



UNOLS NEWS

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Winter 2006

UNOLS Council

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A Message from the UNOLS Chair....

The second half of 2005 continued for UNOLS to be one with both positive accomplishments and areas of concern. The academic fleet that began 2005 with 27 vessels is now at 26 as a result of the decommissioning of the Texas A&M vessel R/V *Gyre*. It will be reduced further with the decommissioning of the R/V *Weatherbird II* at the Bermuda Biological Station for Research and its replacement by the R/V *Seward Johnson II* in 2006. Even with a reduced fleet size, the most pressing issue continues to be that of scheduling the Academic Fleet in a time of a shrinking allocation of funds for ship operations. At UNOLS Ship Scheduling Committee meetings in July and September, a schedule was created for 2006 that keeps most of the fleet operating, although at below optimal levels for all of the classes (Local, Regional, Intermediate/Ocean, and Global). In previous years, the total ship days utilized by the academic community was approximately 5000. The shortfall in funding will result in partial schedules, especially for Intermediate/Ocean and Regional Class vessels, but there still will be around 4000 days of sea time scheduled. Supplemental funds, which were appropriated in the recent Defense Bill, will likely enable the Global Class ships to have extended maintenance periods when they are not at sea. A review of 2007 ship time requests for funded NSF projects shows costs approaching the previous couple of year's support for NSF ship operations. As a result, NSF (L. Clark) issued an announcement concerning the likelihood of there being highly constrained ship time for additional projects in Calendar Year 2007. It is important, however, for the community to continue to submit competitive proposals for ocean research that utilize the UNOLS Fleet so that the agencies and the congressional committees that make decisions about future needs see that there are exciting and socially relevant research problems that require access to the sea.

In a more positive vein, the efforts to replace portions of the aging fleet are moving forward with the NSF RFP for the Regional Class ship design/build competitors now out and the selection of two design/build teams soon to follow. A similar ONR process is expected to start soon for the next generation of Ocean Class vessels. At the Annual UNOLS meeting that took place in October, the formation of a new UNOLS Committee, the Marcus Langseth Science Oversight Committee (MLSOC), was approved by the membership. This committee was formed to oversee science and ship operations for a National Oceanographic Seismic Facility (R/V *Marcus Langseth*, a modern commercial 3D seismic

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vessel to replace *Ewing*), contingent on the successful conversion and designation of the *R/V Marcus Langseth* as a UNOLS vessel. Subsequently a slate of candidates, put forth by the ad hoc UNOLS Steering Committee chaired by Marcia McNutt, were approved by the UNOLS Council and recently appointed (they are listed at <http://www.unols.org/committees/mlsoc/>).

The *Langseth* should begin service late this year. Finally, in early 2006, the newly built *R/V Hugh R. Sharp* will start service, replacing the *Cape Henlopen*.

NSF has indicated the need for new ship construction and ship conversion efforts to address Americans with Disabilities Act (ADA) requirements and has asked UNOLS to develop ADA Guidelines for Research Vessels. To the extent possible, vessels that support Federally funded academic research should be equipped and arranged as feasible to accommodate persons with disabilities. In turn, procedural guidelines to carry out shipboard operations by persons with disabilities are needed. A committee chaired by Terry Whitley is in the process of being formed and will immediately set to work in order to provide advice during the design phases for the new Regional and Ocean class vessels. More information about this is contained on page 5.

In April 2006, the Moss Landing Marine Labs (MLML) UNOLS Office will complete their second 3-year term. Ordinarily, a review of the MLML Office would be conducted to see if a move was needed. According to the UNOLS Charter, the selection of an institution to host the UNOLS Office and of Executive Secretary shall be by an open, competitive process. The Charter further specifies that the UNOLS Chair, with the

UNOLS Council, shall review the UNOLS Office performance and activities on about three-year intervals (or at intervals controlled by the duration of funding grants). The Office may, if so suggested by review, be moved after three, six, or nine years, and it would remain at a single institution for a period longer than nine years only under extraordinary circumstances. NSF, however, has new rules that require that the Office be competed at least every five years. In response, the UNOLS Council formed a committee to conduct a review and in the process polled all of the UNOLS operator institutions to see if any were interested in competing for the UNOLS Office. None were. To conduct the Office review, performance evaluation criteria were formulated and a web based evaluation form was created, which the Council members used to do the evaluation. The results were uniformly consistent, with high scores on all criteria. Based on the evaluation, the ad hoc committee found the performance of the UNOLS Office to be excellent (see more at <http://www.unols.org/meetings/2005/200510cnc/200510cncap08.PDF>). At the October meeting, the Council passed a resolution endorsing MLML to host the UNOLS office for a third three-year term.

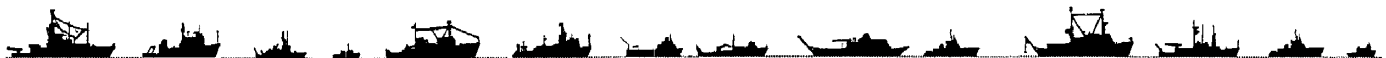
The items above represent some of the important activities being addressed by the UNOLS committees and the Council. In this newsletter information about the operation and new developments of the deep submergence assets are highlighted in the DESSC report. The successful season of the USCGC *Healy* in the Arctic this past summer and the continued tribulations of the Polar Class icebreakers are discussed in the AICC report. The RVTEC meeting in November was very well attended and

the enthusiasm of the technical personnel to provide superb support for scientists going to sea on UNOLS vessels was quite evident. The Research Vessel Operators Committee (RVOC) continues to work behind the scenes to make group purchases of gear needed to enhance the capabilities of the Fleet and to deal with vessel and port security issues. The Scientific Committee for Oceanographic Aircraft Research (SCOAR) has completed its third year since inception. Their activities to link all federally operated research aircraft organizations relevant to oceanographic research are highlighted on page 11.

Each year the UNOLS Council reviews the issues and objectives of the organization at the fall meeting and renews its commitment toward “promoting broad coordinated access to oceanographic research facilities, supporting continuous improvement of existing facilities, and planning for and fostering support for the oceanographic facilities of the future”. The ten issues and objectives for the coming year are presented on page 4.

Finally it is important to emphasize that the UNOLS committees are populated by individual scientists, ship operators, and technical support personnel that voluntarily provide their time and expertise to the committees on which they serve. Each year there are new openings on the various committees and we encourage those who are interested in this effort to participate. A list of those whose terms of service have ended recently are listed on page 5; their efforts are greatly appreciated.

Peter Wiebe
UNOLS Chair



UNOLS 2005 Annual Meeting Highlights

The UNOLS Membership met on Friday, 14 October 2005 for their Annual Meeting. Peter Wiebe, UNOLS Chair, presided over the meeting. He began with a summary of the major accomplishments within UNOLS over the last year.



