

UNOLS NEWS

Volume 21, No. 1

Spring 2004

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- Patricia Fryer, DESSC Chair
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- Liz Brenner & Rose Dufour, SSC Chair

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Message from the Chair...

This issue of the UNOLS Newsletter follows the April 20 release of the Preliminary Report of the US Commission on Ocean Policy - a report that should have a major impact over the next several decades of ocean research, education, and policy. The Preliminary Report contains strong language in support of academic fleet renewal and construction of submergence vehicles for observatories. Although the comment period for the Preliminary Report will have likely passed by the time you receive this newsletter, I encourage you to read and discuss the Commission report with your colleagues. Implementation of the recommendations of the Commission will be aided by active support from all of us in the ocean science community.

In January 2004 NSF Division of Ocean Sciences notified the UNOLS Office that FY04 budget issues at NSF were forcing cutbacks in expenditures for ship operating costs, and these cutbacks would require some adjustments to ship schedules in 2004, with impacts that might extend into the 2005 schedules. The Co-Chairs of the Ship Scheduling Committee, Rose Dufour and Elizabeth Brenner, have summarized the consequences of this funding cut in their report (see page 6). This article should help clarify the situation to all those whose cruise plans were affected. The SSC has done a fine job, under difficult funding constraints, to limit the impact to as few vessel schedules and science programs as possible.

This newsletter also contains reports from the other standing committees. Please refer to these for the latest information on fleet issues (FIC), Arctic science (AICC), deep submergence (DESSC), technical services issues (RVTEC), vessel operations (RVOC), and aircraft support of ocean science (SCOAR).

It is time to nominate a colleague (or yourself) for one of the open positions on the UNOLS Council! The next few years of work toward fleet renewal, icebreaker upgrades, new submergence assets (to name but a few of the issues before UNOLS) will be challenging and rewarding. Please see the Call for Nominations in this newsletter, and on the UNOLS website (<http://www.unols.org>) for further details. ☀

Sincerely,
Tim Cowles, UNOLS Chair



Highlights

- Message from the UNOLS Chair... 1
- Annual Meeting Announcement..... 2
- UNOLS Web Update..... 2
- Committee News..... 2
- Call for Nominations..... 11
- Position Announcement –Chief Scientist for Deep Submergence... 12
- Ocean Observatory Facility Needs.... 13
- ALVIN Makes 4000th Dive..... 13
- HROV Under Development..... 14
- *Cape Henlopen* Replacement Vessel Under Construction..... 14
- People in the News..... 15
- UNOLS Calendar..... 16



UNOLS ANNUAL MEETING ANNOUNCEMENT

The University-National Oceanographic Laboratory System will hold their Annual Meeting on

Friday, October 15, 2004

at

The National Science Foundation

4201 Wilson Boulevard -Stafford II - Room 555, Arlington, VA 22230

The agenda and additional meeting information will be posted on the UNOLS website in the coming months.

Please RSVP the UNOLS Office at <office@unols.org> if you would like to attend.

An Update on Our New UNOLS Web Server

By Laura Dippold, UNOLS Webmaster

If you have visited the UNOLS website in the past month, you probably noticed the new look. This is just a first step in plans to improve the site. Over the past month we have been working frantically to consolidate our website from three servers to one - our new server hosted by the University of Delaware. We have been able to move all of our web pages to the new server and are in the final stages of cleaning up broken links, and outdated content. Please bear with us on this adventure and look ahead to new improvements yet to come. As we are wrapping up our web page development, we are moving on to the new and improved ship/facility scheduling system. We hope to have this system ready for testing in the near future.

Stay tuned for more information!



UNOLS COMMITTEE NEWS

Special Note: The UNOLS Council and Committees have been very active over the past months. In the coming year UNOLS will address important issues regarding fleet and facility renewal, as well as facility scheduling. We encourage you to read the articles submitted by the Committee Chairs to learn about the important issues facing UNOLS including:

- Implementation of Fleet Renewal
- FOFC Long-Range Fleet Plan – Update News
- Regional Class Science Mission Requirements (SMRs) Prioritization
- Ocean Class Phase II Study
- Global Class SMR development
- DESSC Changes and New Facilities for Deep Submergence
- Agency Budget Shortfalls and Its Impact on Ship Schedules
- RVOC 2004 Meeting Plans
- USCGC Healy Upgrades and 2004 Science Programs
- Service Life Extension Program Plans for USCG Polar Class Icebreakers
- SCOAR – Establishing Committee Priorities – Developing a National Aircraft Facility
- RVTEC Working Group on Wireless Access Protocol



A Busy Year A Head for the Fleet Improvement Committee

By David Hebert, FIC Chair

The Fleet Improvement Committee (FIC) met at the Harbor Branch Oceanographic Institution on March 9, 2004, followed by a joint meeting with the UNOLS Council the next day. Minutes of the meeting and reports are available on the UNOLS Web site at <http://www.unols.org/meetings/2004/200403fic/200403ficmi.html>.

FIC Membership - Two FIC members will be completing their terms this fall. Terry Whitledge (U Alaska) has completed his first full term on FIC and we are recommending that he serve another term. Terry is involved in the Alaska Region Research Vessel (ARRV) design effort and he provides a good conduit between FIC and the ARRV design committee. Chris Measures (U Hawaii) will have completed his second term this fall and FIC needs a replacement member from any UNOLS institution. In order to keep uniform representation of disciplines and geographic areas, the ideal person would be from the northwest or Hawaii in the area of marine geophysics or geology. With the ocean observatories initiative looming ahead, someone with ROV expertise would also be desirable. If you know of anyone willing to serve on FIC, please contact the UNOLS Office office@unols.org.

KILO MOANA Debriefs - FIC has been conducting debriefs with Chief Scientists who have used *RV Kilo Moana*, University of Hawaii's new SWATH vessel. The goal is to obtain information about the pros and cons of conducting oceanographic research from a SWATH vessel compared to a monohull ship. There have been some interesting comments. However, before producing a final report, it is necessary to allow the science community more time to become familiar with conducting operations from a SWATH

vessel. Practices used on monohull ships aren't always optimal for work from a SWATH. Adequate time for modifying practices and educating users of the revised procedures is needed. Also, *Kilo Moana* is a new vessel and is going through the standard teething problems of any new vessel. FIC has sent a letter to the University of Hawaii summarizing comments reported in the debrief interviews and post-cruise assessment forms so that possible corrections can be explored. FIC plans to continue the debrief interviews for cruises scheduled this year.

Ocean Commission Report - FIC plans to evaluate and prepare, with the UNOLS Council, a response to the draft Ocean Commission Report. The goal is to focus on the Fleet renewal aspects and provide a uniform response for the UNOLS community.

