October 2007. Thanks Terry for a great job and taking the lead on the ADA Guidelines! Dave Checkley (SIO) replaced Terry as the biological oceanographer on FIC.

#### MEETING ANNOUNCEMENT

### UNOLS Marcus Langseth Science Oversight Committee (MLSOC)

**First Annual Community Meeting ~ San Francisco, CA ~ Sunday, December 14, 2008**

The Marcus Langseth Science Oversight Committee (MLSOC) invites you to attend their first winter community meeting on Sunday, December 14, 2008. The meeting will be held in San Francisco, CA and will take place the day before the 2008 Fall AGU meeting.

The MLSOC meeting will be of interest to all science users and future users of the oceanographic seismic ship, R/V *Marcus G. Langseth*. The agenda will include presentations by the National Oceanographic Seismic Facility operator (LDEO), funding agency representatives, as well as Principal Investigators who worked aboard the vessel in 2008. Facility operation summaries and schedules will be presented. MLSOC activities, future plans, and issues will be reported.

Additional details about the meeting agenda and room location, along with a registration form will be posted on the UNOLS website at <<http://www.unols.org/meetings/2008/index.html>> when available.





## Deep Submergence Science Committee News

As this Newsletter is being distributed, the Deep Submergence Science Committee (DESSC) is holding their spring meeting on June 10-11 at Woods Hole Oceanographic Institution. The DESSC agenda is very full and begins with a joint session with the Replacement Human Occupied Vehicle (RHOV) Oversight Committee (RHOC). WHOI will provide the two committees with the status of the RHOV acquisition project. The project is facing cost overruns and DESSC with the RHOC will discuss options for moving forward.

Following the joint session, the DESSC agenda includes reports from agency representatives and UNOLS. The National Facility Operator will provide the National Deep Submergence Facility (NDSF) vehicle operations summary for 2008, an NDSF data management report and the status of pilots and personnel. Planned upgrades to *Alvin* and *Jason* will be reported as well as the results of the *Sentry* AUV sea trials.

An important part of the meeting will be the summary of the NDSF vehicle debrief interviews. This provides the committee with an opportunity to get direct feedback from users of the vehicles to determine what is working well and what needs correction. WHOI personnel will provide recommendations for addressing any problem areas.

Day two of the DESSC meeting includes a session on strategic planning for the future. Discussion topics include:

- What are the federal funding projections for support of deep submergence science?
- What are the new directions in science that are emerging?
- Where are the new users going to be coming from?
- How are we going to schedule the vehicles?
- What are the additional technologies we are going to need?

## Ship Scheduling News

*By Stan Winslow, Ship Scheduling Committee Chair*

In the summer of 2007, the 2008 ship schedules picture did not look good. The initial review of the schedules in July showed the Global/Ocean averaged 216 ship days; the *Langseth*, 277 ship days; East Coast Intermediate/Regional, 112 ship days; West Coast Intermediate/Regional, 131 ship days; Gulf Coast Intermediate/Regional, 227 ship days; Locals, 40 ship days. Total ship days slipped from 4126 in 2007 to a projection of 3125 in 2008. All the funding agencies reported that funding was tight. ONR decided that no Navy ships would be laid up in 2008 and Global/Ocean schedulers were told to develop 220 ship day schedules. All schedulers were told to seek out additional sources of funding for research cruises.

In September 2007, the ship scheduling committee met at NSF. The 2008 ship scheduling picture had improved. The funding agencies had obtained additional funding and some outside sources for research funding had been found. Normally this is the final

meeting in the schedule cycle and the funding agencies approve the ship schedules for posting; however, that was not the case in 2007. The schedules still had too many unknowns, primarily whether or not the funding agencies had the funds to support the schedules due to the increased day rates.

In October, November, and December, the schedules continued to solidify to the extent that by the end of December, with the exception of the Global/Ocean ships, the schedules were approved and posted. One final meeting was held in San Diego in January 2008 to finalize the 2008 Global/Ocean schedules. The meeting was successful and all 2008 schedules were approved. Overall, the approved 2008 schedules were a quantum improvement over what we started with in July 2007.

