

UNOLS NEWS

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Comments from the UNOLS Chair ...

Dear Colleague,

Obtaining permission to conduct research in the Exclusive Economic Zones (EEZs) of foreign nations is as much a part of preparing for a cruise as is making travel arrangements or gathering reagents. The concept of approvals for EEZ work is embedded in the UN Law of the Sea (LOS) treaty, which has been adopted by 132 nations and by virtually all major maritime nations and U.S. allies. The United States remains a lonely non-ratifier, despite the urgings of several administrations and of essentially all sectors of the U.S. marine community: scientific, military and commercial. U.S. reticence is not related to the research portions of LOS, however - it has been U.S. policy to abide by the research approval provisions since the Reagan administration.

The keys to observing LOS provisions regarding "marine scientific research (MSR)" in general terms are:

1. recognizing that MSR, while somewhat ambiguous in the text of LOS, almost certainly includes every sort of scientific data gathering commonly done by UNOLS vessels, whether as part of a deliberate observational project or as "ancillary" or "underway" observations taken while in passage through an EEZ. There is no such thing as an exemption for running scientific instrumentation and collecting scientific data as part of ordinary ship's navigation en route, nor would any coastal state be likely to accept such an interpretation.
2. applying for clearance/approval well in advance, observing the timelines set by the coastal state and providing all information requested in accordance with those timelines. It is important to understand that clearance is ultimately a government-to-government action. International professional contacts and scientific collegiality can help, and are to be encouraged, but are not a substitute for formal diplomatic processes.
3. matching reality to paperwork - the project must in fact be conducted as reflected in the application.

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4. fully meeting conditions of clearance laid down by the coastal state, including such matters as taking observers aboard, reporting regularly to coastal authorities, supplying data products post-cruise, and even supplying translations of some documents.

All of these hurdles can be onerous or costly in varying degrees, and there is no denying the fact that many research projects would be simpler if they were to disappear. But they will not disappear; they are enshrined in international law. Attempts to cut corners on these rules can only backfire on the corner-cutters in the first instance, but also eventually on all UNOLS researchers. A coastal state irritated by an instance of corner-cutting can easily increase the future difficulty of obtaining clearance, or make it virtually impossible. It can do so while remaining in compliance with LOS, and can do so in ways that affect all U.S. vessels, not merely the corner-cutter. The double irritants of corner-cutting and of continued U.S. rogue status as a non-ratifier make such an outcome entirely possible, while non-ratification leaves the U.S. with few levers to attempt to improve the outcome. The importance of ALL UNOLS ships playing faithfully and fully by LOS clearance/approval rules cannot be overemphasized. Fortunately, in the form of institutional schedule/clearance personnel and of the State Department's Bureau of Oceans and International Environmental and Scientific Affairs, the UNOLS community has good access to experienced people who can advise, guide and assist in clearance matters. The infrastructure to realize compliance with LOS MSR provisions exists. It is up to UNOLS scientists and ship operators to use it for the purpose intended.

Bob Knox, UNOLS Chair

UNOLS Welcomes Two New Members

At the UNOLS Annual Meeting in September 1999, applications for UNOLS membership from the Southern California Marine Institute (SCMI) and the New Jersey Marine Sciences Consortium (NJMSC) were approved. Welcome aboard!

Thank You!

On behalf of the UNOLS Community, we wish to thank Clare Reimers for her service on the UNOLS Council. Clare's term on the Council ended in September 1999.

UNOLS Council 1999 Election Results

Elections were held at the UNOLS Annual Meeting on 21 September 1999 to fill two UNOLS Council positions. The UNOLS Nominating Committee of Tom Shipley (Chair), Larry Atkinson and Barbara Prezelin assembled a slate of candidates for the UNOLS Council positions one to be filled by an at-large representative (individual affiliated with any UNOLS institution), and one from a UNOLS Operator institution. Dennis Hansell (Bermuda Biological Station for Research) was re-elected to a second 3-year term as the Operator Representative. Dennis' research interests are in biogeochemistry. His research program investigates the carbon and nitrogen cycles in the global ocean. He has extensive experience with UNOLS, NOAA and other ships dating from 1985. Denis Wiesenburg (University of Southern Mississippi) was elected to a 3-year term as the At-Large Representative eligible for re-election to a second term. Denis' research interests are in geochemistry. He has participated in over 40 research cruises in the North and South Atlantic Ocean, North Pacific Ocean, Gulf of Mexico, Mediterranean Sea and Norwegian Sea.

UNOLS Office Moves to Moss Landing Marine Laboratories

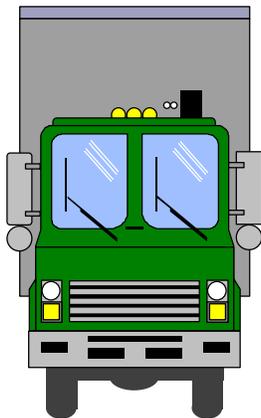
On May 1, 2000 the UNOLS Office will move across country to the Moss Landing Marine Laboratories. For the past nine years the UNOLS office at the University of Rhode Island has been providing outstanding service to the ocean science community. Even though Jack Bash, Annette DeSilva, Mary Badger, Sarah Davidson and David Avery are doing a great job supporting the UNOLS mission, the charter requires that the office be rotated periodically among the various UNOLS ship operating institutions. After a maximum of nine years a new office is selected through a competitive proposal process. As a result, Moss Landing Marine Laboratories was selected by UNOLS to host the office with myself (Mike Prince) as the new UNOLS Executive Secretary. Annette DeSilva will continue as the Assistant Executive Secretary, working from Rhode Island. An administrative assistant and student assistants will be hired in the months leading up to the transition to complete the office staff.

