UNOLS NEWS

Volume 23, No. 2 Summer/Fall 2006

Highlights

A Message from the UNOLS Chair…

The now perennial concern with budget shortfalls and impact on the operation of the academic fleet was a principal topic for UNOLS in the first half of 2006. While ship operational costs continued to climb with the increased cost of fuel, personnel, and safety related requirements, the federal support for the fleet remained nearly constant. With a likely shortfall of about $12 million in operating funds, the need to lay-up several vessels in 2007 appeared inevitable. As a result, at the March UNOLS Council meeting, an ad hoc committee was formed to prepare guidelines that would be used to make recommendations regarding ship lay-ups or retirements from the Fleet. On the committee were Marcia McNutt (Monterey Bay Aquarium Research Institute), Chair, Wilf Gardner (Texas A&M), Peter Ortner (U. Miami), and Curt Collins (Naval Postgraduate School). The committee produced a draft white paper "Criteria and Process for Recommending Non-Operational Periods of Ships in the UNOLS Fleet", which was discussed by the Council at their June meeting and subsequently approved. The paper provides an equitable and defensible process to be followed by UNOLS together with the funding agencies to arrive upon a recommendation. The funding outlook improved in mid-year, so the amount of the shortfall and the impact on the fleet is still to be determined.

There has been progress with regard to the renewal of the Academic Fleet. The National Science Foundation (NSF) is effectively moving forward with the plan to build three Regional Class vessels. As of April 27, the Regional Class Research Vessel (RCRV) program was started with the selection of Dakota Creek Industries, Anacortes, WA and Nichols Brothers Shipbuilders, Freeland, WA for the Phase I contract awards. During a twelve month period competing preliminary/contract designs will be created. Based on proposals submitted by the two Phase I contractors, a single Phase II contract for detailed design and construction is anticipated to be awarded at the end of Phase I (second quarter CY2007). The Phase II contract will be for a lead ship with options for up to two more.

Progress on the Ocean Class vessel construction is less certain. In 2003, the Navy reported to Congress and recommended the construction of four new Ocean Class ships; however, the Navy was unable to fund the Ocean Class ships in the FY2004 President's Budget request due to higher Navy priorities. While funds were appropriated to the Navy for Ocean Class ship design in 2006, a Naval Research Advisory Committee was formed to evaluate the Navy's needs for research vessels and to provide a recommendation regarding Navy's role in the acquisition of the Ocean Class vessels. The NRAC recommendation was included in Navy's report to Congress in July and based on the Navy's projected future vessel needs, recommended that two vessels be constructed with funds to be budgeted in fiscal year 2008 and beyond.

On a more optimistic note, the Alaska Region Research Vessel design was completed last year and it is anticipated that funds will be forthcoming in the fiscal 2007 budget for its construction. It could be ready to commence oceanographic cruises in 2010. Two other ships have joined the active academic fleet. The 146-foot R/V *Hugh R Sharp* (U. Delaware) began UNOLS operations in March 2006. It replaced the *Cape Henlopen*. The refit 168-foot *Seward Johnson II*, renamed the R/V *Bank of Bermuda Atlantic Explorer*, began service in April at the Bermuda Biological Station for Research. It replaced the 115-foot R/V *Weatherbird II*. Finally, the newly acquired 235-foot seismic vessel R/V *Marcus Langseth*, which will take the place of the now retired R/V *Maurice Ewing*, is nearing the end of its refit period at Shelburne Ship Repair (a division of Irving Shipbuilders), Shelburne, Nova Scotia, Canada. Members of the UNOLS committee, Marcus Langseth Science Oversight Committee (MLSOC), formed late last year to oversee the science and ship operations of this vessel were invited to meet for the first time at the shipyard to see the results of the conversion first-hand. The ship will be operated by Lamont-Doherty Earth Observatory and should be ready to support seismic operations and general-purpose research early next year.

The NSF initiative to insure that new ship construction and ship conversion efforts address Americans with Disabilities Act (ADA) requirements resulted in the formation in December 2005 of a sub-committee of the Fleet Improvement Committee chaired by Terry Whitledge. Two phone conferences have been held by the committee this year and a draft set of guidelines have been prepared that are intended to assist in the design of the Regional Class research vessels. More work is underway to provide general guidelines for new ship construction as well as procedural guidelines for at-sea research operations by seagoing scientists with disabilities. A longer term project involves the development of safety standards for the use of Human Occupied Vehicles (HOVs). A subcommittee of the DESSC committee was formed in late 2005 with Dana Wilkes as Chair. The committee is charged to address certification of the vehicle, the ship, the handing system, the operation, and training (vehicle and ship crew). After two meetings this year, a draft document has been started with chapters modeled after the Research Vessel Safety Standards. The document will be ready for final acceptance well before the HOV that will replace *Alvin* is ready for operation in 2009.

This spring has also seen strong activity with the Research Vessel Operators' Committee, which met in April and addressed the update of the Research Vessel Safety Standards, and reviewed port and ship security plans, safety issues, and ISM regulations. They also discussed uniformity for port and EEZ fees to determine the allocation of costs to science versus the ship operator, and alcohol, drugs, and sexual harassment policies. A joint meeting of the UNOLS Scientific Committee for Oceanographic Aircraft Research (SCOAR) and the Interagency Coordinating Committee for Airborne Geosciences Research and Applications (ICCAGRA) took place in late May. Coupled with this meeting was a very successful first Airborne Ocean Science Conference, which took place on May 24-25, 2006 at the Moss Landing Marine Laboratories, Moss Landing, CA.

In the fall at the UNOLS Annual meeting, a new slate of candidates will be elected to fill rotating Council slots that will be available as a result of members having served their terms. The efforts of the retiring Council and committee members are greatly appreciated. Serving on the various UNOLS committees is a rewarding experience, as well as an essential service to the academic community.

More information about the topics described above and additional items that were considered by the UNOLS committees are described in following sections of the newsletter.

Peter Wiebe

UNOLS Chair

2006 UNOLS Council Elections to be held at Annual Meeting

At this year's Annual Meeting elections will be held to fill four positions on the UNOLS Council. These positions include the Chair-Elect, one At-Large position, one Operator position, and one Non-Operator position. Individuals affiliated with any UNOLS institution are eligible for the Chair-Elect position. The term of office for the Chair-Elect is a single term of two years. At the completion of the 2-year term, the outgoing Chair-Elect shall become the UNOLS Chair. Terms of office for the other open positions are three years with the possibility of re-election for a second term. The slate of candidates will be announced on the UNOLS web site 30 days prior to the Annual Meeting.