Peter Wiebe, UNOLS Chair, at the 2005 UNOLS Annual Meeting podium.
Photo by Kate Sawyers (UNOLS)

The 2005 meeting was highlighted by a Keynote Panel address that discussed the Nation's plans for responding to the Ocean Commission's report, "An Ocean Blueprint for the 21st Century."

The panelists included Mr. Peter Hill, Dr. David Halpern, and Ms. Margaret Spring. Mr. Hill began the discussion. He served as a staff member for the Ocean Commission and is now at the Consortium for Oceanographic Research and Education. Mr. Hill reported that there has been a lot of ocean-related activity on the National, State, and Local levels this past year. The Congress has introduced over 50 ocean related bills. A National Ocean Policy report is being prepared that will provide a response to the Commission's report. It is expected by the end of 2006. The report will be the roadmap for future ocean science. The community should stay engaged and provide input to the report.

Dr. David Halpern continued the panel discussion. Dr. Halpern serves in

the Science Division of the President's Office of Science and Technology Policy (OSTP). He is also a co-Chair with Drs. Margaret Leinen (NSF) and Rick Spinrad (NOAA) of the Joint Subcommittee on Ocean Science and Technology (JSOST). The OSTP was created by an act of Congress in 1976 to advise the President on science and technology policies, plans, programs and budgets.

Dr. Halpern explained that the Administration implemented an Executive Order (#13366) to establish a Committee on Ocean Policy and develop an "Ocean Action Plan." The Plan will work to develop strategies that conserve living resources, advance policy through the best science and data, and work towards an ecosystem-based approach in resource management. They seek enhanced coordination, collaboration, and synergies between federal agencies, state and local governments, academia, industry, and nongovernmental organizations. The principles for the Ocean Research Priorities Plan and Implementation Strategy will be developed in an open manner. Dr. Halpern explained that Town Hall meetings and other open forums are planned in early 2006. These forums allow opportunity for community input and he encouraged UNOLS to keep abreast of these opportunities.

Dr Halpern continued by briefly discussing the activities of the JSOST. Their major governance areas include ocean observations, ocean infrastructure, harmful algal blooms, hypoxia and human health, ocean and coastal mapping, ocean education, and partnership programs. Within the ocean

infrastructure area, the task to develop a strategic plan for major infrastructure (ships, submersibles, ROVs, aircraft, observatories) is included.

Ms. Margaret Spring, Senior Minority Counsel for the Oceans and Fisheries Subcommittee, wrapped up the panel address. She discussed how the Senate and Congress in general plan to implement the Ocean Commission's recommendations. She indicated that the most important committee for UNOLS to focus on is the National Ocean Policy Study (NOPS). NOPS is chaired by Senator John Sununu (R-NH) and includes ranking member Senator Barbara Boxer (D-CA). The re-creation of this committee is a signal from the Senate of its high importance. They have the ability for cross cutting other areas of the Government with subcommittee members and also members of the Appropriations Committee. In 2005, the NOPS did not receive much attention because of other pressing issues and natural disasters. Hopefully in 2006 NOPS will see more activity.

The UNOLS Annual Meeting also included a variety of other presentations, reports and issues of interest to the UNOLS community. These included a report on the status of the Federal Oceanographic Facilities Committee's Fleet Renewal Plan, and an update reports on the FIC Fleet Improvement Plan. UNOLS Membership votes were held to fill Council positions and to form a new UNOLS standing committee to oversee science and operations for the R/V *Marcus Langseth*. Additional details of some of these activities are contained in this newsletter.



UNOLS Issues and Objectives for 2005/2006

The UNOLS Council and Committee members have formulated ten major issues and objectives for the 2005/2006 year. We hope that the membership will assist us in addressing these issues and reaching the objectives. The objectives are listed below:

Fleet Renewal - Support the implementation of the existing FOFC plan, vessel design efforts, and funding for new ship construction.

Facilities Improvement Planning - Update the UNOLS Fleet Improvement Plan with respect to the current and projected status of other major facilities and with respect to the interaction between fleet renewal and fleet midlife refits, etc.

Scheduling - Make the best use of existing vessels, in light of financial limitations and prior commitments restricting ship availability in 2006 and beyond and look at the possibility of new scheduling paradigms.

Communications - UNOLS is in a unique position to communicate between the scientific user, support facilities, and funding agencies. UNOLS should strive to improve communications and interactions between these three groups regarding major facility issues

Facilities Improvement - Promote and assist with planning for new types of facilities for ocean sciences such as ROVs, AUVs, Aircraft, UAVs, and observatories.

Permitting - Support efforts for improving the processes for obtaining permits related to research cruises.

Education and Outreach - Support and promote shipboard capabilities to facilitate public education and outreach by scientific users, educators and facility operators.

Balancing the Impacts of Increasing Costs - Work with the community to establish the appropriate balance between available resources and the

level of support required to support quality operations.

Regulatory Impacts - The burden in time and money imposed by new regulatory requirements with regard to safety, security, conservation, and environmental impact have affected the cost and capabilities of ships in the UNOLS fleet. Work with the funding agencies to find support, resources and relief with regard to these requirements including the facilitation of cooperative UNOLS-wide solutions wherever possible.

Personnel (Technical and Marine) - Finding, recruiting and retaining qualified, technically literate personnel to operate our ships and instrumentation is an increasing challenge for the member institutions, which needs to be addressed cooperatively by UNOLS institutions, agencies and the maritime/technical training industry.

Subcommittee formed to Establish Safety Standards for HOVs

NSF and NOAA have requested that a committee be formed to establish safety standards for Human Occupied Vehicles (HOVs) that are used to support science. The Safety Standards will address certification of the vehicle, ship, handling system, and operation. The safety standards will also address crew training for the vehicle and ship. Membership on the Subcommittee includes representation from HOV operators, science HOV users, marine superintendents, and HOV pilots. Members include Dana Wilkes - Chair (NOAA), Tim Askew (HBOI), Colleen Cavanaugh (Harvard), Pat Hickey (WHOI), Terry Kerby (HURL), Dan Schwartz (UW), Barrie Walden (WHOI), and Craig Young (U. Oregon). The project is expected to be a multi-year effort.

UNOLS Council Election Results

Elections were held at the UNOLS Annual Meeting on October 14, 2005 to fill two positions on the UNOLS Council. We are pleased to announce the election results. **Dr. Peter Ortner** of the University of Miami/Atlantic Oceanographic and Meteorological Laboratories was re-elected to a second term as an Operator Representative. **Dr. Robert Pinkel** of Scripps Institution of Oceanography was elected to a first term as an At-Large Representative.