The majority of ships had good to excellent 2008 schedules with only a few with weak schedules. The bad news is that ship day rates are climbing faster than the government budgets that fund them. The ship operations costs in 2007

were \$72M (4063 ship days) compared to \$89M (4337 ship days) in 2008 with the average day rate increasing from \$17,744 in 2007 to \$ 20,144 in 2008. These numbers are skewed by the R/V *Langseth* coming on line in 2008; however, even considering this, the increases are alarming.

We are starting the 2009 schedule preparation in the same hole we started the 2008 schedules in – not enough ship days, not enough ship operations funds, and the outlook for improvement appears dim considering the federal budgets. All schedulers are to have 2009 Letters of Intent (LOIs) posted no later than 30 June 2008 (LOIs have replaced the old rough schedules). Phone conferences will be held in late July with the funding agencies and schedulers to start the process towards completed schedules. Additional phone conferences will be held in September as needed. All schedulers will meet at NSF in October, hopefully to finalize the schedules.



## Research Vessel Operators' Committee News

### *Highlights of the 2008 RVOC Meeting*

by Pete Zerr, RVOC Chair

Old Dominion University hosted the 2008 Research Vessel Operators' Committee (RVOC) meeting from April 22-24 in Norfolk, Virginia. The meeting was attended by over 55 people from member institutions, representatives from the funding agencies, Department of State, Raytheon Polar Services Co, several manufacturers from the winch and wire handling industry, and others.

The Safety Committee, a sub-committee of RVOC, met on Monday the 21<sup>st</sup> to review and discuss the next revision to the Research Vessel Safety Standards (RVSS). This committee has been diligently working on the revisions for over a year now. A few significant changes include reorganizing the format for each chapter according to the regulations for vessels according to size, service, class, etc. Also, there will be a new chapter on Personal Behavior and Individual Safety. The Explosives chapter has been removed, although much of the content has been incorporated into other chapters. There will also be several new appendices, including one on rope and cable safe working load standards. Our goal is to have the new standards finalized and accepted by the end of this year.

The topics presented at RVOC included reviews and updates of recent shipboard scientific support equipment proposals and purchases. Reports were provided by UNOLS committee chairs, agency representatives from the Department of State, NSF, ONR, IWG-F, NOAA and USCF. Reports from foreign countries included the NATO Undersea Research Centre by Ian Sage and the Natural Environmental Research Council by Robin Plumley.

Updates on research vessels acquisition efforts were provided. Paul Ljunggren (LDEO) provided an update and slide show on the R/V *Marcus Langseth* capabilities and operations. Dan Oliver (UAF) reported on the Alaska Region Research Vessel. Bob Houtman gave an update on the Navy's Ocean Class acquisition effort and Matt Hawkins discussed the Regional Class design effort. Bruce Cornwall from the University of Maryland gave a presentation on the design and construction of their plans for an 81-foot aluminum vessel.

Dennis Nixon, the UNOLS Risk Manager, gave his annual update on insurance and admiralty law and presented us with the Research Vessel Code of Conduct recently drafted by the International Research Ship Operators' Meeting (ISOM). The involvement of the International Safety Management (ISM) Code in new court cases was particularly interesting.

Manufacturers from industry gave presentations on new and innovative technologies for wire handling. These included load moment indicators, wire monitoring systems, and winch controls by 3PS, Inc; auto render and recovery by Markey Machinery; and Rapp Hydema Winches and control systems.

Other interesting presentations included one by Rich Findley (U. Miami) on his Safe Working Load estimator spreadsheet which he created for ease of implementation of the new wire standard system. Rick Trask (WHOI) presented recent wire break test results and gave an update on the purchase and use of electromagnetic non destructive testing equipment. Chris Grech (MBARI) gave a presentation on the recent grounding of one of their vessels in foreign waters. Mike Prince (UNOLS) discussed the latest on the Transportation Worker Identification Credential. Tom Althouse (SIO) gave a presentation on new California environmental laws and regulations. Stewart Lamerdin (MLML) presented crew recruitment and retention issues. He provided information from the recent salary survey and discussed solutions for these ongoing issues.

A highlight of one the evening events was the presentation of a Plimsoll Mark paper holder, with the names of UNOLS ships inscribed on it, to Dolly Dieter for her years of service. She received a standing ovation from the group during the presentation.

The 2009 RVOC meeting will be hosted by the University of Texas, in Port Aransas, the Week of April 13<sup>th</sup>.



