



UNOLS NEWS

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Comments from the UNOLS Chair...

Dear Colleague,

Many of the comments that I receive about the UNOLS Fleet are related to the ship scheduling process. Some scientists are frustrated by the delay involved in getting a project to sea. They have a good idea that they are excited about and they want to go to work. However, they cannot submit NSF proposals for ship time after the February 15 deadline for the following calendar year. Most agencies follow similar time frames. Exceptions are usually made only for rapid response proposals to study such things as volcanic eruptions.

Other scientists are frustrated by the lack of long-term projections for ship schedules. They want to know when they will be going to sea so that they can organize their other obligations. Ship schedules are a notoriously fickle thing and, when I'm asked, "When are ship schedules finalized?" I'm always tempted to reply, "Your schedule won't be fixed until you get off the ship." Unfortunately, that's not a very satisfactory answer when one has teaching schedules to set, other research obligations and a family life. It's particularly disturbing when one is funded for several years to work in a remote location and it is just not possible to get a ship on site.

Still another group of scientists wants to retain flexibility in schedules because equipment that they are developing may not be ready for a cruise. Finally, the ships themselves may, on occasion, suffer mechanical casualties that require large changes in the schedule. The time frame to repair mechanical problems becomes longer as marine equipment suppliers stock smaller and smaller inventories of expensive spare parts.

Continued on next page...

UNOLS Chair Comments (continued)...

These issues all interact to make seagoing research an unpredictable prospect. Many graduate students and young faculty members will choose more certain laboratory based projects, rather than go to sea, because of the pressures they face for graduation and promotion. I fear that we are producing a generation of marine scientists that either doesn't know how to go to sea, or doesn't want to. One of my goals as UNOLS Chair has been to lower these barriers to sea-going research as far as possible.

UNOLS, scientists and science funding agencies are caught between Scylla and Charybdis (or a rock and a hard place) on this issue. An infinitely flexible fleet and schedule are unaffordable because ships are not used efficiently, however, flexibility rewards scientific creativity. Rigid, long-term schedules may be cost effective, but they stifle scientific flexibility and creativity. In many cases, it would take three years to get a proposal written and funded and finally into the field with the two year ship schedules used by some foreign research fleets. The solution that we have presently arrived at involves a scheduling process that begins during each summer for the next calendar year. This seems to be a reasonable compromise between the need to get scientists into the field as quickly as possible and the need for some coordination in scheduling to achieve reasonable efficiencies. The time between proposal submission and the first opportunity to go to sea is approximately one year. This allows a reasonable amount of time to plan relatively efficient schedules for the fleet.

However, the relatively short lead time means that some people will have only a few months notice before they have a good idea of their cruise dates. A key to managing this process is to ensure that all of the parties involved in the process are well informed. One of the recommendations of the recent UNOLS scheduling process review was to ensure that information relative to each funded cruise was tracked and preserved in a much more careful manner. This information should include time conflicts due to teaching schedules and other research obligations. The on-line scheduling system that UNOLS is developing should go a long way toward realizing this goal. The scheduling process will then try to resolve conflicts (and regularly does when they are known in a timely manner).

Happy sailing.

Ken Johnson, UNOLS Chair

Call for UNOLS Council Nominations

Critical issues facing the 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 1998. Four seats will be filled by election in accordance with the UNOLS Charter at the 1998 UNOLS Annual Meeting in September. The seats include two 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 must be from a UNOLS Operator 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, in writing to the UNOLS Office (unols@gso.uri.edu) or the Nominating Committee (Chair, Dennis Hansell, dennis@bbsr.edu; Clare Reimers, reimers@ahab.rutgers.edu; Peter Lonsdale, pfl@mpl.ucsd.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.

In the Spotlight - Tom Cocke, Department of State

UNOLS would like to recognize an individual whose efforts help to make the academic Fleet operations throughout many of the world's Exclusive Economic Zones (EEZs) a reality. His dedication and achievements often go unnoticed, not because they are unappreciated, but because he does such an outstanding job of making the process run smoothly. This person is Tom Cocke, Research Vessel Clearance Officer for the Department of State.

At a time when research vessel clearance problems are not getting easier, the State Department has been reducing the resources that it devotes to the Office of Ocean Affairs, on which U.S. oceanographic operations rely for getting clearances. Over the years, the number of people, including officers, assigned to the Ocean Affairs Office has been significantly reduced, and, as a result, Tom's responsibilities continue to escalate.

Oceanographic research is global and access to the world's waters is a necessity. The number of requests for clearances is increasing and, in some cases, the difficulties of securing the clearances has increased also. Over the years, Tom Cocke has persistently worked to help us gain access to foreign EEZs for oceanographic research. Various UNOLS Operators have provided their thoughts and experiences of working with Tom. We would like to share two of these accounts with our readers...

Comments from Scripps Institution of Oceanography...

"Tom Cocke is one of those invaluable non-scientists who works quietly, effectively and devotedly in support of ocean science. When he gets the job done, which is virtually always, research proceeds smoothly on its way, and the researcher at sea may never realize even a fraction of the work that went on in the background, nor the number of rabbits pulled out of the hat at the eleventh hour. But without Tom's dedication to his job, American scientists and ships would, by now, be effectively excluded from any number of important EEZs around the world. American and indeed international ocean science would be far worse off for that.