New UNOLS Standing Committee is Formed - Marcus Langseth Science Oversight Committee (MLSOC)

The UNOLS Membership approved a new UNOLS Standing Committee on October 14, 2005 to oversee science and ship operations for a National Oceanographic Seismic Facility. Last year, Lamont-Doherty Earth Observatory (LDEO) acquired a modern commercial 3D seismic vessel to replace *Ewing*, now renamed the *RV Marcus Langseth*. Once converted for oceanographic research and after successful completion of the ship inspection, the *Langseth* will be operated as a UNOLS Vessel and as a National Oceanographic Facility. The science community and NSF have expressed the need for an oversight committee that would provide advice to LDEO and the funding agencies regarding the operation of this facility.

The new UNOLS Standing Committee has been named the Marcus Langseth Science Oversight Committee (MLSOC). They will work to:

- Provide advice on scientific programs.
- Forecast future operations locations.
- Provide advice on scheduling issues.
- Address user concerns.
- Review technical capabilities.
- Monitor issues related to permitting.
- Encourage technology expansion and upgrades.

The MLSOC Membership consists of ten voting members with representation in 3D and 2D seismic, including industry operations, data acquisition expertise, and general oceanography. There will also be ex-

officio representation by RVTEC, RVOC and LDEO. The membership includes:

- W. Steven Holbrook (Chair), U. of Wyoming
- Michael E. Enachescu, Memorial University of Newfoundland
- Nancy Grindlay, U. of N. Carolina at Wilmington
- H. Paul Johnson, U. of Washington
- Graham M. Kent, Scripps Institution of Oceanography (SIO)
- Peter Littlewood, Shell International Exploration & Production, Inc
- Mitchell Lyle, Boise State University
- Raymond W. Schmitt, Woods Hole Oceanographic Institution (WHOI)
- Thomas Shipley, U. of Texas
- Peter Tyack, WHOI

Americans with Disabilities Act (ADA) Guidelines for Research Vessels

As the Federal Agencies move forward with the design, construction, and conversion of research vessels (the Alaska Region Research Vessel (ARRV), Regional and Ocean Class vessels and *RV Marcus Langseth*), it is necessary to address ADA accessibility in the ship designs. Vessels that support federally funded academic research should be as accessible as feasible to accommodate persons with disabilities. NSF has asked UNOLS to develop ADA guidelines for research vessels. In response to NSF's request, UNOLS has formed a committee to draft general ADA Guidelines for new ship construction/conversion. They will also work to draft procedural guidelines for at-sea research operations by seagoing scientists with disabilities. Terry Whitledge (UAF and FIC member) has agreed to Chair the Committee. Other members Amy Bower (WHOI), Eric Buck (SIO), David Chapman (UDel), Jim Cochran (LDEO), Matthew Hawkins (UDel), Dennis Nixon (URI), Al Suchy (WHOI), and Joe Ustach (Duke).

UNOLS Says Thank You to Departing Council and Committee Members

UNOLS thanks those Council and Committee members who have completed their terms and service for UNOLS in the past year. The following individuals are recognized:

- Council - Denis Wiesenburg (UAF)
- DESSC - David Mindell (MIT) and Maurice Tivey (WHOI) ex-officio member
- RVTEC - Steve Poulos (U. Hawaii) Vice Chair

- FIC – Ron Benner (U. South Carolina)

The time, service, and contributions provided by these individuals are greatly appreciated.

*Thank you for your service to
UNOLS!*



UNOLS Chair, Peter Wiebe, honoring Denis Wiesenburg for his six years of service on the Council. *Photo by Kate Sawyers.*



Renewal of NAVO Academic-User Gravimeter Memorandum of Understanding between NSF, ONR, and NAVOCEANO

By Dan Fornari (WHOI), Randy Herr* and Scott Langford (NAVOCEANO)

Nearly ten years have passed since the establishment of the U.S. Academic - Navy/NAVOCEANO Gravimeter loan program. This program provides for the routine loan of NAVO gravimeters to federally funded scientists for a wide variety of research projects throughout the globe.

Given the great success of this program in providing access to NAVO's gyrostabilized gravimeter systems by the broad marine science community, as well as much needed spare parts and repairs to NAVO's gravimeters, the federal agencies have agreed to extend the MOU for another five years.

During the past five years over \$200k has been received into the gravimeter pool account maintained by WHOI from various sources, primarily NSF research grants where field programs have required the use of

NAVO gravimeters. In addition, USGS has also utilized the meters for some innovative land gravimetry studies, and they have also been used for Arctic research. The table below shows the last five years of usage.

Funds in the gravimeter pool account have been used to purchase a wide variety of needed electronic and spare parts for NAVO gravimeters, and has also included extensive refurbishment and upgrading of several meters by the sole vendor that services the Bell BGM-3 and BGM-5 meters – Lockheed-Martin.

Based on the last five years of usage and the funds required to help maintain the NAVO gravimeter pool, the \$8,000./month use fee, which was originally established as part of the MOU, will be maintained. It should be recognized that NAVO interprets the

monthly funding requirement to the advantage of the academic users. For instance, frequently, if mobilization is made simpler by installing the meters earlier in U.S. ports, NAVO does not charge for the entire time that the meter rides the ship, but only for the duration of the actual field program rounded down to the nearest month.

The gravimeter pool has been administered by WHOI for the past ten years on a no-cost basis to the funding agencies. The authors work with principle investigators and agency program managers to provide estimates for proposal purposes and, when funded, help organize the logistics, insurance, and operation of the meters for the users. Researchers interested in using NAVO-Academic pool gravimeters for their field programs should contact the authors.

Table: US Academic/NAVO Gravimeter Users 2000-2006:

Date of Use	Vessel	Institution	PI Investigator
April 2000	<i>Alvin</i>	WHOI	Fornari/Cochran
August 2000	<i>Knorr</i>	WHOI	Lin
October 2000	<i>SOAR</i>	UT-AUSTIN	Blankenship
March 2002	<i>Melville</i>	SCRIPPS	Sutherland
March 2003	<i>Atlantis</i>	WHOI	Smith
April 2003	<i>GLOBE</i>	PSU	May
December 2003	<i>Ewing</i>	LDEO	Diebold
March 2004	<i>Healy</i>	UA-F	Coakley
June 2004	<i>LAND</i>	USGS	Scheirer
April 2005	<i>LAND</i>	USGS	Scheirer
May 2005	<i>Knorr</i>	WHOI	Smith
2006:			
January-May 2006	<i>Revelle</i>	SIO	Lonsdale(SIO), Lyle (Boise St. U.)