Moss Landing Marine Laboratories (MLML) has been a UNOLS operating institution since 1979 and has always been an active participant in the activities of the organization. Hosting the UNOLS Office is considered an important and vital contribution to the support of facilities for field work in the marine sciences that is consistent with the mission of MLML. Seven of the California State University (CSU) campuses form a consortium that operates MLML in order to provide a master's degree program in the marine sciences. Our program includes a strong emphasis on research programs in the field and providing the appropriate facilities for that program has always been a high priority. For the past ten years the lab has been displaced by the Loma Prieta earthquake but in January of this year was able to move into brand new facilities overlooking the Monterey Bay. This new location will house the UNOLS Office and will be part of a growing concentration of marine science institutions in the central California coastal region. More information about MLML can be found at our web site: <http://color.mlml.calstate.edu/www/mlml.htm>

The phone number for the new UNOLS Office will be 831-632-4410. The address will be: UNOLS Office, 8272 Moss Landing Road, Moss Landing, CA 95039. The website address will be <http://www.unols.org>.

During the transition period, every effort will be made to ensure that there is no disruption in the services that the UNOLS Office provides for scheduling, ship time requests, medical advisory contracts and support for the users and operators of the academic research fleet. Transferring some of the web based functions will most likely be accomplished in a phased manner with links taking you to the correct place in order to ensure that changes will be as seamless as possible. Anyone with suggestions or comments about the services that the UNOLS Office will provide to the community is welcome to send an email to prince@mlml.calstate.edu or call 831-632-4410.

Mike Prince
UNOLS Executive Secretary in Training



*As of May 1, 2000
the address for the UNOLS office is:*

**UNOLS Office
8272 Moss Landing Road
Moss Landing, CA 95039**

**Telephone: 831-632-4410
website: <http://www.unols.org>**

CALL FOR NOMINATIONS

UNOLS Council and Chair/Vice Chair

Critical issues facing the University-National Oceanographic Laboratory System (UNOLS) academic fleet include its long term utilization, its future composition and its current and future capacity to meet the demands of the oceanographic community. These issues are among several addressed by the UNOLS Council at three meetings each year. 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, including the positions of Chair and Vice Chair.

Each year several seats rotate open on the UNOLS Council. Nominations are being sought now from UNOLS institutions to fill the positions opening in 2000. Five seats will be filled by election in accordance with the UNOLS Charter at the 2000 UNOLS Annual Meeting in September. The seats include three to be filled by at-large representatives (individuals affiliated with any UNOLS institution), and one each from UNOLS Operator and UNOLS Non-Operator institutions. The UNOLS Chair and Vice Chair positions are among the three to be filled from any UNOLS institution. Terms of office are three years for Council Members and two years for the Chair and Vice Chair, all with the possibility of re-election for a second term.

The UNOLS Council consists of nine members, including the Chair and the Vice Chair. In addition, the Chairs of six standing UNOLS committees serve as ex-officio members. The UNOLS Council Chair represents UNOLS throughout the oceanographic community, calls and presides over UNOLS meetings, chairs the UNOLS Council and Executive Committee, appoints other committees, and provides oversight and guidance to the UNOLS Office. The Vice Chair supports the Chair in representing UNOLS to the community and, in the Chair's absence, takes over the Chair's other duties. The UNOLS Council members represent and act on behalf of the UNOLS membership as the operating and governing body of UNOLS.

Nominations for the slate may be submitted by anyone affiliated with a UNOLS institution by May 26, 2000, in writing to the UNOLS Office (unols@gso.uri.edu) or the Nominating Committee (Chair, Charles Flagg, flagg@bnl.gov; Clare Reimers, clare.reimers@hmsc.orst.edu; Paul Ljunggren, pwl@ldeo.columbia.edu). 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.

UNOLS COUNCIL

Robert Knox, SIO, (Chair)
 Thomas Royer, ODU, (Vice Chair)
 Tim Cowles, OSU
 Charles Flagg, Brookhaven
 Dennis Hansell, BBSR
 Tom Lee, U Miami
 Barbara Prezelin, UCSB
 Tom Shipley, U Texas
 Denis Wiesenburg
 John Freitag, URI (Chair, RVTEC)
 Patricia Fryer, U Hawaii (Chair, DESSC)
 Larry Atkinson, ODU (Chair, FIC)
 Joe Ustach, Duke/UNC (Chair, SSC)
 Paul Ljunggren, L-DEO (Chair, RVOC)
 J. Swift, SIO (Chair, AICC)

UNOLS Committees: News and Activities

Research Vessel Operators' Committee (RVOC)

The 1999 RVOC Meeting was hosted by Harbor Branch Oceanographic Institution on 4-6 November in Ft. Pierce, FL. The meeting was attended by approximately 60 representatives from UNOLS institutions, representatives of federal agencies, as well as representatives from the SAACLANT Undersea Research Center, Southampton Oceanographic Centre, and the Netherlands Institute for Sea Research. In addition to presentations from the various operating institutions regarding operational issues, the following topics were presented:

- Dennis Nixon, UNOLS Risk Manager, reviewed insurance and liability issues.
- Dolly Dieter of NSF provided an overview of the Academic Fleet Review.
- Jim Meehan of the National Marine Fisheries Service discussed the status and planned capabilities of the new NOAA fisheries research vessel, FRV 40.
- Susan Kubany, Bob Heinmiller and Andy Maffei provided an update on SeaNet.
- Bill Hermann of NOAA gave a presentation on the Shipboard Activities Logging System used on board NOAA vessels.
- Jack Ringelberg and Blake Powell from Jamestown Marine Services provided an overview of four Computerized Shipboard Maintenance Systems currently available.
- Ken Hughes of Delta Marine International gave a presentation on ozone technology describing its current and potential applications on board ships.
- An open discussion was held on the issue of "Quality" as identified in the Academic Fleet Review and what steps, we as a community, can take to address this issue.