Scripps ships carry out 50 or more individual cruises per year, and Tom has had a hand in many of them. It would be impossible to give a comprehensive digest of all the instances in which he has worked the clearance systems of the world in order to pave the way for these cruises to proceed on schedule. Perhaps one rather typical example will suffice. It was Wednesday, Christmas Eve, 1997. There had been several days of fast-paced intercontinental activity and communication to pin down the whereabouts of a clearance from a South American nation. R/V MELVILLE was at sea, proceeding toward port and requiring that clearance in order to continue underway science after crossing into the EEZ on Friday, which would be a local holiday. The foreign government situation was confusing, to say the least. A key agency official to whom we had been instructed to fax certain clearance-related documents only a day or so previously had just been dismissed, there was a divergence of views as to whether verbal or formal written clearance was sufficient, and the long holiday was about to begin. We were on the phone to the U.S. Embassy and to Tom several times during the course of the day. As the day progressed it became clear that everything possible to do on the U.S. side had been done, and later that the foreign government had given verbal OK, with written form to follow either that day or after the holiday. Tom would have been well within his rights to have headed home for Christmas, it now being late in the day Washington time. But he stayed at his office in the State Department and on the phone to us and others until the situation had really clarified, and it was very clear that the approval was genuine. Only then did he leave. That's the kind of determination Tom always brings to his work. He faces daunting bureaucratic complexities of the international clearance machinery and he faces inadequate support for the entire clearance function from higher levels within the State Department. But he stays the course, and he gets the job done. At SIO and throughout UNOLS we owe him a great debt of gratitude."

by Bob Knox, Rose Dufour,
Elizabeth Rios

Comments from Harbor Branch Oceanographic Institution...

"Harbor Branch Oceanographic Institution would like to commend the U.S. State Department Research Vessel Clearance Officer, Tom Cocke, for the many years of successfully obtaining foreign clearances for the Harbor Branch Research Vessel fleet. Tom is always willing to 'go the extra mile' and put forth whatever effort is necessary to obtain clearances, sometimes at the last minute, in spite of the many obstacles, both political and procedural, that can hinder the process. Some of the more recent clearances for Harbor Branch have included Cuba, South Africa, French Guinea and numerous requests to Brazil. Over the last three years, Harbor Branch has averaged requests for 25 countries each year."

On behalf of the UNOLS Community, "Thank you Tom!"

~ Call for Nominations ~

DEep Submergence Science Committee Chair

To: The DEep Submergence Science Community

From: Mike Perfit - DEep Submergence Science Committee (DESSC) Chair

Dear Colleagues:

This Fall I will be stepping down as the Chair of the DEep Submergence Science Committee (DESSC). On behalf of the DESSC I am asking for nominations from the community for a new DESSC Chair and soliciting letters of interest from individuals who are interested in serving in this important position. My tenure as DESSC Chair for the past three years has been exciting and satisfying. I am leaving the position at a time when there is very strong support for deep submergence science and multi-disciplinary interest in

using ATLANTIS and the array of vehicles now available to carry out research throughout the global ocean.

DESSC is the UNOLS committee charged with providing the U.S. funding agencies with advice on matters pertaining to deep submergence science, and providing oversight and advice to the UNOLS National Deep Submergence Facility (DSF) Operator at Woods Hole Oceanographic Institution (WHOI). Incumbent in this is fulfilling an ombudsman role for the deep submergence community; to insure maximum participation in the use of the DSF, to champion the utilization of deep submergence assets and to facilitate scheduling and long-term planning. It is also the responsibility of the DESSC to promote new technologies for the facility and maintain cutting edge capability for this National facility. The DESSC Chair represents the deep submergence community and calls and chairs DESSC meetings that are typically held two times each year. He or she also chairs meetings specifically targeted to the deep submergence science community. The term of office is three years with the possibility of re-election for a second term. The new Chair would fully assume his/her responsibilities for the DESSC in the first part of 1999. Support for the Chair is provided through the UNOLS Office.

To submit a nomination, or for more information please contact me at <perfit@geology.ufl.edu> or by phone at (352) 392-2128 or call Annette DeSilva or Jack Bash at the UNOLS Office (401) 874-6825 or <unols@gso.uri.edu>.

Scientists interested in serving as the next DESSC Chair should send the following information:
Current C.V. (including current membership on other National advisory committees).
Statement of Interest which should include your vision for Deep Submergence Science over the next decade.
Summary of Experience using deep submergence facilities.

Copies of these materials should be sent to the UNOLS Office <unols@gso.uri.edu> by June 1, 1998 so they can be distributed to the DESSC for discussion at their June 16th meeting. The new DESSC Chair will be appointed by the UNOLS Chair, Ken Johnson, from recommendations made by the DESSC Committee.

Current Membership of the UNOLS DEep Submergence Science Committee

M. Perfit, U. Florida - Chair
J. Bellingham, MIT
R. Collier, Oregon State U.
P. Fryer, U. Hawaii
M. Lilley, U. of Washington
H. Milburn, NOAA-PMEL
D. Orange, UC Santa Cruz
C. Van Dover, U. Alaska
C. Wirsén, WHOI
R. Pittenger, WHOI (ex-officio)
D. Fornari, WHOI (ex-officio)

The Navy Selects Operator and Industry Team for AGOR 26

In January, the Office of Naval Research (ONR) announced the selection of the University of Hawaii, School of Ocean and Earth Science and Technology as the operator of the newest oceanographic research vessel, AGOR 26. This ship will be operated under the auspices of the University-National Oceanographic Laboratory System (UNOLS). AGOR 26 will be configured as a Small Waterplane Area Twin Hull

(SWATH) for superior seakeeping and increased operational capabilities. The acquisition of this vessel will be conducted by the Naval Sea Systems Command (NAVSEA), in conjunction with ONR, the Oceanographer of the Navy, the University of Hawaii, and UNOLS. The Navy will use the Prototype Projects Authority which allows for increased participation of the ship designer, shipbuilder, and users during the design and construction phases. Robert Hinton (formerly the marine superintendent at the University of Washington) has been hired by the University of Hawaii to be the representative during the design stage and will follow the ship through construction to delivery.

