A MESSAGE FROM THE UNOLS CHAIR

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

UNOLS NEWS

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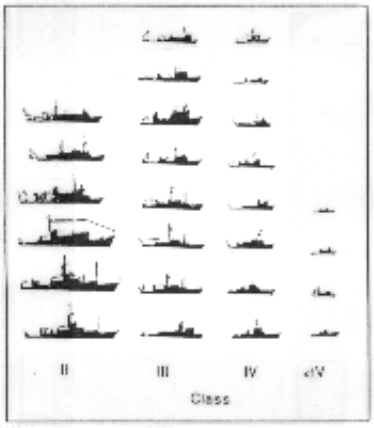
UNOLS ANNUAL MEETING

8:30 A.M., Thursday, 14 September 1995
National Science Foundation, Room 375
4201 Wilson Boulevard
Arlington, VA



This year's UNOLS Annual Meeting will take place on Thursday, September 14 at the National Science Foundation. Ken Johnson will open the meeting at 8:30 a.m. with a review of the UNOLS activities over the past year. Dr. Michael Purdy, the new Director of Ocean Sciences at NSF, will deliver the keynote address. UNOLS Committee Chairs will follow with updates on their committee achievements along with plans for future events. Federal agency representatives will report on 1995 funding and forecasts for 1996 and beyond. A discussion on "Potential Changes on the Horizon for the UNOLS Fleet" will be lead by Peter Betzer.

Other issues which will be addressed at the Annual Meeting include:

- Submersible Support Ship Replacement for ALVIN
- Arctic Research Vessel
- Coastal Zone Research Vessel Plans/Activities
- Opportunities on Nuclear Submarine
- Proposals for Mid-life Refits
- Radio Officer/GPS

UNOLS Elections will be held. The slate of candidates is provided on page 3.

The meeting is open to all investigators, users, operators and sponsors of university oceanographic facilities. It is a public forum for discussing the utilization and scheduling of research vessels and other facilities as well as their support and future planning.

I would like to extend a thanks to all who helped contribute 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 November 1995.

Thank you,
Annette DeSilva, Editor, UNOLS News

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HIGHLIGHTS

Dear Colleague,

This is my first message to you as UNOLS Chair. I'm completing my initial year in this position and it's been quite an education. I'll have spent some 70 days at sea in UNOLS

vessels during 1995, observed the NSF/ABSTech ship inspection process and the workings of a variety of UNOLS standing and ad hoc committees. This exposure to the fleet, from both the perspective of the Chair and a long-term ship user, gives me a unique viewpoint on the current status of the fleet.

Let me summarize some of our high points, problems, and areas where we need to make progress. First, the UNOLS fleet is undergoing an extensive modernization and building program that has been unequaled in the UNOLS history. The 27 vessels of the UNOLS fleet stand as the finest and most capable research fleet in the world. The eleven general purpose Class I, II and III vessels (all > 150' LOA) were built expressly for research. Most of these ships are either less than ten years of age, or they have recently undergone extensive mid-life refits. In addition, two significant additions to the fleet are close to completion. These are ROGER REVELLE (AGOR 24) and ATLANTIS (AGOR 25), which are both 274' LOA. They differ from THOMAS THOMPSON (AGOR 23) in some significant improvements, including expanded berthing for scientists. They are scheduled to be delivered in 1996 and 1997, respectively.

The operators of the UNOLS fleet continue to maintain a very high level of service to the science community. The individual operators are providing innovations to the fleet that are adding exceptional capabilities for research. I recently spent 45 days on MELVILLE, and was able to closely observe their SeaBeam system operating in its transit mode. This routine data collection system provides a remarkable view of the sea floor that DESSC and FIC have been striving to add to the fleet for the past 5 years. It's now a reality, thanks to the innovations of the SIO scientists and engineers. Such innovations are not unique. I have generally observed this level of excellence throughout the fleet.

However, sustained funding for operations of the fleet at a level to maintain this degree of excellence continues to be a problem. Despite the advantages of using the UNOLS fleet, which include state of the art scientific support and cost effectiveness, support from federal agencies other than NSF has dropped 20% in recent years. This decline has been offset by a 23% increase in NSF support. The operation budget will be pressed even harder as the new AGORs come on line in 1997. The message from NSF is that we cannot expect their support to increase a commensurate level in the near future.