The Honorable Leon E. Panetta to Speak at the 2006 UNOLS Annual Meeting

The UNOLS Annual Meeting will be held on Friday, October 6th at the National Science Foundation in Arlington, VA. We are pleased to announce that former California Congressman and White House Chief of Staff, the Honorable Leon E. Panetta will deliver this year's keynote address.

Mr. Panetta chaired the Pew Oceans Commission and currently Co-Chairs the Joint Ocean Commission Initiative with Admiral James D. Watkins. The Joint Ocean Commission Initiative, formed in late 2004/early 2005, is a collaborative effort of the U.S. Commission on Ocean Policy and the Pew Oceans Commission. The Initiative has ten members, five from each Commission. The primary goal of the Joint Ocean Commission Initiative is to promote change that will result in meaningful ocean policy reform.

Leon Panetta has had a long and distinguished career in public service. Born in Monterey, CA in June 1938, he earned a B.A. magna cum laude from Santa Clara University in 1960, and in 1963 received his Jurist Doctorate from Santa Clara University Law School. He served as a First Lieutenant in the Army from 1964 to 1966 and received the Army Commendation Medal.

Panetta first went to Washington in 1966 and served as a legislative assistant to U.S. Senator Thomas H. Kuchel of California. Panetta was elected to Congress in 1976 and served as a U.S. Representative from California until 1993. He authored numerous measures to protect the California coast, including creation of the Monterey Bay National Marine Sanctuary; and other legislation on a variety of education, health, agriculture and defense issues. In 1993, Leon Panetta left Congress to become Director of the Office of Management and Budget for the Clinton administration. Panetta was appointed Chief of Staff to the President of the United States in July 1994, and served in that position until early 1997.

Panetta currently co-directs, with his wife Sylvia, the Leon & Sylvia Panetta Institute for Public Policy, based at California State University, Monterey Bay. He serves on many Boards and is Chair of the National Board of Advisors of the Center for National Policy. For additional information about Leon Panetta and his current activities visit <http://www.panettainstitute.org/>.

The UNOLS Annual Meeting will also include reports on fleet renewal plans, agency reports, Council elections, reports from UNOLS Committees, and a presentation on this year's accomplishments and goals for 2007. The meeting agenda will be posted when available at <http://unols.org/meetings/2006/200610anu/200610anuag.html>.

The 2006 UNOLS Annual Meeting

will be held on
Friday, October 6, 2006
at
The National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22203

The keynote speaker will be

Former California Congressman and White House Chief of Staff

The Honorable Leon E. Panetta,
Co-Chair, Joint Ocean Commission Initiative

UNOLS Develops Criteria and Process for Recommending Non-Operational Periods of Ships in the UNOLS Fleet

At the March 2006 Council meeting, a major topic of discussion focused on the continued budget shortfalls, the effect this was having on the academic fleet operations, and how UNOLS should provide meaningful advice to the agencies on how to deal with the situation. The Council formed an ad hoc Committee to develop a white paper to focus UNOLS Council discussion and agreement upon an equitable and defensible process to be followed to develop a recommendation as to which UNOLS vessels to lay-up in 2007 or beyond or retire. The committee membership was Marcia McNutt (Chair), Curt Collins, Wilf Gardner, and Peter Ortner. At the June Council meeting, a draft document prepared by this committee was extensively reviewed. The document "Criteria and Process for Recommending Non-Operational Periods of Ships in the UNOLS Fleet" reflects the committee's efforts and those of the Council, which vetted the final product. It provides the background leading up to the need for a process to handle non-operational periods of the ships, the criteria and priorities upon which the recommendations should be based, and the procedure for reaching final decisions.

The process laid out in the document requires that a subcommittee of the UNOLS Council consisting only of members from non-ship-operating institutions be formed. This subcommittee should consist of at least three members, and the UNOLS Chair may appoint past Council members or other UNOLS committee members if necessary. By summer's end, this subcommittee will be formed and it will be ready to review the recommendations put forth by the agencies as called for by this document.

UNOLS hopes that this process will result in the least encumbrance on ocean scientists and the U.S. ocean science enterprise. We see this process as needing to evolve to make the utilization of the ships and their scheduling more effective.

UNOLS Committee News

Fleet Improvement Committee (FIC) News

By Dave Hebert, FIC Chair

Since the last newsletter, the Fleet Improvement Committee (FIC) has worked mainly on the UNOLS Fleet Improvement Plan (FIP). We are working closely with the Federal Oceanographic Facilities Committee (FOFC) to ensure that their plan and ours are consistent with each other. As well, FIC is continuing to keep abreast on the matters related to the Regional and Ocean Class vessels.

Fleet Renewal Plans: The FOFC is producing a renewal plan for all of the Federal Research Fleet, including the academic fleet. FIC has been interacting closely with FOFC as they proceed. We have a consistent listing of the classification of the different UNOLS vessels and their full operating year. We continue to work on the UNOLS FIP. This was the major agenda item at our spring meeting in San Jose, CA. The UNOLS FIP will have the FOFC plan as its basis but will address the additional resources we envision as needed to conduct the research proposed by the community, such as ocean observatories. We hope to have a draft of the FIP available for comment this fall.

Ocean Observatories: As a representative of FIC, I attended the ORION meeting at the end of March 2006 in Salt Lake City to understand what UNOLS resources will be needed to install and service the ocean observatories. FIC will use the Conceptual Network Designs to provide an estimate of ship days to be used for the operation and maintenance of the observatories.

Global Class Vessels: Work is continuing on defining the Science Mission Requirements (SMRs) for the Global Class vessels. As with the Regional and Ocean Classes, initial feedback from the oceanographic community on the desired capabilities of these vessels will be obtained through a web-based questionnaire which we hope will be on-line soon.

FIC's next meeting is on October 4th at NSF.

Arctic Icebreaker Coordinating Committee (AICC) News

By Margo Edwards, AICC Chair

USCGC *Healy* continued to perform well in support of science. Despite concerns about a bow-thruster, which may have been damaged during last season's operations, USCGC *Healy* successfully completed the first program of her summer 2006 field season. Cruise HLY0601, which focused on the oceanography of the central Bering Sea, took place in light ice conditions. *Healy* subsequently completed military training exercises and loaded a seismic system to begin a survey of the Canada Basin (HLY0602; see <www.icefloe.net> for more information on upcoming and past cruises). That will be followed by EEZ mapping for the United States (HLY0603) and autonomous underwater vehicle testing (HLY0604). The ship will return to Seattle in the fall, when it is expected to have a thirteen-week long maintenance period including nine weeks in drydock and several significant modifications of existing ship's systems.

During the past year, the United States Coast Guard (USCG) disbanded POP-DIV, which had provided helicopter support on USCG *Healy*. For the first time helicopter operations on *Healy* are being run by a commercial contractor. CAPT Daniel Oliver reported that operations with the commercial company on HLY0601 were very successful.

