

UNOLS NEWS

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UNOLS Chairman's Message-George Keller

We all are readily aware that times have changed in respect to ocean science funding, as well as in research emphasis and needs. Changes are expected, but in the case of the academic ocean research community program, needs have suffered due to inadequate growth in funding levels. In the early 1970's when UNOLS came on the scene, its role of coordinating research vessel use and increasing communications among the UNOLS members was a relatively easy task. Today, with funding limitations and an academic fleet larger than can be supported within the context of the ocean science program, the task and responsibility of UNOLS is considerably more difficult and of greater importance to the community. A number of circumstances have brought us to where we are today with terms such as "shortfalls" and "lay-ups" becoming very much a part of our vocabulary.

A number of the ocean related federal agencies fund the academic oceanographic community, through UNOLS, for the purpose of establishing closer coordination and more effective use of the vessels and associated activities. For this support, these agencies expect to receive meaningful advice on issues dealing with the research fleet and



related activities. As times get tough, this task becomes tougher. Although some hard decisions have been made by the UNOLS Advisory Council, and strong recommendations have gone forth to the funding agencies in a number of cases, there is a need, in my opinion, for the community to bite some hard bullets in the near future, owing to the circumstances we face. If the ocean science program of this country is to move ahead, greater unity in the community must be attained on a number of major issues. The immediate problem of course, is funding shortfall and its impact on the overall ocean science program, including the research fleet. With our fleet accounting for about 37 percent of the overall program funding cost, innovation and perhaps some tough decisions are called for to make this part of the program as effective and cost efficient as possible. This is not a new charge to the community (UNOLS), but it takes on much greater significance in times such as we are in today. We urgently need to come forth with some meaningful short and long-range plans for an effective fleet, both in regard to the needs of the science program and ship costs. This can only happen in a significant way if greater unity is shown by the community in addressing this issue, and if to a certain degree, individual institutional biases give way to the needs of the community as a whole. Granted this is a pretty tall order, but we can look around at various science areas such as astronomy, and to some degree atmospheric science, where unity or near unity has allowed those communities to achieve goals that would probably not have been reached had they not pulled together. So, it can be done.

In 1987, UNOLS needs to bring greater focus on such issues as the optimum size and capabilities of the research fleet for the 1990's and beyond, a more effective ship scheduling process and greater efficiency in the management and operation of the fleet.

To accomplish this, the UNOLS Fleet Replacement Committee (FRC) is being reconstituted as the Fleet Improvement Committee (FIC). Its charge is to first re-address the issue of fleet size and capability for the short and long term. Our current mode of annual lay-ups is not cost efficient. This is an intolerable situation when funds are short, and there exists so many needs within the overall ocean science program.

The FIC will update the plan put forth by the FRC earlier this year in accordance with new information and changing circumstances. It will further evaluate the conceptual designs developed for the larger class research vessels and bring two of them that show particular promise to the preliminary design stage.

The Committee will also focus attention on the smaller class vessels that were not considered in the FRC study. This effort will include the roles, scientific mission requirements, number of vessels and conceptual designs. As appropriate, the committee will serve in a liaison and resource mode for federal agencies on behalf of the academic community in matters pertaining to new ship construction and upgrading.

It has become clear that the UNOLS ship scheduling process needs to be overhauled and modernized. More efficient means of sharing information

must be developed, not only for the operators, but for the users as well. Our current mode of operation does not provide firm decisions on lay-ups to the operators in a timely manner, thus these lay-ups are inefficient, both in regard to vessel maintenance and cost savings. We cannot continue in this manner with the funding needs being what they are in the science program as a whole.

In the sense of needing to make the UNOLS fleet as cost efficient as possible, yet meeting the requirements of the science programs, fleet policies and strategies for managing and operating the vessels need to be considered. The Advisory Council has initiated an analysis of current and alternative mechanisms for managing and operating the UNOLS fleet as well as for funding and supporting the fleet. Included in this effort will be consideration of management strategies and mechanisms to match the UNOLS fleet to the needs of the ocean research program. This latter activity will be tied into the assessment of the ship scheduling process.