My predecessors last message to you proposed a new model for funding the operation of UNOLS vessels to offset this decrease in non-NSF support. That model, which involved block funding of vessels by sponsor agencies, is unlikely to generate strong support in Washington, DC. Our best hope to resolve this problem is to direct other federal users of research vessels into the UNOLS fleet. For example, as the Navy has phased out their own AGORS, operated by the Military Sealift Command, ship users from the Naval Research Laboratory system have moved onto UNOLS vessels. I view broadening the UNOLS support base as my major challenge. However, I cannot do it without your help. Perhaps the simplest thing that we can do is make our support of UNOLS operations known to all federal agencies that support ship board science.

In the meantime, we are well into a process to examine various scenarios for the future of the UNOLS fleet and the federal budget that will be able to support it. This self examination is necessary in order for us to make orderly plans for fleet operations.

We can maintain our position of leadership only by listening closely to the scientists who represent our clientele. The Fleet Improvement Committee, under new Chair Chris Mooers, has begun an assessment of our services by circulating a Customer Satisfaction survey. The thrust of the comments made it clear that we are generally meeting or exceeding the expectations of the scientific users. However, some of the specific comments were fairly surprising, and you should expect to see some distinct changes in fleet operations as a result. For example, it seems clear that we must institute a mechanism to provide positive feedback to each scientists' post-cruise assessments.

The other standing committees of UNOLS have been equally busy scheduling ships, working

to improve data transfer from ship board instruments to the end user, and smoothing out operations. For example, DESSC is active on several fronts. Mike Perfit has recently taken over leadership of DESSC and is working hard to resolve the planning process for a new deep submergence support ship to replace ATLANTIS II, which retires in mid-1996. Plans to convert KNORR were reexamined in light of higher than expected costs. Conversion of the new ATLANTIS is now being considered as an option, as well. These delays may have a direct impact on the deep submergence community. We apologize for the failure in our planning process and will strive to incorporate the lessons in future designs. We will end up with a superb new deep submergence support vessel.

Finally, even as we celebrate the new additions to the fleet, it is time to begin the planning process for intermediate and coastal research vessels. Many of our smaller vessels are nearing 20 years or greater in age. It takes some ten years from the start of planning to the launch of a new vessel, and by the time replacements are launched these vessels will be at the end of their 30 year service life. Clearly, this planning process must start today.

Sincerely,

Kenneth S. Johnson

UNOLS Chair

UNOLS 1995 Elections

Elections for two UNOLS Council positions will be held at the Annual Meeting. The positions are currently held by Dick Pittenger and Bob Wall, both are eligible for reelection. Each UNOLS Member Institution is allowed one vote by their representative present at the meeting. The slate is as follows:

UNOLS Council Member - At large Representative: affiliated with any Member Institution (3-year term).

Richard Feely - Senior Scientist at NOAA's Pacific Marine Environmental Laboratory and Adjunct Professor of Oceanography, University of Washington

Richard Pittenger - Associate Director for Marine Operations, Woods Hole Oceanographic Institution

Clare Reimers - Assistant Professor of Oceanography, Rutgers University

UNOLS Council Member - Non-Operator Representative: from among designated representatives of UNOLS Non-Operator Institutions (3-year term). -

Pat Glibert - Professor of Oceanography, University of Maryland, Horn Point Lab

Robert Wall - Director, Center for Marine Studies and Sea Grant College Program, University of Maine

FLEET OPERATIONS IN 1995

In 1995, all vessels are operating on or close to schedule. Class I/II vessels are showing full utilization as a result of operations in the southern oceans for a large portion of the year. Class III intermediate vessels are operating with less than full schedules in 1995. COLUMBUS ISELIN is out of service, GYRE is working with a severely reduced schedule and EDWIN LINK also has a light schedule.

ANNUAL COMMITTEE MEETINGS

Ship Scheduling Committee Meeting Planned for 11 September

The Annual Ship Scheduling Meeting will be held on Monday, 11 September at the National Science Foundation. Schedules for ship operations in 1996 will be reviewed. Initial projections from the spring schedule review provided the following:

Large Ships - EWING is showing a full schedule with approximately 300 days. The schedules for KNORR, MELVILLE and THOMPSON are still in flux as the most efficient routes for return back from the southern oceans are being sorted out. MOANA WAVE's schedule is light and highly dependent on HOTS work. ATLANTIS II's schedule will depend on ALVIN operations and overhaul Plans. Only one cruise is planned for REVELLE after delivery to San Diego.

Intermediate Ships - ENDEAVOR, OCEANUS, and WECOMA are all Showing light schedules and partial lay-ups are possible. SEWARD JOHNSON is showing a healthy schedule. NEW HORIZON's schedule is reasonable considering that a mid-life refit has been planned. EDWIN LINK's schedule is highly dependent on NOAA/NURP funding decisions. GYRE's schedule is very light. COLUMBUS ISELIN is not scheduled to resume operations in 1996.