The year 2000 meeting of the RVOC will be hosted by Oregon State University at their Marine Facility in Newport, OR on 24-26 October 2000. The University of Rhode Island was selected to host the 2001 meeting. The RVOC and RVTEC are planning a concurrent meeting with some joint sessions for 2001.

All sections of the Small Research Vessel Primer have now been received from the contributing authors. Jack Bash will prepare the introduction and Paul Pelletier of UNH, Dan Schwartz of UW, and Fred Jones of OSU have agreed to review the document.

The updated Research Vessel Safety Standards (RVSS) have been printed and distributed. Additional information about the updated RVSS is included in the following article.

*By Paul Ljunggren
RVOC Chair*

Research Vessel Safety Standards (RVSS) are Updated

The RVOC Safety Committee has completed the update to the Research Vessel Safety Standards (RVSS). The revised RVSS address Standards of Training, Certification and Watchkeeping (STCW), as well as, the International Management Code for the Safe Operations of Ships and for Pollution Prevention (ISM Code). References to SOLAS were updated. Additional information was provided on rescue boats, portable vans, and weight handling gear. Chartering of non-UNOLS vessels was addressed. Appendix B was added which provides a recommended checklist for shipboard vans.

It is important that sea-going scientists refer to the RVSS early in their cruise planning. The Standards are posted on the UNOLS website at http://gso.uri.edu/unols/saf_stand/contents.htm. Copies of the updated Research Vessel Safety Standards can be obtained by contacting the UNOLS Office.



The UNOLS DESCEND Workshop

by Patricia Fryer, DESSC Chair

As part of an overarching effort to define critical scientific research objectives to be attacked in the next decade, and to ensure that the facilities exist to achieve these objectives, NSF, NOAA and ONR funded a UNOLS workshop that took place in late October of 1999. The 117 participants in this workshop addressed the future of multidisciplinary science that utilizes both deep and shallow submergence technologies (see <http://www.gso.uri.edu/unols/descend/descend.htm> for more information). The workshop provided an excellent opportunity for scientists and experts in submersible vehicle and sensor technology to meet and discuss the myriad of issues associated with future science initiatives and the technology that will be needed to address them. The workshop had three objectives: to (1) define the critical scientific research themes for oceanographic and allied sciences that require vehicle and/or observatory systems in the next decade and beyond, to (2) define strategies to ensure that the facilities exist to carry out these objectives, and thus, to (3) help to direct future upgrades of science sensors, sampling techniques, and imaging capabilities of vehicle systems funded by the federal agencies.

Participants in the workshop agreed that one of the most outstanding scientific revelations of the twentieth century is the realization that ocean processes and creation of the Earth's crust within the oceans may determine the livability of our planet in terms of climate, resources, and hazards. Discoveries made with submergence vehicles may enable us to determine even how life itself began on Earth and whether it exists on other worlds. The participants also stressed that the next critical step should be toward discovering the linkages between various phenomena and processes in the oceans and in exploring the interdependencies of these through time. The participants expressed excitement at the knowledge that technological advances in the myriad of oceanographic sensors and vehicle capabilities are escalating at an increasingly rapid pace, and have created enormous potential for opportunities to gain a scope of understanding unprecedented even a decade ago. This new knowledge will build on the unprecedented discoveries in marine sciences over the last several decades, many of which have been made possible only through advances in vehicle and sensor technology. With the rapidly escalating advances in technology, the

participants agree that the time is ripe to focus efforts on understanding the connections both in terms of interdependency of phenomena at work in the world oceans and their variability through time.

Some of the major recommendations arising from the DESCEND Workshop include a concern that our nation's ability to keep pace with this growing potential is being limited by an inability to gain broad access to the full spectrum of vehicles and tools that currently exist. The future success of multidisciplinary oceanographic research in realizing the full potential of this burgeoning technology will depend critically on a new, major national investment in facilities and research funding if we are to make new vehicles, sensors and samplers readily available to the academic community. The justification for this investment lies in the certainty that we will make fundamental discoveries concerning the interplay between geological, chemical, and biological phenomena in the world oceans and the effects these processes have on the hydrosphere, atmosphere, ecosystems, and Earth's human population.

Volunteer Needed for Fleet Improvement Committee

A vacancy is open on the UNOLS Fleet Improvement Committee. To maintain a disciplinary balance on the committee, the new member should be a sea-going scientist with a research discipline in the field of Marine Geophysics and Geology. The individual must be from a UNOLS Non-operator institution. Individuals interested in volunteering to serve on the Committee should contact the UNOLS Office.

Fleet Improvement Committee Activities

The Fleet Improvement Committee has met twice in the past six months. In November, FIC met in Moss Landing at the Monterey Bay Aquarium Research Institute. In addition to a dockside tour of WESTERN FLYER, MBARI arranged for the committee to go offshore to meet the ship on the second day and ride it back into port. With more SWATHs coming on line in the future it was beneficial for the FIC to actually ride on one and experience it first hand. In March, the FIC held its meeting aboard the USCG's new icebreaker, HEALY, during the ship's transit from Norfolk, VA to Baltimore, Md. During both of these meetings, the FIC addressed issues of science missions, ship design and fleet planning.

Some of the specific FIC agenda items include working with individual institutions and planning for AGOR 26. FIC continues its occasional advisory role in the design and construction of AGOR 26 (the University of Hawaii SWATH

vessel). This has been a good test of a new mode of operation of FIC where the committee provides *ad hoc* response to needs of institutions planning or constructing new ships. FIC is working with the University of Delaware in their planning process for replacement of their vessel CAPE HENLOPEN. Here again FIC is working *ad hoc* to provide community input to institutional efforts to replace ships. FIC is also coordinating with Lee Back (BBSR) who has formed a group to address the needs of Regional class vessel upgrades and replacements. FIC will continue to work with the University of Alaska as their plans for replacement of ALPHA HELIX develop. FIC has been kept up to date on the WHOI SWATH with reports at their meetings.