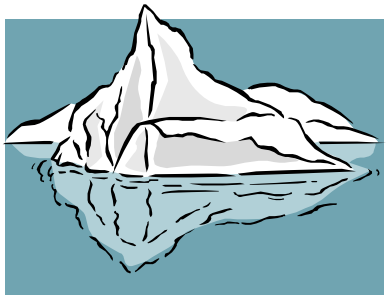
The Change of Command ceremony for CAPT Oliver, who sailed as the *Healy*'s Commanding Officer since 2003, took place in Dutch Harbor, Alaska in June. CAPT Douglas Russell, who has extensive experience with USCG icebreakers and sailed on *Healy* as Executive Officer, assumed command.

Short-term repairs on the *Polar Sea* are underway. Once completed, *Polar Sea* is expected to support Deep Freeze in 2007. *Polar Star* is still at dock. USCG Headquarters reports that the Commandant is looking for guidance on the *Polar Class* icebreakers from the final National Academy of Science report "Assessment of US Coast Guard Polar Icebreaker Roles and Future Needs" that should be released before the end of this year. In the meantime, NSF continues to pursue options that involve foreign icebreakers for resupplying McMurdo Station in Antarctica.

AICC completed its spring meeting at the National Science Foundation on April 18th and 19th. The second day of this meeting was scheduled to allow AICC to meet with the Antarctic Research Vessel Oversight Committee (ARVOC) to discuss mutual interests with respect to the *Polar Class* icebreakers and ongoing support of science in ice-covered waters at both poles, but an emergency caused ARVOC to cancel their participation. It is hoped that the joint meeting will take place next year when AICC meets in Seattle to view the *Healy* in drydock.

An announcement soliciting potential new members for AICC was circulated by the UNOLS office and generated several applications. The present committee membership will review the applicants this summer and make selections to replace the three outgoing committee members who rotate off in January. At the April AICC meeting there was a discussion about who would replace Margo Edwards as Chair of AICC and Carin Ashjian of the Woods Hole Oceanographic Institution was the sole volunteer for this role. She will assume the leadership of the group at the next meeting in early 2007.

The AICC can be reached by writing to the Chair <margo@soest.hawaii.edu> or to the UNOLS Office <office@unols.org>.



Deep Submergence Science Committee (DESSC) News

By Deborah Kelley, DESSC Chair

The DEep Submergence Science Committee (DESSC) met at Woods Hole Oceanographic Institution on May 24-25 for their bi-yearly meeting. A draft of the meeting report is available online on the UNOLS web site <http://www.unols.org/dessc>. The meeting resulted in the formation of numerous action items. Three of the most significant items have been completed and include: 1) the establishment of criteria for incorporating new assets into the Deep Submergence National Facility (NDSF) (see <http://www.unols.org/committees/dessc/index.html> for this document; 2) submission of a recommendation by DESSC to include the autonomous underwater vehicle (AUV) *ABE* into the NDSF, concurrent with the removal of the two towed vehicles *DSL-120A* and *Argos II*; and 3) identification of a DESSC watchdog for *Alvin*, *Jason 2* and *ABE* that would interface with users, NDSF, and DESSC regarding vehicle performance, availability of data products, and navigation. Debrief interviews will facilitate tracking of the status of vehicles and system performance. Results and updates of these interviews will be summarized at future DESSC meetings.

During the June UNOLS meeting, approval was given by the UNOLS Council to accept *ABE* into the NDSF, followed by AUV *Sentry* when it is fully operational. *ABE* will be available as part of NDSF for field programs in 2008 and beyond. Requests for *ABE* as part of NSF proposals can be made online <http://www.gso.uri.edu/unols/ship/shiptime.html> through the UNOLS Ship Time Request form. Researchers interested in using *ABE* can find out more information about its capabilities, data products, and ship requirements at <http://www.whoi.edu/marops/vehicles/auv>. For current information about *ABE* and access to the *DSL-120A* system, please contact the Chief Scientist for Deep Submergence (Chris German: <cgerman@whoi.edu>. Additional information about ABE and DSL-120A can be found on page 11.

The UNOLS Council also approved two new members of DESSC, Mike Tryon from Scripps Institution of Oceanography, and Marsh Youngbluth from Harbor Branch Oceanographic Institution. DESSC welcomes these two newest members.

Please keep your calendar open for the next DESSC meeting, which will be held November 9th, 2006 at the Seattle Aquarium <http://www.seattleaquarium.org> in conjunction with the Western Society of Naturalists <http://www.wsn-online.org/WSN_news.html>. A block of rooms is reserved at the Best Western Pioneer Square Hotel. Information about the meeting and hotel accommodations is available at <http://www.unols.org/meetings/2006/200611des/200611desag.html>.

Research Vessel Technical Enhancement Committee (RVTEC) News

By Bill Martin, RVTEC Chair

Stewart Lamerdin (Moss Landing Marine Laboratories) led an effort by RVTEC members to provide feedback to the National Science Foundation (NSF) on Regional Class vessel scientific outfitting. The group found the agency to be receptive to our input and agreeable to incorporating our suggestions into the new requirements. Other RVTEC members of the group included Dale Chayes from Lamont-Doherty Earth Observatory, Marc Willis from Oregon State University, Steve Poulos from the University of Hawaii, Barrie Walden from Woods Hole Oceanographic Institution, and Bill Martin from the University of Washington. Dave Hebert, Chair of the Fleet Improvement Committee also contributed.

The annual RVTEC meeting will be held in conjunction with the International Marine Technician (INMARTECH) 2006 Symposium. The dates for the two events are October 16 for the RVTEC meeting and October 17-19 for INMARTECH 2006. The INMARTECH Symposium is held every two years and marine technicians from institutions and organizations throughout the world come together to discuss issues and procedures used to support science operations. Past topics of discussion have included ISM Procedures and Policies, mooring deployments, large/heavy equipment deployments, and large piston coring. Attendees agree that this symposium is beneficial and informative.

Current activities include continuing work on the defined levels of technical support. The online form and database is expected to be operational in the coming year. We are also working with the RVOC Safety Committee to determine safe working loads for wire and cable.

Research Vessel Operators' Committee News

By Tim Askew, RVOC Chair

The RVOC held their annual meeting in Seattle, Washington thanks to Dan Schwartz and the University of Washington who graciously hosted the meeting. The three day meeting took place April 25 - 27, 2006 at the Ocean Sciences building on campus.

The Guest Scientist was Debbie Kelley (UW), Professor at the School of Oceanography. Her presentation centered on the Juan de Fuca hydrothermal vent systems and the "Endeavor Observatory". This was the second presentation by a UNOLS vessel user scientist that demonstrates the importance of UNOLS vessels and the role they play in supporting science both regional and worldwide.