In April, the Navy announced the selection of the Lockheed Martin Corporation of Moorestown, NJ to head an Industry Team for award of a \$1M fixed price agreement for the design of AGOR-26. The agreement includes a \$36M option for construction of the vessel. The work will be performed at: Lockheed Martin (GES), Sunnyvale, CA; Ingalls Shipbuilding, Pascagoula, MS; and Pacific Marine, Honolulu, HI. The timeline for completion will be defined as work proceeds. No contract funds will expire this fiscal year. This agreement was competitively procured; three proposals were received and one offeror selected. NAVSEA is the contracting activity.

The proposed agreement covers two phases: Phase I - Ship definition and early design development; Phase II - detailed design and construction. Phase II is an option with a not-to-exceed price that will be awarded without further competition upon Government acceptance of Phase I end products. The SWATH AGOR's purpose is oceanographic research in coastal and deep ocean areas. This vessel is designed to replace R/V MOANA WAVE, a Navy owned ship operated by the University of Hawaii.

Town Hall Meeting Addresses UNOLS Issues

A UNOLS Town Hall Meeting was held on 12 February at the AGU/ASLO Ocean Sciences Meeting in Sand Diego, CA. The meeting was prompted in response to the low attendance at the UNOLS Annual Meeting in September. It was decided to try to reach out to the community in a different forum, such as, a major science conference.

The purpose of the Town Hall Meeting was to facilitate community discussion of planning and operational issues within the sea-going science community. There are critical issues facing the academic fleet which need to be addressed. Fleet usage by the academic science community is dropping because oceanographers are spending much less of their effort at sea. The National Science Board has mandated an NSF review of research fleet operations with emphasis on "cost-effective" methods of operation. We need to address various modes of fleet operation to ensure that we are obtaining the best service for science.

More than half the people attending the Town Hall meeting were sea-going scientists. Ken Johnson chaired the meeting and began by providing a description of UNOLS, its function and structure. A presentation was made by Jack Bash to report on improvements being implemented to the ship scheduling process.

A large portion of the meeting discussion focused on UNOLS ship usage. Ken addressed recent trends in ship support at NSF noting that the fraction of at-sea operations in the ocean sciences is much smaller today than it was just ten years ago (UNOLS News, Volume 14, No 3,

page 1 includes an article by Ken on this topic). The question to be asked is, "Is this trend in response to changing science (e.g., more modeling) or is it due to the belief by scientists that field work is harder to fund?" Is the community becoming non-sea-going scientists? Ships will go away if the community does

not propose to use them - is this what the community wants and realizes? By maintaining a larger fleet, flexibility is maintained.

Ken identified four potential responses to the issue of reduced ship demand. These were: 1) Build partnerships to maintain fleet usage and to increase flexibility for sea-going scientists, 2) Support efforts by groups such as CORE to increase funding for ocean science, 3) Reduce fleet size, and 4) Reconsider how we can do oceanography with fewer observations at sea. Some successes in building partnerships have already been realized. NAVO will log over 800 days of UNOLS ship time in 1997 and 1998. This relationship is not only beneficial in helping to more fully utilize the ships, but it also fosters intellectual interchanges among the NAVO and academic community. Another successful partnership has been formed with NOAA. UNOLS signed a Memorandum of Understanding with NOAA which will provide access to NOAA scientists and schedule R/V BROWN in the UNOLS process. This adds a meteorological platform capability for the community.

This ship use issue initiated an interesting discussion among the meeting participants. It was suggested that perhaps we are making more effective use of the ships than we were ten years ago, thus resulting in reduced ship time requirements. It was also noted that perhaps with the large programs such as JGOFS winding down, we may begin to see an increased number of smaller field program proposals. All agreed that we need to erase the perception that field programs are less likely to receive funding than those programs without field elements.

There was a consensus that it is important to continue to plan for the research fleet of the future. The capabilities of the future fleet should provide resources to a wide user base. It was recommended that a fisheries capability be considered in the plans for replacement vessels. It was also recommended that planning should begin for a coastal vessel which can accommodate large science parties. The UNOLS Fleet Improvement Committee has recently formed two subcommittees for development of Science Mission Requirements (SMRs) which will address both of these capabilities.

The UNOLS Council will continue to address these important ship usage issues and the future of the UNOLS Fleet. Comments on these topics can be addressed to the UNOLS Office, <unols@gso.uri.edu>. Copies of Ken Johnson's Town Hall Meeting viewgraphs can be obtained by contacting the UNOLS Office.

International Marine Technician Workshop - 1998

~ INMARTECH '98 ~

Scripps Institution of Oceanography, La Jolla, California, USA
October 20-22, 1998

The 1998 International Marine Technician Workshop (INMARTECH '98) will be held October 20-22, 1998 at the Scripps Institution of Oceanography (SIO) in La Jolla, California, USA. INMARTECH '98 will provide a forum for international exchange of knowledge and experiences between marine technicians. A strong network of marine technicians and continued workshops will help to promote scientific productivity of oceanographic sea-going research programs.

The "INMARTECH workshop" concept was originated by the International Research Ships Operators

(ISOM) partly based on the success of the annual Research Vessel Technical Enhancement Committee (RVTEC) meetings in the USA. The first workshop was organized in 1996 in Southampton, UK. A synopsis of the first workshop can be found on the ISOM Web site under reports (<http://www.nioz.nl/isom/>). More than 60 individuals representing the marine technology community from over a dozen different countries attended. It was agreed that the international workshop should be held biannually.

The technical agenda for INMARTECH '98 is currently under development. The workshops are intended for participation by marine technicians and will be conducted in English. The participant appraisal forms from the INMARTECH '96 Workshop along with responses from a pre-meeting survey will be carefully considered while planning the 1998 meeting. The survey will help to determine the interest level in the various technical sessions under consideration. The survey can be accessed and submitted via the INMARTECH '98 web site. Some of the topics under consideration include: Bottom sampling techniques, laboratory chemical analysis, geophysical technologies, CTD packages, deck operations and onboard safety, wire/rope/cable, fishery technologies, ROV and towed vehicles, scientific diving from research vessels, and technician support from small vessels (under 60 feet).