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*Retired

~ *Thanks To Randy Herr* ~

The UNOLS community wishes Mr. Randy Herr of NAVOCEANO all the best in his retirement, and thanks him for his service over the past decade in providing gravimeters to academic scientists.



UNOLS Committee News

Fleet Improvement Committee Activities

by Dave Hebert, FIC Chair

Since the Summer newsletter, the Fleet Improvement Committee (FIC) has continued to work on several different aspects of fleet renewal, including matters related to revising the UNOLS Fleet Improvement Plan and items concerning the Regional and Ocean Class vessels.

Regional Class Vessels: At the end of October, the Navy's Program Executive Office, Ships (PEOShips) issued a Request for Proposals for the design-to-build teams of the Regional Class vessels. NAVSEA's PEOShips is managing the Regional Class Acquisition process that is being supported by NSF.

Ocean Class Vessels: As mentioned in the last newsletter, ONR plans to construct four Ocean Class vessels. Funds are specified for research vessel design in the President's FY2006 budget.

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.

Americans with Disabilities Act (ADA): As reported on page 5, UNOLS has formed a subcommittee to draft ADA guidelines for research vessels for new ship construction and conversion efforts. In a related

item, David Chapman, University of Delaware, has been awarded a NSF grant to survey many of the present UNOLS vessels and to make suggestions of reasonable modifications that can make these vessels more accessible for people with disabilities. David Chapman has agreed to be a member of the UNOLS subcommittee. He has asked that people from the UNOLS community provide input to his study.

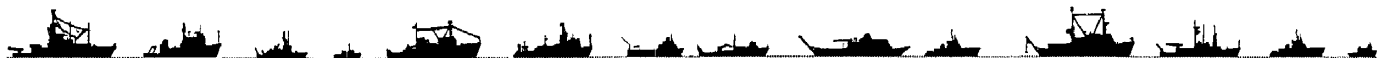
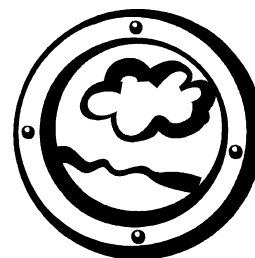
Ocean Observatories: FIC plans to keep abreast of the needs of the ocean observatories. ORION has scheduled a meeting at the end of March 2006 in Salt Lake City to discuss possible scenarios for observatories. It is critical to understand what UNOLS resources will be needed to install and service these observatories.

RV Kilo Moana: FIC has been conducting debriefs of the Chief Scientists who have used the *RV Kilo Moana* to better understand the capabilities of this SWATH vessel. FIC would like to inform the community about these capabilities in order to dispel any misconceptions. We are waiting until the *RV Kilo Moana* receives its new over-the-side handling system for CTD operations before preparing a summary document or article.

Fleet Renewal Plans: The Federal Oceanographic Facilities Committee (FOFC) has been meeting on a regular basis as they move forward in producing a renewal plan for all of the federal

research fleet, including the academic fleet. FIC has been interacting with FOFC as they proceed. FOFC has asked FIC to provide input on why ships are needed and provide examples of science accomplishments or discoveries that would not have been possible without ships. FIC is also working on updating the 1995 UNOLS Fleet Improvement Plan (FIP). This was the major agenda item at our fall meeting. The 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. We hope to have a working draft of the FIP available for comment this spring.

FIC Membership: Finally, Clare Reimers (Oregon State University) has been appointed to serve a second term on FIC. Due to other commitments, Ron Benner (University of South Carolina) will not pursue a second term on FIC. FIC thanks Ron for his great service during his term as a member of FIC. We are now actively looking for a replacement (see announcement in this newsletter on page 13).



Arctic Icebreaker Coordinating Committee News

by Margo Edwards, AICC Chair

USCGC *Healy* had a long, busy and highly successful field season during the summer of 2005. Three innovative programs took *Healy* physically and technologically into uncharted waters, expanding the range of the ship to the central Mendeleev Ridge and adding deployments of remotely-operated vehicles and multi-channel seismic systems to the growing list of *Healy* capabilities. Between early June until early October, *Healy* collected sediment cores and ice cores, mapping and sampling the ice canopy, water column, seabed and subsurface during a transect across the Arctic Basin. The final science leg of the 2005 season included joint operations with the Swedish icebreaker ODEN followed by a long transit back to Seattle. To chart *Healy*'s success as a platform for science, AICC members now debrief scientists at the end of each field program, use these reports to generate a prioritized list of recommendations to assist subsequent field programs and then track the responses to the recommendations to evaluate *Healy* improvements. The committee is presently formalizing the list of recommended improvements for the 2006 field season, which will again include seismic surveying as well as an EEZ mapping program, diverse oceanographic sampling on the shelf north of Barrow and testing an autonomous underwater vehicle for subsequent use during science legs in the Arctic Ocean.

There are several noteworthy changes and events for the Polar Class icebreakers. For the 2006 Deep Freeze operation, the *Polar Star* was on standby in Seattle,

waiting to assist the Russian icebreaker *Krasnin* if necessary. Due to problems with one of *Krasnin*'s propellers, *Polar Star* did sail to assist with the escort and break-in efforts. The U.S. Coast Guard (USCG) has received funds to effect short-term repairs on the *Polar Sea*, which are anticipated to sustain the ship for an additional two to three years. The repairs are already underway, and *Polar Sea* is expected to support Deep Freeze in 2007. Members of AICC prepared and presented a report to the National Academy of Sciences (NAS) Polar Research Board's panel on "Assessment of US Coast Guard Polar Icebreaker Roles and Future Needs" regarding science needs in the Arctic Ocean. The NAS panel has just released an interim report that makes five recommendations regarding USCG icebreakers:

- 1) The United States should reliably control (by ownership or other means) at least one heavy icebreaker that is available and capable of breaking a channel into McMurdo Station.
- 2) The United States should maintain dedicated, year-round icebreaker capability for the Arctic to support National security interests as well as science.
- 3) In the short term, the required maintenance should be performed to make at least one Polar Class ship mission capable over the next four to eight years.
- 4) In the short-term, the management of the U.S. polar icebreakers should reside with the U.S. Coast Guard, and it should have the appropriate

operational and maintenance budget to fulfill U.S. Coast Guard missions that require icebreaking.

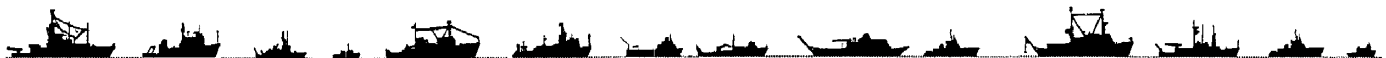
- 5) In the short-term, the NSF should revert to being a user and should continue to negotiate financial agreements to pay for icebreaker services when U.S. Coast Guard ships are employed.

