UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

UNOLS NEWS

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UNOLS Holds its 25th Annual Meeting

The UNOLS membership met for their Annual Meeting on 20 September, 1996 at the National Science Foundation in Arlington, VA. Ken Johnson, UNOLS Chair, opened the meeting and announced that this year marked the 25th year anniversary of UNOLS. The past year has been exciting, marked by the success in building new partnerships. Both NOAA and the Naval Oceanographic Office (NAVO) have requested ship time in 1997 on UNOLS vessels. The meeting was highlighted with a keynote address by Admiral Paul Gaffney, Chief of Naval Research (see inside story).

HIGHLIGHTS

The Annual Meeting provided a forum for UNOLS Committee Chairs and Agency representatives to report on their respective activities. Mike Perfit, DESSC Chair, reported on ROV/ALVIN operation plans and vehicle upgrades. Don Moller, Ship Scheduling Committee Chair, gave a recap on ship operations planned for 1997. Mike Prince, RVOC Chair, and Rich Findley, RVTEC Chair, reported on plans for their committee's annual meetings. Ken Johnson reported that UNOLS will continue their efforts to plan for the fleet of the future by working to match the fleet composition with the science needs of tomorrow.

The UNOLS membership voted to adopt a new standing committee, the Arctic Icebreaker Coordinating Committee (AICC). Jim Swift has agreed to chair the AICC. The committee's focus will be to work with the U.S. Coast Guard to gain access to the Arctic for oceanography. They will work to schedule and coordinate Arctic research facilities and provide oversight to the construction of the Icebreaker HEALY. Members of the committee include Lisa Clough, Joe Coburn, Glenn Cota, Kelly Faulkner, Lawrence Lawver, Dan Lubin, Jim Swift and Tom Weingartner. (See AICC report.)

The Annual Meeting concluded with an enlightening history of UNOLS provided by Bob Dinsmore. A full transcript of his report is provided in this issue.

It has been a busy fall for UNOLS and promises to be an active winter. This issue of UNOLS News will provide a review of the Council and Committee activities. It will also report on UNOLS events planned for the fall AGU Conference in San Francisco.

Be sure to visit the UNOLS Booth at the AGU Conference - Booth # 608!

A Message from the DEep Submergence Science Committee Chair
by Michael R. Perfit

It's that time of the year again when we all wonder what happened to the first 11 months, and start to prepare for the

American Geophysical Union Fall meeting in San Francisco. As has been the custom in the past, we will hold the annual DEep Submergence Science Committee (DESSC) meeting the day before AGU starts. Because the AGU meeting will start on Sunday this year, the DESSC meeting will be held on Saturday the 14th in the Moscone Center, Room 256 from 8:30 AM until 5:00 PM. We have arranged for a modestly priced lunch to be available during our noon break.

Because of the need to deliberate on a number of timely issues, I convened a non-scheduled DESSC meeting at NSF headquarters in Arlington, Virginia on September 18, just prior to the UNOLS Council meeting. The results of our discussions will set the stage for the upcoming DESSC meeting. This was a very productive meeting between several DESSC members, WHOI operators, federal agency representatives and a number of science program managers from the agencies. At this meeting, Sujata Millick (ONR) announced the intentions of the Navy to decommission DSV SEA CLIFF. I subsequently received a written request from ONR (F. E. Saalfeld) to provide guidance on issues related to the decommissioning of DSV SEA CLIFF, and its potential use by the academic deep submergence community. Based on discussions with the agency representatives and DESSC members, I proposed that a small working group, attached to DESSC, be convened to provide ONR and the other federal funding agencies with an interest in deep submergence science (principally NSF and NOAA), with guidance regarding retirement of Navy deep submergence assets. That guidance would include commenting on issues related to future deep submergence vehicle and facility requirements for the academic community into the next century. I have organized this working group which is comprised of some present and former DESSC members, and a few other scientists who have had extensive experience with both ALVIN and SEA CLIFF. The individuals on the working group represent a spectrum of deep submergence disciplinary interests, technical backgrounds, and future visions for deep ocean research. This working group will meet early in 1997 and it's main task will be to provide ONR with guidance regarding the possible options the Navy is considering to best utilize their submersible assets. The DESSC and the working group also will discuss topics associated with future (10-20 year) facility needs (submersible, ROV, AUV) for deep submergence science, science justifications for the facilities, and the potential fiscal impacts of various options for providing adequate deep submergence facilities that would serve academic research and possible strategic needs into the future. I urge all of you to seriously consider the pros and cons of having a submersible with a ~6000 m depth capability at our disposal, and the most fiscally and temporally efficient way to transition it into the scientific pool of vehicles managed by UNOLS' National Deep Submergence Facility. This will be one of the main topics on the DESSC meeting agenda and I hope to get your input regarding directions in deep submergence science that will be carried out in the next several decades, and the vehicle facility requirements required for deep submergence both in general, and within a context of the phasing out of Navy submersible assets in the 1997-1999 time frame.

The 14 December meeting will again begin with science reports from PI's who have recently used the National Deep Submergence Facilities, and then we will move on to operator and agency reports. One of the main agenda items will be a report to update you on the status of community/DESSC requested upgrades to ALVIN and ROV Jason which are being completed during the current overhaul, or are planned as part of an upgrade proposal that has been submitted to the agencies for consideration of funding. WHOI representatives will be available to respond to questions regarding the upgrade program, operational issues, scheduling, and status of the new support ship R/V ATLANTIS.