FOFC Plan Update - FIC is encouraging the federal agencies to start the process of updating the Federal Oceanographic Facilities Committee (FOFC) Long-Range Fleet Plan. This plan, published in December 2001, is intended to be updated every five years. Now is the time to start gathering information to update the Plan given the changing situation in oceanographic research. Some of the major changes since 2001 include:

- First, the proposal for the Ocean Observatory Initiative is now included in the NSF Major Research Equipment (MRE) account. The facilities needed for installation, operation and maintenance of the ocean observatories will have a big impact on fleet utilization and distribution.
- Second, with the downturn of oil, the exploration industry's modern seismic vessels have been put on the market at relatively low cost.

This coincides with the time for a mid-life refit of the seismic ship, *RV Ewing*. In assessing the community's seismic mission requirements for the future, it has been determined that their needs could only be met with a more modern vessel. A proposal has been put forward to replace *Ewing* with a newer commercial seismic ship, rather than conduct a mid-life refit. Such a plan would alter the timeline called out in the present FOFC fleet renewal plan.

- Third, at this time, there is no immediate source of funds for the construction of the Ocean Class ships as described in the Plan. Thus, FIC has asked the UNOLS ship operators to determine whether the retirement dates of their vessels could be extended and if so, provide Service Life Extension Program (SLEP) costs estimates for both a 5-year and a 10-year extension in the retirement date of their vessels. These cost estimates are just to keep the vessels operating at their present capabilities. We have also asked the operators to tell us what SMRs of both the Regional and Ocean Class can or cannot be met. So, while it might be possible to extend the life of the fleet (which is a credit to the operators in maintaining their vessels) given the lack of funds to replace these vessels, it is very likely that these vessels cannot meet the science needs of the future.

Regional Class Phase III Study - The acquisition of the Regional Class ships through NSF is progressing rapidly. The Naval architect firm, JJMA, with NAVSEA is working on a Phase III study that will produce operational requirements based on prioritized Science Mission

Continued on page 4...



requirements (SMRs). UNOLS, through FIC and the Regional Class SMR Steering Committee, are planning to form an advisory committee that will oversee prioritizing the SMRs and collecting feedback from the academic community. They plan to provide their required information for the Phase III study by the middle of June. So, please prepare to provide any feedback on the prioritization as soon as they are posted to the UNOLS web site. NSF hopes to have a request for proposals (RFP) to solicit Regional Class 'design to build' integrated production teams by the end of the year. This would be followed by a RFP for the operators of the three ships. In addition, it is necessary to recruit an individual who would be willing to be the lead person representing the UNOLS community and its input to NSF. Information about the responsibilities of this position will be provided when available.

Ocean Class Phase II Study -

The Office of Naval Research has requested NAVSEA with JJMA, Inc, to undertake a Phase II study of the Ocean Class ships. As with the

Regional Class studies, this study is to determine the general properties of the ship that would meet the minimum and desired SMRs for three different hull designs (monohulls, SWATH, and X-Craft). Estimates on the construction and operating costs for each of the different vessel designs will be made. Through Internet and telephone conferencing, FIC and the Ocean Class SMR Steering Committee are assisting JJMA and NAVSEA by providing feedback on their designs and the needs of the scientific community. The presentations for these web/teleconferences are available on the FIC web page at <<http://www.unols.org/committees/fic/>>.

Global Vessel SMRs - Three of the UNOLS Global ships are approaching their mid-life refit age. FIC plans to request that a SMR Steering Committee for the Global Class ships be formed, as was done for the Ocean and Regional Classes. This committee would be charged with developing mission scenarios and drafting preliminary SMRs. They will work to solicit feedback from the community and if possible hold a community workshop (which is

funding dependent). These SMRs would be an update of the 1989 large ship SMRs and would be presented in the same format as the new Ocean and Regional Class SMR documents. We expect that some of the specialized needs for the Global Class such as 'the ocean observatory heavy lift capability' or 'Seismic' capabilities would be included as appendices representing modifications to the general SMRs.

SMR Updates - Finally, all of the SMRs will need to be reexamined to address the American Disabilities Act (ADA). FIC will consider the ADA recommendations made during the ARRV and *Cape Henlopen* Replacement Vessel design efforts. The SMRs will also be updated to incorporate suggestions offered by the UNOLS 'Lessons Learned' document <<http://www.unols.org/committees/fic/smr/whatwelearned.html>>, as well as post-cruise assessment comments. The Lessons Learned document is a compilation of feedback received from vessel operators, captains, and other members of the community pertaining to ship construction efforts and ship designs. ☀

DEep Submergence Science Committee News

By Patricia Fryer, DESSC Chair

The DESSC is facing some major changes in the next year, both within the committee and at the National Deep Submergence Facility (NDSF). The Chair and three additional members will be rotating off the committee this summer, so there will be several new faces at the Fall Annual DESSC Planning Meeting, which will be held in San Francisco on December 12, 2004. Nominations for the positions have been solicited from the community

and will be considered at the upcoming DESSC meeting on May 17-18 at Woods Hole Oceanographic Institution (WHOI). Names of recommended new members and a new Chair will be forwarded to the UNOLS Council for their consideration at the fall Annual Meeting. At the DESSC winter meeting this past January, Admiral Richard Pittenger announced his intent to retire on June 30 from his position as Vice President for Marine

Operations at WHOI. On behalf of all the members of DESSC, present and past, who have had the privilege of working with and getting to know him, I would like to thank Dick for his unswerving devotion to the facility and to the community of students, researchers, and engineers who have benefited from his dedication to our needs. We wish him well in his future endeavors and although we know he plans to remain an active advocate for deep submergence science, we



hope that he permits himself the occasional day off from time to time. Please see page 15 with additional information regarding Dick's retirement. We are indeed fortunate to have the scientific expertise and administrative talents of Dr. Robert Detrick to continue the high quality of interaction with the user community and operational excellence that the NDSF has provided through WHOI over the years. Bob and the NDSF are actively recruiting for a replacement for the NDSF Chief Scientist position (see job advertisement, page 12). The time, energy, and dedication offered by Dr. Dan Fornari in the Chief Scientist position have been greatly appreciated by DESSC.

The DESSC held its annual Planning Meeting in Portland, OR on Sunday, January 25, 2004, immediately before the Ocean Sciences meeting in the hopes of attracting a broader range of users, particularly the marine biological community. The meeting format was changed so as to accommodate an afternoon "training session." Please see the UNOLS web site at <http://www.unols.org/meetings/2004/200401des/200401desmi.html> for minutes of the meeting. During the reports from the federal agencies that followed the Operator's reports, Jim Yoder of NSF summarized the Ocean Study Board report "Future Needs in Deep Submergence Science" and commented that NSF plans to go ahead with support for the construction of a new sphere for the *Alvin* submersible and will make an assessment of progress on that front before making a final decision regarding continued support for the replacement of *Alvin*.