The full text of the NAS interim report is available at <http://www.nap.edu/catalog/11525.html>.

The fall meeting of AICC took place on December 12th and 13th in Seattle at the USCG base. The next AICC meeting is planned for April 18 - 19 in Arlington, VA. This meeting is scheduled to take place in conjunction with the next meeting of the Antarctic Research Vessel Oversight Committee (ARVOC).

In 2007 three of the eight AICC members will rotate off the committee: Robert Bourke, Margo Edwards and Peter Minnett. The committee expects to send an announcement soliciting potential new members in the beginning of 2006 to allow some overlap of departing and incoming members in the fall. We hope that the committee will continue to reflect the diverse background of the Arctic marine science community, with potential new members demonstrating experience in atmospheric, oceanographic, and geophysical sciences.

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



Research Vessel Operators' Committee News

by *Tim Askew, RVOC Chair*

The April 2006 meeting is taking shape. The University of Washington in Seattle is hosting the event thanks to Dan Schwartz, Manager of Marine Operations. Hotels have already been blocked for the meeting and Dan is sending out information. The membership has been solicited regarding agenda items and venues.

The past year was very busy with group purchases of equipment funded by the National Science Foundation (NSF) and handled by various UNOLS Universities and Institutions. Oregon State University (OSU) provided Furuno Radars to seven vessels. Woods Hole Oceanographic Institution (WHOI) ordered Furuno Doppler Speed Logs for eight vessels and they were delivered in January. WHOI also did a group purchase for life rafts. Stability reviews for all UNOLS vessels that are not current are being handled by Scripps Institution of Oceanography with several vessels being completed in

2005 and the rest in 2006. Louisiana Universities Marine Science Consortium purchased GPIRB's for thirteen Institutions (twenty-eight units).

The science van construction is progressing nicely with the East Coast pooled aluminum isotope van being completed along with the aluminum isotope van for a University of Rhode Island scientist, and a steel general purpose van for a University of Delaware scientist. Construction is in progress on the WHOI aluminum hydro van and a ten foot isotope van for the University of Minnesota / *Blue Heron*.

Regulatory issues still remain high on the RVOC list even though the deadlines are long past. All the effected vessels over 500 GRT now have Vessel Security Plans (VSP), port facilities have Facility Security Plans (FSP) where required, and there are Non-Tank Vessel Response Plans

(NTVRP) for vessels over 400 GRT. The NTVRP in some cases are still being reviewed by the U.S. Coast Guard but the vessels have a provisional letter.

This past hurricane season has caused operations to be hampered in some way from the East Coast of the Carolinas, Georgia, and Florida, all the way through the Gulf States to Texas. Most ports were closed and fuel and supplies were difficult to obtain. Travel by crew and scientists was practically non-existent for a period of time. Several years will be needed to completely return to normal. Crewing of the UNOLS vessels in this area is extremely difficult due to the huge loss of homes and businesses. Many potential or former crew members are busy relocating or rebuilding and simply cannot go to sea.

Ship Scheduling Committee News

By *Rose Dufour, Ship Scheduling Committee Co-Chair*

In our usual manner, the Ship Scheduling Committee held a September review in order to move towards viable 2006 operating schedules. What loomed over this process was the uncertainty of Congressional appropriations, which are now coming to light in a very dramatic way. The concern during the September scheduling review was that NOAA Ocean Exploration (OE), OAR, and NURP may have underestimated their ship/ROV costs, exacerbated in part by escalating ship rates (that were

realistically reacting to volatile fuel prices.) The ultimate result will be a reduction of NOAA time to fit within their projected budget. Like a bad *déjà vu*, the ship operators were again faced with a third revision to national schedules at the commencement of an operating year. The funding agencies asked that we hold a meeting the week of January 9th 2006 to reassess large and a few intermediate 2006 ship schedules. As we all know this tedious job is made more difficult due in part to complicated logistics

(diplomatic clearances, IHA permits, shipping considerations, etc, etc) that may well void efficient options at this late date. The mantra that in past years schedules were known before the ship started to execute the agreed upon set of cruises that comprise an operating year, has now thrice been upstaged by late painful budgetary realities. The hardest unraveling to control is the spill over to other agencies by the increase in the daily rate, which is a function of costs vs. operating days. Less days equals higher rates!

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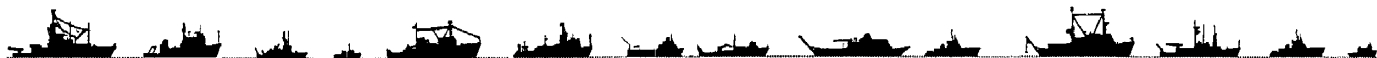
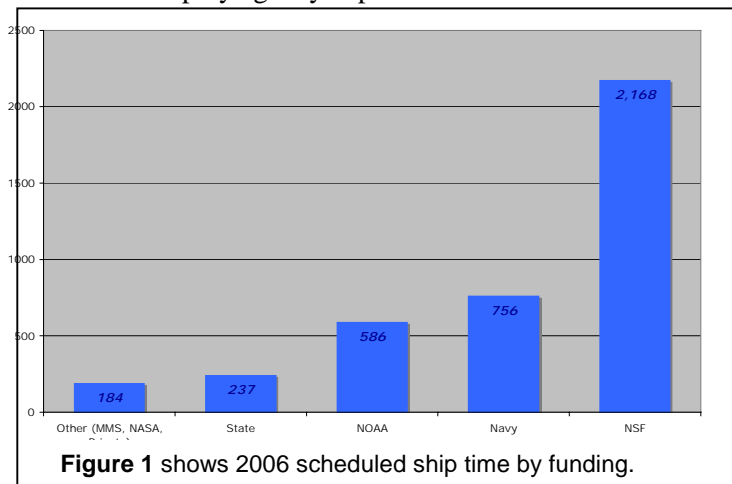


Figure 1 shows 2006 scheduled ship time by agency. A brief recap by agency is provided below.