Group purchase updates for 2005 were covered by the various institutions' representatives. Purchases of life rafts, radars, Doppler speed logs, Gphirbs and Stability Reviews were either completed or in progress. A brief update on van construction and the Oil Spill Response Plan and salvage contractor status was discussed.

The various committee and liaison reports were presented the first day and included UNOLS (Mike Prince), RVOC Safety Committee (Tom Althouse), Ship Scheduling Committee (Mike Prince), Ship and Port Security (Eric King), Fleet Improvement Committee (Al Suchy), RVTEC (Bill Martin), Human Occupied Vehicle Replacement (Dolly Dieter), DESSC and AICC (Mike Prince).

Federal agency reports were presented by Linda Goad (NSF), John Freitag (ONR), Beth White (NOAA), Jonathan Berkson / Tom Wojahn (USCG), and Liz Tirpak (State Department). The underlying theme appeared to be funding difficulties.

Special reports from foreign operators included the Natural Environment Research Council (NERC) - Geraint West, European Research Vessel Operators (ERVO) – Per Nieuwejaar, Netherlands Institute for Sea Research (NIOZ) – Marieke Reitveld, and SACLANT – Ian Sage, who discussed the grounding of the NATO vessel R/V *Alliance*. His presentation was an eye opener for operators who have never experienced the aftermath of a grounding; such as vessel damage, evacuation, environmental impacts, etc.

Updates were provided and included reports on the Alaska Region Research Vessel - Tom Smith (UAK), *Weatherbird II* replacement - Lee Black (BBSR), *Marcus Langseth* - Paul Ljunggren (LDEO), *Hugh R. Sharp* - Matt Hawkins (UDel), and the National Marine Fisheries Services vessels - Allen Shimada (NOAA). Beth White (NOAA) reported on the conversion of the *Okeanos Explorer,* a Navy TAGOS, to a support ship for NOAA's Ocean Exploration program.

Other special reports were presented by Dolly Dieter (NSF) on the Regional Class ship design effort; John Freitag (ONR) on the Ocean Class acquisition status; Mike Prince (UNOLS) on Post Cruise Assessments; Tom Althouse (SIO) gave a winch and wire update; Al Suchy (WHOI) on long core systems; Matt Hawkins on the load handing workshop; and lastly, Liz Caporelli (WHOI) on the harassment survey results.

Dennis Nixon (URI) presented the annual Insurance and Admiralty Law update. Protection and Indemnity (P&I) rates on UNOLS vessels will probably increase slightly, but not as much as the world market that expects a 25% rate increase in 2006. He also covered a review of legal issues affecting ORV operation and a discussion on the potential for Hold Harmless Agreements in ORV operations.

A discussion on wire testing was held by Rick Trask (WHOI). The re-evaluation of the UNOLS wire specifications is required along with testing and a specification that emulates actual field usage. Field data is necessary to validate actual use to develop a new specification.

Morgan Turrell, National Transportation Safety Board (NTSB), Marine Accident Section gave an enlightening presentation on "What To Expect If Your Ship Has An Accident". One key point was when it comes to media comments "leave it to NTSB."

The final day of the meeting was devoted to RVOC business matters and the round table discussions. It was agreed that the Chair and Vice-Chair/Chair Elect would extend their terms for six months to accommodate the new April vs. October meeting dates. A new Vice-Chair/Chair Elect will be elected at the next meeting.

Other business items included discussions on new Department of Agriculture "wood packing material rules" that was effective September 15, 2005. The USCG is enforcing the new two-hour alcohol testing for Serious Marine Incidents that was effective June 21, 2006. Also discussed was the revised ship scheduling system, Safety Committee actions, the ship inspection program, medical services contract, and mandatory agency reports. Full presentations can be found on the UNOLS website under 2006 RVOC Meeting Appendices < http://www.unols.org/meetings/2006/200604rvo/200604rvomi.html>.

The 2007 RVOC Meeting will be hosted by Florida Institute of Oceanography located in St. Petersburg, Florida. The dates are April 24 - 26, 2007. Randy Maxson, Marine Superintendent, (FIO) is already getting the hotels and meeting place set up.

Ship Scheduling News

By Elizabeth Brenner, Ship Scheduling Committee Co-Chair

The ship schedulers continue working through the adversity of an ever-decreasing number of funded ship days. The projected budget for NSF next year, which accounts for over half of the total ship operations budget for the UNOLS fleet, is level or slightly above this year. ONR's anticipated ship-operating budget is level or slightly less than this year's budget. However, the constant increase in fuel costs has made the largest impact to overall reduction in the total number of projected days at sea for the fleet in 2007. Schedulers continue to hear the message from the major funding agencies that there is not enough money to operate the UNOLS fleet at the optimal day count. Ship operators are being asked to tighten their belts and be creative in order to reduce operational expenses.

Taking the gloomy outlook for future ship operating budgets in stride schedulers continue working out problems. Several conference calls have been held through the spring and will continue throughout the summer in lieu of a traditional summer Ship Scheduling meeting. The thought was to save travel funds and to continue to work out issues culminating in a standard Ship Scheduling Committee meeting in Arlington, VA on October 3rd. Schedulers will continue working though the summer to justify ship specific requests and to identify additional work from all agencies as well as pursuing non-traditional funding sources especially for global class work. Schedulers in conjunction with the funding agencies will continue to work out double and triple booked cruises and await the funding agencies recommendations for intermediate ship lay-ups for each coast. Concessions will have to be made by more than one operating institution.

We are hopeful that the current projections for fewer funded ship days for the near future is an anomaly. But it will take considerable increases in the federal budgets to keep in stride with increasing operating expenses driven by increasing fuel costs.

Figures 1, 2, and 3 show a comparison of the 2007 estimated costs and utilization projections with previous years.