Class IV and Small Ships -LAURENTIAN, CALANUS, LONGHORN and PELICAN are showing light schedules. SEA DIVER's schedule is highly dependent on NOAA/NURP funding decisions. Further review of the WEATHERBIRD II schedule is needed. POINT SUR has a modest schedule with time set aside for an overhaul period. As a result of CAPE HATTERAS's light schedule, lay-up is being recommended. BARNES, BLUE FIN, CAPE HENLOPEN, SPROUL and ALPHA HELIX are all showing reasonable to healthy schedules for 1996.

Research Vessel Operators' Committee

by Michael Prince, RVOC Chair

The one major RVOC project for the past year has been the review and minor revision of the UNOLS Research Vessel Safety Standards by the Safety Committee. Those changes should be ready for approval and publishing by UNOLS this fall.

The plans for the annual meeting October 24, 25 and 26 are beginning to take shape. The host this year is Scripps with meetings being held at the Kona Kai Resort on Shelter Island and at Scripps Marine Facility. The agenda for Tuesday, October 24th, includes reports from committees, federal agency representatives, legal, regulatory, and medical consultants and from various operators. Wednesday we will meet at the Marine Facility and break up into smaller working groups. Some of the potential subjects for these workshops include working on a white paper presenting the merits of the university operated research vessel fleet, refining medical standards for job descriptions of crew members, improving the utilization of the safety training manual and the dissemination of safety related information to the scientific users. Also planned for Wednesday is a visit to the MBARI Swath WESTERN FLYER currently under construction in San Diego. Thursday will be devoted to the traditional round table discussion for Marine Superintendents as well as a short business meeting.

Research Vessel Technical Enhancement Committee

The annual RVTEC meeting is scheduled for 16-18 October in Monterey, CA. Some of the issues to be discussed include establishing data standards, science/technician safety issues, and shipboard equipment inventory sharing. RVTEC is exploring the possibility of creating a home page on the World Wide Web which would include a catalog of shipboard equipment. This would provide a means for the community to team what equipment is available and where it is located for sharing purposes.

Deep Submergence Science - 1995 in Review and Plans for the Future

by Michael Perfit. DESSC Chair

At the beginning of this year, Jeff Fox asked if I would be willing to serve as the DEep Submergence Science Committee (DESSC) Chair once he stepped down in June. Seeing an opportunity to serve the deep submergence research community that I have been involved with for the past fifteen years, I agreed. During the early part of the year, I joined Jeff, to work with the Woods Hole Oceanographic inst. (WHOI), the National Deep Submergence Facility operator, NSF, and UNOLS members in long-range planning for the deep submergence vehicles with particular emphasis on ALVIN operations in 1996-97. This provided me with the opportunity to understand the role that DESSC plays within UNOLS and in representing the deep submergence community before taking the helm. Since February, much of DESSC's efforts have concentrated on resolving issues pertaining to the platform that should be converted for use as the Deep Submergence Support Ship. Some consensus was attained at the June DESSC meeting at WHOI. That meeting was the last one chaired by Jeff Fox. He deserves a great deal of credit for the leadership he provided for DESSC and for the successful way in which he guided and revitalized the deep submergence science for the past three years. I wish him great success in his new role as the Director of the Ocean Drilling Program.

As I take on the responsibility of DESSC Chair the feeling is akin to one's first dive in ALVIN - intense excitement mixed with cautious optimism. The next few years will undoubtedly be filled with many opportunities for significant developments in deep submergence science but there will also be challenges ahead in navigating the often difficult currents initiated by pitfalls and changes in funding paradigms to which we, as a community, must respond and adapt to.

Like many other disciplines in the basic sciences, the deep submergence research community is in a state of transition created by external political and economic forces, as well as logistical and operational constraints imposed by the need for ALVIN to be taken out of service for its normal biannual major overhaul, the retirement of the ATLANTIS II, the conversion of a new support ship, and the initiation of routine operations of ROVs and eventually AUV technology. Plans and decisions that will be made in the coming months will unquestionably impact deep submergence science and operations both in the near-term as well as into the 21st century.

I would like to take this opportunity to highlight a number of developments that have recently transpired and DESSC issues that impact the community, as well as to offer a brief view of some of the critical challenges and issues that I hope to address during my tenure as DESSC Chair. Please refer to the minutes of the June 1995 DESSC meeting for more detail on some of the following issues.