Dolly (center) holds the Plimsoll Mark paper holder. She is accompanied by past and present RVOC Chairs and Vice-Chairs. Left to Right: Joe Malbrough (LUMCON), Bruce Cornwall (CMES, U. Maryland), Tim Askew (HBOI), Dolly Dieter, Mike Prince (UNOLS), Paul Ljunggren (LDEO), Steve Rabalais (U. Delaware), and Pete Zerr (OSU). (Photo: Pete Zerr)





## Arctic Icebreaker Coordinating Committee News

By Carin Ashjian (AICC Chair)

The Arctic Icebreaker Coordinating Committee (AICC) met in late November 2007 in Seattle, WA to review US Arctic icebreaker business and the activities of the US Arctic icebreakers.

USCGC *Healy* completed three very successful cruises during the 2007 season, two in the Bering Sea (Bering Ecosystem Study (BEST), April 10-May 12, Ray Sambrotto, Chief Scientist; northern Bering Sea, May 16 – June 18, Jackie Grebmeier and Jim Lovvorn, Chief Scientists), and one over the Chukchi Cap in the Arctic Ocean in support of Extended Continental Shelf Seafloor Mapping (Larry Mayer, Chief Scientist). Following a maintenance period in Seattle over the winter, *Healy* departed in early March to start the 2008 field season with two very successful cruises in support of the BEST Program (Mar. 13-26, Lee Cooper and Jackie Grebmeier, Chief Scientists; Mar. 29 – May 6, Carin Ashjian and Evelyn Lessard, Chief Scientists). *Healy* returned back to Seattle until mid-June when she departs in support of five additional cruises in the Bering Sea and

Arctic Ocean. *Healy*'s work this year is supporting studies in biological and chemical oceanography, ecosystem studies, seafloor mapping, seismic work, hydrography, and marine mammal monitoring. Captain Tedric Lindström was relieved by Captain Fred Sommers as Commanding Officer of *Healy* on June 13th.

USCGC *Polar Sea* recently completed a deployment to the Bering Sea to support crew training, especially in ice breaking. A team studying ice seals from NOAA also participated in part of the cruise to conduct seal surveys by helicopter.

The AICC, together with the USCG, continues to work to foster communication between the icebreaker science community and local Alaskan communities adjacent to the science study areas. To this end, 2008 *Healy* Chief Scientist (and AICC Chair) Carin Ashjian and USCGC *Healy* Captain Ted Lindström attended the Alaska Eskimo Whaling Commissioner's (AEWC) meeting in Anchorage in mid-December to review the 2008 *Healy* cruises and to

discuss the Bering Sea work. In addition, Chief Scientist Lee Cooper visited Savoonga, AK and Chief Scientist Carin Ashjian and LCDR Jeffrey Stewart visited Gambell, AK (both on St. Lawrence Island) during the first two BEST cruises. AICC Chair Carin Ashjian continues to communicate with the AEWC regarding upcoming *Healy* cruises. The AICC also worked with the US Department of State (DOS) to identify a mechanism whereby local Alaskan communities could receive notification of upcoming cruises by foreign research vessels in the US Arctic. As a result, the NSF and DOS agreed that the NSF Office of Polar Programs would facilitate this communication by serving as the contact for the DOS for such information.

The AICC met on June 3-4 in Arlington, VA. The committee welcomes new members Donald Perovich and Erica Key and thanks outgoing members Rolf Gradinger and Peter Minnett.

### Call for Nominations

#### ~ Arctic Icebreaker Coordinating Committee ~

UNOLS is seeking nominations to fill one vacancy on the Arctic Icebreaker Coordinating Committee (AICC) that will become open in August 2008. The AICC provides scientific oversight and advice to NSF's Office of Polar Programs and the USCG icebreakers (*HEALY*, *POLAR SEA*, and *POLAR STAR*). Applicants and nominees with Arctic Chemical Oceanography expertise are encouraged to apply. Icebreaker (on USCG or international vessels) or high latitude experience is required. Applications or nominations, including a brief letter of interest and a CV, should be sent to the UNOLS Office via e-mail to <[office@unols.org](mailto:office@unols.org)> by August 1, 2008. For further information about the AICC, please go to: <<http://www.unols.org/committees/aicc>> or contact Carin Ashjian, Chair at <[cashjian@whoi.edu](mailto:cashjian@whoi.edu)>.