DESSC is working toward developing an inventory of submergence vehicles of all types, and sensors and tools that might be needed by the user community. This list will be posted on the web and users and operators of the vehicles will be encouraged to provide additional details so as to make this inventory a useful tool for the community.

The afternoon NDSF training session, which was the first of its kind, was offered to provide detailed information on both the at-sea operations/procedures and the capabilities of the NDSF vehicles (primarily *Alvin*, *Jason2/Medea* ROV, and the *DSL-120A* sidescan sonar) and sensor suites. The session was designed to provide information on the effective operating procedures for these systems for both new users of the facility vehicles, as well as experienced users. The latest upgrades to the facilities and planned improvements were presented. One such improvement is the funded development of the hybrid ROV that will permit users access to full-ocean depths (see article on page 14). Handouts with key information, contacts and URL links were provided and were designed to allow the participants a quick reference to material that can help them structure proposals to use the vehicles for upcoming field programs.

As this will be the last article I write as Chair of the DESSC, I'd like to take this opportunity to thank the extraordinary individuals with whom I have served on DESSC and my colleagues in the user community for their support of the deep submergence science efforts. It

has been an honor and a real pleasure to work with the UNOLS Chairs Ken Johnson, Bob Knox, and Tim Cowles, Executive Secretaries of the UNOLS Office formerly Jack Bash and currently Mike Prince, and especially with Annette DeSilva, the Assistant UNOLS Executive Secretary (what would we do without you?). I thank the Federal Funding Agency representatives who have worked so diligently with DESSC and the NDSF to maintain support for the deep submergence science effort, Mike Reeve and Dolly Dieter (NSF), Barbara Moore (NOAA), and Sujata Millick and John Freitag (ONR).

Serving as Chair of DESSC has been a remarkable experience. With the initiative toward global observing comes a renewed interest in deep submergence science and an upsurge in multi-disciplinary and multi-institutional use of all types of deep submergence vehicles from many institutions. There is no question that there will be a continuing need for development of ROV and AUV technology, but as *Alvin* makes its 4000th dive (April 12, 2004) and approaches the 40th anniversary of its christening (June 5, 2004), it is clear that the need for the human presence at depth in the oceans remains critical. DESSC and the New *Alvin* Design Advisory Committee will continue to work with WHOI toward a new vehicle that will maintain the capacity for unimaginable discovery in the abyss. With the advent of so many new faces on the DESSC and at the NDSF I hope the community of users will take this opportunity to play an even more active part in the exciting future of deep submergence science. ☀

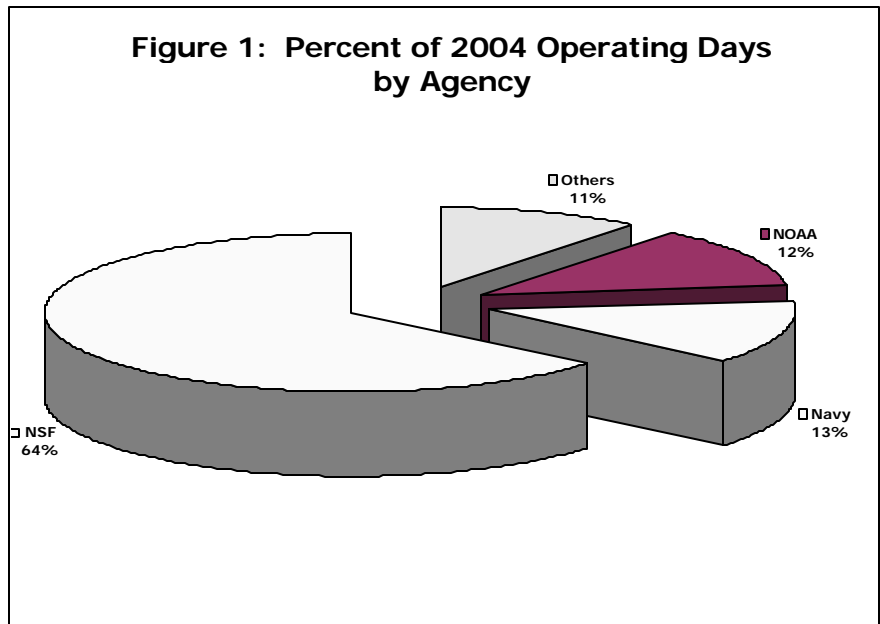


~ Ship Scheduling Committee News ~

Budget Shortfalls and Its Impact on Ship Scheduling

By Rose Dufour and Elizabeth Brenner (SSC Co-Chairs)

Last September during the fall ship scheduling meeting, NSF was anticipating a 4 - 5% increase in Division funds, and with this well founded optimism, NSF was willing to support almost 4000 ship days for 2004. During calendar years 2002 and 2003, many NSF cruises had been deferred due to Incidental Harassment Authorization and Environmental Assessment (IHA/EA) permitting issues, political unrest and availability of vessels or other facilities and instrumentation. The expectation was that 2004 would be the year to finally finish a backlog of deferred programs, while accomplishing high priority cruises. NSF normally funds slightly less than 3000 days per year, but they were willing to use the anticipated increase to take care of this backlog. While NSF is not the sole agency supporting UNOLS ships, their contribution accounts for 64% of the total sea-going operating days (Figure 1). The cost to support the additional days would have been in the neighborhood of 12 million dollars. However, in reality, war and terrorism resulted in a flat line budget for the NSF Ocean Sciences Division, which put them on negative turf with regards to inflation. Once the budget was finalized it was clear NSF was faced with a quagmire; cut science programs to pay for the added ship costs, resulting in fewer funded projects and future under utilization of ocean going assets, or cut \$6 million from operations, technician services, and deep submergence this year thus sparing the science side from absorbing the full monetary impact, while preserving a greater number of science programs for the future.



Therefore, in January of this year NSF recommended deferrals of programs on two "large" vessels, which in turn enabled vehicle availability on a third ship for further savings. Schedulers went into action re-arranging cruises that would meet the NSF budgetary fall-out while considering transit efficiencies, austral summer requirements, compulsory IHA permits and once again the arduous task of coordinating the vehicles, i.e. *Jason II*, *ABE* and *DSL120A* to the various new schedule options without disrupting other programs already in place. Maintaining a "minimal" impact on 2004 schedules proved to be problematic; soon five large class vessels, and two intermediates were affected, with the net result of deferring, rearranging or losing several cruises. However, ONR stepped up to provide additional support in the form of picking up transits on stranded ONR cruises, and shifting some work on to larger

platforms. In addition, University sponsored work was inserted into vacated spots, thus alleviating the stress on daily rates. Once the dust settled, 2004 still showed an increase in days of 13.5% over 2003 spread among all agencies. Large and regional size vessels projected the greatest increases, 17.5%, or 269 days and 19.3% or 215 days respectively, while intermediate and local vessels showed little or no increase from the previous year.