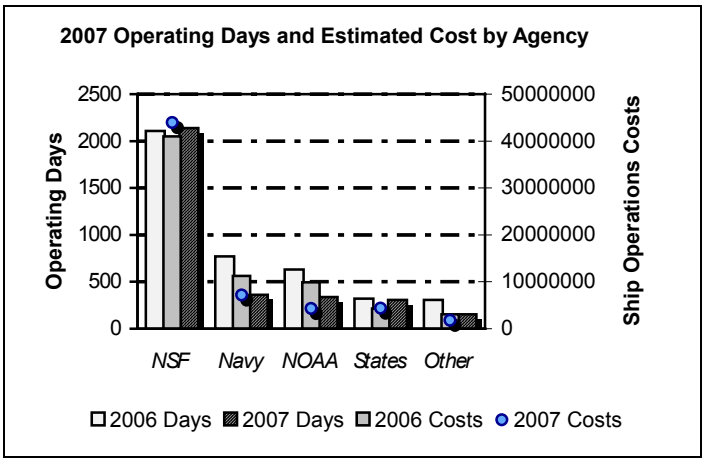


Figure 1

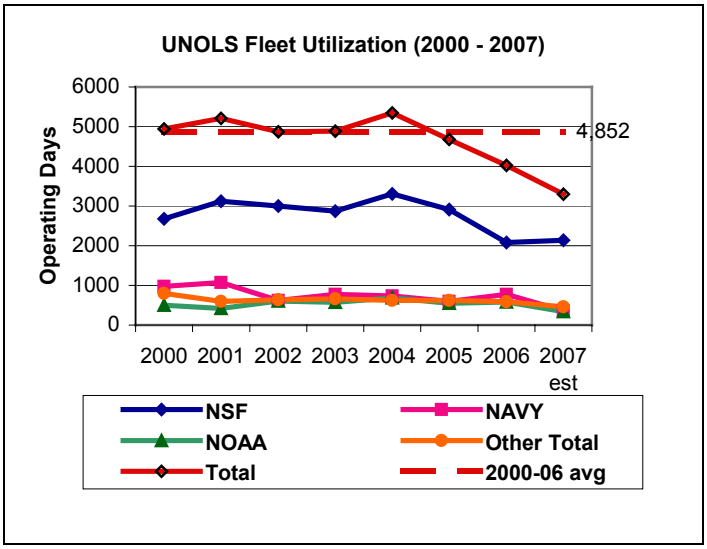


Figure 2: Fleet Utilization (2000 – 2007)

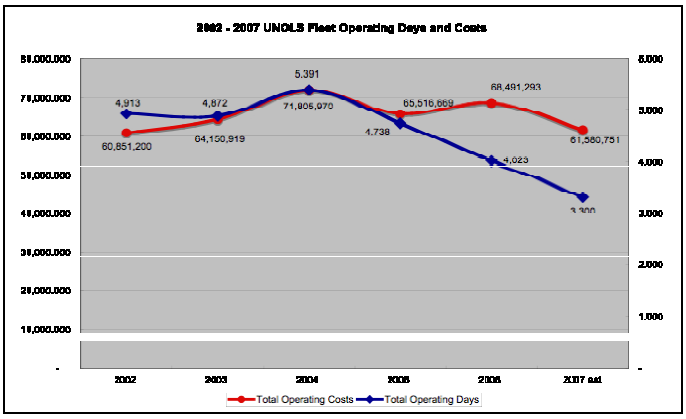


Figure 3: Total Fleet Operation Days and Costs (2002 – 2007)

Science Committee for Oceanographic Aircraft Research (SCOAR) News

By John M. Bane, SCOAR Chair

SCOAR met jointly with the Interagency Coordinating Committee for Airborne Geosciences Research and Activities (ICCAGRA), chaired by Cheryl Yuhas from NASA at the Naval Postgraduate School's Center for Interdisciplinary Remotely Piloted Aircraft Studies (CIRPAS) in Marina, CA on May 23 and 24, 2006. Discussion items included the following:

1) Scheduling among the various research aircraft operating agencies continues to be of interest. Most research aircraft operators are federal agencies and for the most part are dedicated to agency missions or particular research programs. At present there is no uniform method for requesting, scheduling, or for cost reimbursement of aircraft operations across the set of operators. There is still a need to better utilize some of the aircraft facilities and to improve access for users that need aircraft support. Making information about schedules, requesting procedures and costs centrally available will help facilitate access. Moving towards a "UNOLS-like" process might start with an aircraft-schedule coordinating group made up of aircraft operators and funding agency representatives.

2) Some good news was presented by several of the agencies, including: the establishment of a "catalog of available aircraft" by NASA, the acquisition of one more Twin Otter and one more P-3 by NOAA, the HIAPER Gulfstream jet being brought into service by NSF-NCAR, and the addition of one more King Air by the Naval Research Lab. Tempering this news is the fact that budgets to operate the fleet of federal research aircraft continue to be tight.

3) A presentation was made to SCOAR by Jim Hain of Associated Scientists at Woods Hole about their interest in using a twin-engine ultralight aircraft called a TwinCam. They have filed a petition with the FAA asking for an exemption to a regulatory limitation within the Experimental category of aircraft certification, and Jim asked if SCOAR would write a letter of support for this, stating that SCOAR recognizes the value of such aircraft in marine scientific research. Following the meeting, John Bane wrote a support letter and circulated it to the SCOAR members. They all approved of the letter's wording, with several noting that it is the type of thing that SCOAR should be assisting with. Peter Wiebe subsequently gave his UNOLS Chair's OK, and the letter was submitted to the FAA as part of the exemption-request package submitted by Associated Scientists of Woods Hole. The FAA has since given conditional approval of the request.

4) There will be one SCOAR membership rotation this year, and we hope to have candidates identified prior to the next SCOAR meeting, which will be during Fall 2006, probably late October or early November.

5) A major part of the discussion at the SCOAR meeting was on details regarding the First UNOLS Airborne Ocean Science Conference (AOSC), which was held the evening of May 24 and all day on May 25. Please see the separate report on the AOSC on page 10 of this issue of UNOLS News.

SCOAR Call for Nominations

The UNOLS Scientific Committee for Oceanographic Aircraft Research (SCOAR) is seeking applicants or nominees to serve on the committee. There is currently one opening. Experience with the use of aircraft or coordinating the use of aircraft with other marine facilities in your research is highly desirable. The successful nominee's research discipline will be a consideration, as we hope to complement the existing disciplinary makeup of the committee, which includes physical oceanography, air-sea interactions, marine atmospheric processes and marine ecology. Regional and institutional diversity will also be considered in choosing a new member.

SCOAR members are appointed by the UNOLS Chair based on the recommendation of the Committee and with the concurrence of the UNOLS Council for three-year terms. A member may serve one additional three-year term. Applicants or nominees should submit a brief letter of interest in serving on SCOAR along with a CV to the UNOLS Office by email to <office@unols.org>. For more information about SCOAR visit the website at: <http://www.unols.org/committees/scoar/> or contact the chair, John Bane at <bane@unc.edu>.