Specialists will be invited to give presentations and hardware demonstrations on the selected topics. The workshop sessions will be arranged to encourage informal discussion among participants. An evening poster session is planned to feature the latest marine technology products and practices from both industry and academia. INMARTECH '98 will also feature a tour of the SIO marine facilities and research vessels.

An INMARTECH '98 Web site, <<http://gso.uri.edu/unols/inmartech98/>>, has been established to provide the most up-to-date information on the meeting. The goal of INMARTECH '98 is to foster worldwide marine technician networking.

For the Latest Information on
INMARTECH '98
visit our website:

<http://gso.uri.edu/unols/inmartech98/>

UNOLS COMMITTEE NEWS

DEep Submergence Science Committee Update

R/V ATLANTIS has been on line since last Spring and has proved to be an excellent support vessel for ALVIN and the tethered vehicles. Demand for ATLANTIS and all deep submergence vehicles has been heavy which made scheduling the vessel and facilities very complex for 1997 and 1998.

Upgrades to the deep submergence vehicles continue to be implemented. ALVIN battery power improvements have been made and are working well. There is approximately an 18% increase in power which results in approximately 30 minutes of extra bottom time per dive. A new deep submergence vehicle systems upgrade proposal has been funded by NSF which WHOI is presently working on. Many items are included in the upgrade. The principal ones are: data-logging and video systems, additional buoyancy for science sensors, vehicle systems upgrades, scanning sonar, inductive couple linked data transmission and temperature sensors, and development of a virtual ALVIN which will serve as a training tool for pilots and can also be used for planning efficient power usage during operations.

During the past few years, DESSC has been consumed in the planning activities associated with bringing a new support platform on line, and integrating ROV operations with the ALVIN operations. For the most part, the combined operations are working very well. Now DESSC is ready to start looking ahead at long-term facility needs. DESSC together with the community has begun to examine the types of deep submergence research that will be conducted into the 21st century and the facilities required to meet these science objectives.

Research Vessel Operators' Committee (RVOC) News

Medical Health Services Contract Awarded - The current medical health services contract for the UNOLS Fleet is coming to an end. The UNOLS Office re-bid the Medical response contract this spring. The successful bidder was Medical Advisory Systems Inc. of Owings, MD. The new contract starts on 1 July 1998 and is for one year, renewable for a total of four years. John Harper is the contact person for MAS.

RVOC Safety Standards Update Progress - The RVOC Safety Committee is working on a revision/update to the RVOC Safety Standards. Committee members have been assigned responsibility for various sections of the Safety Standards. At this time review of all but one section has been completed. Once compiled the revisions will be submitted to RVOC for review. The Safety Committee intends to have the changes to the Safety Standards approved, printed and distributed by 1 January 1999.

Arctic Icebreaker Coordinating Committee Update

The UNOLS Arctic Icebreaker Coordinating Committee (AICC) continues to provide scientific oversight of Arctic polar science support on U.S. vessels, with primary focus on USCGC POLAR STAR, USCGC POLAR SEA, and the new USCGC HEALY.

With respect to HEALY construction, progress has been good. Four AICC representatives and Don Heinrich attended the launch and christening on 15 November. The AICC held a meeting in January at the Avondale shipyard, where USCGC HEALY is being built. The first day of the meeting focused entirely on HEALY. HEALY's laboratories and staging areas are impressive. The AICC provided a number of comments to the Coast Guard, including observations that visibility of science operations areas from the bridge appears to be impaired. There were also extensive discussions about provisions for coring. Delivery for the vessel is presently scheduled for February 1999 with shakedown and testing to follow. Seattle has been designated as HEALY's home port.

The AICC has been discussing with the Coast Guard various means to help ensure close ties with the UNOLS technical and scientific communities once HEALY becomes operational. No formal plans have been established, but in a very positive step, the USCG Marine Science Technicians training program now includes participation on short UNOLS cruises.

In other business, AICC has been involved with coordination of Science-of-Opportunity (SOO) missions for both USCGC POLAR SEA and USCGC POLAR STAR. Announcements were issued to the community by the AICC, seeking letter proposals for participation in these opportunities. The AICC is charged with assessing these proposals for logistic and overall compatibility with the SOO mission. Both SOO missions are planned for summer, 1998.

The AICC Chair notes that the committee enjoys its productive and collegial relationship with the Coast Guard, including both the icebreaker operations group and HEALY's construction group.

RVTEC to Coordinate Science System Testing on HEALY

The Research Vessel Technical Enhancement Committee (RVTEC) in consultation with the AICC is coordinating the science system testing program for USCGC HEALY (currently under construction). Seven different technical groups within UNOLS have been identified for all development of the primary science systems to be tested. An AICC scientist will be assigned to each of the science tests. John Freitag at the University of Rhode Island will provide overall coordination for the testing development.

Proposals for each of the test plans are in progress. Test description sheets will be developed for each of the systems to be tested. Ten general categories have been identified for testing. These include: Multibeam sonar system, Acoustic Doppler Current Profiler, coring, science data network, meteorological and underway sensor systems, Bathy 2000 shallow sediment profiling system, deck handling systems, CTD carousel systems, uncontaminated seawater system, and science winches.

Science systems testing will take place after the ship's delivery during the four designated testing phases in addition to some preliminary testing during builders and acceptance trials. The tests will be conducted in a variety of environmental conditions: Warm water and a benign climate, open water (during the ship's delivery transit cruise) and during the ship's in-ice periods.