In July, I wrote to leaders and/or representatives of UNOLS institutions seeking comments on UNOLS effectiveness or ineffectiveness in servicing the ocean research community and what activities it could improve upon. Many of the comments I have made here stem from responses I have received. I believe that the community has good knowledge of the problems it faces, but it is the proposed solutions that vary greatly.

The majority of the responses felt that UNOLS should stick primarily to ship and shipboard related issues. There were, however, a number that suggested that UNOLS broaden its scope to include various types of facilities and operational modes required for future ocean research, such as satellites and satellite ground stations, seafloor facilities, robotic craft and navigation facilities.

The need to have the laboratory directors or deans more involved in UNOLS was pointed out in a number of responses. This may well happen as issues such as vessel lay-ups, decommissionings, and new vessels entering the fleet come to a head.

A number of people questioned whether UNOLS should continue to deal in an across-the-board manner with the UNOLS community. Clearly, the problems and concerns of the large vessel operator are quite different from those of the small vessel operator or the user, and the reverse is also true. Could UNOLS be more responsive to these three areas by more direct attention to their respective needs? This is a good question, and one to be addressed in 1987. I do think UNOLS needs to insure a strong communications and coordination link between all these parties.

As times get tough, the tough get going. We face some difficult problems in the near future, but if tackled effectively by the community, we should emerge stronger for our actions. UNOLS can make a difference if it has the support of the community. I invite your comments on these and any other issues you might wish to discuss.

Advisory Council Purpose and Organization
John Martin, Chairman

At the recent summer meeting (August 27, 28; Moss Landing Marine Laboratories), the UNOLS Advisory Council discussed issues to be addressed in the coming year (AY 86/87). There was general agreement that the most important issue was the Study of UNOLS Fleet Policies and Strategies for the 1990's (see additional coverage in this issue). The 1990's are only three federal fiscal years away and intensive planning efforts are underway that will lead to at least two large scale ocean science programs: WOCE (World Ocean Circulation Experiment) and GOFs (Global Ocean Flux Studies). These world and global studies are being initiated in recognition of the fact that studies on the workings of one ocean basin or another are not adequate for an understanding of our total ecosystem.

We are all painfully aware that present science programs are underfunded and it is impractical to think that WOCE and GOFs programs could be supported from existing sources. For this reason the NSF is attempting to obtain the additional funds that will make these programs a reality in the 1990's. With the availability of funds, support facilities will be needed for these programs. We in the UNOLS community are used to thinking of ships as the primary support facilities. Undoubtedly, ships will play a major role in future studies, however, we must also recognize that needs for remote sensing and supercomputer support are rapidly growing. Should UNOLS remain primarily involved with ships or should it expand into these other important areas? This question will be addressed in the coming year.

In addition to the future needs, the Advisory Council will continue in addressing immediate problems such as better ways to schedule ships, the issue of excess ship time, etc. In short, the Advisory Council will continue to play an important role in advising federal agencies on the spending of about \$40 million each year. In view of our current standing, representation on the Council and at the national meetings is especially important and the full participation of the UNOLS membership is urged.

Advisory Council Meeting, August 1986

The first meeting of the newly-constituted UNOLS Advisory Council was held August 28, 29, 1986 at the Moss Landing Marine Laboratories. The Council selected John Martin, Moss Landing Marine Laboratories, as its new chairman and Tom Malone, University of Maryland, as vice chairman.

The main purposes of the meeting were to formulate courses of action for UNOLS and the Advisory Council in the coming year. (George Keller's Chairman's message and John Martin's Advisory Council organization, above.) Other highlights of the meeting follow.