A major activity of the FIC is the development of a **Biennial Review of the Academic Fleet**. The report is intended to illustrate where the fleet is going and what needs should be addressed. The Review is being organized into Sections and Chapters.

It is a living document published on the UNOLS website: { **HYPERLINK** <http://gso.uri.edu/unols/ficcom/AUTHSHIP.HTM> }. Volunteers from the community are contributing to the writing of the report. The report addresses a variety of topics, including: future research requirements, the state of the fleet and trends in fleet use, a historical perspective of fleet replacement and new assets. Some of the new assets to be addressed include: icebreakers, seismic vessels, SWATH vessels, ROVs/AUVs, and ocean observatories. Fisheries Surveys, Hydrographic Surveys, new marine regulations, and shore side technical support will be addressed.

Some of the sections have been drafted and posted on the website. The community is encouraged to refer to the page periodically for updates. Individuals interested in contributing to the website are encouraged to contact the UNOLS Office.

UNOLS Arctic Icebreaker Coordinating Committee

By James H. Swift, AICC Chair

The UNOLS Arctic Icebreaker Coordinating Committee (AICC) has been busy since the fall with a series of meetings. An informal AICC meeting was held on 19 October at Old Dominion University, with a focus on AICC-Coast Guard issues and continued efforts to provide a UNOLS-like experience to funded Arctic science users of the Coast Guard icebreakers.

At the NSF Ocean-Atmosphere-Ice Interactions All-Hands meeting in Virginia Beach, 20-22 October, AICC representation was included during a panel discussion on Arctic logistics, with focus on the upcoming western Arctic Shelf-Basin Interactions project and HEALY science planning.

AICC representation was included at the USCGC HEALY Ice Trials Meeting 27-28 October in New Orleans, the final all-hands planning meeting for the tests and trials program. A tour provided a chance to observe that the ship and laboratories looked in nearly final/completed condition.

Continued on next page...

The AICC hosted a community long-term planning workshop on Arctic icebreaker use at the 1999 Fall AGU meeting. The audience was principally concerned with understanding the planning and scheduling process, and understanding science equipment and technical support. This feedback will be valuable in guiding updates to information for prospective users. An abridged version of the present 'five year rolling plan' for U.S. Arctic icebreaker use has been placed on the UNOLS web site. Another meeting was held at the Ocean Science Meeting in San Antonio on 24-28 January. Concerns of the attendees were the same as at the AGU meeting.

The AICC met for a meeting at NSF Headquarters on 11-12 January.

The Coast Guard's Baltimore public relations visit by HEALY generated excitement. HEALY departed Norfolk on 21 March and transited to Baltimore. The UNOLS FIC rode the ship and held a meeting aboard. The ship was open for public activities on Wednesday (3/22) and Friday (3/24). The Shelf Basin Interaction (SBI) Group held a meeting aboard on Wednesday afternoon. Thursday (March 23rd) was the big event with VIPs onboard. Cabinet members, Congressional staffers and senior USCG and Navy officials attended. AICC members were on hand in the laboratories along with many posters from the community demonstrating the type of science intended to be carried out from HEALY.

There will be extensive AICC participation in Coast Guard sea

trials of HEALY during 2000. The Coast Guard has been working closely with Canada, Denmark and Greenland with respect to the ice breaking and cold water science tests to be conducted in Baffin Bay. The science systems testing team will make the decision as to where it will want to work for science testing. The ship's science systems are ready for testing. Test memos for science testing are now being updated for the final in-ice science systems tests in June, and the AICC is writing up science objectives for the Phase IV science systems testing. John Freitag has been tasked to provide the committee with his draft objectives adjusting them for realigned test requirements recently worked out by the AICC. AICC members will be overseeing all science systems testing, and all are contributing to an executive report. At the behest of the AICC, member Kelly Falkner submitted a successful proposal to NSF to support having teachers aboard during the level ice and science systems testing.

The AICC is moving ahead with its role in expeditionary planning. In addition to the at-least-annual town meetings, a five-year rolling plan, including status of each planning idea, will be made available to the community through the UNOLS web site. It is planned that information to be tracked will include planning ideas, proposals submitted, proposals funded and proposals scheduled, with accompanying logistics and user contact information. The funding cycle makes long range planning very difficult. It is particularly difficult to coordinate operations with foreign ships since they commit to a schedule several years in advance. There

remain important details to work out but progress is being made on this important AICC and community issue.

Regarding science equipment and technical support on the Coast Guard icebreakers, the AICC is available to do informational reviews for equipment purchases, and notes that the academic community can be of assistance in providing technical support that could help with equipment purchases, equipment maintenance, training and technicians at sea. The committee discussed what process is necessary to make the services available. The Chair will alert the community that one or more institutions should consider submitting technical support proposals to NSF for HEALY services. It will be important that anyone contemplating providing such services work closely with both the Coast Guard and the users.

Announcement of the 2000 Arctic Science-of-Opportunity (SOO) cruise was made in late summer 1999 and applications were received. Because nearly all were repeats from last year's cancelled SOO, and it was going to be possible to accommodate the new requests, no compatibility/logistics review was needed from the AICC. Glenn Cota has agreed to be Chief Scientist on the 2000 SOO, expected in the western Arctic in early summer.

Seattle was selected as the next AICC meeting place, to be scheduled near commissioning time, expected ca. August 2000.