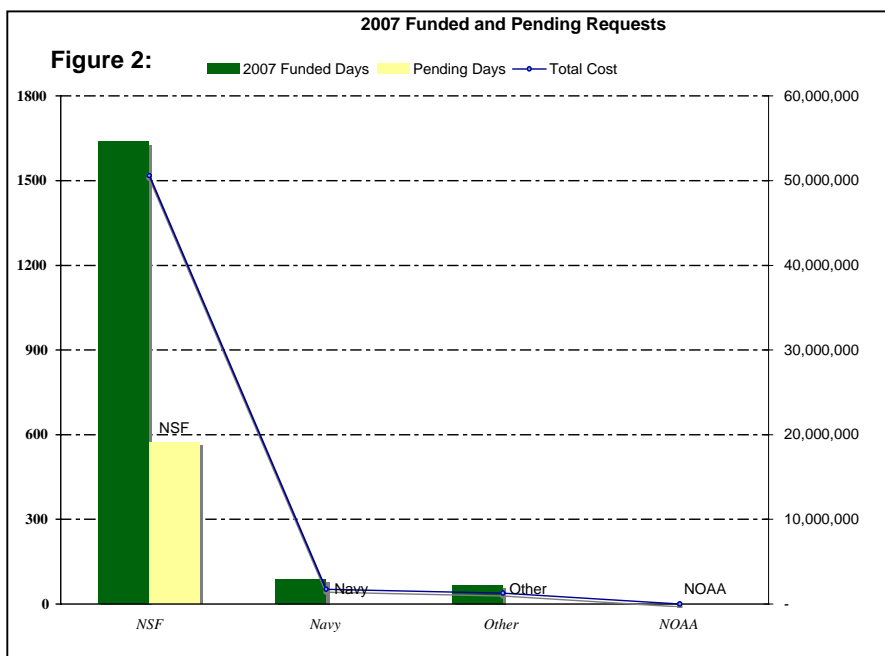


Ocean Science Announcement, the idea that ship time will be granted from the May panels seems highly unlikely. “There is an unprecedented case right now that as we start the 2007 UNOLS ship scheduling cycle, already funded research programs come close to fully encumbering the projected ship operations budget. This means that for proposals submitted to the February 2006 target date, scheduling a cruise in 2007 could be a problem, especially on the Global Class vessels.” The attached charts substantiate Larry Clark’s assertion that NSF has deferred, committed 2007 new funds, or has pending, an amount equivalent to their normal ship usage. The advanced scheduling timetable might enable the other agencies to spot opportunities and react in a timely manner that would include costs into their budget planning. Therefore the notion would be to move the traditional summer scheduling meeting into early spring. Figure 2 shows 2007 funded and pending days and their associated cost.

NOAA: Some activity has occurred for UNOLS to play a small role in NOAA’s Deep Ocean Assessment and Reporting of Tsunamis (DART) Program deployments in 2005/2006. NOAA’s National Data Buoy Center (NDBC) has taken a position that once schedules have been developed, then they can better decipher opportunities to insert work for deployments, turnarounds, and repairs. We hope that with positive experiences, NOAA/NDBC will decide to increase UNOLS charters to carry out a larger portion in their multi-year DART deployments.

Finally, as we head into 2006, we can look at this as

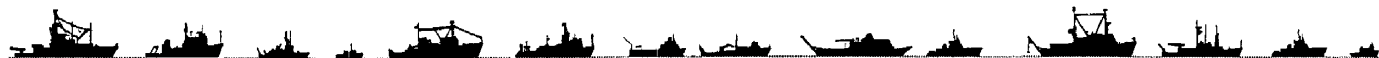
Navy: The anticipated Navy plus up money slated for UNOLS ships was appropriated in the Defense Bill. Several Navy cruises have been added since the September meeting, mainly from LWAD.



NSF: OCE was able to increase their 2006 spending by \$3M, however subsequent rises in fuel costs may have defeated efforts to move field programs (other than one MG & G cruise) from the deferred column into the 2006 scheduling arena. Despite large ship availability, some NSF programs have been moved to non-UNOLS ships in order to capitalize on savings because of regional efficiencies.

the “glass half full” and appreciate the efforts of all involved in maintaining the excellence of the UNOLS fleet. It is important to keep in perspective the bigger picture with associated issues of fleet renewal balanced against scheduling efficiency that may push attrition among career crew and specialized technicians. Ship operators are seeing hopeful signs of fuel prices dropping and small additions to their schedules from local users.

2007 Scheduling: There have been some discussions within OCE to move towards an earlier ship scheduling timeline. Given Dr. Larry Clark’s December 2, 2005



Research Vessel Technical Enhancement Committee

By Bill Martin, RVTEC Chair

The 2005 RVTEC meeting was held November 8-10, 2005 at Oregon State University. Marc Willis and his competent staff hosted an informative and effective meeting.

Steve Poulos from the University of Hawaii completed his second term as Vice-Chair, which meant we had to elect a new Vice-Chair. Stewart Lamerdin from Moss Landing Marine Laboratories was elected to fill the vacancy. We thank Steve for his four years of service and wish him well in his future endeavors.

The UNOLS Council had given RVTEC an action item to assist the Committee on Radio Frequency (CORF) to catalogue the radio frequency spectrum usage that our

oceanographic ships and researchers utilize. We formed the Radio Frequency Spectrum Committee and elected Richard Perry, (Chair) from Lamont-Doherty Earth Observatory; Steven Hartz, University of Alaska, and Toby Martin, Oregon State University, as committee members. This committee, with guidance from CORF, will determine the radio frequencies used throughout the fleet.

Other committee elections included Mary-Lynn Dickson, from the University of Rhode Island, to the Post-Cruise Assessment Committee (PCAC) and Joe Ustach, from Duke University, to the Americans with Disabilities Act Committee.

Work continues with the development of the Defined Levels of Technical Support. The UNOLS Office is developing the on-line system for providing and viewing technical services information of the UNOLS institutions.

The Global SMRs are expected to be drafted for review in 2006. RVTEC will review and provide input.

The 2006 RVTEC meeting will be held in conjunction with the INMARTECH 2006 symposium. Barrie Walden and the Woods Hole Oceanographic Institution will host both meetings. The meetings will be held during the week of October 16th.

The Scientific Committee for Oceanographic Aircraft Research Turns Three

By John Bane, SCOAR Chair

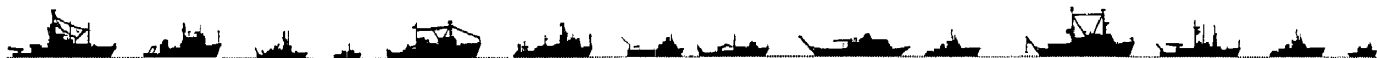
The UNOLS Scientific Committee for Oceanographic Aircraft Research (SCOAR) completed its third year at the end of 2005. These first years have been spent on two principal activities, serving as the oversight committee for the Naval Postgraduate School's Center for Interdisciplinary Remotely-Piloted Aircraft Studies (CIRPAS) and promoting the use of research aircraft in the ocean sciences. Past SCOAR reports in the UNOLS News have detailed many of the accomplishments in these areas, including the establishment of the SCOAR website <<http://www.unols.org/committees/scoar/>> (which has direct links to all federally operated research aircraft organizations), the publication of two articles about SCOAR and oceanographic aircraft research efforts (one in EOS and one in Oceanography), the establishment of a Basic Instrumentation List for all SCOAR-sponsored research aircraft, and the initial development of safety standards

for research aircraft that are operated by any UNOLS-designated National Oceanographic Aircraft Facility (at present, CIRPAS is the single NOAF).