R/V ATLANTIS construction is on schedule and has undergone sea trials in mid-November, and will be ready for science with ALVIN on board in June/July of next year. There is a full schedule for ALVIN and the ROV and tethered vehicles planned through 1997 and into 1998 when a number of programs will be conducted in the western Pacific, northern East Pacific Rise, Hess Deep, Juan de Fuca, Mid-Atlantic Ridge, Mediterranean, and southern East Pacific Rise. The range of operations envisioned in the next few years using all of the deep submergence vehicles demonstrates that we are out of the purely Yo-Yo logistics and entering a truly global phase of deep submergence. This is partly due to the fly-away capabilities of the ROV and tethered vehicles which have seen operations on all three large ships in the UNOLS fleet in the past six months. Operations in 1997 will also see the first usage of the full complement of deep submergence vehicles of the National Facility- ALVIN, ROV Jason, and the tethered mapping systems, on individual cruises. This integrated capability that R/V ATLANTIS affords is unique in the world and offers many advantages to scientists who want to conduct comprehensive mapping and sampling programs using deep submergence facilities.

To facilitate planning and compilation of dive proposals and vehicle requests DESSC, UNOLS and WHOI

developed an on-line "UNOLS/National Deep Submergence Facility Vehicle Request Form - DSV ALVIN, ROV Jason, Argo-II, DSL-120 Sonar", that can be accessed on the World Wide Web through the Deep Submergence Operations Group at WHOI (http://www.marine.whoi.edu/webpub/unols/request.htm). Because we are trying to update the database of vehicle proposals/requests, please submit any new requests you may have as well as those you may have previously submitted before December 6th so that the UNOLS office can compile the results before the DESSC meeting. I foresee that this will greatly ease the burden of filing multiple forms for many of us, and it will make cruise planning and logistics a great deal easier in the future.

If you have any topics you would like discussed at the meeting, please feel free to call or e-mail me so that they can be considered for the agenda.

I look forward to seeing you at the meeting in San Francisco, and thanks for your continued interest and efforts in deep submergence science.

Arctic Icebreaker Coordinating Committee Report *by Jim Swift, AICC Chair*

The Arctic Icebreaker Coordinating Committee (AICC) continues to develop its agenda and plans for action for the coming year. The most urgent item of business is providing the community scientific oversight of the design and outfitting of science spaces and systems of USCG Cutter (USCGC) HEALY (WAGB-20) which is currently under construction. Hence, the AICC held a workshop on 6-7 November with senior U.S. Coast Guard personnel overseeing construction of HEALY at the Avondale shipyard near New Orleans, Louisiana. The principal purpose of the workshop was to substantially improve AICC familiarization with the science spaces and systems, to learn the range of options and decisions available during construction, and to better understand the Coast Guard's goals and needs for their interactions with the AICC regarding HEALY construction and initial scientific outfitting. The AICC also wished to express community needs for Arctic polar science vessel support, to examine HEALY plans in detail regarding these needs, and to begin recommending and prioritizing modifications to better carry out evolving, flexible, multi-purpose science activities.

This was not a regular meeting of the AICC. In addition to the above, the workshop outlined plans for business to be conducted by electronic mail in preparation for the next scheduled meeting of the AICC (probably in May 1997). Plans for AICC activities at the 1996 AGU Fall Meeting also were completed.

The workshop began with a series of in-depth presentations by USCG personnel covering HEALY science systems and plans. An informal pattern of exchange permitted continual dialog between the AICC and the Coast Guard, uncovering a host of issues which were followed through in subsequent discussion. These presentations continued through the morning of the second day of the workshop, and it was apparent to all that the time together was greatly beneficial, providing common ground, mutual understanding, increased cooperation, and a collegial working relationship.

An exercise on the morning of the second day of the workshop showed how well the Coast Guard and AICC were working together. The AICC held a short solo session to summarize discussion into a first draft HEALY "wish list" and then picked 10-12 items as tentative "high priority". This latter short list was then presented to the Coast Guard and discussed casually over lunch. When business resumed, after a quick run-through of the other items, the AICC and Coast Guard picked one major high priority item that was related to several other items on the list e.g., the need to improve the layout of the science spaces on the main deck. Then ensued a 90-minute "brainstorming" session with all hands working together to arrive at a tentative and hopefully-feasible solution. The give and take was remarkable, with sub-groups spontaneously breaking off and rejoining, and the trial "fix" that came at the end was clearly a substantial improvement. Of course, there are realities of shipyard construction policies, contract conditions, and the considerable intricacies and interdependencies of making changes on a complex vessel design that must be faced and which well may temper at least the delivered configuration, but the fact was that the Coast Guard experts in ship construction were working side by side with their scientific oversight group and the "let's get it done, and done right" spirit of cooperation was tangible to all.