Deep Submergence Support Ship Conversion

This past Spring, DESSC and WHOI received a very positive response from NSF, ONR and NOAA in regards to their long-term commitment towards supporting access to deep submergence facilities. In that respect, the continuing study and development by ONR and NSF of a new/converted deep submergence support vessel that will replace R/V ATLANTIS II, has proceeded to the point where two viable options have been identified. The agencies are working hard to finalize which conversion plan will best suit the communities' needs and is most cost-effective. The options are as follows:

- Conversion of the AGOR 25 (new R/V ATLANTIS)
- Conversion of R/V KNORR.

DESSC contended that conversion of the new R/V ATLANTIS represents the greatest potential benefits to the long-term support of US deep submergence science. Positive aspects include greater science berthing, laboratory space, deck area, operational range, and longer projected life-span. The committee noted, however, that there were also some potentially negative consequences to converting R/V ATLANTIS and that there

could be delays in the conversion process and shake-down of the new ship. DESSC urged the Federal Agencies to seriously consider these consequences and address them in the conversion process; otherwise the ATLANTIS conversion plan would be unacceptable because the long-term health of the deep submergence facilities could be jeopardized. DESSC identified the pros and cons relating to converting R/V ATLANTIS and these were summarized in my June 28, 1995 memo to the community.

Converting R/V KNORR is the other viable option for providing a deep submergence support vessel that can handle ALVIN and the ROV/towed systems. At the DESSC meeting, WHOI presented a revised KNORR Conversion plan that meets the specifications of the original AGOR 25 proposal, and provides for a capable deep submergence support vessel at no cost to the federal agencies. This proposal is well-constrained logistically and fiscally, and would result in a converted deep submergence support vessel that is ready for science operations by mid-1997. Some of the potential negative aspects of converting KNORR that were identified by DESSC and the subcommittee are: shorter vessel life, less science berths, smaller overall size and less laboratory space.

DESSC strongly recommended to ONR and NSF that a firm support ship conversion plan be in place by Sept. 1995 so that the scientific community could be assured of continued and relatively uninterrupted access to the deep ocean using the national deep submergence facilities. A firm conversion plan is also needed so that WHOI could effectively plan long-range technical and logistical issues related to ALVIN and the ROV/towed vehicles. The Federal Agencies are working towards a timely resolution of this matter within the context of the above mentioned guidelines and time-frame. During the past few months there have been meetings between WHOI, ONR, NAVSEA, and Halter Marine (the shipyard constructing ATLANTIS) which have focused on the details and feasibility of converting ATLANTIS to be the deep submergence support vessel. My understanding from discussions with all parties is that those meetings have all been very positive in respect to meeting the requirements and time schedule for an ATLANTIS conversion.

One result of the recent changes in plans for providing a new deep submergence support ship is that the science community and funding agency program managers were caught short in terms of filling-out a 1996 deep submergence science field schedule. DESSC noted that for both conversion options a window of opportunity exists for utilization of ROV and towed vehicles through 1996 and 1997. We have encouraged the agencies to look critically at science proposals that seek to use those vehicles in 1997 and beyond, in order to continue the process of integrating the usage of ROV and towed vehicles by the full spectrum of the deep ocean scientific community.

In consideration of both operational and funding agency fiscal constraints, DESSC and WHOI proposed an operational plan for ALVIN and the ROV/towed vehicles to be considered for 1996 and 1997. This is also detailed in my June memorandum. DESSC has reminded the community that continued proposal pressure is essential to filling-out the schedule of deep submergence operations (ALVIN and ROV) in the coming years. No operations using ALVIN/ATLANTIS II are planned for the Southern East Pacific Rise (EPR) prior to the availability of the new deep submergence support ship, despite the fact that there are several funded proposals to operate in that geographic area. DESSC strongly encouraged proponents working in the Southern EPR and areas along-the way to submit science proposals as soon as possible so that a full complement of science proposals could be approved by the time the new/converted support ship is available for science. DESSC estimates that a Southern EPR field season could be staged as early as approximately Jan. 1998, if KNORR is converted, or Jan. 1999, if ATLANTIS is converted.

Other Matters

DESSC and WHOI are very much committed to global deep submergence operations in the coming years and into the 21st century and as such encouraged proponents who wish to work in the southwest and western Pacific, southern Atlantic and Indian Oceans to submit their proposals for ALVIN and ROV/towed vehicle work as soon as their scientific

problems and databases are mature enough to warrant field investigations. The fielding of programs in these remote areas, as well as the Southern EPR, will need to await the arrival of the new/converted deep submergence support vessel. However, DESSC noted that the availability of both ALVIN and the suite of ROV and towed vehicles on the new support ship will greatly enhance the investigative approaches and augment the types of data that can be collected from these remote areas.