UNOLS Holds First Airborne Ocean Science Conference

By John M. Bane, SCOAR Chair

Since its inception in 2003, one of the central activities of SCOAR has been to promote the use of airborne platforms in oceanographic and marine meteorological research. Communication with and throughout the ocean science community has been approached in several ways, including the publication of articles in *EOS* and *Oceanography* and presentations about SCOAR at several meetings. The latest event in this continuing effort was the first UNOLS Airborne Ocean Science Conference, held at Moss Landing Marine Laboratories (MLML) on the evening of May 24 and all day on May 25. About 40 research aircraft scientists, technicians and agency operators attended the conference, and twenty-five oral and poster presentations were made. A couple of pictures from the meeting are included here, and the meeting agenda, list of attendees and slides from the oral presentations can be seen at:
<http://www.unols.org/meetings/2006/200605aosc/200605aoscmi.html>

The general sense from attendees following the meeting was that it was a great success and that SCOAR and UNOLS should continue with plans to have a similar meeting periodically, perhaps every two years. An additional idea was to have a special session for aircraft ocean science results at an AGU or Ocean Sciences meeting and then an evening "Town Hall" meeting on the future of aircraft in ocean sciences. SCOAR will follow up on this.

We thank MLML and its director, Dr. Kenneth Coale, for graciously hosting the conference, and Mike Prince, Kate Sawyers, and Laura Dippold of the UNOLS Office for their tireless efforts in making the meeting a success.

AOSC Attendees: Todd Anderson, John Bane (SCOAR Chair), Steve Ramp, and Bob Bluth. Photo by Kate Sawyers (UNOLS).

AOSC Workshop Participants. Photo by Kate Sawyers (UNOLS)

Deep Submergence Facilities in the News

Hybrid Remotely Operated Vehicle Named

Nereus has been selected as the name for Woods Hole Oceanographic Institution's Hybrid Remotely Operated Vehicle (HROV). *Nereus* was a mythical god with the torso of a man and the tail of a fish. The HROV currently under construction at WHOI will have a full ocean depth to 11,000 meters. The vehicle is designed to transform from a tethered ROV to a free-swimming vehicle. The vehicle is scheduled for sea trials in early 2007,with science operations planned later that year.

There were 22 entries in a naming contest that was open to junior high, high school, and college students who participate in the Marine Advanced Technology (MATE) Center. The winning name, *Nereus*, was announced during a June 25 awards banquet at the NASA Johnson Space Center in Houston. The prize for the winning team is a trip to see the HROV in Woods Hole, MA.

Additional details about the HROV and the naming contest is available in the WHOI Press Release, June 26, 2006 at <http://www.whoi.edu/oceanus/viewArticle.do?id=14107&sectionid=1002>.

ABE/Sentry Added to the National Deep Submergence Facility

Over the past 10 years there has been a growing demand by the ocean community for flexible autonomous underwater vehicles (AUV's) to conduct a variety of science missions in the deep sea. To help address this challenge, two years ago operators of the AUV called the Autonomous Benthic Explorer (*ABE*) asked the DEep Submergence Science Committee (DESSC) to consider incorporation of *ABE* into the National Deep Submergence Facility (NDSF). Concomitant with this request, the National Science Foundation requested DESSC to formulate guidelines for incorporating new assets into the NDSF. These criteria are now approved by the UNOLS Council and are available online at <http://www.unols.org/committees/dessc/index.html>.

At the May 2006 DESSC meeting, the operators of *ABE* (Woods Hole Oceanographic Institution) presented a proposal for incorporation of *ABE* into the NDSF concurrent with the removal of the towed systems *DSL-120A* and *Argo II*. The *DSL-120A* will cease to be a formal part of the NDSF in 2007. To meet future challenges associated with deep-sea exploration and research, the operators also requested that the second generation AUV *Sentry* replace *ABE* as soon as *Sentry* becomes fully operational. The committee reviewed and endorsed this proposal and passed this recommendation on for consideration at the June 21-22 UNOLS Council meeting. On June 21, the UNOLS Council unanimously approved incorporation of *ABE* into the NDSF and the replacement of *ABE* by *Sentry* in ~2008.

The flexibility and reliability of *ABE* has made this vehicle a favorite of the community for mapping, exploration, and geophysical and water column studies and there is very strong community support for bringing *ABE* into the NDSF. Missions flown by *ABE* are routinely highly successful. They have led to the collection of 1) some of the highest resolution, highest quality seafloor bathymetry obtained within the ocean basins; 2) the discovery and efficient mapping of new hydrothermal vent fields (e.g., Lau Basin); 3) novel heat flow and geochemical studies of hydrothermal plumes; and 4) detailed photographic imagery of the seafloor that allows preliminary assessment of biological communities. *ABE* is also well suited for flying in highly rugged terrain (e.g. vertical and overhanging ledges and 60 m tall chimneys at Lost City). The AUV is a proven asset on interdisciplinary cruises and its synchronous use with *Jason* and *Alvin* allow extremely efficient and cost effective use of ship time.

ABE has completed over 180 missions and it is anticipated that this demand will only continue to grow. *ABE* has been the AUV workhorse for the science community and new technological developments incorporated into and planned for *Sentry* will help NDSF meet upcoming challenges associated with rapid response expeditions, ocean observatories, and a growing demand by biological oceanographers for detailed observations.

ABE will be available as part of NDSF for field programs in 2008 and beyond. Requests for *ABE* as part of NSF proposals can be made online <http://www.gso.uri.edu/unols/ship/shiptime.html> through the UNOLS Ship Time Request Form. Researchers interested in using *ABE* can find out more information about its capabilities, data products, and ship requirements at <http://www.whoi.edu/marops/vehicles/auv>. For current information about *ABE*, please contact the Chief Scientist for Deep Submergence (Chris German: cgerman@whoi.edu).

DSL-120A moves to the Hawaii Mapping Research Group

As reported in the previous article, the deep-tow sonar system *DSL-120A* would cease to be a formal component of the NDSF in 2007. A very pertinent question arising from that message is: How will access to state-of-the-art deep-tow sidescan sonar be provided to the US marine research community in the future? The purpose of this article is to answer that question for the specific case of potential users developing programs for NSF sponsorship in which case the *DSL-120A* will continue to be available for use at no additional cost to science program budgets.

Since 1999, the Deep Submergence Laboratory of the Woods Hole Oceanographic Institution and the Hawaii Mapping Research Group (HMRG) of the University of Hawaii have collaborated on designing and fabricating hardware and software for seafloor mapping systems and operating these systems at sea. One direct result is that the *DSL-120A* and HMRG's *IMI-30* exhibit great similarity in terms of sonars, electronics, and data acquisition, processing and management. Further, HMRG participants have sailed on every *DSL-120A* cruise to date, and the two groups meet frequently to continually improve their joint efforts.

Consequently, it has been agreed that in 2007, HMRG will take over prime responsibility for, and become the "home port" of the *DSL-120A* as part of the continuing DSL-HMRG partnership. Thus, the key contact for future use of the system (e.g., for all proposals submitted to NSF on or after 15 August 2006) will now be Margo Edwards (margo@soest.hawaii.edu). Although outside the NDSF, the *DSL-120A* will continue to be available for scientists to request as shared-use instrumentation with no impact on science program budgets for NSF-funded projects. Other agencies sponsoring research that uses the *DSL-120A* will continue to be required to pay their share of costs for the operating year, as is true for all other UNOLS systems (e.g., ships, submersibles, ROVs, technicians, etc.). For NSF-sponsored programs, participation of the *DSL-120A* will be funded through the University of Hawaii's Specialized Services Facility.