## Council and Committees – Membership Votes and Appointments

In the fall 2007 elections were held to fill two Council positions. Dr. John Morrison was elected as a Non-Operator representative and Nancy Rabalais was elected as a Council Member At-large representative. The membership also voted to accept revisions and re-adopt the UNOLS Charter.

Appointments to Committees include: FIC - David Checkley, SIO; RVOC - Peter Zerr, OSU (RVOC Chair) and Joe Malbrough, LUMCON (RVOC Chair-Elect); AICC - Donald Perovich, CRREL and Erica Key, CETP; and SSC - Stan Winslow, U. Hawaii (SSC Chair) and Liz Caporelli, WHOI (SSC Chair-Elect).



## Council and Committees – Departures

UNOLS thanks those Council and Committee members who completed their terms and service for UNOLS in the past year. The following individuals are recognized: Council - Bruce Corliss (Duke U.) and Eileen Hofmann (ODU); DESSC - Kathleen Scott (USF), FIC - Terry Whitledge (UAK); RVOC Chair - Matt Hawkins (U. Delaware); AICC - Rolf Gradinger (UAF) and Peter Minnett (U. Miami); SSC Co-Chairs - Rose Dufour and Liz Brenner (SIO). The time, service, and contributions provided by these individuals are greatly appreciated. *Thank you for your service to UNOLS!*

## Ship & Facilities in the News

**Regional Class Research Vessels (RCRV)** – The RCRV design process began in April 2006 with a Phase I contract awarded to two design/build teams. Over the course of the past two years, Phase I encountered some unexpected delays. First, a 90-day stop work order was issued in late 2006 to allow time for review and revision of the RCRV specifications. Next, one of the competing shipyards, Nichols Brothers, filed for bankruptcy. The contract for completion of Phase I was extended to 30 April 2008. Nichols Brothers has requested an additional extension in time and is awaiting bankruptcy court approval. NSF is interested in completing Phase I of the RCRV design effort with two designs.

In light of the significant escalation in estimated construction costs for the Regional Class ships, NSF has decided to suspend the Phase II detailed design and construction until funding is available (FY 2010 or later). Industry pressures in shipbuilding along with time delays have led to the estimated cost per Regional ship at \$50-60M when fully/properly outfitted. NSF remains committed to the RCRV acquisition, but will likely be forced to build fewer ships than three.

**Alaska Region Research Vessel (ARRV)** – The University of Alaska Fairbanks (UAF) signed a Cooperative Agreement with NSF on 7 August 2007 for the design and construction of the ARRV. The acquisition process will have four phases and UAF is currently

in Phase I of the task, which is to develop a Project Execution Plan (PEP), establish an Earn Value Management (EVM) system and refresh the design. As part of the design refresh, UAF is updating the contract design that was completed in December 2004. The major changes to the design included lengthening the hull to 242 feet, improved crew berthing, eliminated the trawl fishing gear, eliminated the aloft conning station, greater guidance/emphasis on underway radiated noise, and greater detail on science requirements. Phase I is expected to be complete by the end of 2008.

Phase II will consist of the bid package preparation and shipyard selection. It is expected to take three months. After approval by the National Science Board, funding is expected in FY2010 for contract award in FY2010. During Phase III the ship would be constructed and outfitted. Build time is planned to take 30-months with an eight to nine month post-delivery period for science trials, ice trials, and inspections (Phase IV). The total project is not to exceed \$122,930,218.

An ARRV oversight committee has been formed and held their first meeting in mid September. The oversight committee represents the community and includes a naval architect, polar marine scientists, marine superintendents, marine technical specialists, Alaska native/coastal community, and NOAA fisheries. Margo Edwards is the committee chair. The ARRV project website is:

<http://www.sfos.uaf.edu/arrv>

**R/V Marcus Langseth** – The dedication ceremony for R/V *Marcus G. Langseth* was held on November 12, 2007 in Galveston, TX. At the dedication Dolly Dieter presented Mike Purdy (LDEO) with the NSF ownership certificate signifying the transfer of ownership of the R/V *Marcus G. Langseth* from Columbia University to the National Science Foundation. A full report on the first *Langseth* science cruise appears on page 3 of this newsletter.