The ROV/towed vehicles including ROV Jason, ARGO-II and the 120 kHz sonar system will continue to be available for use from any suitable UNOLS vessels through 1997. DESSC encouraged the use of these systems in coordination with ALVIN, however, proponents were made aware that such programs will require the availability of the new deep submergence support vessel.

In terms of the immediate future, at DESSC's request NSF agreed to allow PI's to resubmit deep submergence-based proposals that were declined in the Spring of 1995 to the August 15 target, in order to ensure that 1996 provides a reasonable amount of deep submergence science and facility support for ALVIN. There has been an excellent response to this call and to my knowledge over half-a-dozen proposals were submitted to the Aug. 15 NSF target for consideration of 1996 field time.

In 1995, 170 ALVIN dives were planned which corresponds to 317 ATLANTIS II operating days. As of this writing, over 106 dives have been completed. In addition, the operator has made significant progress toward identifying a new navigation system for ALVIN and the ROV/tethered vehicles which will be submitted to the agencies in the very near future in the form of a technical upgrade proposal. The in-hull navigation is Windows-based and will utilize customized software developed by the vendor, Pelagos of San Diego, and WHOI. Other aspects of the navigation upgrade proposal will include purchasing intelligent transponders and implementing a Doppler Velocity Log for dead-reckoning in ALVIN. Progress has also been made on upgrades to long-baseline and transponderless navigation. In terms of imaging capabilities the 3-chip camera that has been utilized on ALVIN for the past two years has functioned very well and all users are pleased with its enhanced resolution and output. WHOI has continued to study the 3-chip video technology and pan and tilt cameras in a quest to further upgrade ALVIN's video capabilities during the 1996 overhaul. DESSC is also working with the operator to acquire an electronic still camera for ALVIN and the ROV/tethered vehicles for routine digital image mapping of the seafloor.

The Present and Projected 1996 Season

At present, there are only 34 funded ALVIN dives 1996. Depending on the outcome of proposals submitted to the Aug. 15 NSF target, there could be additional ALVIN programs which could extend the 1996 ALVIN field season to Sept. 1996, or into early 1997, depending on when the ALVIN overhaul is performed, how many of the new proposals are funded, and ship scheduling and funding constraints. The 1996 ROV/tethered vehicle schedule includes as many as four programs with operations on the Juan de Fuca Ridge - CoAxial Site, Southern East Pacific Rise 17°50, the Mid-Atlantic Ridge - Lucky Strike, and a possible collaborative program with German scientists using the R/V SONNE in the Aleutian Trench. Scheduling for these cruises is in progress and will likely be resolved by the end of September, following the upcoming UNOLS Ship Scheduling Meeting in Arlington, VA.

In order for the deep submergence community to remain healthy and to exploit our existing scientific capabilities, we will need a suite of deep submergence assets (submersible, ROV/tethered vehicles and AUVS) that can be deployed throughout the deep ocean, and consistent sources of operational and science funding. Over the past few years, NSF's commitment to the Ocean Sciences, in general, and deep submergence programs, in particular, has continued to be strong. Philosophically, ONR and NOAA are very supportive of deep submergence science efforts, however, the Navy's (ONR) research emphasis has been shifting to littoral areas, and the potential demise of NOAA's Undersea Research Program (NURP) by policy makers, exacerbates the pressure on an

already thin resources pool to support deep submergence science and operations.

The challenge for the community and DESSC is to devise a strategy to investigate the abyss in an even more cost- and science-effective manner and to convince the public and policy makers of the intellectual and societal importance of our research in terms of both present impact and future benefits. In the short term, we should collaborate with and foster collaborative efforts with successful private research enterprises (such as MBARI) and seek support from agencies and corporations/industry that have not traditionally funded deep-sea research. Additionally, we should endeavor to support and utilize the Navy's resources such as SEA CLIFF, TURTLE and the ATV whenever possible, or, if it would be advantageous to do so, fold the various academic and military deep submergence assets into a unified support system that could serve both research and applied needs with a greater long-term operational support structure. In short, we must be innovative in our scientific research and cost-effective in our implementation of deep submergence science and we must demonstrate more fully to the public and policy makers the importance of exploring and understanding the biological, chemical and geological processes that help shape Earth's inner space. In future newsletters I will elaborate on these subjects and offer strategies that could be adopted.

Fleet Improvement Committee-Activities in 1995 and Plans for 1996-

In January, Chris Mooers took over as the new FIC Chair. Below he outlines the Committee's activities over the past year and plans for the upcoming year.