This was only one example of progress. HEALY science system specifications are for the most part individually

representative of those for the new AGORs. In a few cases there is underspecification or lack of specification but the AICC is making much progress on identifying and resolving these, and will also be bringing matters as needed to the attention of the U.S. polar science community for their comments and assistance. The AICC recognizes that individual systems are only one aspect of a ship's installed science support. Design and outfitting issues must be addressed and how these systems fit together to bring about well-coordinated multi-disciplinary research using multiple science systems, for example, carrying out CTD/rosette casts, sediment coring, ROV deployments, and on-ice activities at a single science station. Thinking through how systems will be used and then suggesting changes to improve utility and efficiency is a first step in an iterative process. The AICC must work with the community and the Coast Guard to find out what needs to be done, what can be done, what is hard to do, and what is impossible, and then work out an acceptable compromise. That said, there is clear cause for cautious optimism at this stage regarding delivery of a modern, capable, polar research vessel designed to be operated and supported by the Coast Guard.

Our visit also included a tour of the Avondale shipyard, including viewing the sections of HEALY which are now being assembled. Massive steel plates (some over two inches thick), close-set frame members, huge 15,000 HP motors, and mazes of piping are evidence that construction of USCGC HEALY is truly well underway.

The AICC was greatly heartened by this workshop. We have clearly moved one step closer to a first-class polar research facility.

We plan to bring HEALY and the AICC to the community. At the fall AGU meeting look for AICC members and U.S. Coast Guard personnel at the UNOLS booth #608. There will be deck layout drawings, (some may be slightly out of date as a result of our workshop) and a videotape of a computer-generated 3D walk-through of some HEALY spaces. On Wednesday 18 December from 1730 - 1900 there will be an AICC "town meeting" at the Moscone Convention Center, Room 121. Planned are a 10-15 minute introduction to the AICC and USCGC HEALY, followed by community Q&A. The AICC needs to respond to questions and comments from the polar research community. The AICC also has issues to bring to the community, such as: 1) identifying needed vessel modifications and assigning priorities to these; 2) develop a policy for science-of-opportunity use of U.S. Coast Guard icebreakers in the Arctic and 3) learning about Arctic science initiatives that would benefit from HEALY or Polar-class vessel support and/or AICC coordination. The AICC may try to carry out a similar community activity at the winter 1997 ASLO meeting in Albuquerque. As always the AICC can be reached by writing to <unols@gsosun1.gso.uri.edu> or by directly contacting the chair, Jim Swift, at <jswift@ucsd.edu>.

AICC business includes much more than scientific oversight of HEALY construction. We do not propose to the U.S. Arctic polar science community that all problems are solved, or even solvable. But we do say that we are greatly heartened by events and progress during recent months. Please visit us at AGU.

Congressional Funds are Appropriated for a SWATH Vessel

The Defense Appropriations Committee has provided an increase of $45M to the Defense budget to construct a small water plane, twin hull (SWATH) oceanographic research vessel. The Navy has been directed to evaluate a SWATH design to replace MOANA WAVE in the research fleet. The Office of Naval Research (ONR) will be the mission sponsor for this vessel, and the Oceanographer of the Navy (N096) will be the resource sponsor.

ONR will develop the requirements for a Class II/III general purpose research vessel, with input from University-National Oceanographic Laboratory System (UNOLS) and the University of Hawaii. They have requested that UNOLS and the University of Hawaii convene a group to develop mission requirements for such a vessel, and forward the requirements to ONR by 27 January 1997. ONR will then review the requirements and forward them to Naval Sea Systems Command to conduct an assessment of vessel designs, including SWATH, SLICE and monohull designs, that could accommodate the requirements within the amount of money that is budgeted ($45M). Once the design assessment is completed NAVSEA will issue an RFP for vessel construction and ONR will begin operator selection.

In response to the Navy's request for input, UNOLS has scheduled a Fleet Improvement Committee meeting on 12-13 December to begin developing the SMR's. Representatives from West Coast universities and laboratories with

seagoing experience in the Pacific have been invited to the meeting to present their input on the SMR's required for a Central Pacific vessel. The SMR's produced by this group will then be passed to the UNOLS Council for approval. The Council is scheduled to meet in mid-January, 1997.

A Message from the Fleet Improvement Committee Chair *by Chris Mooers*

The Fleet Improvement Committee (FIC) will hold its winter meeting on 12 & 13 December 1996 in San Francisco to consider the Scientific Mission Requirements(SMR) for a mid-Pacific intermediate research vessel. In association with the Navy's plans to build a SWATH research vessel, the University of Hawaii has prepared a draft SMR that has been circulated for comment by UNOLS. These two SMR development efforts will be evaluated during the meeting so that FIC can make its report and suggestions to the UNOLS Council in January. For this purpose, several scientists from the West Coast universities and laboratories with seagoing experience in the Pacific have been invited to participate in the dialogue because it is important to place any new vessel in the context of national and regional needs.

FIC will also conduct its normal business, including the evolution of the next Fleet Improvement Plan (FIP98). The FIP98 will focus on the future needs of the academic fleet. The several invited scientists will be welcome to join in the analysis of West Coast requirements for the UNOLS Fleet of 2010 and 2020. FIC is also studying the technological upgrading of the fleet as real time data platforms.

Over the past year FIC has been developing an Interim Fleet Improvement Plan (IFIP). The IFIP was initiated because of funding shortfall projections for the UNOLS fleet. However, with the addition of new partnerships to UNOLS, and in turn increased utilization of the fleet, the study has been a moving target. A streamlined version of the Interim Fleet Improvement Plan will be on the table at the FIC meeting for discussion, modification, and adoption by FIC. Once adopted, the report will be submitted to the UNOLS Council for approval. The study is hoped to be a useful reference in the event of funding shortfalls.