Coordination Among Advisory Groups

UNOLS is sponsored by six federal agencies, each with particular interests in academic programs of oceanographic research: National Science Foundation, Office of Naval Research, National Oceanic and Atmospheric Administration, Department of Energy, Minerals Management Service and U.S. Geological Survey. As one aspect of sponsorship, these agencies look to UNOLS for advice and recommendations, especially concerning facilities and the operation of those facilities. Typically, these agencies also receive a measure of advice from a number of other groups. As an example, the Ocean Sciences Division, National Science Foundation receives advice from the OCE Advisory Committee, the NAS/NRC Ocean Studies Board, the JOIDES Board of Directors and JOI, NASULGC's Marine Division and others.

Each of these entities sets its own agenda. Problems can arise when two or more address the same issues without adequate coordination; other critical issues can be ignored. At the very least, regular, systematic communications should be established among advisory groups. UNOLS will implement communications through chairman's letters, UNOLS News, exchange of meeting reports, etc. UNOLS and the Advisory Council will also explore further means of coordination among advisory groups.

AGOR-23

The Navy's acquisition of a new research vessel, designated AGOR-23, for operation and use by the academic oceanographic research community is progressing. Their acquisition schedule had been announced.

Complete development of requirements	June, 1986
Issue RFP	July, 1986
Contract design proposal due	February, 1987
Delivery (not later than)	December, 1989.

At UNOLS News press time, Request for Proposals had not been issued. The degree of slippage in later points in the schedule is not known.

The process to select an operating institution will be a separate one. The intent is to complete this process by early 1987 so that the institution selected can participate in later stages of ship acquisition.

Agency Budget Estimates

NSF, ONR and other federal agencies provided budget forecasts for 1987. (Note that these forecasts were still valid when UNOLS News went to the printers October 15.)

NSF BUDGET ESTIMATES
AUGUST 1986

	1985 <u>Actual</u>	1986 <u>Actual</u>	* 1987 <u>Estimate</u>	** 1987 <u>Request</u>
OCEAN SCIENCES DIVISION				
Ocean Science Research	58.2	56.5	57.7	66.4
Oceanographic Facilities	34.9	33.5	34.1	37.2
Ocean Drilling Program	<u>27.6</u>	<u>28.9</u>	<u>30.1</u>	<u>30.1</u>
	\$120.7 M	118.9	121.9	133.7

Oceanographic Facilities Detail

Operations

Ship Operations	23.8	23.8		
ALVIN, Aircraft, Misc.	2.9	1.6		
Marine Technicians	<u>2.4</u>	<u>2.5</u>	---	---
	29.1	27.9	28.3	30.5

Acquisitions and Developments

Science Instruments	1.8	1.6		
Shipboard Equipment	1.7	1.4		
Technology Development	1.6	1.7		
UNOLS, Ship Const., Misc.	<u>0.7</u>	<u>0.9</u>	---	---
	5.8	5.6	5.8	7.2
TOTAL	\$34.9 M	33.5	34.1	37.2

* Estimate using House Appropriations markup.

** February 5, 1986 Budget Request to Congress.

In 1986, \$25.2 million was available for Ship operations. (The increase over \$23.8 was from DPP, ODP and EPSCOR.)

ONR did not provide a budget forecast. Until they receive definite budget action, ONR programs will be allowed to spend up to 50% of their 1986 levels. ONR is planning at a level of \$4 million for UNOLS ship operations in 1987.

MMS has proposed environmental studies funding of about \$23 million in 1987. Regional distribution would be Alaska \$9 million, Atlantic \$2.3 million, Gulf of Mexico \$3.4 million and Pacific \$5.8 million. Studies will be awarded by contract under competitive procurement. Research vessels to support the studies are chosen by successful vendors.

Ship Scheduling

In recent years the UNOLS ship scheduling process has been less than satisfactory. Effective schedules for individual ships and for the fleet are not reached in time to allow effective operation and planning. Furthermore, procedures under which UNOLS reaches and forwards recommendations on ship lay-ups, etc., should be refined. The chairs of the East and West Ship Scheduling Groups, Bob Dinsmore and George Shor, are leading the effort to develop an improved UNOLS ship scheduling process.