Message from the FIC Chair:

1. FIC has begun analyzing the national needs for so-called Coastal Zone Research Vessels (CZRVs), building upon the results of the 1993 Williamsburg Workshop. It is natural to consider this topic from a regional perspective. Coincidentally, an initiative from MARCO has led to a proposal for a workshop this autumn with a focus appropriate to our analysis. This may lead to a series of such regional workshops. To the extent possible, we plan to work through regional consortia, where they exist. This in turn has led to an analysis of the potential role of such consortia. In parallel, we have requested and received a first round of agency projections from coastal ocean program managers. Frankly, there is presently no basis for sanguinariness in the face of budgetary uncertainties and the admitted disarray of efforts to nationally coordinate coastal ocean program initiatives. However, we must proceed in this vital topic area.

Interestingly, two agencies directed our attention to the potential use of large R/Vs in the coastal ocean for multi-investigator, multi-disciplinary, high tech investigations.

2. FIC conducted a "Customer Satisfaction" survey with circulation to approximately 300 chief scientists of recent years. Overall, they are very pleased with the capabilities and services of the UNOLS Fleet. However, several troublesome points were noted that have been targeted for follow-up.

It seems particularly important for vessel operators to provide chief scientists with timely, written feedback on their planned response to deficiencies reported.

3. Together with RVOC and RVTEC, FIC has participated in the redesign of the post-cruise evaluation questionnaire.

4. FIC has conducted a "van study" and a "safety standards study", both of which are in the advanced stages of completion. A "primer on small research vessels" is under development; also, Jack Bash has spearheaded an effort to provide small research vessel descriptions on World Wide Web.

5. FIC has developed a dialogue with NOS/NOAA and NAVO/CNMOC regarding the role of UNOLS vessels in real-time data reporting to assist GOOS, etc. In turn, we hope to open the flow of more real-time ocean products to UNOLS vessels. On the closely related issue of data logging and formats, to foster interoperability, we have encouraged RVTEC to develop and pursue standards, and have so notified NSF.

by Christopher N. K Mooers,

FIC Chair

UNOLS "Customer Satisfaction" Questionnaire

This spring over 300 questionnaires were sent to recent users of UNOLS ships. Fifty-eight responded to the survey. On the whole, comments were skewed to the "very satisfied" side of the scale. Crew support on UNOLS vessels received many complimentary comments. Most negative comments were in regard to the post cruise assessment process. RVOC along with FIC are examining the post cruise assessment process to determine ways for improvement.

The survey asked the following questions and users were asked to circle one of the following in response: "superb very good satisfactory fair poor"

Questions:

1. The follow-up to issues raised in the UNOLS Post Cruise Assessment Reports is-

2. The design of UNOLS Post Cruise Assessment Reports is -

3. The capability of R/Vs as platforms available in the UNOLS Fleet to meet your research requirements is-

4. The capability of standard oceanographic equipment available on UNOLS R/Vs to meet your requirements is-

5. The capability of standard deck gear on UNOLS R/Vs to meet your requirements is-

6. The capability of standard data centers (including recording media, formats, graphics, etc.) on UNOLS R/Vs to meet requirements is-

7. The adequacy of safety standards (esp. Chapter I of the Safety Training Manual and pre-cruise briefings) of the UNOLS Fleet to meet your expectations is-

8. The adequacy of safety conditions in the UNOLS Fleet to meet your expectations is-

9. The level of professionalism (competence and cooperativeness) of the crews on UNOLS R/Vs to meet your expectations is-

10. The adequacy of the experience level of the crews on UNOLS R/Vs to support your research cruises is-

11. The level of professionalism (competence and cooperativeness) of the shorebased staffs that support UNOLS R/Vs to meet your expectations is-

12. The level of skills of UNOLS marine technician support groups to meet your requirements is-

13. UNOLS ship operators provide facilities and services for your research that are-

14. The adequacy of specialized non-R/V facilities available (FLIP, ALVIN, etc.) to

serve your needs is-

A summary of responses is provided below. Please note that some individuals provided more than one response per question.

Summary - "Customer Satisfaction Survey" for Chief Scientists

QUESTION	SUPERB	VERY GOOD	SAT.	FAIR	POOR	TOTAL
1	7	14	18	1	3	43
2	3	14	24	3	1	45
3	15	32	4	5	1	57
4	12	30	14	6	1	63
5	13	32	15	3	1	64
6	6	14	21	3	0	44
7	14	29	10	2	1	56
8	19	30	7	2	1	59
9	28	26	6	1	1	62
10	21	35	7	2	1	66
11	17	26	13	4	4	64
12	24	26	10	4	3	67
13	16	29	10	2	0	57
14	3	8	7	1	0	19
TOTAL	198	345	166	39	18	766

Inventory of Small R/Vs

An inventory of small R/Vs is being compiled regionally and is posted on the WWW and Gopher. There are ten regions, with each region having a point of contact responsible for collecting the inventories for their respective region. To date, three of the ten regions are posted: the Gulf of Mexico, the Northwest and the Great Lakes. Hopefully, by the time of the Annual Meeting all regions will be posted.