The IHA/EA permitting process within some of the UNOLS institutions is still in a neophyte stage. To date, UNOLS has had mixed results. Complicating factors arise in foreign waters, where we learn of dual requirements for marine mammal protection. Scientists must satisfy both US law, and sovereign laws. To the extent possible, preparation for permits; port calls, and foreign clearances all affect the regulatory climate, and therefore necessitate



longer and coordinated lead-times. In addition, diligence by agencies, scientists and operators is now a requisite in order to maintain a constant flow of accurate information to pertinent agencies, US Courts, foreign officials, media, and the public at large. Notwithstanding, a solid start on 2005 scheduling of some of the large ships has been initiated, due to the earlier mentioned budgetary problems. The task for this summer's meeting will be to weave in the newly approved

programs. Mike Prince, in coordination with the funding agencies continues to provide the scheduling community with an MS Excel spreadsheet that includes up-to-date funding decisions. This should make the initial scheduling process run smoothly. The summer UNOLS Ship Scheduling Committee meeting will be held on Wednesday, 21 July at NSF in Arlington, VA, and the scheduling community will expand their normal agenda to include newly emerging

topics related to permits, clearances, and a discussion of the definition of what constitutes a "funded" cruise so that the fiscal risk in scheduling can be appraised properly.

One last note, Jon Alberts, the newly appointed vice chair of SSC, has resigned from WHOI. Lee Black of BBSR has kindly agreed to accept the position as vice chair of the scheduling committee. ☀

Research Vessel Operators' Committee Update

By: Tim Askew, RVOC Chair

The Research Vessel Operators' Committee (RVOC) is between annual meetings, so things are fairly quiet. Most operators are concentrating on maintenance related activities if they are not at sea. There seems to be a lot of regulatory issues that have either passed deadlines or will be forthcoming. Some vessel operators are faced with facility security issues as well as vessel security plans.

The Eighth Annual Great Lakes Science Vessel Coordination Workshop was held February 3 - 5, 2004 with John Simenson and Raul Lee (crew members on *R/V Blue Heron*, operated by Univ. of Minn. - Duluth) in attendance. A training session on shipboard hydraulic and electrical systems was held in conjunction with the Workshop. A report will be presented at the RVOC Annual Meeting in October.

Additionally, Desmond Rolf and Maureen Reap of Texas A&M, Galveston represented RVOC at the Ship Operators Cooperative Program (SOCP) Meeting held in Houston, Texas on March 2-3, 2004. The meeting agenda included discussion

panels on maritime safety programs and implementation. The next SOCP meeting will be held on June 22-24 in San Juan, PR with an emphasis on maritime security and safety issues. Al Suchy from WHOI attended the Fleet Improvement Committee (FIC) meeting held at Harbor Branch Oceanographic Institution in March and will present a brief report at the Annual RVOC Meeting.

Bermuda Biological Station for Research will host this year's RVOC Annual Meeting on October 19-21, 2004. The agenda for the meeting is starting to take shape and topics of interest will be solicited over the next few months. Some ideas already on the table include uniformity of port charges, science and observer travel, various agent fees, electronic filing requirements for vessels engaged in foreign operations, Automated Manifest System (AMS), Automated Export System (AES), and Advanced Passenger Information System (APIS) for Sea Carriers. It remains to be seen whether or not Oceanographic Research Vessels (ORV) will have to comply with any or all of these.

Fleet news regarding shipyard maintenance and updates for 2004 is rather scant this early in the year. However, due to a major schedule change, *Seward Johnson* was able to start her midlife maintenance period early and spent five weeks in the shipyard. Major repairs included blasting, repair, and recoating of ballast, potable water and holding tanks; hull from forecandle deck down was blasted and repainted; bow and stern thrusters were dropped and overhauled; and most of the salt-water piping was replaced. Modifications included new recessed main engine keel coolers manufactured by Fernstrum and a new table arrangement in the galley increased seating from 14 to 18. New Furuno X and S band radars, along with the Automatic Identification System (AIS) were installed. Most of the fleet now has the AIS system in operation, which has a deadline of December 31, 2004 for all vessels over 300 gross tons. ☀



Arctic Icebreaker Coordinating Committee News

By Margo Edwards, AICC Chair

Having successfully completed three Arctic programs during the 2003 summer field season, plus the first transit of the NW Passage with multibeam, the USCGC *Healy* spent most of her fall in drydock. Some of the tasks accomplished during the drydock period include:

- Alignment and offset surveys of most of the ship's systems were completed in response to AICC's encouragement. All sonar transducers, GPS antennas, overboard sheaves and gyros were surveyed. In addition, local reference marks were installed on *Healy* to facilitate future instrument installations.

- The multibeam transducer windows were removed, and a significant number of damaged hydrophones plus one projector element were replaced, and new windows were installed. All other transducer windows were opened, inspected, and replaced.

- A second seawater intake system and plumbing was installed and the existing internal plumbing was improved, increasing the pipe diameter for flow-through and incubations.

- The ADCP-150, which was not working properly during the 2003 field season, was inspected and a cable was replaced.

- The A-frames were removed and their bearings and pivots were reworked.

- Plumbing for the multibeam header tanks was inspected and their integrity verified.

The science equipment shakedown for the *Healy* took place from March 22 to April 3, 2004. USCG personnel organized assistance from a number of vendors and users to participate in the trials. Tests included a multibeam patch test, checking the winches, grooming the CTDs and TSGs and evaluation of the improved seawater system. Additionally, NSF has recently recommended funding to purchase a new POS/MV system for *Healy*. The first science cruise of the 2004 season departed on April 30th. The ship will conduct a seven-day cruise for NOAA turning around moorings south of the Aleutians. They will then conduct two Shelf Basin Interactions (SBI) process cruises, one SBI mooring cruise and a NOAA/University of New Hampshire mapping cruise before returning to Seattle in November. Details of the schedule are available from Dave Forcucci with the USCG.

The POLAR Class icebreakers had a busy year in supporting Deep Freeze. Both ships completed the southern tours in reasonably good, but not great shape. Both POLAR Class vessels will require some time in drydock, which is standard after the southern hemisphere summer field season. At the present time it appears that only one of the

POLAR Class vessels will support Deep Freeze in 2005.