UNOLS SHIP NEWS

UNOLS Ship Scheduling Update

UNOLS ship scheduling for 1997 has evolved over a number of meetings with approximately 95 percent of the scheduling issues now resolved. The intermediate and small vessel scheduling went relatively smooth. The GLOBEC and CM&O cruise requests have all been accommodated. Large ship scheduling, however, has been very dynamic and posed many challenges. Requests for the large ships were spread across the globe and many had strict time constraints. These constraints included mooring retrievals and launches, ROV operations, seasonal weather windows and ODP survey work. The total ship charge days for 1997 is much higher than in 1996. All ships will be in operation. This increase can largely be accredited to the addition of NOAA and NAVO's ship time. The increase represents a lot of hard work in building new partnerships.

In 1997, approximately $3M of NOAA ship time has been scheduled on UNOLS vessels. The NOAA field programs include the FASTEX program to be carried out on KNORR in the North Atlantic. A FOCI program is planned in the Gulf of Alaska using WECOMA. A moorings program is scheduled using Harbor Branch's vessels in the South Atlantic and a program is scheduled on REVELLE in the Equatorial Pacific. NAVO requested eleven cruises and all were able to be accommodated with ten being scheduled.

Ship Construction News

REVELLE - REVELLE is now operating out of Scripps.

ATLANTIS - ATLANTIS successfully completed its Acceptance Trials during the week of November 11. Delivery is scheduled for 25 February 1997 and science operations are expected to begin in early June.

The National Oceanographic Partnership Act Becomes Law

The National Ocean Partnership Act (NOPA) has been signed into law. An appropriation of $20.5M was appropriated to support the Act. The Act calls for $7.5M to be designated for support of the Navy's use of UNOLS vessels. Dr. Steve Ramberg of ONR will be the custodian of the funds. The remaining $13M is to support mainstream programs, such as: MEDEA, educational programs and general partnership interests. Under NOPA, NAVO's partnership with UNOLS is becoming a big success. While the Navy's survey vessels are operating away from home waters, UNOLS ships will be used to characterize the waters close to the U.S. These waters are used by the Navy as training areas.

NAVO had eleven programs requiring UNOLS ship time support in 1997. Of these, ten could be efficiently scheduled within the $7.5M budget. Work areas include the North Atlantic, Continental Margin Slope; Onslow Bay; Southern California Offshore Range; NE Pacific; Cape Lookout to Mayport; Galveston, TX to Corpus Christi; San Diego to Port Hueneme; Virginia Beach to Long Beach, NY; and San Francisco to Monterey, CA. Cruises have been scheduled on EWING, REVELLE, NEW HORIZON, MELVILLE, CAPE HATTERAS, PELICAN, CAPE HENLOPEN and POINT SUR. Gordon Wilkes of NAVO has been appointed to serve as the liaison between NAVO and UNOLS throughout the scheduling process.

The UNOLS/Navy partnership is working out very well and promises to be a big success for NOPA. It is hoped that the NAVO/UNOLS partnership will be a long term one.

Ad-Hoc Committee on UNOLS Ship Scheduling is Formed

This year's ship scheduling process was particularly challenging. There have been evolutionary changes in the UNOLS scheduling process over the years. In the early 1970's, 75 percent of the ocean going scientists used ships from their own operating institution. This percentage has dropped significantly. There is a changing user group with more users from institutions from in-land states. There are also more users from institutions other than the operator institution.

The UNOLS Council recommended forming an ad-hoc committee to review the scheduling process. The committee has been formed and includes two agency representatives, two schedulers and two scientists. Rick Jahnke has agreed to chair the committee.

Additions and Deletions to the UNOLS Fleet

REVELLE entered the UNOLS fleet in July at Scripps. **URRACA** entered the UNOLS fleet in July and is operated by the Smithsonian Tropical Research Institute. It will serve as a coastal vessel. **ATLANTIS II** was sold during the summer, 1996. **COLUMBUS ISELIN** was sold in November, 1996.

UNOLS Ship Time Request form is On-Line

The UNOLS Ship Time Request form is now on the World Wide Web. It can be accessed from the UNOLS homepage at <http://www.gso.uri.edu/unols/unols.html>. Please use the form and recommend any changes to the UNOLS Office <unols@gsosun1.gso.uri.edu>.

Ancient Albatross Award is Presented to ALPHA HELIX

At the UNOLS Annual Meeting in September, Bob Dinsmore made the first presentation of the Ancient Albatross

Award. The award signifies the oldest and longest operating research vessel in the UNOLS fleet. It was presented to ALPHA HELIX. Tom Royer accepted the award on behalf of the university. ALPHA HELIX began operations in 1966. In addition to the award, Bob presented Tom with instructions on "How to prepare a proposal," a can of Rustoleum and a check for $100.