NSF Vessel Inspection

The third cycle of the NSF research vessel inspection program is just beginning. Since the program was established in 1980 the survey team has been increased from two to three surveyors. Institutionally-owned vessels are now inspected, an at-sea phase to demonstrate maneuverability and to exercise scientific equipment is now standard, new UNOLS Safety Standards are used and pre-inspection guidelines have been published. By the end of 1986, 50 inspections of 23 ships will have been conducted.

There has been definite improvement in the condition of inspected research vessels. Typically, the first inspection of a ship identifies a host of discrepancies from UNOLS Safety Standards or applicable regulations, good scientific equipment and practices. Follow up includes communication with operator, a corrective plan and review. Subsequent inspections reveal marked decreases in discrepancies.

Future emphasis on the program will be on crew training (e.g., firefighting, emergency medical response), shipboard pollution control measures and deck handling gear (A-frames, cranes, etc.). In addition, some science lab spaces need improvement.

UNOLS Fleet Policies and Strategies for the 1990's

The Advisory Council at their June, 1986 meeting, agreed to study and report on UNOLS Fleet Policies and Strategies for the 1990's. A working group from the Council is examining two points of that study: current and alternative mechanisms for managing and operating the vessels of the UNOLS academic research fleet and for funding and supporting that fleet; and, management strategies and mechanisms to match the UNOLS fleet to

the needs of ocean science research. A third point in the study on composition of the fleet will be in the charge to UNOLS Fleet Improvement Committee.

Fleet Improvement

UNOLS has agreed to reconstitute the Fleet Improvement Committee (see the July, 1986 UNOLS News). Worth Nowlin has agreed to chair the FIC. *Worth is Professor of Oceanography at Texas A & M University and has been a frequent user of UNOLS ships. He was an active member of the Fleet Replacement Committee as they developed A Plan for Improved Capability of the University Oceanographic Research Fleet, June, 1986.* (The Plan is presently being distributed widely throughout the oceanographic community.)

The charge to the Fleet Improvement Committee is being expanded to include a review and recommendations on the general composition of the UNOLS fleet for the 1990's and beyond. (An assessment not by specific ships or platforms, but of sizes, classes, general characteristics and capabilities of the fleet essential to the support of the ocean sciences forecast for the 1990's and beyond. This review would affirm or revise the table: Fleet Improvement Plan by 5-year Increments (in the Fleet Improvement Plan). The review would make explicit analysis of ship needs as outlined in NSF/OCE long range plans.

AGOR-14 Modernization

Pre-contract studies are underway for modernization of AGOR-14 class research vessels (MELVILLE and KNORR). Updated scientific requirements provide for: increased speed, dynamic positioning and precision track-keeping capability, improved laboratories and improved acoustic characteristics (e.g., capability for swath sounding). Preliminary engineering studies on repowering recommend an integrated electric plant and three candidate propulsion systems: conventional screw propellers, Z drive propulsors or retention of cycloid drives. Various main propulsion options would be augmented with thrusters necessary for dynamic positioning. Hull modifications may be necessary to meet scientific requirements or to accommodate the propulsion option selected.

Planning is on the basis of Navy funding in FY-1988. Estimates are for about \$16 million per ship.

UNOLS Meetings in 1987

The Advisory Council and the UNOLS Executive Committee tentatively scheduled meetings for the first half, 1987:

Advisory Council, Winter meeting	January 22, 23	Scrapps
Advisory Council, Spring	May 27,	Wash., DC
Ship Scheduling, Joint	May 28,	Wash., DC
UNOLS Semiannual	May 29,	Wash., DC

(Note that changes to the UNOLS ship scheduling procedures may result in changes in the date of the Ship Scheduling Meeting.)