Service Life Extension Program (SLEP):

The USCG, with assistance from AICC, NSF, the Arctic Research Commission and the National Academy of Science's Polar Research Board, has begun the process of determining whether to replace or refit the POLAR Class icebreakers so that USCG ships can continue to support Deep Freeze and arctic science programs. An engineering feasibility study has been completed, and a mission needs analysis report is beginning - it should be completed within six months. Members of the arctic community will be invited to review and contribute ideas to the report through coordination of the report contractor, the Coast Guard and AICC.

AICC continues to work with the Coast Guard and the science user community to orchestrate short- and long-term science systems support for the icebreakers. Presently, USCG personnel are endeavoring to engage support from Lamont-Doherty Earth Observatory to: (i) provide short term planning and technical assistance for the 2004 field season; (ii) provide onboard science support during the 2004 field season; (iii) develop protocols for data and metadata archiving, (iv) develop a forum for post-season review and evaluation of science operations; (v) facilitate the transition to long-



term underway science systems support, and (vi) initiate a long term science planning effort.

AICC reminds the community that requests for cruises on the USCG icebreakers follow procedures identical to those for UNOLS vessels. Proposals for arctic cruises are due on February 15th of the year preceding a cruise. Scheduling meetings for the icebreakers are held each summer with participation from several funding agencies including NSF, NOAA, ONR and USFW.

An AICC meeting was held March 22 and 23, 2004 at the National Science Foundation in Arlington, Virginia. At that

meeting some changes in AICC and USCG personnel were announced. AICC charter member Larry Lawver and long-term member Terry Whitley cycled off the committee in December 2003. Charter member and former chair, Lisa Clough, cycled off in March 2004. Lisa Clough was an exceptional AICC chair and will hopefully retain close ties to the committee. AICC's new members are Rebecca Woodgate (University of Washington Applied Physics Laboratory), Carin Ashjian (Woods Hole Oceanographic Institution), and Bernard Coakley (University of Alaska Fairbanks). As of 15 January, Margo Edwards assumed

the chair position with two vice-chairs, Carin Ashjian and Hedy Edmonds (University of Texas Austin). AICC continues to have formalized ad-hoc representation from RVTEC (Dale Chayes) and RVOC (Daniel Schwartz). CDR Bodenstedt retired in May and was replaced by LCDR Tom Wojahn and Captain Holland has replaced Captain Lancaster at USCG headquarters.

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

Research Vessel Technical Enhancement Committee News

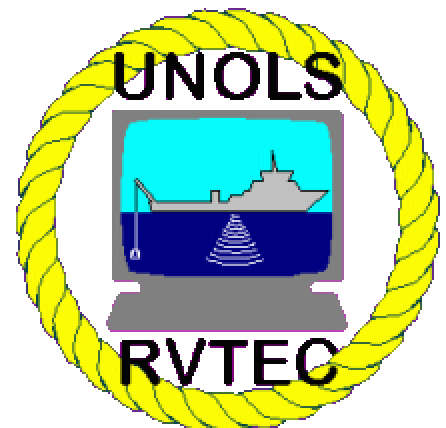
Since the 2003 RVTEC meeting in November, a variety of technical activities have taken place. Immediately following the meeting a two-day training class for POS/MV GPS aided inertial attitude, heading reference systems was arranged by Bill Martin and hosted at University of Washington. Peter Stewart of Applanix taught a classroom session followed by hands-on training in a survey launch provided by NOAA.

An RVTEC working group which includes Toby Martin (OSU), Val Schmidt (LDEO), Geoff Davis (UCSD) and Steve Poulos (U.Hawaii) have developed a protocol for ship to ship and ship to shore wireless access protocol. The approach was reviewed at the

RVTEC meeting in November. The first shore-side installation was made in Hawaii at the UH Marine Facility and *Kilo Moana* and *Wecoma* have been equipped. Discussion is already underway with respect to outfitting additional ships and port sites.

The INMARTECH 2004 Symposium will be held at the British Antarctic Survey in Cambridge, England on September 20-24, 2004. Details of the meeting can be found at <http://www.antarctica.ac.uk/Meetings/2004/INMARTECH/index.html>. The symposium is an international meeting of marine technicians held bi-annually. The INMARTECH 2006 Symposium will be held in the US.

The 2004 RVTEC Annual Meeting will be held on November 3-5. The Florida Institute of Oceanography will host the meeting at the University of South Florida – College of Marine Science campus in St. Petersburg, FL.



SCOAR News and Activities

By John Bane, SCOAR Chair

The third meeting of the Scientific Committee for Oceanographic Aircraft Research was held on March 25, 2004 at the Naval Postgraduate School's Center for Interdisciplinary Remotely-Piloted Aircraft Studies (CIRPAS) in Marina, CA. The annual meeting of the Interagency Coordinating Committee for Airborne Geoscience Research and Applications (ICCAGRA) was held at the same location on the previous day. Attending one or both meetings were the SCOAR committee members, agency representatives from ONR, NSF, NASA, NOAA and DOE, and aircraft facility representatives from NOAA, NRL and CIRPAS.

SCOAR continues to make progress on establishing procedures and practices that will make CIRPAS an active UNOLS facility. CIRPAS has a nearly ten-year-long history of very successful research in several areas of oceanic, atmospheric and earth sciences, and its designation as the first UNOLS National Oceanographic Aircraft Facility will enhance its participation in oceanographic research. The principal CIRPAS platform for this type of work is its Twin Otter, a medium-sized, twin turboprop aircraft (see <http://www.cirpas.net/public/home.cfm>). Thus far, the unmanned platforms that CIRPAS operates have been used primarily in DoD programs, with a smaller fraction of their use having been in geosciences research.

Cheryl Yuhas, from NASA's Earth Science Enterprise and Chair of

ICCAGRA, described the present situation with several of NASA's research aircraft. It is likely that NASA will either transfer its DC-8, P-3B and two ER-2s to other organizations (e.g., other agencies, industry or academia) to operate, or it will decommission them. In their place, NASA will establish a "catalog" of non-NASA-owned/operated platforms that are suitable for use in NASA-supported research programs in many earth science areas, including ocean science. NASA's emphasis is on the global view from satellites and the pioneering of new technologies for the future, including new sub-orbital platforms such as UAVs. It will be looking towards the scientific community to generate new ideas on platforms and uses of platforms in establishing a global observing system.