Fleet Improvement Committee Activities

The Fleet Improvement Committee (FIC) has formed two sub-committees for development of Science Mission Requirements (SMRs) for two vessels: One to work in Alaskan waters and the other to work in the coastal waters of the eastern U.S.

The Alaska Science Mission Requirements Sub-committee is tasked to develop an SMR document for a vessel suitable for work in the Alaska region. The current vessel stationed in the Alaska region is ALPHA HELIX operated by the University of Alaska. ALPHA HELIX needs replacement because it is nearing the end of its useful life and it is increasingly unsuitable for interdisciplinary research requirements.

The sub-committee members include: Vera Alexander, University of Alaska, Co-Chair; Tom Weingartner, University of Alaska, Co-Chair; Larry Atkinson, Old Dominion University; John Christensen, Bigelow Laboratory; George Hunt, University of California, Irvine; and Jim Meehan, NOAA/NMFS. The sub-committee will develop an SMR that realistically meets the needs of scientists working in the Alaskan waters. The SMRs will address the development of a general oceanographic ship as its primary goal. The SMR will consider not only the presently used equipment but will anticipate types of equipment and operations that may be used in the future. There are two additional requirements that will be considered: ice strengthening and fisheries research. The sub-committee will attempt to determine how much ice strengthening is appropriate and practical.

There is consensus that academic researchers may become more involved in fisheries research and that academic research ships should be built to accommodate such research. The Alaskan SMR sub-committee will address this issue considering the following: What attributes must a ship have to accommodate state-of-the-art fisheries research? Are these attributes compatible with general oceanographic research? Would a ship with these operational qualities potentially be leased by federal agencies? The general question is, "How much can a general oceanographic ship be adapted to perform state of the art fisheries research and still do high quality general oceanographic research?" The sub-committee hopes to have a draft plan in place by late summer, 1998.

The East Coast Science Mission Requirements Sub-committee is tasked to develop an SMR document for a vessel suitable for work in the shallow waters of the east coast continental shelf and bays. The current Class III and smaller vessels stationed on the east coast are nearing the end of their useful lives.

The sub-committee members include Larry Atkinson, Old Dominion University, Chair; Charlie Flagg,

Brookhaven National Laboratory; Clare Reimers, Rutgers University; Al Hine, University of South Florida; Mary Scranton, State University of New York-Stony Brook; and Gus Paffenhofer, Skidaway Institute of Oceanography. The sub-committee is charged with developing an SMR for a vessel to perform general oceanographic research on the shelves and large embayments of the east coast of the United States. The SMRs will strive to realistically meet the needs of scientists working in these waters. They will consider not only presently used equipment but will anticipate types of equipment and operations that may be used in the future. The sub-committee may also consider information regarding fisheries research on UNOLS vessels that will be developed by the Alaskan SMR sub-committee. The group hopes to have a draft plan ready by mid summer, 1998.

UNOLS Fleet Operations in 1998

In 1998, there are 5,216 UNOLS ship operating days scheduled. This represents an increase of 133 days from 1997. The table below provides a comparison of ship days between 1997 and 1998. It is interesting to note that although total ship time is up in 1998, the large and intermediate ship use will be down 270 days. There is a significant increase of 403 days in small ship usage (Classes IV and <IV).

UNOLS Fleet Operating Days: 1997 and 1998

Vessel Class	1997 (Days)	1998 (Days)	Differential
Class I/II	1,754	1,616	-138 days
Class III	1,556	1,424	-132 days
Class IV	1,410	1,465	+ 55 days
Class <IV	363	711	+348 days
TOTAL	5,083	5,216	+133 days

(Note: Operating days are from the latest ship schedules posted as of 4/30/98.)

1998 Operation Areas ...

Large Ships (Class I/II):

ATLANTIS - The year began with ATLANTIS in San Diego for its PSA period. In March, ALVIN operations resumed off San Diego. This was followed by Jason operations off Guaymas in April. ALVIN operations are planned for the Northern East Pacific Rise (EPR) to be followed by ALVIN operations at Juan de Fuca. In August, ALVIN operations are planned again off San Diego. For the remainder of the year ATLANTIS and ALVIN will be at the Southern EPR for a series of programs, one of which will also require DSL-120. 270 days are scheduled. *** **EWING** - A short year of operations is planned for EWING. Work areas include the Equatorial Pacific, Hawaii and the Lesser Antilles. 91 days have been scheduled. *** **KNORR** - KNORR will spend the first seven months of the year in the North Atlantic. Operations include NAVO supported programs. In August work is planned in the Gulf of Mexico. Operations through mid December will be in the South Atlantic before concluding the year back in the North Atlantic. 264 days are scheduled. *** **MELVILLE** - Operations are planned in the North and South Pacific. In March "Fly-away" ROV operations were conducted at the Southern EPR using DSL-120. 229 days are scheduled. *** **MOANA WAVE** - With the exception of two programs in August and September, all operations are planned off Hawaii. 186 days are scheduled. *** **ROGER REVELLE** - The ship began the year in the southern Pacific and will end the year in the north Pacific. Operations in the North include work to support NAVO programs. 299 days are planned. *** **THOMPSON** - THOMPSON began the year with operations out of Hawaii. In March, the ship returned to Washington for operations in Puget Sound. In

June/July a ROPOS cruise is planned at Juan de Fuca. Three programs are scheduled from THOMPSON in August through October using Jason, ARGO-II and DSL-120 at Juan de Fuca and then off of Hawaii. In November, the ship will support NAVO work off of the Northwest U.S. 277 days are scheduled.

continued on next page...