A significant aspect of SCOAR celebrating its third anniversary is that new committee memberships must be established, since the charter members were each appointed for an initial term of three years. In order to maintain continuity and to establish an orderly staggered membership rotation, all SCOAR members will likely request reappointment for some fraction of the next three years. Details of how this will be done will be finalized by the time of the first SCOAR meeting of 2006.

The fall 2005 SCOAR meeting was conducted as a web-telephone conference on November 4. This was the second time SCOAR has used this meeting format, and it has worked so well that it was decided in future years to have one annual in-person meeting

and one or more web/telephone meetings. The intention is to have each web/telephone meeting be focused on only one or two specific issues. Following reports from agency and CIRPAS representatives, the discussion turned to the topic of a White Paper on the use of aircraft in ocean science. This has been an ongoing discussion during recent meetings, and the purpose of the White Paper is to continue the effort of promoting the use of aircraft platforms in modern oceanographic research programs. This will be the specific focus of one of our upcoming web/telephone meetings. The spring 2006 SCOAR meeting was also discussed, and our intention is to have a meeting at Moss Landing Marine Labs and CIRPAS on May 23 - 25. Following the SCOAR committee discussions, we will have a program with presentations on scientific results from aircraft. A meeting announcement will be made in February.



DEep Submergence Science Committee News

By Deborah Kelley, DESSC Chair

During the past six months, DESSC has been involved in four major activities: 1) the successful incorporation of a rock drill as a Third Party Tool for use with the National Deep Submergence Facility (NDSF); 2) the formation of a committee charged with formulating Safety Standards for Human Occupied Vehicles (HOVs); 3) development of guidelines for the addition of new assets into the NDSF; and 4) hosting the annual community meeting at Fall AGU.

Incorporation of a Rock Drill as a Third Party Tool for Use on Jason2 -

In response to a long history of support from the marine community regarding the need for a ROV-based drill, the National Science Foundation (NSF) awarded a grant to Maurice Tivey and Dan Fornari at the Woods Hole Oceanographic Institution to provide operational oversight and coordination for use of a drill on *Jason2*. The drill had been previously developed and operated by the Monterey Bay Aquarium Research Institute for use on the ROV *Tiburon*. During summer 2005, the drill was transferred from MBARI to WHOI, where it is now available for use with the NDSF under the Third Party Tool Guidelines <<http://www.unols.org/committees/dessc/3rdpartytool.html>>. The drill was successfully used on *Jason2* during a 16-day program on the Endeavour Segment this past summer to obtain drill cores and to provide instrumentation boreholes in actively venting black smoker chimneys <<http://www.visions05.washington.edu/operations/drillingsled.html>>. Interested users of the drill can find background

information, budgeting details and request forms at

<<http://www.whoi.edu/sites/rovdrill/>>.



Jason2 with rock drill. Photo by Mitch Elend (UW) and Deb Kelley (UW)

Establishing Safety Standards for Human Occupied Vehicles - NSF and the National Oceanic and Atmospheric Administration (NOAA) have requested DESSC to establish safety standards for HOVs. Details about this effort can be found on page 4. Traditionally, NSF has supported science use of Navy owned and inspected HOVs, however, the replacement HOV will not be Navy inspected. In part because of this, it is now timely to establish a set of safety standards for use of HOVs.

Guidelines for Incorporating New Assets into the NDSF - NSF and the National Research Council of the National Academies recognizes that in the coming years there will be significant demand for new tools

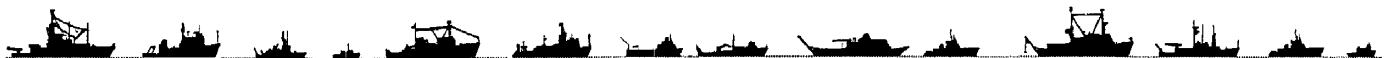
designed to carry out or support research, exploration, and installations on the deep sea floor. Because of this need to look and plan towards the future, NSF requested that DESSC develop guidelines for incorporating assets into the NDSF. Over the past year, DESSC has been working on these guidelines and it is expected that they will be completed and posted on the UNOLS web site during Summer 2006.

2005 Community DESSC Meeting -

The bi-yearly DESSC meeting was held on December 4, 2005 just prior to the Fall AGU meeting in San Francisco. Numerous presentations were provided by operators and science users. These presentations are all available on the UNOLS web site at <<http://www.unols.org/meetings/2005/200512des/200512desmi.html>>.

Perhaps one of the most important discussions to take place at the meeting was recognition that there is a very critical need for the submergence science community to maintain significant proposal pressure for use of U.S. research vessels and facilities.

Action items for DESSC over this next year include obtaining input from the science community regarding science instrumentation, tools and sensors for the replacement HOV, responding to a call for nominations for new DESSC members, and continuation of issues regarding safety standards and new NDSF assets. A community on-line survey for instrumentation, tools and sensors for the new HOV will soon be posted on the UNOLS site. Please contribute to this planning effort.



~ **Announcement** ~**Call for UNOLS Committee Nominations**~ **Fleet Improvement Committee** ~~ **DEep Submergence Science Committee** ~~ **Arctic Icebreaker Coordinating Committee** ~

UNOLS is seeking nominations to fill committee vacancies. Positions on the Fleet Improvement Committee and the DEep Submergence Science Committee are now open. Positions on the Arctic Icebreaker Coordinating Committee will open in 2007.

Fleet Improvement Committee (FIC) - The Fleet Improvement Committee works to assure the continuing excellence of the UNOLS Fleet and that the number, mix and overall capability of ships in the UNOLS Fleet match the science requirements of academic oceanography in the U.S. This is an important time for the FIC as plans move forward for fleet renewal implementation. The Committee is also working to update the UNOLS Fleet Improvement Plan. To maintain uniform representation of disciplines on the FIC, the ideal candidate would have a research interest in biology and be from a UNOLS Institution that does not operate a UNOLS vessel. Knowledge of ocean observatory facility support needs would also be desirable. For additional information about FIC and committee responsibilities contact the FIC Chair, David Hebert <hebert@gso.uri.edu>.