**Ocean Class Acquisition Plans** – The Navy is moving forward with their plans to acquire two Ocean Class ships. There are three organizations within Navy that are involved in the OCRV project. The sponsor is the Oceanographer of the Navy, the Chief of Naval Research is the mission sponsor, and PEO-Ships is providing project management support. UNOLS will be included as part of the process.

Notional design development and trade studies are being carried out. A Firm Fixed Price (FFP) contract will be awarded and a two-phase acquisition process is planned. Phase I would be carried out over 18 months and involve the Contract/Preliminary Design. Phase II would follow with Detail Design & Construction. If all proceeds on schedule, the first ship would be delivered in the second quarter of FY2014 and the second ship would come on line in FY2014, fourth quarter. The budget for the OCRVs is \$185M for two ships.



**Replacement Human Occupied Vehicle (RHOV)** – There are two major contracts associated with the RHOV acquisition project. Southwest Research Institute (SwRI) is the prime contractor for the design, fabrication and testing of the personnel sphere; while Lockheed-Martin (Riviera Beach) is the contractor for design, fabrication and testing of the vehicle (including integration with the personnel sphere).

SwRI completed the Detailed Design Review (DDR) for the RHOV personnel sphere in September 2007. ABS accepted the hull design and the forging process began in January 2008.

The contract with Lockheed Martin was executed on June 8, 2007 for preliminary vehicle design and detailed cost estimate. Lockheed-Martin provided the detailed cost proposal on January 25, 2008. The cost estimate

indicates that there would be a significant funding shortfall if the RHOV project progresses and is completed as currently planned. In response, WHOI is evaluating various options for moving forward. The Replacement HOV Oversight Committee and DESSC will meet at WHOI in June to review the options.

## People in the News

### Dolly Retires

It hardly seems real, but Emma “Dolly” Dieter retired from NSF in late March. Over the course of Dolly’s career, she served in all aspects of UNOLS operations.

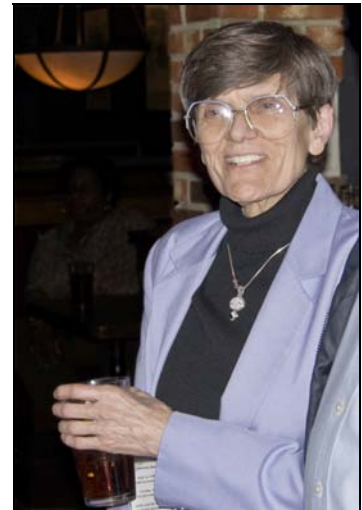
Dolly started her academic life with a double major in biology and chemistry at DePaul University and spent a couple of years as a research associate at MIT, before moving off to Alaska. At the University of Alaska, she began as a research associate in marine biology and then became chief marine technician for the Institute of Marine Science, regularly spending over 200 days at sea annually. Dolly moved on to become the Marine Superintendent for the University’s research vessels, first for the R/V *Acona*, and then for the R/V *Alpha Helix*. She wrapped up her career at the University of Alaska as the

Assistant Director for Marine and Shore Facilities.

Dolly arrived at NSF in June 1989 for a temporary position as Program Director for Ship Operations. Aside from a brief break to acquire a Masters Degree in Marine Policy at the University of Rhode Island, that temporary position turned into a career of close to 20 years at NSF. She oversaw almost every aspect of ship operations including ship scheduling, inspections, scientific equipment, ship and facility acquisitions. Before retiring in March 2008, Dolly served as the acting Section Head of the Integrative Program Section (IPS).

Dolly’s dedicated oversight, support, and management of the UNOLS fleet and facilities will be greatly missed. We wish her well and

many years to enjoy the Alaska wilderness.



Dolly at her Retirement Party  
(Photo by W. Lang)

### Bauke “Bob” Houtman hired as OCE Integrative Programs Section Head

Captain Bauke “Bob” Houtman, USN (ret) has been hired as NSF’s new OCE Integrative Programs Section (IPS) Head, effective July 7, 2008. Bob is a familiar face within UNOLS. For the past two years he has worked at the Office of Naval Research managing their Oceanographic Research Facilities Program. The program included oversight of the Navy-owned Global and Ocean Class research ships, Floating Instrument Platform (FLIP), the Deep Submergence Vehicle *Alvin*, and research aircraft. Prior to Bob’s position at ONR, he was the Chief of Staff and Navy liaison to the Ocean.US national office for planning the development of the U.S. Integrated Ocean Observing System. His career with the Navy spans 29 years including service as a meteorology and oceanography officer.