Intermediate Ships - (Class III):

EDWIN LINK - Operations for EDWIN LINK will span the globe. Work is planned in the Atlantic, Bahamas, and Gulf of Mexico. The ship will end the year in operations off New Zealand. 174 days are scheduled. *** ENDEAVOR - On a high note, plans for a year long lay-up have been changed. After a shipyard period in June, ENDEAVOR will depart for the eastern tropical Pacific for NOAA fisheries work. 158 days are scheduled. *** GYRE - GYRE will spend the entire year in operations in the Gulf of Mexico. 131 days are scheduled. *** NEW HORIZON - NEW HORIZON will operate primarily off Southern California. One cruise is planned on the Northern EPR. 221 days are scheduled. *** OCEANUS - Operations include work areas along the East Coast of the U.S. and include the Gulf of Maine, George's Bank, Continental Shelf and the Sargasso Sea. 239 days are scheduled. *** SEWARD JOHNSON - A full schedule is planned. Operations began in the Bahamas and were followed by work in the South Atlantic. In May the ship will transit to the South Pacific for work in the Galapagos. August and September operations are planned in the Gulf of Mexico. This will be followed by work in the South then North Atlantic. A full schedule of 281 days is planned. *** WECOMA - WECOMA began the year with work in the Pacific Northwest. In April the ship transited to the Bering Sea in support of NOAA programs. In August work is planned off Eureka, CA. Operations will conclude in October off Oregon. 220 days are planned.

Small Ships - (Class IV):

ALPHA HELIX - ALPHA HELIX will operate throughout the year in the Gulf of Alaska, Resurrection Bay and the Bering Sea. Operations include support of GLOBEC programs. 172 days are planned. *** CAPE HATTERAS - CAPE HATTERAS has operations planned along the east coast shelf and in the Gulf of Maine. 201 days are scheduled. *** CAPE HENLOPEN - With the exception of operations in the Sargasso Sea, CAPE HENLOPEN will work primarily in the Chesapeake, Delaware Bay and off the Delaware Coast. 200 days are planned. *** LONGHORN - LONGHORN has 58 days scheduled in the Gulf of Mexico. *** PELICAN - 195 days are scheduled for work in the Northern Gulf of Mexico. *** POINT SUR - The ship will work primarily off the California Coast with 193 days scheduled. *** SEA DIVER - Operations are planned in the North Atlantic, Bahamas and Florida Keys. 141 days are scheduled. *** SPROUL - SPROUL will work primarily off the Southern California will 171 days scheduled. *** WEATHERBIRD II - WEATHERBIRD II has 134 scheduled for work off Bermuda.

Small Ships (Class <IV):

BLUE FIN - Blue FIN will operate regionally in waters off Georgia. 118 days are scheduled. *** CALANUS - CALANUS will operate in Florida Bay, Florida Straights, the Bahamas and off BELIZE. 167 days are scheduled. *** CLIFFORD A. BARNES - BARNES began the year with operations in the Columbia River. Most of the remainder of the year is being spent in Puget Sound. 107 days are planned. *** LAURENTIAN - LAURENTIAN will operate in the Great Lakes with 146 days scheduled. *** URRACA - URRACA will work primarily off Panama with some work scheduled off Mexico and Honduras. 173 days are planned.

Five SeaNet Units Available for Installation

The SeaNettm Consortium, through the Office of Naval Research's National Oceanographic Partnership Program (NOPP) funding, will have up to five full SeaNettm units available for permanent installation on

board UNOLS ships beginning the summer of 1998. In early April the Consortium notified UNOLS ship operators that letter proposals would be entertained to obtain one of the SeaNettm units, or parts thereof (a few ships may already have some of the necessary hardware). Depending on need and availability, the Consortium may consider making one or more of the SeaNettm units portable such that several ships can sequentially share one unit. The group is also interested in identifying ship operators who may not be interested in INMARSAT B but are instead interested in alternative wireless operations such as AMSC or MSAT for coastal applications. This might be applicable for the smaller coastal vessels.

SeaNettm participants will receive the following equipment and services, as developed through the course of the SeaNettm project (summer 1999):

1. A Linux-based PC running version 2.0 of the SeaNettm Communications Node (SCN) software. This software is a web-based application that provides the following capabilities:

Management of INMARSAT B, cellular, and other wireless devices, such as AMSC/MSAT, providing connectivity to the Internet;

Accounting software that informs both users and operators of the costs incurred for running the link(s).

A batch file transfer application which allows users/operators to easily schedule transmission of files to and from shore (including batch e-mail file delivery).

A Web Mirror application which enables one-way web-mirroring of web sites between ship and shore.

SeaNet DataPipetm capabilities to easily configure data sources and sinks so that data-generating applications can easily transfer data between shipboard applications and shore and the Internet in batch mode.

A software development environment for the integration of future shipboard data communications interfaces and applications.

2. An INMARSAT B High Speed Data (64 kilobit/second) terminal capable of cutting normal INMARSAT costs significantly. Other shipboard wireless communications equipment (cellular telephone, AMSC, spread spectrum) will be provided for IP connectivity as well. (Note: some installations may not include INMARSAT B capabilities.)

3. Interactive IP connectivity from your ship to/from the Internet. The shipboard LAN can be connected directly to the Internet via the various wireless connections. (Note that this can be very costly. Most of our applications are aimed at providing batch mode operations because they are generally more cost-effective).

4. A limited amount of free satellite time for SCN testing by shipboard technical and scientific personnel. There will be an option to test data transfers and train on the SeaNet system at COMSAT's Bethesda, Maryland location.

5. Competitive INMARSAT B/HSD satellite costs negotiated between SeaNet and COMSAT, and potentially other satellite vendors.

6. Billing services from Omnet, available at subsidized discount. Institutions will be able to access usage/cost information directly via the Internet. Ultimately, we anticipate billing down to the individual user level, whenever appropriate.

7. Omnet-managed Network Information Center coordinated with the Network Operations Center service for trouble-shooting and support.