Bob Dinsmore presenting Tom Royer with the Ancient Albatross Award at the UNOLS 1996 Annual Meeting

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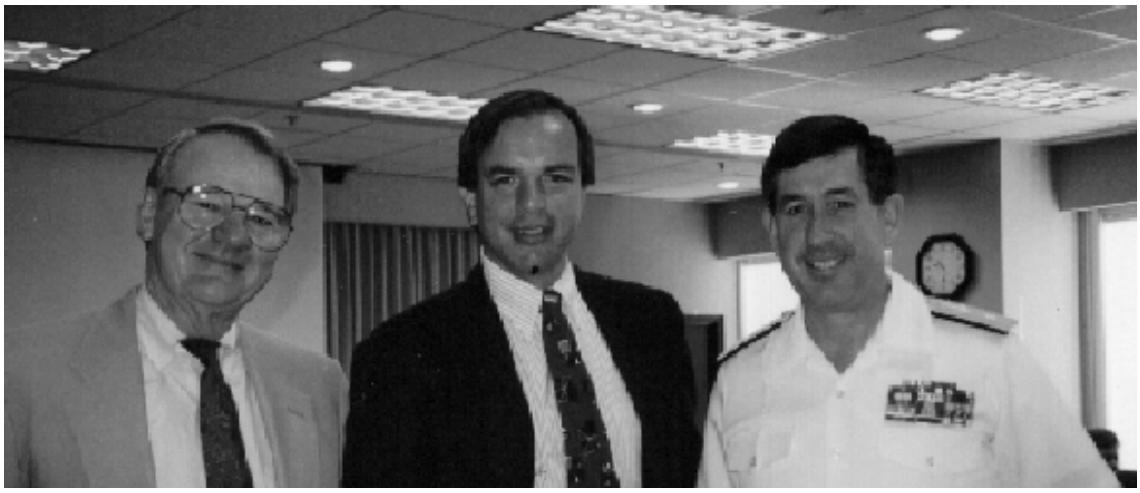
UNOLS Annual Meeting Highlights

Rear Admiral Paul Gaffney Delivers UNOLS Keynote Address

Rear Admiral Paul G. Gaffney, Chief of Naval Research and Commander, Naval Meteorology and Oceanography Command provided the keynote address for the 1996 UNOLS Annual Meeting. He began by discussing NAVO's new partnership with the UNOLS community. He introduced Captain Rudolph and Commander Trees who will be the key liaisons between NAVO and UNOLS.

Admiral Gaffney explained that he has great interest and a long standing commitment to oceanography. The number one issue for Admiral Gaffney is oceanographic research funding. The Navy has seen a downward trend in research funding. In 1968, there was approximately $600M budgeted for 6.1 programs. In 1996, this number has dropped to approximately $400M and is still going down. Admiral Gaffney's goal is to put a floor on 6.1 funding. ONR will attempt to keep the budget stable at $400M, then attempt for growth.



From left to right: Dick Pittenger, WHOI; Ken Johnson, UNOLS Chair and Admiral Paul G. Gaffney, CNR.

Admiral Gaffney reported that under the National Oceanographic Partnership Act (NOPA), $7.5M has been appropriated for Navy's use of UNOLS ships. He asked the community to start thinking about "NOPA-2." Basic research funding is important to everyone and new funding is needed to support both science and ship operations. Admiral Gaffney concluded by stating that the community needs to work with their respective university presidents and laboratory directors to educate their representatives in Washington, DC on the importance of oceanography.

UNOLS Council Election Results

Elections were held at the UNOLS Annual Meeting to fill four UNOLS Council positions. Ken Johnson was re-elected to serve another term as UNOLS Chair. Tom Royer was elected as the UNOLS Vice Chair. Clare Riemers will serve as a member at-large and Dennis Hansell was elected as an operator representative.

Research Vessel Operators' Committee Report *by Mike Prince, Past RVOC Chair*

The RVOC held their annual meeting on October 22, 23 and 24. This year's meeting was hosted by the Florida Institute of Oceanography and the University of South Florida. The members of RVOC greatly appreciated the hospitality of Gene Olson, Dr. Ogden and all of the faculty and staff that contributed to a very successful meeting. During the meeting we heard updates on various ship overhaul and building projects and on the operations of several operators from around the world. One common theme shared by all of us is the trials of operating in a period of level or shrinking budgets for ocean sciences. Reports were given on liability issues and court cases, a group insurance plan and on the medical services contract. During several workshops, progress was made on drafting a group of medical standards for maritime employees as well as performance (functional) standards to be used in job descriptions and on writing a proposal for the production of an orientation safety video. RVOC members identified several other issues that will require our attention during the coming year during the workshops and the Marine Superintendents round table. Members elected Paul Ljunggren of Lamont as the new Chairman and Steve Rabalais of LUMCON as the Vice-Chairman. The host for the 1997 meeting will be WHOI and Hawaii will host the 1998 meeting.

New Post Cruise Assessment Form to go On-Line

Mike Prince and Peter Betzer have been redesigning the Post Cruise Assessment report. Presently, at the completion of each cruise, the PI, ship captain and technician are asked to complete an assessment of the cruise. Submission of

the hard-copy form is voluntary. The report is meant to provide constructive feedback for future operations. Unfortunately, submission of the form has been far less than 100 percent.