The topic of large research aircraft for oceanography was discussed. For the foreseeable future, it is unlikely that UNOLS will oversee large aircraft operations in the way it oversees large UNOLS ships. The principal reason is that the large research aircraft platforms presently in use are not operated by universities the way most large UNOLS ships are. The role that UNOLS and SCOAR will play will be as an advocate for the use of these platforms, most of which are operated presently by NSF (through NCAR), NOAA, NASA and NRL. SCOAR will hopefully make these assets better known throughout

the ocean sciences community, including providing information on their performance and instrumentation capabilities, and SCOAR will help facilitate the application for time on a given aircraft. This will probably be accomplished by having connections from the SCOAR web page to each agency, which operates one or more large aircraft. There already has been a big step forward in collecting and "advertising" the research aircraft operated by most government agencies, namely the FOFC Research Aircraft Brochure, which may be obtained from a link on the SCOAR website,

<http://www.diu.unols.org/committees/scoar/index.html>, or connecting directly to <http://www.oma.noaa.gov/pdffiles/fedairbrochure.pdf>.

Many readers of *UNOLS News* will have seen this brochure already, as it was mailed a few months ago to the mailing list for the *News*.

The next SCOAR meeting should be held sometime around October or November of this year. We hope to have added to the committee membership by then, as we have posted an announcement for an additional member (see announcement on page 12).



MTS Oceanographic Ships Committee - Chair Position Announcement

The Marine Technology Society is soliciting applications for Chair of their Oceanographic Ships Committee. For details about the position and its responsibilities, please contact Capt. Daniel Schwartz (Vice-President, Technical Affairs, MTS) at schwartz@ocean.washington.edu or Ms. Judy Krauthamer (Ex. Director, MTS) at mtdir@erols.com. Letters of interest and resumes can be sent to Capt. Schwartz or Ms. Krauthamer.



CALL FOR NOMINATIONS

UNOLS Chair-Elect and Council Positions

The University-National Oceanographic Laboratory System (UNOLS) is an organization of 62 academic oceanographic institutions working in cooperation with agencies of the U.S. Federal Government to ensure broad access to modern, well-operated, state-of-the-art research vessels, submersibles and facilities required to support a healthy and vigorous research and education program in the ocean sciences. Currently, UNOLS is actively engaged in efforts to renew the 27-ship academic fleet. This initiative and the ongoing effort to provide the highest quality of fleet service to science are areas of focus for UNOLS. Individuals who wish to make a direct contribution to strengthening ocean research in the U.S. via support of the research fleet are needed to fill UNOLS Council seats. The UNOLS Council members represent and act on behalf of the UNOLS membership as the operating and governing body of UNOLS.

Nominations are being sought to fill three Council positions opening in 2004. Of particular importance this year is the nomination of a Chair-Elect/Vice Chair for a two-year term, after which this individual will become UNOLS Chair for a two-year term. Requirements for the positions are as follows:

- Chair-Elect/Vice Chair - individual affiliated with any UNOLS institution. (Previous UNOLS experience useful but not a prerequisite)
- One at-large position - affiliation with any UNOLS institution (incumbent Bruce Corliss has served one term)
- One non-operator position - affiliation with a UNOLS non-operator institution (incumbent Charles Flagg has served two terms)

Terms of office are three years for the latter two positions with the possibility of re-election for a second term.

Nominations for the slate may be submitted by anyone affiliated with a UNOLS institution by June 4, 2004, to the Nominating Committee <nominations@unols.org>. A CV and statement of interest should accompany all nominations. Not all individuals nominated will advance to the final slate of candidates. The Nominating Committee must give due consideration to the qualifications of the individuals nominated, as well as to maintenance of regional and disciplinary balance on the Council. For more information about UNOLS and its activities, including past and present Council membership, visit the website, <<http://www.unols.org>>. Elections will be held at the UNOLS Annual Meeting scheduled for October 15, 2004.

FIC Call for Nominations

The UNOLS Fleet Improvement Committee (FIC) is seeking nominations to fill one position. In order to keep uniform representation of disciplines and geographic areas, the ideal person would be from the northwest or Hawaii with a research interest in marine geophysics or geology. To better understand the ocean observatory facility support needs, ROV expertise would also be desirable.

Committee 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 statement of interest in serving on FIC along with a CV to the UNOLS Office by email to <office@unols.org>. For additional information about FIC visit the website at: <http://www.unols.org/committees/fic/> or contact the chair, David Hebert <hebert@gso.uri.edu>.



AICC Call for Nominations

The UNOLS Arctic Icebreaker Coordinating Committee (AICC), who provides scientific oversight and advice to the USCG icebreakers (*Healy*, *Polar Sea* and *Polar Star*), is seeking a new committee member. AICC strives to maintain institutional and scientific breadth and we especially encourage applicants and nominees from the following Arctic disciplines (marine biology, chemical oceanography, and ice science). Icebreaker experience (on USCG or international vessels) is highly desirable.

Committee members (who serve a 3-year term) are appointed by the UNOLS Chair based on the recommendation of the AICC and with the concurrence of the UNOLS Council. A member may serve one additional 3-year term. Applications or nominations (including a brief letter of interest and a CV) should be sent to the UNOLS Office by email to <office@unols.org>. For more information about AICC, visit the website at: <<http://www.unols.org/committees/aicc/>> or contact the chair Margo Edwards at <margo@soest.hawaii.edu>.

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 and based on the scientific disciplines of the present members the committee is seeking someone working in the fields of marine biology/remote sensing or cloud meteorology. Experience with the use of aircraft or coordinating the use of aircraft with other marine facilities in your research is highly desirable. Regional and institutional diversity will also be considered in choosing a new member.

Committee 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>.

~ Position Announcement ~

CHIEF SCIENTIST FOR DEEP SUBMERGENCE - WOODS HOLE OCEANOGRAPHIC INSTITUTION

The Woods Hole Oceanographic Institution (WHOI) is seeking a tenured scientist to serve as the Chief Scientist for Deep Submergence (CSDS) for the National Deep Submergence Facility (NDSF) of UNOLS that is based at WHOI.

Applicants should have at least 8-10 years of experience in any discipline of deep submergence science or engineering, and experience with a wide variety of deep submergence vehicle systems (HOV, ROV, AUV). Candidates will be expected to have achieved a level of scholarship and professional stature suitable for appointment to the tenured scientific staff at WHOI in one of the Institution's five research departments, as well as possess significant leadership skills. It is expected that the successful candidate will maintain an active, externally funded research program in their chosen field of study.

The duties of the CSDS will be supported by the Institution at a level of 6 months/year. The initial term of appointment as CSDS will be 4 years with the possibility of reappointment for a second 4-year term.