ANNOUNCEMENT

To: The U.S. Academic Community

From: US Academic-Navy/NAVOCEANO Gravimeter Committee

Date: August 14, 1995

Subject: Opportunities for Utilization of High Precision Gyrostabilized Gravimeters for Science

A Memorandum of Understanding (MOU) was signed on August 1, 1995 between The National Science Foundation (NSF), The U. S. Naval Oceanographic Office (NAVOCEANO), and The US Navy Office of Naval Research (ONR) that permits the use of a limited number of available NAVOCEANO gravimeters (Bell-Aerospace BGM-3 and BGM-5 gravimeters) for U.S. academic scientific research.

Recently NAVOCEANO gravimeters have been used for acquiring high quality geophysical data during NSF and ONR sponsored research programs with innovative platform requirements. Some of these experiments have included installing a Bell BGM-3 meter in the research submersible ALVIN, on a US Navy nuclear submarine transiting the Arctic Ocean basin, and on a Twin-Otter aircraft for aerogravity surveys around Antarctica.

The high cost of purchasing gryostabilized gravimeters, and the increasing need for scientists to have access to these instruments to solve important research problems has led to a collaboration between the NSF, ONR and NAVOCEANO for the shared-use of

available NAVOCEANO gravimeters for scientific research. The MOU defines a coordination process between the federal agencies and academic institutions to effectively and efficiently utilize Navy owned gravimeters for academic research.

The US Academic-Navy/Navoceano Gravimeter Committee was established by the funding agencies to coordinate all activities between academic users, the federal agencies, and NAVOCEANO regarding requirements and schedules for gravimeter use. The committee currently consists of the following individuals:

US Academic-Navy/Navoceano Gravimeter Committee Membership:

Robin Bell/ Bernard Coakley (alternate) - Lamont-Doherty Earth Observatory

David Epp & Scott Borg - National Science Foundation

Patrick J. Dennis/Annette DeSilva (alternate) - Office of Naval Research

Daniel J. Fornari (Chair)/ Richard Pittenger (alternate) - Woods Hole Oceanographic Institution

Randall Herr/ Scott Langford (alternate) - Naval Oceanographic Office

Mark A. Zumberge/ John Hildebrand (alternate) - Scripps Institution of Oceanography

Utilization of NAVOCEANO gravimeters for science entails a government approved overhead charge tied to the length of time that a gravimeter is used in the field. This charge will be determined by the participating federal funding agencies and NAVOCEANO, and supported within the context of a PI's science research proposal. The funds derived from this charge to academic programs will be used to support gravimeter operations. All data acquired using the NAVOCEANO gravimeters will be shared with the U.S. Navy and placed in their database.

Scientists interested in receiving a copy of the MOU and finding out more about how they can propose to utilize NAVOCEANO gravimeters in their research and the current, appropriate overhead charge for using these instruments should contact the Committee Chair at the following address:

Dr. Daniel J. Fornari, Chair

US Academic-Navy/Navoceano Gravimeter Committee

Woods Hole Oceanographic Institution, Geology & Geophysics Dept., Box 253 Clark Bldg., Woods Hole, MA 02543

tel- 508-289-2857 / fax - 508-457-2187 / e-mail: fornari@tone.whoi.edu

SHIP CONSTRUCTION AND MID-LIFE REFITS

NEW HORIZON Mid-life Refit NEW HORIZON's planned refit will improve stability and increase the ship's operating range. It would examine the admeasurement problem and replace a generator. An estimate of the total package is $2M which includes shipboard scientific equipment. Scripps is seeking an 80% Federal to 20% State split in the funding which represents its usage profile.

MARCO Proposal - A proposal has been submitted by the Mid-Atlantic Regional Consortia (MARCO) to NSF requesting funds to evaluate the need for and the conceptual design of a coastal research vessel for the Mid-Atlantic Region. The proposal calls for a meeting of scientists and ship operators from the region along with a naval architect.

CAPE HATTERAS Proposal - Duke University has submitted a letter requesting funds from NSF for a feasibility study that will evaluate the possibility of a 20 to 24 foot stretch for CAPE HATTERAS. Berthing would be increased from 12 to 20 berths. The potential impact on admeasurement for CAPE HATTERAS as a result of the stretch will be studied initially.