The new form is hoped to increase feedback. Mike and Peter have drafted an on-line questionnaire to be filled out by the cruise PI, technician and ship captain. Once completed, the form would be submitted electronically to the marine operator and the UNOLS Office. The operator would be responsible for responding to all reports received. UNOLS will provide a yearly summary of all reports. It asks the user if there is anything that he/she would like to see changed before they sail on the vessel again. It is hoped to be an important tool in identifying equipment which may need replacement or upgrade. Mike has placed the draft form on the World Wide Web at <color.mlml.calstate.edu/WWW/marineops/draft.html>. All are encouraged all to demo the form and provide feedback.

Research Vessel Technical Enhancement Committee Holds Annual Meeting *by John Freitag*

The annual RVTEC meeting was convened on Monday, November 11 at Harbor Branch Oceanographic institution in Fort Pierce, FL. Attendance was an all time high with nearly all of the UNOLS operator institutions represented. There were also representatives from NOAA-PMC, NAVO, USGS, UNOLS and NSF. After introductions and welcoming remarks by chair Rich Findley (U Miami) there was a short discussion on new instrumentation where Rich Findley showed his prototype of MERLIN, a wet end computer system based on the 586 and PC-104 buss structure which communicates to the surface through a single mode fiber optic cable using 10 Mbaud Ethernet technology. MERLIN shows great promise as a general purpose front end/controller for CTDs, MOCNESS, VPR, Video systems. Dan White of HBOI made a short presentation on AUV technology and a discussion on communications followed. Because communications has become an increasingly important and expensive issue due to the increased use of computers and the advent of e-mail, aspects ranging from technology to cost recovery were discussed. Lengthy discussion centered on M-Sat (not to be confused with Inmarsat std-M), a relatively recent arrival on the scene. M-Sat is a satellite based system which uses spot beams to concentrate coverage along the East and West coasts of the U.S. reaching to Alaskan waters, the Gulf and Caribbean areas. It presently will carry voice and data to 2,400 Baud and FAX transmission has been promised for the near future. Its time charge is much less expensive than Inmarsat std A or M. There was also discussion on DirectPC, a simplex system capable of 400 kBaud. Data are requested on a modem link using Inmarsat or M-Sat and the data returned over the DirectPC link. Sea-Net progress and Ocean-Net, a HBOI-Harris effort for high bandwidth satellite data transfer similar in principle to M-Sat were also discussed.

photo by Miguel McKinney - RVTEC members shown touring SEWARD JOHNSON

The highlight presentation of the meeting centered on present and future conducting cables presented by Phil Gibson, President of Tension Member Technology. TMT is a consulting firm in the field of cable technology. Phil's presentation, which emphasized fiber optic and E-M cable technology, provided many interesting and informative insights on a subject which has a major impact on our field. Safe working loads versus breaking strength, conductor and fiberoptic failure and optimal conductor configuration were among the concepts discussed. Terminations, sheave design, bending radius and its effect on cable life and strength were also considered at length.

The session was conducted in an informal manner allowing participants to interject with questions and anecdotal experiences. This format contributed to a lively and highly informative session in which virtually all attendees left carrying new knowledge. Don Moller, UNOLS cable pool rep, led a wrap up discussion on standards toward new UNOLS cables.

Tuesday afternoon was spent on an informative tour of the HBOI engineering and marine facilities followed by a ship tour and reception on board R/V SEWARD JOHNSON.

The closing day session opened with subcommittee reports. Vice Chair, Marc Willis, reported on the status of Net-CDF and progress toward its implementation. A hand survey indicated that NET-CDF has been implemented by only a few institutions and it was Marc's feeling that without a strong impetus from the scientific community progress would continue to be sporadic. Marc announced that increasing commitments force him to step down from chair of the Data Standards subcommittee. Steve Poulos of UH has agreed to assume leadership of this committee and requested that each institution e-mail him a sample dataset to examine. Tom Wilson opened the report on the Database subcommittee with a demonstration of the RVTEC WWW page. Format and links were discussed and Tom requested that the name of the committee be changed to the On-line Resources subcommittee. Sandy Shor (NSF Program Manager) reported on overall FY97 budget projections and gave some insight regarding the process used in allocating various portions within the NSF Ocean Sciences Division.

Elections for a new chairman was held. Rich reported a single nomination from the nominating committee. John Freitag (URI) was nominated. There were no other nominations from the floor and a motion to accept the recommendation of the committee was seconded and passed. The site of next year's meeting was discussed and tentatively planned for University of Washington in Seattle. Potential meeting agenda items were suggested and included Marine Corrosion, RDI and Seabird. Tom Wilson also suggested that we develop a CD-ROM of useful seagoing software for possible distribution.

photo provided by Harbor Branch Oceanographic Institution
RVTEC Members shown aboard R/V SEWARD JOHNSON

The History of UNOLS by Robertson P. Dinsmore

On the occasion of the 25th anniversary of UNOLS, it appears appropriate to reflect on the origins of the system and its history in order to see how far we have come over the past quarter century. There are some who doubted UNOLS would be here now, and a "Sunset Clause" was hurriedly added to the first draft charter for UNOLS to expire unless periodically renewed by a vote of the members. And renewed it was - time and time again - until here we are.

What we see now is a larger, stronger, and more aggressive UNOLS: 57 members compared to the original 17; and a fleet of larger, newer, and more capable vessels, almost totally replaced from the original.