By Margo Edwards, Director, Hawaii Mapping Research Group and Chris German, Chief Scientist for Deep Submergence, National Deep Submergence Facility, WHOI

SHIP IN THE NEWS

~ New Ships, Design, Conversion, and Acquisition Plans ~

R/V *Bank of Bermuda Atlantic Explorer* Arrives in Bermuda

On March 20th, the Bermuda Biological Station for Research (BBSR) christened its new 168-foot research ship, the R/V *Bank of Bermuda Atlantic Explorer*. The ship, previously the R/V *Seward Johnson II* (ex *Edwin Link*), was acquired from Harbor Branch Oceanographic Institution in 2005 and underwent shipyard modifications during the winter months. The primary sponsors in the purchase of the research vessel were Bank of Bermuda and Bank of Bermuda Foundation.

The R/V *Atlantic Explorer* has been designated as a UNOLS vessel, and replaces BBSR's 115-foot vessel, R/V *Weatherbird II*.

R/V Atlantic Explorer approaches St Georges, Bermuda on 19 March. Photo by BBSR

R/V *Hugh R. Sharp* Commissioned on May 7th

The University of Delaware's new Research Vessel *Hugh R. Sharp* was commissioned on Sunday, May 7, at UD's Lewes campus. The 146-foot ship was designed by Bay Marine of Barrington, R.I., and built by Dakota Creek Industries in Anacortes, WA. It arrived at the Lewes campus on Jan. 11 and spent the winter months in final outfitting and sea tests. After successful completion of its inspection, the ship received designation as a UNOLS vessel. The *Hugh R. Sharp* replaces R/V *Cape Henlopen*, UD's first research vessel that was in continuous service since 1976.

Hugh R. Sharp will primarily operate in Mid-Atlantic coastal waters, but has a north-south range from Maine to Florida.

R/V *Marcus Langseth* Conversion Status

The R/V *Marcus Langseth* sailed from Quonset Point, RI on 23 February arriving in Shelburne Ship Repair Shelburne, Nova Scotia on 25 February. Shelburne Ship Repair is a division of Irving Shipbuilding in Halifax, Nova Scotia.

The ship is in the yard for conversion modifications. Early efforts focused on opening up the starboard side to permit the over-the-side launch and recovery of instrumentation. The helicopter flight deck was cut back and the marine mammal observation tower support structure was modified. Major work items were also initiated to address Coast Guard damage stability requirements.

Panels for laboratory spaces were delivered the first week of May and began to be fitted as laboratory spaces started to take shape.

On 31 May and 1 June Ewing Replacement Oversight Conversion Committee (EROCC) and MLSOC met in Shelburne, Nova Scotia.

Other conversion items include fabrication of a new science pod to house the ship's Kongsberg EM-120 multibeam system and other transducers, the modification of the starboard bridge wing for better work deck visibility, and installation of a new starboard A-frame and stern telescoping boom.

The ship is expected to be ready for shakedown and testing in late 2006.

Regional Class Research Vessels (RCRV)

In April 2006, two design teams were selected for Phase I of the Regional Class acquisition effort. The teams are Nichols Brothers' Boat Builders with Naval Architects Glosten & Associates and Dakota Creek Industries Inc. with Naval architect Guido Perla & Associates. Both teams are based out of Washington State. Phase I is a one-year effort and at its completion the winning design will be selected. If all proceeds as planned, Phase II, ship construction, could begin in mid 2007. In fall 2006 NSF expects to issue a solicitation for operator of the first ship. In turn, the first ship operator would be selected in spring 2007.

Ocean Class Status

The 2001 Federal Oceanography Facilities Committee (FOFC) Long Range Plan for Fleet Renewal recommended the construction of four Ocean Class ships. The Navy expressed their commitment for the construction of these vessels, but due to higher priorities within the Navy, funds for construction have not been appropriated. In 2006, a Naval Research Advisory Committee (NRAC) was formed to evaluate the Navy's rationale for construction of a new generation of research vessels and to provide a recommendation regarding Navy's role in the acquisition of the Ocean Class vessels. The NRAC's recommendations were included in the Navy's report to Congress in July. Based on the Navy's projected future vessel needs, they recommended that two Ocean Class vessels (vs. four) be constructed with funds to be budgeted in fiscal year 2008.

New in Print (and Bytes)

Oceanus Magazine Goes Interactive

Oceanus magazine, produced by Woods Hole Oceanographic Institution, is now available online, with an email alert whenever new articles are posted. The magazine is printed three times a year and updated online once a week. Back issues to 1996 are also online.

Subscribe for free online at www.whoi.edu/oceanus. Or you can receive three printed issues a year of *Oceanus* for only $8. (Sign up at <www.oceanusmag.com> or call 1-800-291-6458.)

For suggestions on article topics, contact Lonny Lippsett, managing editor, <llippsett@whoi.edu>

New book: Scientific Blue-Water Diving

By Steven H.D. Haddock and John N. Heine, Illustrations by Lynn McMasters. 2005, CA SG Publication No. T-057

Blue-water diving is a method for exploring the vast open ocean. This technique can be used to study a variety of processes and organisms, including phytoplankton, protozoa, jellies, and even squid and pelagic fish. The goal of Scientific Blue-Water Diving is to open this undersea world to a larger scientific community without compromising safety. It provides guidelines for conducting blue-water dives, constructing a blue-water rig, and presents lessons learned from past experiences. The 49-page book is printed on water-resistant paper with spiral binding that allows the open book to lie flat. The new manual consolidates, clarifies, and updates the original Blue-Water Diving Guidelines, published by California Sea Grant in 1986. Cost is $13. Discounts available on multiple copies. For ordering details, see <www.csgc.ucsd.edu/PUBLICATIONS/announce057.htm> or email <pubadmin@seamail.ucsd.edu>.

Fond Farewells

Steve Rabalais, Marine Superintendent at LUMCON Retires

After 23 years with the Louisiana Universities Marine Consortium (LUMCON) and R/V *Pelican*, Steve Rabalais, Director of Operations and Facilities has retired. Steve was an active member of RVOC and served as Committee Chair from 2000 to 2003. Steve also served on the Research Vessel Safety Committee and participated in numerous ship scheduling meetings over the years. His many contributions to Fleet operations, management, and safety are greatly appreciated. We will miss his memorable Cajun sense of humor. We wish him the best, along with sunny days, gentle breezes, and pleasant times in the Louisiana Bayous.