In his new position as the IPS Section Head, Bob will oversee the UNOLS Office and provide oversight to all large ocean facilities projects including the ARR, RCRV, Ocean Observatories Initiative, and the *Alvin* Replacement. We welcome Bob’s leadership experience, program management and scientific research support!





## Personnel Changes in NSF's Integrated Programs Section

**Alexander “Sandy” Shor** left NSF in the fall 2007 to take a position at the University of Hawaii's School of Ocean and Earth Sciences and Technology as Associate Dean for Research. Sandy's service to the academic fleet while Program Director for the Oceanographic Instrumentation and Technical Service Program at NSF was greatly appreciated. His efforts resulted in improvements to the program that UNOLS will continue to benefit from.

With the departure of Sandy Shor and Dolly Dieter's retirement from

NSF, there have been a variety of personnel changes and additions. **Matt Hawkins**, from the University of Delaware has taken a temporary position with NSF in the Ocean Facilities Section. His primary responsibilities will be to oversee the Alaska Region Research Vessel (ARRV) acquisition effort, the Shipboard Scientific Equipment, and Equipment Pools (wire, winches, vans).

**Jim Holik** has been hired as Sandy's replacement as Program Director for the Oceanographic

Instrumentation and Technical Service Programs. **Brian Midson** will be responsible for the National Deep Submergence Facility. **John Walter** will oversee the Regional Class Research Vessel (RCRV) acquisition effort and the UNOLS Ship Inspections. **Kandace Binkley** will manage the Ship Condition Form.

Although Dolly has retired, she will be retained as a “*Resident Expert*” and will assist with the ARRV, RCRV and *Alvin* Replacement.

### “New” Marine Superintendents

**Steve Rabalais**, formally the Marine Superintendent at LUMCON, will fill in as Matt Hawkins' replacement as Marine Superintendent of R/V *Hugh R. Sharp* at the University of Delaware in the short term.

**Captain Rob Chadwell** has been hired as the Director of Marine Operations at the University of Miami, Rosenstiel School of Marine & Atmospheric Sciences. Rob took his new position in May 2008 and his responsibilities include management of the catamaran research vessel, R/V *F. G. Walton Smith* operations.

### Elizabeth “Beth” White Retires from NOAA

After a career of 29 years with NOAA, Elizabeth “Beth” White retired on December 31, 2007. Beth represented NOAA at UNOLS meetings in 1989 to 1990, and then again from 1996 to until her retirement. She was an active participant in UNOLS scheduling activities, the RVOC, Fleet Improvement Committee, and the UNOLS Council meetings. We could rely on Beth to keep us updated on NOAA's plans for use of the UNOLS Fleet.

Beth's NOAA career also included 22 years as an officer in the NOAA Commissioned Corps where she served on the *Discoverer*, *Malcolm Baldrige*, and the *Ferrel*.

Bill O'Clock is filling Beth's position at NOAA's Office of Marine and Aviation Operations until a permanent replacement is appointed.

We wish Beth well in her retirement.



### Publications

**ADA Guidelines for UNOLS Research Vessels** – In March 2008, the UNOLS Council endorsed the ADA Guidelines for UNOLS Research Vessels. The document is available on-line at:

<[http://www.unols.org/committees/fic/ADA/ADAGuidelines\\_for\\_UNOLS\\_Vessels\\_Final\\_Feb08.pdf](http://www.unols.org/committees/fic/ADA/ADAGuidelines_for_UNOLS_Vessels_Final_Feb08.pdf)>. Over the coming months the recommendations of the guidelines will be incorporated into the Science Mission Requirements for

the various UNOLS vessel classes. Our thanks go out to Terry Whitledge for all of his leadership in drafting these guidelines.



**UNOLS Brochure** – The UNOLS condensed brochure has been printed. It is a one-page, tri-fold document that describes UNOLS, the standing committees, the fleet, and facilities. The brochure explains the challenges ahead. It is printed on recycled paper. Contact the UNOLS Office for copies.

Copies of the **Handbook of Oceanographic Winch, Wire and Cable Technology**, THIRD EDITION are available in stock and can be requested by contacting the UNOLS Office.