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Letter proposals from ship operators were due on May 15, 1998. An evaluation committee of five will

review the letter proposals and meet by conference call in late May or early June. The committee will consist of two unconflicted UNOLS ship operators, a member of RVTEC, one non-UNOLS ship operator, and one sea-going scientist. SeaNettm Consortium, in consultation with ONR and NSF program managers, will then make the final decision on which institutions will receive the SeaNettm units. A final decision on which ships get SeaNet units is expected by mid-June, with installation of the units to begin during the summer of 1998. Installation depends on ships schedules and personnel availability.

While SeaNettm will be providing new communications hardware and software, and enhanced billing and trouble-shooting services, the scope of the project demands a reasonable commitment be made by participating institutions. A description of the Consortium's expectations for participants in the SeaNettm project was provided in their April letter.

Any questions regarding SeaNettm should be directed to Ellen Kappel at, <ekappel@brook.edu>.

A Virtual Tour of UNOLS Home Page

by David Avery

Welcome aboard the UNOLS website, an electronic vessel of information and resources designed to enhance the effectiveness of the UNOLS Fleet of oceanographic research ships. On board you will find all you wanted to know about the ships of the fleet and their schedules, the science they conduct; the UNOLS organization and the committees that comprise it; and maybe a few things you did not even realize you wanted to know.

There really is no danger at the website. However, we understand that some of you may be uneasy about navigating the web. Just stick close to your tour guide, pay closest attention to the topics you are most interested in, and this tour will help you use the UNOLS website with confidence and in comfort.

In order to apply some of the knowledge you gain on this tour, you must be properly equipped. To find and navigate the UNOLS website you will need a computer and know how to use it. Any operating system will do, MAC OS, Windows, UNIX, as long as it can run browser software. Browsers are those programs that enable you to surf the web. ("Surfing," and "browsing," are web jargon. More web vocabulary is defined in the accompanying box.) Finally, you will need a network connection.

Let's begin our tour at the URL (Uniform Resource Locator. Think of it as an address.)

<http://gso.uri.edu/unols/unols.html>. Here we find the UNOLS website home page, more jargon, but you can think of it as a hub from which you can locate all sorts of stuff related to sea-going scientific research. This page primarily provides links, or connections, to other information. Linked text is underlined and probably appears in a different color on your monitor screen. At the UNOLS home page you will find links connecting you to research ship schedule databases, the on-line ship time request system, member institutions, UNOLS committees, publications, jobs and more. The files, or documents, intimately connected to the UNOLS website reside on a computer disk at the University of Rhode Island's Graduate School of Oceanography (gso.uri.edu). Other files may be located elsewhere at URI or at other institutions, connected by a loosely organized web, get it?

Proceeding through the Main Menu of the UNOLS website we find a link to the UNOLS Ship time Request System. Here scientists can request the use of any of the ships in the UNOLS fleet. Through this system, the UNOLS community and ship operators become aware of requests immediately. They can then

schedule research cruises to make most efficient use of all resources available, especially time and money.

If you are a scientist with a sea-going project in the works, you begin the process of requesting UNOLS ship time by completing a blank ship time request form. The form asks you for relevant information: dates, type of science, location, equipment required and the like. You provide the information by typing it in the form on your computer screen (ever closer we come to the paperless office environment). If it is not 100 percent complete, you submit (point your mouse to the submit button and press) it as a draft form. You can complete it later.

If the information is 100 percent complete, you should submit the final form. Not to worry. You can still edit it if information changes, but you'll have to remember your password. At this point your request is routed to all potentially interested ship operators. You will receive an electronic receipt copy via e-mail.

I know what you are saying: "But I need to submit a paper copy to NSF with my research proposal." (What happened to that paperless office?) Either of two paper copies may be submitted to the National Science Foundation: the copy you received via e-mail, or the form you filled out on your computer screen. You must print these locally. To do so, you may have to experiment to figure out what works best on your system. Hint: To print the form, it is best to use up-to-date browser software. Netscape Navigator 3.0 is a good choice.

A similar process is in place for scientists requiring the use of a Remotely Operated Vehicle or the submersible ALVIN. You will find this form in the UNOLS Main Menu under ALVIN/ROV Request Form.

After your cruise, use the on-line Post-Cruise Assessment Report to let us know how successful your cruise was. This is another form where you fill in the blocks and submit. No muss, no fuss.

Moving along on our tour, we find a link to Research Vessel Schedules. From here we can travel to a computer at the University of Delaware that houses a database of research ship schedules. At OCEANIC you will find the schedules of all UNOLS ships listed by calendar year. In addition, you will find links to specific ship information, such as deck layout, cruise manuals, etc. If you want to know how big a ship is or if your science party can fit on it, check here.

Checking around the Main Menu we see links that can take us to learn more about UNOLS, including the UNOLS Charter, UNOLS Committees, committee membership and meetings, and reports from past committee meetings. If, for example, you want to know more detail about what was discussed the last time the Fleet Improvement Committee met, look here. The information here changes frequently, so if it is not here today, check again tomorrow, well, next week.

If committee reports are not enough for you, additional entertaining reading can be found on-line. UNOLS produces other Reports and Manuals, some of which can be viewed on-line. Titles include the RVOC Safety Training Manual (Chapter 1), Shipboard Dive Safety Report, 1996 Addendum to Shipboard Dive Safety Report, Foreign Clearance Manual, Research Vessel Safety Standards, and Projections for UNOLS' Future - Substantial Financial Challenges. Links to all of these publications can be found at the UNOLS home page Main Menu.

Need more? You can find newsletters, including this one, at the homepage. UNOLS NEWS issues back to 1995 are here, as are newsletters of the Research Vessel Operators' Committee and the Research Vessel Technical Enhancement Committee.

Wondering when and where committee meetings are taking place? The 1998 Meeting Calendar will tell you. Just click here and find out. Again, information here changes frequently, so check back often.