DEep Submergence Science Committee (DESSC) - The DESSC is the UNOLS Committee charged with providing oversight and advice to the National Deep Submergence Facility Operator on matters concerning utilization, upgrades, and long-term planning of its vehicles (*Alvin*, *Jason II*, *Argo*, and *DSL-120*). The Committee strives to maintain awareness of the needs of the users for new sensors and equipment to address important scientific questions. DESSC provides this information to the NDSF operator and the federal agencies. Nominations to fill one committee opening are requested. The ideal person would have a research interest in the field of biology or expertise with deep submergence sensors. For additional information about DESSC and committee responsibilities contact the DESSC Chair, Debbie Kelley at <kelley@ocean.washington.edu>.

Arctic Icebreaker Coordinating Committee (AICC) – The purpose of the AICC is to provide polar science projects with planning assistance and to liaise and facilitate communications between scientists, funding agencies and facility providers. They work to promote the best utilization of Arctic icebreaker facilities, provide sufficient lead-time for planning purposes, and provide information to the scientific community to organize research projects. In 2007 three of the eight AICC members will rotate off the committee. To continue to reflect the diverse background of the Arctic marine science community, new members demonstrating experience in atmospheric, oceanographic, and geophysical sciences are desired. For additional information about AICC and committee responsibilities contact the AICC Chair, Margo Edwards at <margo@soest.hawaii.edu>.

Committee members are appointed by the UNOLS Chair based on the recommendation of the Committee and with the concurrence of the UNOLS Council. Terms of office are three years, each with the possibility of re-election for a second term. Applicants or nominees should submit a brief statement of interest in serving on FIC or DESSC along with a CV to the UNOLS Office by email to <office@unols.org>. For additional information about UNOLS Committees visit the website at: <<http://www.unols.org/committees/index.html>>.



Ship Construction, Conversion, and Transfers

R/V Hugh R. Sharp Arrives in Lewes, Delaware

On January 11, 2006, the University of Delaware's new research Vessel, *Hugh R. Sharp*, arrived in Lewis, DE, completing its journey from Washington State. The ship is now being outfitted with scientific equipment in preparation for research operations. Once fully equipped and following a series of shakedown cruises, the ship will be formally commissioned by the University during ceremonies to be held later this year. Science operations are scheduled to begin in late March. The *Hugh R. Sharp* replaces the *R/V Cape Henlopen*, which was in service since 1976.

After construction of *R/V Sharp* at Dakota Creek Industries of Anacortes, WA and sea trials, the ship was loaded onto a large transport ship for the trip down the Pacific Coast, through the Panama Canal and into the Atlantic Ocean. The *Sharp* was unloaded from the transport ship on January 5th in Port Everglades, FL. Capt. William Byam and crew, transited the *Hugh R. Sharp* on its final leg to Delaware.



R/V Hugh R. Sharp arrives in Delaware. Photo by University of Delaware

Seward Johnson II Update

Bermuda Biological Station for Research (BBSR) has acquired *R/V Seward Johnson II* from Harbor Branch Oceanographic Institution. On October 23, 2005, *Seward Johnson II* began a 4.5-month modification and maintenance period at Lyon's Shipyard in Norfolk, VA. In late December *Weatherbird II* arrived at Lyon's shipyard for cross-decking. *Seward Johnson II* is scheduled to begin operations from BBSR in March 2006. When *Seward Johnson II* moves into service, *R/V Weatherbird II* will be retired.

People in the News

Fond Farewells

Jim Meehan (NOAA) – Jim Meehan retired in early January 2006 after 31 years with NOAA's National Marine Fisheries Service. He regularly attended the UNOLS Fleet Improvement Committee and Council Meetings and provided input on vessel designs.

Dave Epp (NSF) – After more than 17 years of service at NSF, David Epp retired from his position as

Program Director of the Marine Geology and Geophysics (MG&G) Program on September 30th. Dave's expertise and leadership in many areas of MG&G were greatly appreciated. He had been affiliated with the RIDGE (and later R2K) Program since its inception.

We wish Jim and Dave the best in their retirements.



New in Print

WHOI Publishes 75-Year History

In celebration of its 75th anniversary this year, Woods Hole Oceanographic Institution has recently published its first written history. "Down to the Sea for Science, 75 Years of Ocean Research, Education, and Exploration" chronicles the institution's roots in the Woods Hole science community and its growth over the last three-quarters of a century. The abundantly illustrated 184-page book was written by Vicky Cullen, long time WHOI science writer, who drew on the institution's rich archive for correspondence files, historic documents, and a wealth of photographs.

The book is available in paperback for \$20 and hardback for \$25, plus shipping and handling. For a description of the book and to download an order form, please visit:

<<http://www.whoi.edu/75th/book/index.html>>. To order on-line, go to: <<http://shop.whoi.edu/whoi/>>

HYDRO to NAVOCEANO (1830-2005)

The just released book, "HYDRO to NAVOCEANO: 175 Years of Ocean Survey and Prediction (1830-2005)," is a candid narrative by Charles Bates that describes the complex interplay leading to today's state of the art in military hydrography, oceanography, and geophysics at what is now the Naval Oceanographic Office (NAVOCEANO). Also included is a foreword by Dr. Walter Munk, as well as sea stores by junior officers, "white-hats" and civilians who worked during wars both "Hot" and "Cold" from the Equator to the Poles. Supplementing the text are 28 tables, 22 pages of photos, 11 maps, and 13 figures.

The 352-page book (hard-copy) is available for \$29.95 plus \$3.00 shipping fee (\$32.95 total cost). Copies can be ordered by contacting Charles Bates by email at <bartiebee2@hotmail.com> or by telephone at (520) 648-8339.

The author served as the Technical Director of NAVOCEANO from 1964 to 1968.

2006 UNOLS CALENDAR OF MEETINGS

Committee	Meeting	Dates	Location/Notes
FIC	Winter Meeting	Mar 13-14	San Jose State University, San Jose, CA
Council	Winter Meeting	Mar 14-15	San Jose State University, San Jose, CA
AICC	Winter Meeting	Apr 18-19	NSF – Arlington, VA
RVOC	Annual Meeting	April 25-27	University of Washington, Seattle, WA
SCOAR	Spring Meeting	May 23-25	CIRPAS & MLML, Moss Landing, CA
DESSC	Spring Meeting	May/June TBD	WHOI, MA
Council	Summer Meeting	TBD	TBD
SSC	Scheduling Meeting	TBD	Phone / Web Conference
SSC	Scheduling Meeting	Sept	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	TBD
RVTEC	Annual Meeting	Oct 16	WHOI
INMARTECH	INMARTECH 2006	Oct 17-19	WHOI
AICC	Winter Meeting	Oct/Nov	TBD



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 mail, FAX or e-mail. Thank you, Annette DeSilva - Editor, UNOLS News



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