The **Federal Oceanographic Fleet Status Report**, December 2007 has been

published and distributed. The Interagency Working Group on Facilities (IWG-F) prepared the report for the Joint Subcommittee on Ocean Science and technology and the Interagency Committee on Ocean Science and Research Management Integration. Additional copies can be requested from the UNOLS Office.

~ *In Memoriam* ~

**Duane Henry Laible**

(Edited from *Seattle Times* Obituary by Daniel Schwartz)

The UNOLS community lost a friend and treasured contributor to the design of oceanographic research vessels: Duane Henry Laible of Glosten and Associates, Inc. Duane Laible passed away on 3 September 2007 after a valiant battle with pancreatic cancer.

Duane graduated from the Webb Institute in Glen Cove, New York in 1962 where he studied Naval Architecture. He began his career in 1971 at The Glosten Associates, a prominent naval architecture and marine engineering consulting firm. Duane was President for 20 years and Chairman from 2000 until his death. He led the firm with passion, integrity and devotion, always focusing on client service and excellence. His love for naval architecture and the Seattle maritime community was boundless. He served on the Board of the Ballard Maritime Academy, participated in the Propeller Club of the United States and was a prominent member of the Society of Naval Architects and Marine Engineers both locally and nationally. In 2003 he was appointed by President Bush to serve on the United States Arctic Research Commission.

The UNOLS Fleet of today benefitted greatly from Duane's design vision.

**Captain Robert Grant Morgan**

Robert Grant Morgan was hired at RSMAS in 1973 and served as the boson aboard the R/V *Gillis*. When the R/V *Columbus Iselin* joined the fleet he became her Second Mate, then First Mate and by 1978 he became its Master. Captain Dan Schwartz served as his second Mate/Navigator in late 1978 sailing from Miami to Madeira then Naples, Italy on the first leg of the *Iselin's* most memorable contributions, the nine month Indian Ocean Expedition of 1979.

Scientists involved included Dr's. Walter Duing (Chief Scientist), Fritz Schott, and a young Otis Brown (current Dean of RSMAS), Robert Evans, Angel Li, Doug Williams and many others. The expedition was a multi-ship venture that also included the R/Vs *Researcher*, *Marion Dufresne* and a Russian ship. The voyage took them into the Red Sea, with port calls in Mombasa, Kenya, the Seychelles Islands, and Djibouti. Unanticipated adventures included a ship seizure by the Egyptian military during passage of the Suez Canal and fending off the attack of a knife-wielding heroin addict.

After the RV/*Cape Florida* was commissioned, Robert Morgan served UM/RSMAS as her Master. Among her most memorable expeditions was a Gulf Stream Experiment organized by Drs. Michael Reeve, Peter Ortner, and Van Holliday. As the cruise progressed, Hurricane Bob organized itself and moved north along the west coast of Florida (no threat therefore according to Captain Bob). Proving once again that climate is what you expect but weather is what you get, Hurricane Bob crossed the peninsula and threatened the ship forcing her to steam for safety in Charleston, SC and rapidly veer off in another traction as Hurricane Bob seemed to be tracking the whereabouts of Captain Bob.

Captain Morgan is remembered by all as a consummate professional, a true seaman and a broadminded, genuine family man. He retired from the University (and his long service to the UNOLS community) in April 1992 remaining active in the Florida marine community until his passing on May 12, 2008. [Provided by Dr. Peter Ortner]



2008 UNOLS CALENDAR OF MEETINGS			
Committee	Meeting	Date	Location/Notes
Council	Summer	July 1-2	Via phone/web conference
FIC	Fall	Oct 1	NSF, Arlington, VA
Council	Fall	Oct 2	NSF, Arlington, VA
UNOLS	Annual	Oct 2-3	NSF, Arlington, VA
RVTEC	RVTEC Annual	Oct 28-30	FSU, Tallahassee, FL
AICC	Winter	Nov-Dec	TBA
MLSOC	Winter	Dec 14	San Francisco, CA
DESSC	Winter	TBA	TBA

*I would like to thank all who contributed information and articles for this issue of UNOLS News. Articles are always welcome and encouraged. Copy can be submitted via e-mail to <[office@unols.org](mailto:office@unols.org)>.*

*Thank you, Annette DeSilva - Editor, UNOLS News*

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