Steve is shown here being honored for his time spent as RVOC Chair. Pictured from left: Joe Ustach, Tim Cowles, Mike Prince, Steve Rabalais. Photo by Kate Sawyers.

Tom Smith, Marine Superintendent at University of Alaska Retires

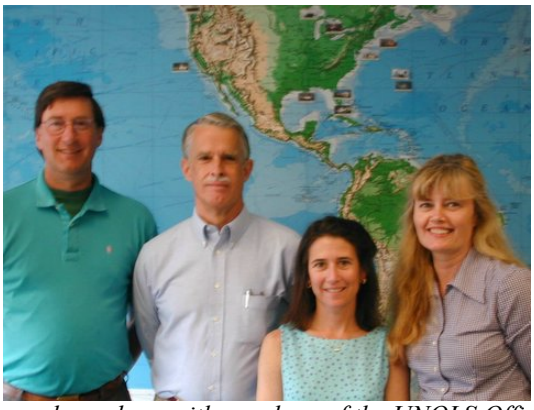
Tom Smith retired in June 2006 from his position as the Marine Superintendent at University of Alaska's Seward Marine Center. He oversaw operations of the R/V *Alpha Helix* and was an active participant of the Research Vessel Operators' Committee. He served on the RVOC Safety Committee as Chair and in his retirement still contributes to UNOLS by assisting in the update of the Research Vessel Safety Standards. We wish Tom the best in his retirement.

Bob Knox, Associate Director of Ship Operations and Marine Technical Support at SIO Retires

UNOLS says farewell to a Past UNOLS Chair and long time contributor. Dr. Robert A. Knox, Associate Director of Ship Operations and Marine Technical Support at Scripps Institution of Oceanography retired this year. During his time as Director, he oversaw the operations of a variety of UNOLS vessels, including R/V *Revelle*, *Melville*, *New Horizon*, *Sproul*, and *Thomas Washington*. His advice during the mid-life refit of R/V *Melville* and in the construction of the R/V *Revelle* was greatly valued and helped to improve the science capability of these vessels.

Bob Knox may very well be the individual who served the most number of years on the UNOLS Council. Since 1986, he served about 15 years on the Council, four of those years as the UNOLS Chair. Under his leadership he guided UNOLS through many fleet planning and improvement efforts. Bob was always willing to share his time and energies to address important issues impacting the Fleet. The UNOLS Office called on him often for advice and guidance. His devotion to the improvement of the UNOLS Fleet has been truly appreciated and he will be greatly missed. We wish Bob the best in his years of retirement.

Dr. Robert A. Knox



Bob Knox shown here with members of the UNOLS Office. From left: Mike Prince, Bob Knox, Annette DeSilva, and Kate Sawyers.

Mike Prince honors Bob Knox for his contributions as UNOLS Chair.

~ In Memoriam ~

Our deepest sympathy is extended to the family and friends of Lieutenant Jessica Hill and Petty Officer 2nd Class Steven Duque. The two were Coast Guard divers assigned to U.S Coast Guard Cutter *Healy*. They died on August 17th during a diving accident in the Arctic Ocean.

Meeting Announcements

INMARTECH 2006

2006 International Marine Technicians Symposium
Tuesday, October 17 to Thursday, October 19, 2006
Woods Hole Oceanographic Institution, Woods Hole, MA

The INMARTECH Symposium is held every two years. It provides a forum for marine technicians from institutions and organizations throughout the world to come together to discuss issues and procedures used to support science operations. Some of the technical sessions and activities tentatively planned for INMARTECH 2006 include:

- Shipboard Handling Systems and Over-the-Side Safety Issues
- Innovations in Vehicle Systems, Ship Capabilities, and Marine Technology
- Facility Tours (Ships, vehicles, and equipment) and Poster Session
- Underway Data Collection and Archiving Standards
- Long-term Instrumentation Deployments - Challenges, Issues, and Solutions
- Shipboard Network Security
- Lessons Learned - Equipment Tricks, Techniques, and Cool Products
- International Shipping - Dealing with New Regulations (Chemicals, Samples, Instrumentation)
- Shipboard Outreach and Education - Required Infrastructure and Implementation
- Ship to Ship/Ship to Shore Wireless Access Protocol (SWAP)

For additional details about the symposium and how to register visit:
<http://www.unols.org/meetings/2006/200610inm/inmartech06.html>

DEEP SUBMERGENCE SCIENCE COMMITTEE
Annual Fall Community Meeting

Thursday - November 9, 2006
Seattle Aquarium
1483 Alaskan Way, Seattle, WA 98101
8:30 a.m. to 3:30 p.m.

The DEep Submergence Science Committee (DESSC) invites you to attend their winter meeting on Thursday, November 9, 2006. The meeting will be held at the Seattle Aquarium located on Pier 59 on the Waterfront at 1483 Alaskan Way, Seattle, WA. This year the DESSC meeting has been scheduled to coincide with the annual meeting of the Western Society of Naturalists (Evening of November 9 to November 12). Details about the WSN meeting can be found at <http://www.wsn-online.org/WSN_news.html>.

The DESSC meeting will be of interest to all science users and future users of deep submergence facilities. Students interested in deep submergence science are encouraged to attend the meeting. The agenda will include presentations by the National Deep Submergence Facility (NDSF) operator, funding agency representatives, as well as Principle Investigators who used submergence vehicles in 2006. Facility operation summaries and schedules will be presented. DESSC activities, future plans and issues will be reported. This will include discussion of long-range planning, public outreach and educational activities.

Additional details about the meeting along with a registration form will be posted on the UNOLS website when available. There is no cost associated with attending the DESSC meeting.

Please Note: This is the fall DESSC meeting. There will not be a DESSC meeting at the 2006 Fall AGU Meeting in San Francisco. The fall 2007 DESSC Meeting is scheduled to coincide with the December 2007 AGU meeting in San Francisco.

2006 UNOLS Calendar of Meetings			
Committee	**Meeting**	**Dates**	**Location**
SSC	Ship Scheduling Meeting	Oct 3	NSF - Arlington, VA
FIC	Fall Meeting	Oct 4	NSF - Arlington, VA
Council	Fall Meeting	Oct 5	NSF - Arlington, VA
UNOLS	Annual Meeting	Oct 6	NSF- Arlington, VA
SCOAR	Fall Meeting	Oct/Nov	Phone/Web Conference
RVTEC	Annual Meeting	Oct 16	WHOI, Woods Hole, MA
Science	INMARTECH 2006	Oct 17 - 19	WHOI, Woods Hole, MA
DESSC	Fall Meeting	Nov 9	Seattle Aquarium, Seattle, WA

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>.
Thank you, Annette DeSilva - Editor, UNOLS News

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