The Chief Scientist for Deep Submergence provides scientific input to the development of the NDSF to help improve its vehicle systems as well as to ensure that the present and future needs of the broad deep submergence research community are well-served by the NDSF. The CSDS also acts as an advocate for scientific users of the NDSF communicating their needs and ideas to NDSF operations staff and collaborating closely with the Marine Operations Coordinator to ensure good user-operator communication. The CSDS is expected to provide a strong and effective voice for the NDSF and deep submergence science at the national and international level. The CSDS will report to the Vice President for Marine Facilities and Operations.

Applicants should submit a CV and publication list, as well as a statement of research interests (up to 5 pages), and the names and addresses of six references. A 1-2 page statement regarding their vision for deep submergence facilities and the role they see the NDSF playing in US oceanographic research in the next decade should also be submitted. Candidates should begin the application process by registering online at <http://jobs.who.edu>. Review of applications will begin July 1, 2004.



UNOLS Working Group Completes Study on Ocean Observatory Facility Needs - *By Alan Chave (WHOI), UNOLS Working Group Chair*

Since the 1800's, oceanographers have mapped and sampled across two-thirds of Earth using ships as observational platforms. Measurements and models from this exploratory phase of oceanography have resulted in growing recognition of the diversity and complexity of processes that operate in the oceans. As a result, the ocean sciences are beginning a new phase in which scientists will enter the ocean environment and establish interactive networks for adaptive observation of the earth-ocean system. The growing move to establish ocean observatories reflects this trend.

It is reasonable to expect that the construction of substantial new ocean sciences observing systems will carry new requirements that may impact on existing ocean sciences facilities, and especially oceanographic research ships and deep submergence vehicles. As a consequence, the UNOLS Council constituted a Working Group on Ocean Observatory Facility Needs in February 2003 to assess compatibility of current and planned UNOLS assets with requirements generated by the Ocean Observing Initiative (OOI) and related programs. Their report may be found on the UNOLS website at

<http://www.unols.org/committees/fic/observatory/observrpt.pdf>.

Some key findings of the Working Group were:

- UNOLS should better integrate ocean observatory expertise into its planning and management structure
- The ship time requirements for maintenance of the global buoy component of the OOI are one virtual ship year per year, and will tax the available Global Class ship resources. Augmentation by commercial charters is a viable option, and should be carefully investigated.
- The impact of OOI Global Class ship demand will dramatically increase with the retirement of two of four general-purpose vessels in the next decade, yet no plans to replace these vessels exist. The proposed Ocean Class vessels and the ARRV will not be capable of carrying out many ocean observatory activities in deep water. The Fleet Renewal process needs to consider the construction or acquisition of vessels larger than the current Global Class.
- Ocean observatory operations are not as predictable as more traditional mapping and sampling

activities, and hence will require increased ship scheduling contingency allowance and improved contingency handling.

- The existing Global Class UNOLS vessels are optimized for fuel economy, cruise duration, large shipboard parties, extensive lab space, and limited over-the-fantail operations. These characteristics are often the opposite of what will be required for ocean observatory operations.
- Modification at mid-life refit to extend the vessels, increase the a-frame capacity, and augment the bow thruster capability should be considered.
- ROVs will usually be preferred over manned submersibles for ocean observatory operations due to their enhanced bottom time and human safety concerns, and must become a standard tool at ocean observatories. Three additional academic ROVs will be required by 2010 to support ocean observatory operations and sustain or enhance traditional ocean science vehicle demand.

Please see the full report for a complete discussion of these and other issues.



Alvin Makes 4000th Dive!

Deep Submergence Vehicle *Alvin* reached yet another milestone with its completion of dive number 4000! The dive was made on April 12th during a National Science Foundation funded program on the East Pacific Rise. The program was conducting integrated studies of biological community structure at deep-sea hydrothermal vents. The 4000th dive included pilot, B. Strickrott (WHOI) and scientists Dr. Richard Lutz (Rutgers University) and Dr. Timothy Shank (WHOI). *Alvin*, with a depth capability of 4,500 meters, is one of only five deep-sea research submersibles in the world. *Alvin* has been operated since 1964 by the Woods Hole Oceanographic Institution and will celebrate the 40th anniversary of its christening on June 5th.



Hybrid Remotely Operated Vehicle Under Development at WHOI/DSL

By Cathy Offinger, WHOI

The Woods Hole Oceanographic Institution's Deep Submergence Laboratory (DSL), in conjunction with the department of Mechanical Engineering at Johns Hopkins University, proudly announced the development of their hybrid remotely operated vehicle (HROV) in December 2003 (the announcement can be found at http://www.whoi.edu/home/index_media.html), go to News Releases, "New hybrid vehicle will enable..."). It has been nearly 45 years since US scientists have been able to explore the deepest ocean depths (more than 35,000 feet deep). The new HROV will enable researchers to once again explore those nethermost regions using the dual capabilities of the new vehicle – as an autonomous, wide area survey tool and as a tethered vehicle appropriate for close-up investigations, including sampling. The tether for this vehicle will be a single micro-fiber, only for communications.

DSL engineers, in their first year of design and development, have completed an initial review of structural materials, high performance syntactic flotation material, fabrication materials and design criteria for construction of ceramic pressure housings. The initial design of housings is underway.

A work breakdown structure for the analysis, design and testing of the micro fiber payout system with the U.S. Navy's SPAWAR laboratory has been developed. DSL presently is expanding their modeling capabilities while examining potential candidate micro-fibers in detail.

Specifications are being developed for the various sensors, including sonars, LED lighting system, electric manipulator, and power storage batteries. Vehicle control software, based on existing *Jason 2* and *ABE* software, is also under development.

An oversight committee to review project progress and discuss the Project Plan is expected to convene at the same time as the May DESSC meeting.

It is anticipated that the various components / systems will be tested throughout 2005. This would include the new syntactic flotation material, micro-fiber payout canisters, pressure testing of ceramic flotation spheres and main electronics housings, LED lighting assemblies, and testing of the control system using the Johns Hopkins vehicle test bed.

Looking ahead, full vehicle operational testing would occur in 2006 with actual missions scheduled for 2007.

The National Science Foundation is the primary funder of the four-year HROV program. The US Navy and the National Oceanic and Atmospheric Administration are providing additional support.

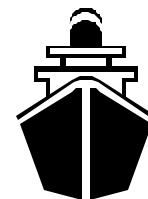
For technical information on the HROV system, please contact Project Engineer, Andrew Bowen at abowen@whoi.edu. Project information can also be obtained by contacting Louis Whitcomb (JHU) at llw@jhu.edu or Dana Yoerger (WHOI) at dyoerger@whoi.edu.