The roots of UNOLS go back to the 1960's, called by many, the golden years of oceanography. Marine science was in; funding flowed freely; existing labs were expanding and new labs were being established. More and more research ships were putting to sea (some of which should not have). In order to support operations in some new big programs such as the Indian Ocean Expedition, Biological Expeditions, Education, and submersible extravaganzas, several ships were being block-funded (ALPHA HELIX, WILLIAMSBURG, TE VEGA, EASTWARD, ALVIN, etc.). This was an expediency limited to special uses, but proved to be an interesting concept. Several individuals, namely Dick Bader and John Lyman of NSF and Ned Ostenso of ONR thought this idea might be applied to general purpose academic ships. It was started and thus began the program of annual support grants for ship operations. It soon caught on; by 1969 there were 33 vessels from 17 academic labs all eating at the federal trough. More were looking on.

About this same time, in 1969, the President's Commission on Marine Science and Engineering (called the Stratton Commission) in its classic report set forth a recommendation for National Oceanographic Laboratories intended to be a partnership between federal agencies and academic institutions for a full range of research, facilities and funding support.

However, unlike other aspects of the Report (such as the establishment of Sea Grant and NOAA), it was not well-defined. Viewed by the Feds as "control" and by academia as "send-more-money," it did not progress very far.

By 1970 the support of research ships was becoming big business: more users, more ships, and rising costs. Investigators from non-ship-operating labs were demanding more access to ship time. Federal agencies, particularly NSF, started looking for some element of coordination - even control. The idea of National Oceanographic Laboratories (NOLS) was dusted off as a means to direct and schedule the academic fleet. The Labs viewed this as a takeover and were horrified. A group including Art Maxwell of WHOI, Bill Nierenberg of SIO, John Knauss of URI, Maurice Ewing of LDGO, John Byrne of OSU, and others worked out a counter proposal for a University-National Oceanographic Laboratory System (UNOLS). This would be a loose, self-governing academic association to exercise the coordination and controls desired by the Feds. Working with Tom Owen and Mary Johrde of NSF, Ned Ostenso of ONR, and others, an arrangement was agreed upon.

On 22 September 1971, the seventeen labs which operated federally funded vessels met at Lamont and drew up a charter for UNOLS. Key provisions included were efficient ship scheduling, accommodation for all investigators, and adherence to uniform standards. Art Maxwell was elected chairman; a UNOLS Office was established at Woods Hole to be funded by several federal agencies, chiefly NSF and ONR; and Bob Dinsmore, an ex-Coast Guard oceanographer and former staff member of the Stratton Commission was hired as Executive Secretary. The Charter was adopted at the first regular UNOLS meeting at Texas A & M, College Station, in May 1972.

At the outset, the main thrust of UNOLS was coordinated ship scheduling and the placement of federally funded investigators on federally funded ships. The shiptime request forms still in use today were the earliest products of UNOLS. Ship scheduling has continued over the years as a major role. In order to achieve the optimum procedure, various sundry practices have been tried. These included: centralized scheduling, East Coast - West Coast, expeditionary, big-ship/little-ship, lottery, computerized and smoke-filled room sessions. The search for the perfect scheme appears to be continuing even now.

A hidden agenda in the formation of UNOLS was fleet replacement. Over two-thirds of the ships then sailing were mission obsolete; that is, not adequate to the tasks coming along. Most were becoming platform obsolete as well. The agenda did not remain hidden very long. By the Fall of 1972, working groups were formed leading to the replacement of the intermediate ships - mostly wartime cargo ships; and construction of new coastal vessels. These working groups later were consolidated into a Fleet Replacement Committee - now our permanent Fleet Improvement Committee. That these groups did their job well is a matter of record.

The original makeup of UNOLS comprised seventeen labs operating thirty vessels. These were:

Alaska	*ACONA*
Hawaii	*KANA KEOKI, TERITU*
Washington	*THOMPSON, HOH, ONAR*
Oregon State	*YAQUINA, CAYUSE*
Stanford	*PROTEUS*
S. California	*VELERO IV*
Scripps	*MELVILLE, WASHINGTON, AGASSIZ, E. B. SCRIPPS*
Michigan	*INLAND SEAS*
Texas A & M	*ALAMINOS*
Woods Hole	*KNORR, ATLANTIS II, CHAIN,GOSNOLD*
Rhode Island	*TRIDENT*
Lamont	*CONRAD, VEMA*
Johns Hopkins	*WARFIELD, MAURY*
Duke	*EASTWARD*
Skidaway	*KIT JONES*
Miami	*GILLISS, CALANUS*
Florida State	*TURSIOPS*

From this list there have been dropouts, retirements, and replacements. Only three of the original fleet remain and credit for much of this goes to the replacement efforts within UNOLS.

When organized, the UNOLS Members dedicated themselves to keeping everybody else out. Naturally, non-members were suspicious and wanted in. Other operators having or acquiring vessels thought membership was an open door to funding. (How wrong they were). Investigators and users wanted better access and a say in the System. There were some real battles for awhile. Some original members departed with their ships: Stanford, Florida State, Nova.

New members began to join: Texas, Delaware, Moss Landing. Associate Memberships were created in order to placate the community. This ultimately has led to the now present single membership more representative of the community.

Shortly following the establishment of UNOLS, the Research Vessel Operators' Council (RVOC), which was an older body by eight years, was incorporated into UNOLS. RVOC originally was established to work with the Coast Guard in developing and implementing the Research Vessels Act. This role completed, RVOC as a part of UNOLS was able to bring together much of the working elements of research ship operations. In this capacity, RVOC has become an essential part of UNOLS.