Research Vessel Technical Enhancement Committee News

Excerpts from the UNOLS Committee report as provided by John S. Freitag, RVTEC Chair

The 1999 RVTEC Annual Meeting was hosted by the University of Texas Marine Science Institute in Port Aransas, TX on 20 to 22 October. The agenda included reports, technical presentations, and discussions. Dale Chayes of LDEO provided a report on the status of the SeaNet project. SeaNet installations have been completed on five UNOLS vessels in a variety of classes. Bob Gauer of CODA Technologies gave a presentation of the various software and processing options available in the expanding marketplace of shallow sediment profiling and swath mapping Sonar systems becoming available. The presentation looked at the various options available and highlighted the questions users should be asking vendors.

The majority of the second day of the meeting was spent on an interactive presentation of NetCDF and its application to the UNOLS fleet. RVTEC has been wrestling with the question of data product commonality since the FIC made a recommendation for a move in that direction about three

years ago. The move has been made toward a common media, the CDROM, and has been largely successful. This effort is aimed at the commonality of data product and the inclusion of metadata in what is disseminated by UNOLS vessels. The feedback to date indicates that movement is finally beginning to occur in this direction. A sub-committee was formed to address common issues and stimulate communication between technical support groups as they progress to NetCDF.

There were two presentations by representatives of science programs, briefing RVTEC about relevant aspects of their projects. Shawn Smith from Florida State University gave details on the utilization of meteorological data, completeness of data sets and the impact on the larger picture. Brian Guest of Woods Hole Oceanographic Institution briefed the group on ARGO, a global array of floats to map ocean circulation, which is in the ramp up stage and likely to be implemented from UNOLS vessels. Dale Chayes gave an update on the SICEX submarine

program and its implications for future research in the Arctic.

There were technical presentations led by Rich Findley. A representative from Lab-View, who produces data logging and display software was on hand to show various applications using the "smart" Keithley modules.

Tony Amos was re-elected as RVTEC Vice Chair. The 2000 RVTEC Annual Meeting will be held at Lamont-Doherty in Palisades, NY.

In other RVTEC activities, the role of coordination in HEALY trials is progressing and active participation began with Warm Water Trials in February. Nearly all parties participating are under contract. As has been stated previously, the goal of the ice trials is to test the major scientific systems under conditions which simulate as closely as possible the conditions of an actual science program.

UNOLS Fleet Operations in 2000

In calendar year 2000, there are 5,089 operating days scheduled for the UNOLS Fleet. This represents an increase of 168 days from 1999. The table below provides a comparison of ship days between 1999 and 2000. It is interesting to note that the total days for the large ships are almost equal that of last year. In 2000, small ship (Class V) use is up 218 days from 1999. This is in part due to BLUE HERON being added to the UNOLS Fleet with 101 days of scheduled work. In 2000, NSF is supporting close to 60% of the fleet usage. This is up from past years with much of the NSF work on large ships. The number of funded ROV programs in 2000 is high. A summary of 2000 operations by ship is provided below.

UNOLS Fleet Operating Days: 1999 and 2000 (Operating days are from ship schedules posted as of 4/7/00.)

Vessel Class	1999 (Days)	2000 (Days)	Differential
Class I/II	1,605	1,607	+ 2 days
Class III	1,354	1,282	- 72 days
Class IV	1,357	1,377	+ 20 days
Class <IV	<u>605</u>	<u>823</u>	<u>+218 days</u>
TOTAL	4,921	5,089	+ 168 days

2000 Fleet Operations Summary (continued from page 9):**Large Ships (Class I/II):**

ATLANTIS - ATLANTIS began 2000 operations in Guaymas Basin in support of ALVIN operations. This was followed by operations at the North East Pacific Rise. After a maintenance period and USCG inspection in late February/early March, work will resume off San Clemente. Operations are planned at the NEPR in April and May. In June, the ship will transit to Juan de Fuca in support of ALVIN and Jason operations until late September. A second maintenance period is planned for August. In late September the ship will transit through the Panama Canal for ALVIN operations in the Gulf of Mexico. An ALVIN/ARGO II/DSL120 cruise is planned in the Atlantic before ATLANTIS returns to WHOI in December. ATLANTIS has a 296-day schedule. *** **MAURICE EWING** - In 2000, EWING started the year in the South Pacific. In April operations are at the Galapagos Ridge and off Middle America. In July the ship will transit through Panama Canal. Operations will continue in

the North Atlantic. 267 days have been scheduled. *** **KNORR** - KNORR's operating areas include Guiana Basin, the Mid Atlantic Ridge, Brazil Basin, and Sargasso Sea. A Navy funded program is scheduled for October in the Mediterranean Sea. The year will end with operations in the South Atlantic. 274 days are scheduled. *** **MELVILLE** - MELVILLE began the year in overhaul. Operations started in mid February with work in the North Pacific at 9 degrees North. An Argo II/DSL120 cruise is being carried out through early May along the Eastern Pacific Rise from 20N to 20S. Operations continue in the East Pacific and off Costa Rica through June. The ship will be in port at San Diego until August. In August, operations resume in the South Pacific for the remainder of the year. A schedule of 266 days is planned. *** **ROGER REVELLE** - REVELLE began 2000 operations with work in the Sea of Japan, off Korea, and South China Sea in

support of ONR and NRL programs. In July, the ship will return to San Diego. Operations are planned at Juan de Fuca in the summer. REVELLE operations to support the NSF HOME project off Hawaii are planned in the fall. The ship will return to San Diego in December for installation of SIMRAD EM-120 system. 301 days are planned. *** **THOMAS G. THOMPSON** - THOMPSON began the year with state funded programs in the NW Pacific and off Hawaii. This was followed by Prod drill trials in March and student cruises in April. From mid April to early June, the ship will be available for scheduling and maintenance. A STRATAFORM cruise is planned off the California coast in July. The schedule includes operations in the summer and fall at Juan de Fuca. Jason and ABE operations will be conducted. 203 days are scheduled.