The next stop on our tour is the classified ad section. You didn't know about this? Well it is pretty small and pretty specialized, but if any of you would like to get your resumes on-line, or if you have a position to fill, check the Jobs and Personnel sections of the web site. We reserve the right to edit what you send and limit the time and space available to you, but it may be worth your while--the price is right. To get information included, send it to the UNOLS Office by e-mail. You will find us on the homepage too, including our e-mail address: unols@gso.uri.edu.

There are plenty of other attractions on this website too. Many are short-lived ad hoc features. To see what I mean check out the Science of Opportunity Request Form, with which scientists could request ship time for a specific Arctic cruise aboard a USCG Icebreaker. Or see the information pertaining to INMARTECH '98. Those interested in attending this international marine technicians workshop can get all the information they need right here on-line.

Some of the most exciting developments are still to come to the UNOLS website. View a demo version of the graphical ship scheduling tool or on-line ship scheduling system (find them under New Additions). Standby for a new and improved ship time request system to be implemented in the next few months. Other plans include an on-line cruise report form and a form to send the UNOLS Office feedback, suggestions, change-of-address. For now, if you have suggestions for additional information to be included at the UNOLS website, want links to your home page, need to inform us of humiliating corrections, do so via e-mail: unols@gso.uri.edu.

This concludes our tour. You are now free to roam around the website. Unfortunately, there is no gift shop...yet.

Frequently Asked Questions...

What can I do if it takes a really long time for the UNOLS homepage to load on my computer? Very little in the short-term. Things can be slow for several reasons. First, there may be a bunch of internet traffic. In this case, you will just have to wait or try again later. Second, if you are used to direct connections (such as those at an educational institution), using a modem will seem slow. Again, you will have to wait. Third, if your computer's processor operates at less than 100 megahertz, it will be slow because the people building webpages have souped-up computers operating three times as fast. They expect everyone to keep up with them, so they write programs for muscle machines. You could buy a new, faster computer, but escalation may ensue. Finally, there is something you can try. Turn off the automatic loading of images in your browser, if possible. Large files take longest to transfer from server to browser, and images are the largest files. You'll miss the pretty pictures, but gain a little speed.

What does it mean when I get a message like "Cannot find specified URL?" This probably means you made a typographical error. Not easy to admit or recognize, sometimes, but, alas, often true. Computers are very unforgiving about such "minor" mistakes. Such a message could also mean the address you typed correctly is incorrect. Check your information. If you get such a message when you try a link from the UNOLS webpage, good news. I made the typo. You are absolved of all responsibility.

What does it mean when I get a message like "No DNS entry?" This message means the server you are looking for is not connected to the web. It might have gone away for good, or it might be down for some maintenance or changes or because someone accidentally unplugged it. Try again later. Of course, there is the ugly possibility of a typo again. Check closely.

Why does the UNOLS home page look different depending on the computer I view it with? Believe it or not, this is the glory that is the web. HTML is a language that is platform independent, (It is not limited to one kind of hardware or one brand of operating system), so all browsers can interpret it. However, it is also very minimal, so companies such as Netscape and Microsoft have developed unique additions to HTML that work best with their browsers. So, depending on the browser you use, webpages may look different. Furthermore, what your browser shows you is, to some degree, in your control. Learn to use your browser's options or preferences. Finally, size does matter when it comes to monitors. Webpages look different on different sized computer screens. Better, that is big, expensive, new monitors offer better resolution too. Best for pictures, meaningless for text.

How can I print my Ship Time Request Form? This is a local issue, but, in general, Netscape 3.0 provides the best results. Internet Explorer will work, but the printed copy will not look as neat. Choose print from the file menu, make sure you are printing to the desired printer, and see what you get.

Web Jargon to Sound Knowledgeable

World Wide Web - A HyperText Information System using HTTP (among others) to transfer files between servers and browsers.

Internet - What the Web runs on. Think wires and things.

HyperText - The bane of those of us who think ideas ought to be organized. Allows nonlinear reading of documents. Essentially, hypertext uses links to let you jump around the web whenever your attention span is maxed out.

HTTP - HyperText Transfer Protocol is the means by which the web is connected. Technical, and, luckily, transparent to users.

HTML - HyperText Markup Language is the computer language that defines a hypertext document.

Server - A computer acting like a hub and distributing information to browsers.

Browser - The software on your computer receiving information from a server.

URL - Uniform Resource Locator; web address.

Home page - Website, Webpage. The HTML document one calls home.

Link - Puts the hyper in hypertext. Often appears as underlined text and allows you to jump around HTML documents and the Web until you are completely confused.

File - A collection of information saved together, an HTML document, or a picture, for example.

David Avery works part time in the UNOLS Office. He is a Graduate Student at the University of Rhode Island/Graduate School of Oceanography.

UNOLS Calendar

MEETING LOCATION DATES

DESSC Woods Hole, MA June 16-17, 1998

Schedule Review NSF, Arlington, VA June 23, 1998

UNOLS Council Alton Jones Campus, RI July 1-2, 1998

FIC Woods Hole, Ma Summer, 1998

Ship Scheduling Comm. NSF, Arlington, VA September, 1998

Schedule Review NSF, Arlington, VA September, 1998
UNOLS Council NSF, Arlington, VA September, 1998
UNOLS Annual NSF, Arlington, VA September, 1998
RVTEC SIO, San Diego, CA October 19, 1998
INMARTECH '98 SIO, San Diego, CA October 20-22, 1998
RVOC U.Hawaii, Honolulu, HI November 4-6, 1998
DESSC AGU, San Francisco, CA December, 1998
AICC Avondale, LA Winter, 1998/99

To view UNOLS News on the Web,
go 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, 1998.

Thank you,
Annette DeSilva
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