At the Fall 1972 meeting at Scripps, there were sown the seeds of UNOLS' efforts which have come to fruition and continue to this day: Coastal Ships, Uniform Standards, Foreign Clearances, Technical Services, National Facilities and, of course, Fleet Replacement.

In accordance with the early direction, attention was turned to specialized facilities. A Charter Annex established National Oceanographic Facilities. These included the Expeditionary Vessel ALPHA HELIX; the Deep Submersible ALVIN; and the Scripps Aircraft (uniquely designated as one-half a facility). Other candidates included Buoy Groups, Technician Groups, MG&G Facilities, and special platforms such as FLIP. For the duration of support needed, the efforts were successful. Economy, however, placed reins on increasing the number. The only continuing one is the Deep Submergence Facility which appears highly successful and is growing in scope.

Additional thrusts generated by UNOLS include Safety Standards and Foreign Clearances. Safety Standards were brought about in response to the tragic loss of R/V GULF STREAM in 1954 and have been incorporated into the Research Vessel Inspection Program. These Standards have been recognized by the National Transportation Safety Board as a unique and hallmark contribution to maritime safety. We at UNOLS can be proud of this.

Foreign Clearance procedures was borne amidst the Law of the Sea chaos in the early 70's. Procedures were spearheaded by UNOLS to facilitate the conduct of research in the burgeoning areas of the ocean being claimed by coastal nations. The orderly arrangements set up by UNOLS have been highly successful and have been copied worldwide.

Many of these events have not been without their humorous side. Safety Standards were expedited when one of our ships almost sawed itself in half by hauling in 4,000 meters of hydrowire across its bottom. And Foreign clearances were given a push when one of our ships pulled into Angola and inadvertently hoisted a rebel flag (sold to them by a devious ship chandler).

In summary, UNOLS has come a long way since the sunset clause was added to its charter in 1971. We can take pride in what has been accomplished over the past 25 years. There is a lot more to do, so the next 25 years should be just as productive.

Send us Your Ship Postcards

Bob Dinsmore is compiling a collection of postcards - old and new - of research vessels, both U.S. and foreign. This collection is for ultimate donation to an appropriate archive. If you are willing to share any postcards from you or your lab, they would be appreciated and reimbursed. Send them to R. P. Dinsmore at Woods Hole Oceanographic Institution, Woods Hole, MA 02543 or to the UNOLS Office, P.O. Box 392, Saunderstown, RI 02874. The oldest in the collection to date is the CARNEGIE (1909).

UNOLS at AGU in San Francisco

UNOLS is planning a number of activities in conjunction with the AGU Conference in San Francisco. Prior to the Conference, the Fleet Improvement Committee and the Deep Submergence Science Committee will hold meetings on 12-13 December and 14 December, respectively. UNOLS will also have a booth at AGU which will include posters

describing UNOLS, committee activities and the newly formed AICC (Booth #608). The U.S. Coast Guard will have a poster and video displaying their icebreaker, HEALY, currently under construction. The Arctic Icebreaker Coordinating Committee will hold a town meeting on Wednesday evening, 18 December to bring the community up-to-date on their recent activities with the Coast Guard.

The UNOLS Office is seeking volunteers from the community to help staff the booth. If you can spare some time, please drop by booth # 608.

UNOLS December Meetings in San Francisco

Meeting	Date/Starting Time	Place
FIC Meeting	12-13 Dec/8:30 am	Shannon Court Hotel, Franciscan Rm, 550 Geary Str
DESSC Meeting	14 Dec/8:30 am	Moscone Convention Center, Room 256
AICC Town Meeting	18 Dec/5:30 pm	Moscone Convention Center, Room 121

Be sure to visit UNOLS at Booth #608!

UNOLS Ship Time Request form is On-Line

The UNOLS Ship Time Request form is now on the World Wide Web. It can be accessed from the UNOLS homepage at <http://www.gso.uri.edu/unols/unols.html>. Please use the form and recommend any changes to the UNOLS Office <unols@gsosun1.gso.uri.edu>.

I would like to extend a thanks to all who contributed information and articles for this issue. Articles for the newsletter are always welcome and encouraged. Copy can be submitted via e-mail, FAX or mail. The next newsletter is planned for February 1997.

Thank you,

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UNOLS Meeting Calendar

Meeting	Date	Location
FIC Meeting	12-13 Dec 1996	San Francisco, CA
DESSC	14 Dec 1996	San Francisco, CA
AICC Town Meeting	18 Dec 1996	San Francisco, CA
Council	16-17 Jan 1997	Biosphere, Arizona
DESSC	Spring	Woods Hole, MA
Ship Scheduling Review	June	Arlington, VA
AICC	Spring/Summer	TBD
FIC	Spring/Summer	TBD
Council	Summer	TBD
Ship Scheduling Commit.	Sept	Arlington, VA
Ship Scheduling Review	Sept	Arlington, VA
Council	Sept	Arlington, VA
Annual Meeting	Sept	Arlington, VA
RVOC	Oct	Woods Hole, MA
RVTEC	20-22 Oct (tentative)	Seattle, WA (tentative)