Intermediate Ships (Class III):

EDWIN LINK - EDWIN LINK will support a variety of submersible operations throughout the year. A Navy funded LWAD program was carried out in March. Operating areas in 2000 include the Bahamas, off North Carolina, Gulf of Mexico and off New England. 176 days are scheduled. *** **ENDEAVOR** - ENDEAVOR's operating areas in 2000 include Buzzards Bay, Narragansett Bay, Sargasso Sea, Gulf of Maine, and east coast/shelf work. 209 days are scheduled. *** **GYRE** - GYRE started the year with a

maintenance period. Operations began in February. The ship will work in the Gulf of Mexico throughout the year. 171 days are scheduled. *** **NEW HORIZON** - NEW HORIZON will operate off California. The schedule includes NAVO and GLOBEC programs. An overhaul is planned late in the year. 173 days are scheduled. *** **OCEANUS** - OCEANUS has a light schedule in 2000 with work beginning in May. Operating areas include the East Coast, Grand Banks, and off the New Jersey Coast. The ship will be in

port after 1 November. 111 days are scheduled. *** **SEWARD JOHNSON** - SEWARD JOHNSON's schedule includes operations in both the North and South Atlantic. A schedule of 255 days is planned. *** **WECOMA** - In 2000 WECOMA will devote much of its schedule for work off Oregon, Northern California, and Washington state. In September, the ship will transit to Hawaii to support the HOME project. The ship will return from Hawaii to Oregon in December. 187 days are planned.

Small Ships (Class IV):

ALPHA HELIX - ALPHA HELIX will operate throughout the year in the Gulf of Alaska and the Bering Sea. Operations include support of GLOBEC programs. 124 days are planned. *** **CAPE HATTERAS** - CAPE HATTERAS has operations planned along the East Coast shelf, Onslow Bay, Gulf of Maine and in the Charleston Harbor. 194 days are scheduled. *** **CAPE HENLOPEN** - CAPE HENLOPEN will work primarily in the Chesapeake Bay, Delaware Bay, off Virginia

Beach, and off the coasts of Delaware and New Jersey. A schedule of 181 days is planned. *** **LONGHORN** - LONGHORN has 96 days scheduled for work in the Gulf of Mexico. *** **PELICAN** - PELICAN has a full schedule of 251 days for work in the Gulf of Mexico. This includes 46 NOAA funded days and 97 Navy funded days to support NAVO and ONR programs. *** **POINT SUR** - POINT SUR will work primarily off Central California and in Monterey Bay with 162 days

scheduled. *** **SEA DIVER** - Operations are planned in the North Atlantic, Gulf of Mexico, and Bahamas. 132 days are scheduled. *** **SPROUL** - SPROUL has a light schedule with work off Southern California with 92 days scheduled. *** **WEATHERBIRD II** - WEATHERBIRD II has 149 days scheduled for work off Bermuda. A shipyard period is planned in the early summer.

Small Ships (Class V):

BLUE FIN - BLUE FIN will operate regionally in waters off Georgia. 118 days are scheduled. *** **CALANUS/F.G. WALTON SMITH** - CALANUS will begin the year's operations. F.G. WALTON SMITH, U.Miami's new research catamaran, will come on-line in 2000 and will take over the year's operations. Work is planned in Florida Bay, Florida Straights, the Bahamas and off Mexico. 173 days

are scheduled. *** **CLIFFORD A. BARNES** - BARNES will begin operations in August with a STRATAFORM program along the Pacific Coast. The ship will spend the remainder of the year with operations in Puget Sound. 99 days are planned. *** **LAURENTIAN** - LAURENTIAN will operate in Lake Michigan and Lake Superior. A very full schedule of 212 days is planned. Most of the operations will be in

support of the CoOP program. *** **URRACA** - URRACA will work off Panama in both the Pacific and Atlantic. In February, operations took place off Costa Rica. A few programs will be carried out in the Gulf of Chiriqui. The schedule ends in September with 120 days scheduled. *** **BLUE HERON** will operate in the Western Superior and Keweenaw. 101 days are planned.

Donald F. Heinrichs Retires from NSF

Dr. Donald Heinrichs retired from the National Science Foundation in December 1999 after nearly 30 years of service to the oceanographic community. He began his career in 1971 with the Office of Naval Research and moved to NSF in 1975. For ten years he served as Program Director of the Submarine Geology and Geophysics Program. In 1985 Don became head of the Oceanographic Centers and Facilities Section with responsibility for ships, facilities and the Ocean Drilling Program. In this position he worked to insure that capabilities, tools, platforms, and facilities were available to meet the needs of the academic science community. At the 1999 UNOLS Annual Meeting in September, Bob Knox made a presentation on behalf of UNOLS recognizing Don's many contributions and dedication to the academic fleet. UNOLS presented Don with a mariner's clock in appreciation of his service.

Winch and Wire Symposium

UNOLS held a Winch and Wire Symposium on 30 November and 1 December at Tulane Medical Center in New Orleans, LA. The purpose of the symposium was to define future winch and wire requirements, assess the inventory in the UNOLS fleet, and identify what is needed. A questionnaire was developed and distributed to the community for input prior to the symposium. Six heroes were identified to represent the four primary science disciplines, plus an operator and an ocean engineer. They compiled summaries of the questionnaire responses.