AGOR 24/25 Construction Program - REVELLE, AGOR 24, was launched on 20 April of this year and delivery is scheduled for 8 June 1996. Launch of ATLANTIS, AGOR 25, is scheduled for 21 February 1996 with delivery planned for 15 April 1997. Construction appears to be moving ahead of schedule and adjustments to the launch schedule are possible.

Non-UNOLS Facilities in the News

POLAR DUKE Replacement - NSF Polar Programs has signed a contract with Edision Choest to lease a replacement for POLAR DUKE. It is a five year lease. There was a requirement for the replacement to be a U.S. flag vessel. The expense of converting POLAR DUKE to a U.S. flag vessel was too high to be economical.

FLIP - In the early part of this year, FLIP completed Phase I of a major maintenance period, funded by NAVSEA. Improvements were made to the structural and electrical systems. A strain gage system was installed to monitor these improvements. In November, FLIP will enter the shipyard and review the monitoring results to estimate life expectancy.

USCG's Icebreaker HEALY - HEALY is scheduled to start construction in March 1996 with delivery planned for 1998. The ship will be constructed at Avondale Industries, Inc. in New Orleans, LA. The ship is expected to have a crew of 75 which is a significant reduction from the original manning plan. Length overall will be 420 feet with a beam of 82 feet. It will carry a science party of 50.

NOAA's Fleet Modernization Program - Present NOAA fleet modernization activities include several recently approved contracts, including conversion of a surplus Navy T-AGOS vessel at MCI, Bellingham, WA to support oceanographic programs, and repairs-to-extend the life (RTE) of DELAWARE II, a fisheries vessel, by Detyens Shipyard, Charleston, SC. In addition, progress is on or ahead of schedule for construction of the "NOAA AGOR", named RESEARCHER, with launch expected in June 1996.

The NOAA ships FAIRWEATHER, DAVIDSON, and OCEANOGRAPHER are presently inactive, and the process for disposition is being explored. Several of these ships are inactive due to programmatic decisions and not because of physical condition or age of the vessels. Three more ships, the SURVEYOR, MT MITCHELL and HECK, will become inactive at the end of this fiscal year.

Among a number of bright spots is the condition of the NOAA Ship MALCOLM BALDRIGE, which is in the Indian Ocean along with a number of the academic vessels. A nagging problem with shaft alignment was cured several years ago, recently new evaporators and new ship service generators were installed. Performance and overall condition are excellent.

CALENDAR FOR UNOLS MEETINGS

Meeting	**Dates**	**Location**
SSC	11 Sep	Arlington, VA
Schedule Review	AM 12 Sep	Arlington, VA
UNOLS Council	PM 12 Sep-13 Sep	Arlington, VA
Annual	14 Sep	Arlington, VA
RVTEC	16-18 Oct	Monterey, CA
RVOC	24-26 Oct	San Diego, CA

UNOLS REACHES OUT ON THE WORLD WIDE WEB

Over the past year, the University of Delaware's OCEANIC has acted as a server for posting UNOLS ship schedules, and ship characteristics for small vessel inventories. They also provided a way to utilize group addresses for UNOLS.

In recent months we have taken the next step in taking advantage of our electronic communications capabilities. The UNOLS Office, with the help of OCEANIC, has begun posting meeting minutes, agendas, reports and newsletters on Gopher and the World Wide Web (WWW). When a document is complete, a letter and an e-mail notice will be sent out to the distribution stating that the document has have been posted electronically. In the future, we hope to eliminate the letter notification where possible and send an e-mail with the same information as the letter. To do this we will need to obtain a complete e-mail address list.

The minutes can be seen through Gopher on Oceanic which is located at the address: <gopher diu.cms.udel.edu>. Select the menu "Research Ship Information and Cruise Schedules' then select the menu -UNOLS", then select "Reports and Minutes." You can also access through the World Wide Web URL <http://www.cms.udel.edu> or through the UNOLS Home Page which can be reached through the GSO Home Page at <http://www.gso.uri.edu> following a similar menu as Gopher. Full minutes and appendices (with the exception of some pictures or complicated graphics) will be posted on the Web. Realizing that there are some individuals who prefer paper documents, hard copies will always be available upon request. Likewise if you need a specific appendix or set of graphics they will be made available. If you are not in regular correspondence with the UNOLS Office on Internet please send us a note on Internet to:

"unols@gsosun1.gso.uri.edu". We will capture your address and include you on our electronic mailing list.

Praise goes out to Al Maybach of the UNOLS Office and Walt Dabell of University of Delaware's OCEANIC for all their efforts in bringing these capabilities to our community. We hope that this will increase your access to our minutes and reports and be more convenient for you. If you have suggestions please let us know.

Be sure to check this issue of the Newsletter on the World Rule Web!