Cape Henlopen Replacement Vessel Under Construction

In December 2003, Dakota Creek Industries in Anacortes, Washington, was awarded the contract to build the University of Delaware's *Cape Henlopen* Replacement Vessel (CHRV). Dakota Creek Industries, in business since 1975, specializes in the construction and repair of steel and aluminum ships. The total project cost, including constructing and outfitting it with scientific instrumentation and communications systems, is estimated at \$17.6 million. The University of Delaware, the National Science Foundation, the U.S. Office of Naval Research, and private donations will provide funding for the new ship.

The vessel will be constructed from five steel modules forming the hull, topped by a lighter, aluminum superstructure that includes the pilothouse. The modules will be constructed in various buildings at Dakota Creek's shipyard and outfitted with equipment. The modules will then be assembled together to form the ship. The CHRV will be 146 feet in length and will serve as a coastal research vessel. The new ship will replace the 120-foot *Cape Henlopen*, which has been in service since 1976.

Construction is scheduled for completion in fall 2005. Once complete, the vessel will be delivered to the East Coast aboard a larger commercial ship.



People in the News

Farewells...

Dick Pittenger - Rear Admiral Richard Pittenger (Navy Retired), who has served as Vice President for Marine Operations at Woods Hole Oceanographic Institution (WHOI) for nearly 14 years, plans to retire effective on 30 June. During his tenure many improvements were made to the research vessels operated by WHOI. *Knorr* and *Oceanus* both underwent major mid-life refits that included length extensions. *Atlantis II*, support ship for *Alvin*, was sold and replaced with a new more capable Global vessel, *Atlantis*. Just recently, on March 29, the Institution's new 60-foot coastal research vessel, *RVTioga*, was christened and launched. Dick will continue to advise the Institution on the transition to the next generation of research vessels.

Dick came to the Institution as Arctic Research Coordinator in 1990 and in 1991 assumed the position of Associate Director for Marine Operations. He joined the WHOI staff following a distinguished 37-year career in the U.S. Navy, retiring as a Rear Admiral. His many posts included: Oceanographer of the Navy; Director, Antisubmarine Warfare Division; Chief of Staff, U.S. Naval Forces (Europe); Deputy Commander, Eastern Atlantic forces, (London, England); and several commands at sea.

Dick has been an active participant in UNOLS activities. He served on the UNOLS Council from 1992 to 1998 and has continued to remain fully engaged in fleet improvement and renewal efforts. Dick has also served as an ex-officio member of DESSC from 1991 until the present, representing the NDSF operator at all meetings.

Dick's advice, energy, and enthusiasm for continual Fleet improvement have been greatly appreciated by UNOLS. We wish him well.

Jon Alberts - Jon Alberts, Marine Operations Coordinator at Woods Hole Oceanographic Institution, has resigned with plans to move West. Jon has served as WHOI's ship scheduler and principal point of contact for cruise related information. As the coordinator of three ships and WHOI's deep submergence facilities, many individuals within the oceanographic community have had the pleasure of working with Jon.

Jon's activities within UNOLS were many. He played a major role in ship scheduling and in 2003 was appointed Vice Chair of the Ship Scheduling Committee. Jon has regularly participated in DESSC meetings, providing

information on deep submergence facility requests, schedules and out year plans. He managed the UNOLS wire pool and participated in plans for the next generation wire.

Best wishes to Jon in his future endeavors.

New Hats...

Mary-Lynn Dickson - Mary-Lynn Dickson has been appointed as the new Science Officer and Manager of the Marine Technicians Group at the University of Rhode Island's Graduate School of Oceanography (GSO). She took over the position in late January 2004 with a busy year of ENDEAVOR operations planned. Mary-Lynn comes to the Marine Technician Group as a GSO Associate Marine Research Scientist in Biological Oceanography. She received her Ph.D. from Oregon State University. Her research has included fieldwork on 50 cruises on 17 different ships.

Robert Detrick - Senior Scientist Robert Detrick has been appointed Vice President for Marine Facilities and Operations at Woods Hole Oceanographic Institution (WHOI), effective July 1, 2004. Bob will have responsibility for developing and managing a strategic plan for the integration of the Institution's research fleet with undersea vehicles and ocean observatories.

A marine geophysicist and Ph.D. graduate of the MIT/WHOI Joint Program in Oceanography and Oceanographic Engineering, Bob brings a variety of experiences to the newly expanded position. He joined the WHOI staff in 1991 as a Senior Scientist after 13 years as a professor and scientist at the University of Rhode Island.

Bob recently chaired the National Academy of Sciences Committee on Implementation of an Ocean Observatory Network for Research. He is currently Chair of the WHOI Geology and Geophysics Department, Chair of the Board of Governors of the Joint Oceanographic Institutions, which is the implementing organization responsible for US participation in the new International Ocean Drilling Program, and Chair of the National Science Foundation's Geosciences Advisory Committee. He has participated in 28 research cruises, 17 as chief scientist.

Note from the editor – Announcements of employment changes, retirements, and new positions are always welcome and can be sent to the UNOLS Office at <office@unols.org>.



2004 UNOLS CALENDAR OF MEETINGS

Committee	Meeting	Start Date	End Date	Location/Notes
DESSC	Spring Meeting	May 17	May 18	WHOI, Woods Hole, MA
Scheduling	Summer Meeting	July 21		NSF, Arlington, VA
Scheduling	Fall Meeting	Sept 14		NSF, Arlington, VA
Science	INMARTECH 2004	Sept 20	Sept 23	Cambridge, England
FIC	Fall Meeting	Oct 13		NSF, Stafford II, Room 555, Arlington, VA
Council	Fall Meeting	Oct 14		NSF, Stafford II, Room 555, Arlington, VA
UNOLS	Annual Meeting	Oct 15		NSF, Stafford II, Room 555, Arlington, VA
RVOC	Annual Meeting	Oct 19	Oct 21	Bermuda Biological Station for Research, St. Georges, Bermuda
RVTEC	Annual Meeting	Nov 3	Nov 5	Florida Institute of Oceanography, St. Petersburg, FL
DESSC	Winter Meeting	Dec 12		Fall AGU San Francisco, CA (Location TBA)

I would like to thank all who contributed information and articles for this issue of UNOLS News. Articles are always welcome and encouraged. Copy can be submitted via mail, FAX or e-mail. Thank you, Annette DeSilva - Editor, UNOLS News

E-mail: office@unols.org, Phone: (831) 771-4410 Fax: (831) 632-4413
 Mail: UNOLS Office, 8272 Moss Landing Road, Moss Landing, CA 95039

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San Jose State University
 Moss Landing Marine Labs
 UNOLS Office
 8272 Moss Landing Road
 Moss Landing, CA 95039

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