The meeting began with a panel discussion. Six panelists, Sandy Williams, Craig Lee, Ken Smith, Ken Johnson, Sherm Bloomer, and Tom Althouse, reviewed the questionnaire summaries and identified future winch and wire needs of the scientific community. This discussion was followed by a series of technical sessions. The first session was on winches and cranes. Speakers from industry were invited to make presentations and discuss the science issues raised by the panelists. Mike Markey (Markey Machinery)

provided a review of single drum winch technology. James Staney (Dynacon) provided a review of traction winch technology. Bill Hurley (Glosten) discussed structure, stability and safety of winch systems, installation and operation. Reed Okawa (North American Crane) discussed cranes for over-the-side gear handling. The presentations were followed by a questions/answer period.

The next session addressed wires, ropes and cables. Tom Coughlin (Vector) provided a review of fiber optics and EM cables design, structure and operational parameters. Sim Whitehill (Whitehill Manufacturing) provided a review of synthetic rope technology and its application in the science community. Phil Gibson (Tension Member Technology) discussed cable mechanics, handling systems, terminations, testing methods and cable specifications.

The final technical session was on operations and specialty applications. Emil Grignard (Grignard Company) discussed cable

maintenance. Alec Crawford (Deep Tek Ltd) discussed the design and operation of the Curly Winch wire recovery system. Lastly Jon Alberts provided a summary of the UNOLS winch inventory.

The meeting concluded with the panelists providing a wrap-up of the symposium and fielding questions from the floor with speakers available to answer questions.

The symposium is very timely. During the NSF Academic Fleet review, comments were received from the community that the Fleet is not able to meet some of the winch and wire requirements that are currently demanded. Larger science packages continue to come on-line. We need to examine the next generation cables and what impact they will have on winch requirements. The symposium will be used to update the Winch and Wire book. The current book was printed approximately ten years ago and all copies have been distributed.

USCGC HEALY Visits Baltimore

The U.S. Coast Guard welcomed the public and UNOLS Community aboard its newest icebreaker, USCGC HEALY during the ship's recent visit to Baltimore in March. The UNOLS Fleet Improvement Committee held their regular meeting aboard the ship during its transit from Norfolk, VA to Baltimore, MD on March 21st. Some of the members of the UNOLS AICC were also on board the ship during the transit and visit. While in port on 22-24 March, HEALY was visited by hundreds of people including school children, federal agency representatives, military personnel and the general public. The AICC members were present in the laboratories along with many posters from the community demonstrating the type of science intended to be carried out from HEALY. VIP tours were provided of the ship on 23 March. Cabinet members, Congressional staffers and senior USCG and Navy Officers attended. Captain Garrett and the crew of HEALY deserve praise for their professionalism and hospitality extended during the ship's visit to Baltimore. *Thank you!*

Please help by circulating this job announcement throughout the community.

NATIONAL SCIENCE FOUNDATION

Job Announcement

Program Manager (Marine Facilities Manager), AD-340-3/4; Ships Operations Program; Division of Ocean Sciences

The National Science Foundation (NSF) is seeking qualified applicants for the position of Marine Facilities Manager in the Ships Operations Program in the Division of Ocean Sciences. The annual salary range for the AD-3 level is from \$60,890 to \$95,923 and for the AD-4 level is from \$71,954 to \$112,141.

The position will be filled as soon as possible on a permanent basis or through a 1 or 2 year visiting scientist, temporary basis. Alternatively the position may be filled under the Intergovernmental Personnel Act (IPA).

Responsibilities involve review of proposals from the academic fleet operators for support of operations to implement seagoing research, negotiation of budgets, and management of ongoing grants, cooperative and interagency agreements. Other important duties include oversight of the annual scheduling process on behalf of NSF and other agencies to optimize cost of operations in relation to science days achieved, coordination of a regular ship safety inspection program, and analysis and comparison of costs and relationships in context of an overall program of ship upgrading, conversion and construction for the academic Fleet.

Applicants for the AD-3 level position must have four or more years of managerial, successful research, and/or research administration experience pertinent to the position; plus a Ph.D. or equivalent experience in marine sciences, maritime field or in a closely related field. Those interested in the AD-4 level position must have six or more years of managerial, successful research and/or research administration experience pertinent to the position; plus a Ph.D. or equivalent experience in marine sciences, maritime field or in a closely related field.

Applicants with a broad understanding of the current status of the United States coastal and ocean academic scientific community and its interrelationship with NSF, other Federal agencies, and international planning efforts are desirable. Previous involvement with research in ship operations is advantageous, but is not required.

Applicants interested in a 1 or 2 year appointment to a temporary position or under the provisions of the NSF Visiting Scientist Program or Intergovernmental Personnel Act (IPA) must submit a letter of recommendation and employment application, resume, or curriculum vitae to: National Science Foundation, Division of Human Resource Management, Suite 315, 4201 Wilson Blvd, Arlington, VA 22230, Attn: Ms. Myra Loyd. You may also access the website: { HYPERLINK "http://www.nsf.gov/home/chart/work.htm#hrm" } for more information and to see a full description. To obtain information on the Division of Ocean Sciences, go to { HYPERLINK http://www.geo.nsf.gov }.

The IPA applicants must be permanent, career employees of their current employer for at least 90 days prior to entering into a mobility assignment agreement with a Federal agency. Reimbursement of salary and related fringe benefits costs are negotiated between NSF and the individual's institution.

Applicants interested in the permanent position must call Ms. Loyd at (703) 306-1185 x3027, to request a copy of the vacancy announcement. You may also access the above cited website for more information and to see a full description. To obtain the vacancy announcement number call Alice Ann Phelps (703) 306-1580.

For technical information, please contact Dr. Michael Reeve, Head, Oceanographic Centers and Facilities Section, at (703) 306-1582. Hearing impaired individuals should call TDD: (703) 306-0189.

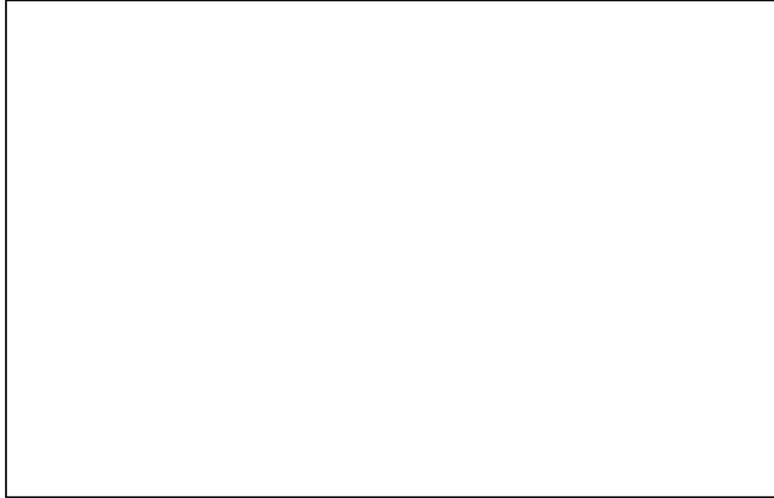
The National Science Foundation is an equal opportunity employer committed to employing a highly qualified staff that reflects the diversity of our Nation.

University of Rhode Island UNOLS Office bids Farewell!

On May 1, 2000 the UNOLS Office will move from the University of Rhode Island to Moss Landing Marine Laboratory. Although I (Annette) will be staying with the UNOLS Office, Jack Bash, Mary Badger, Sarah Davidson and David Avery will be moving on to other opportunities. It has been great fun working together as "Team UNOLS!" I would like to close this newsletter with a few scenes from the past couple of months.

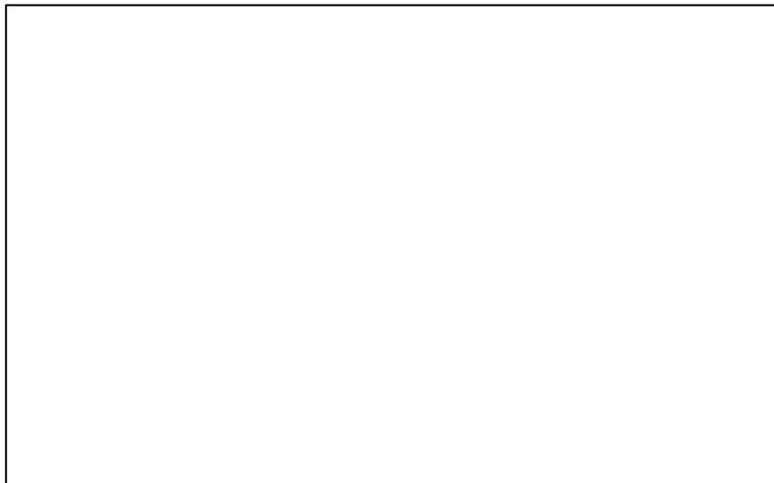
Jack was honored by the RVOC in November at their Annual Meeting. The Committee presented Jack with a handsome clock.

*Photo by Tom Smoyer,
Harbor Branch Oceanographic Inst.*



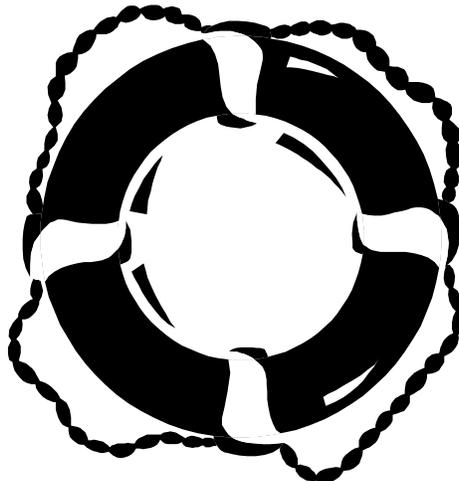
At the UNOLS Council meeting in February at URI's Alton Jones Campus, Mary, Sarah, and David were honored for their UNOLS service. Mary was presented with a desk clock. Sarah and David received "Team UNOLS" t-shirts. Bob Knox presented the team with SIO hats. Shown in the photo, left to right: Sarah Davidson, Annette DeSilva, Jack Bash, David Avery, and Mary Badger.

The UNOLS Community honored Jack on March 22nd with a dinner party in Baltimore, Md. The dinner coincided with a variety of UNOLS activities being conducted in Baltimore and as a result many people were on-hand to share in the festivities. Jack was presented with a floor globe and plaque. Jack is shown here with his wife Ernestine.



Calendar for UNOLS Meetings:

MEETING	LOCATION	DATES
DESSC	Woods Hole, MA	24-25 May 2000
UNOLS Council	Arlington, VA	21-22 June 2000
Ship Scheduling Committee	Arlington, VA	Summer 2000
AICC	Seattle, WA	August 2000
FIC	Arlington, VA	20 September 2000
UNOLS Council	Arlington, VA	21 September 2000
UNOLS Annual	Arlington, VA	22 September 2000
RVTEC	Palisades, NY	October 2000
RVOC	Newport, OR	24-26 October 2000
DESSC	San Francisco, CA	14 December 2000



*As of May 1, 2000
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To view *UNOLS News* on the Web, visit the UNOLS Homepage site:
<http://gso.uri.edu/unols/unols.html>

I would like to thank all who contributed information and articles for this issue of the Newsletter. Articles are always welcome and encouraged. Copy can be submitted via mail, FAX or e-mail. The next newsletter is planned for summer 2000.

Thank you, Annette DeSilva - Editor, UNOLS News

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