

# UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

SUMMARY REPORT OF THE OCTOBER 23, 1985

UNOLS SEMIANNUAL MEETING  
NATIONAL TRUST FOR HISTORIC PRESERVATION  
1785 Massachusetts Avenue, NW  
Washington, DC

## CONTENTS

Summary Report of the UNOLS Semiannual Meeting

## APPENDICES

- I. Semiannual Meeting Agenda
- II. Registered Attendees
- III. UNOLS Directory
- IV. *The Challenge*. Principal Address from Ambassador  
John D. Negroponte
- V. Purpose and Organization of the UNOLS Advisory Council
- VI. Science Mission Requirements for Large Oceanographic  
Research Ships
- VII. Schedule of Large R/V Scientific Outfitting Showing  
Estimated Costs
- VIII. Report of Joint Meeting, Ship Scheduling Groups,  
October 22, 1985
- IX. Applications for Associate Membership, Harvard University  
and University of South Carolina
- X. ALVIN Review Committee Report
- XI. Minerals Management Services Program Report



## Summary Report of UNOLS Semiannual Meeting

October 23, 1985

National Trust for Historic Preservation  
1785 Massachusetts Avenue, NW  
Washington, DC

*General:* Issues and items considered at the October, 1985 Semiannual Meeting are reported in the order in which they were addressed. Unless otherwise noted, all items are from the published agenda (Appendix I).

A list of registered attendees is Appendix II. A UNOLS Directory was distributed during the meeting (Appendix III).

*Introduction and Welcome:* The meeting was called to order by UNOLS Chairman, Ferris Webster. After noting the agenda, he welcomed UNOLS membership, speakers, guests, agency representatives and others from the oceanographic community. He then introduced the principal speaker, Ambassador John D. Negroponte, Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs.

*Ambassador John D. Negroponte* spoke on *The Challenge* of conducting ocean research within coastal state jurisdiction in the 1980's. The Law of the Sea (LOS) Treaty places about 42 percent of the ocean under coastal state jurisdiction. Thus, a significant portion of the United States ocean science research requires permission from some coastal state. A part of the President's Exclusive Economic Zone Proclamation demonstrates the United States' commitment to freedom of marine scientific research. (The United States has elected not to exercise jurisdiction over scientific research within our EEZ.)

Ambassador Negroponte traced the developments and creation of Department of State's Bureau of Oceans and International Environmental and Scientific Affairs (OES) and of the Office of Marine Science and Technology Affairs (OMS) under William Erb. That Office, with its responsibility for processing and overseeing research vessel clearance requests and fulfillment of post cruises obligations, is the focus for most day-to-day interaction between OES and UNOLS.

The number of research vessel clearance requests has increased each year during the 1980's, and these requests have direct effect on a large portion of our ocean research. Failure to fulfill post cruise obligations within the terms specified by the requests has become a problem, and can lead to serious problems with future requests.

*Ambassador Negroponte* announced a recent agreement with Canada on a new procedure for processing clearance requests. The new procedure provides for direct communication between External Affairs in Canada and OMS, thus streamlining the process. This is especially important since we make more requests to Canada than to any other country.

Although the Administration decided that the United States would withdraw from UNESCO, a decision was made to continue participation in International Oceanographic Commission (IOC). Subject to Congressional action on the Foreign Aid Authorization bill and development of mechanisms to transfer funds, the U.S. will continue to pursue specific scientific and policy objectives through IOC.

Bilateral agreements, both broad science and technology umbrella treaties and those specific to marine scientific research are another important mechanism for international cooperation and progress in oceanography. Important bilaterals for ocean science are in effect with France, Japan, the Soviet Union and China.

Regional marine scientific research programs might also produce important benefits. The tripartite program developed within the Committee for the Coordination of Joint Prospecting for Mineral Resources in the South Pacific (CCOP/SOPAC) has supported studies of the development of the earth's crust and advanced tectonic theory relative to the region. Both the U.S. Geological Survey and the University of Hawaii have participated under funding from U.S Aid.

*The Ambassador announced plans to develop a Marine Science Regional Program for the Caribbean. Regional cooperation in the Caribbean is essential to produce the economic benefits that could stem from that region. The Office of Marine Science and Technology Affairs is working with the National Academy of Science's Ocean Studies Board to develop a program plan.*

Today's challenge might be for UNOLS and OES to work as one, to achieve in meeting national responsibilities for research clearances and post cruise obligations, and to maintain freedom to conduct marine scientific research under current and future Law of the Sea Treaty regimes.

Ambassador Negroponete's talk is Appendix IV.

After his presentation, Ambassador Negroponete discussed with UNOLS members: completion of Marine Boundary series, distribution of charts showing Canadian Fishery Zones, and various questions concerning the new notification/clearance procedure with Canada. Merit of continued U.S. participation in IOC was questioned. The Ambassador responded that IOC was a mechanism for achieving U.S. objectives and program coordination in regions and areas that would otherwise be very difficult.

Chairman Webster thanked Ambassador Negroponete for his address and open discussion with UNOLS members.

*The UNOLS membership noted the recent accident suffered by David Menzel, UNOLS representative from Skidaway Labs, University of Georgia System. They bid him a speedy recovery and early return to UNOLS activities.*

In a departure from the agenda Chairman Webster introduced Ms. Carol Olsen, Marine Division, National Trust for Historic Preservation. Ms. Olsen noted that the National Trust was especially pleased to provide facilities for the UNOLS meetings because of mutual interests in marine activities. The National Trust's Marine Division participates in programs of research and preservation at the MONITOR site off the Carolina coast, and is also interested in helping to establish academic programs in studies of our Nation's marine heritage.

Report from the UNOLS Advisory Council Charles Miller, Advisory Council Chairman reported on recent activities.

Since publication of the Advisory Council's *Composition, Distribution and Management of the UNOLS Fleet - 1985 Review* (published May, 1985), there has been no formal response from any UNOLS member institution. UNOLS institutions are urged to contact the Advisory Council Chairman if they have comments on this or any Council activity.

The Council is operating under its new agenda, adopted at their August, 1985 meeting. (This agenda has been published in UNOLS NEWS, Volume 2, Number 3, in the minutes of the August 22, 23, 1985 Advisory Council meeting, and is Appendix V, this report.)

The Council will continue to emphasize their role in assessing UNOLS fleet effectiveness. They are concerned that UNOLS Cruise Assessment forms are not serving the purpose of providing a basis for assessing the performance of individual ships. Modification to the forms and the assessment process are under consideration.

Brian Lewis, University of Washington, has agreed to chair a working group, on *Advanced Technical Oceanographic Facilities*. (See Advisory Council minutes May 20, 1985 and August 22, 23, 1985.) The working group will meet and make recommendations to the Advisory Council on:

- . the need for satellite facilities, supercomputers and MCS systems,
- . problems of ocean community access to such facilities,
- . possible UNOLS roles to improve coordination, management and use,
- . potential UNOLS interaction with other prospective coordination and management groups.

Rear Admiral John D. Bossler, Director, Charting and Geodetic Services, National Ocean Services, National Oceanic and Atmospheric Administration addressed the Advisory Council at their August, 1985 meeting on *NOAA's EEZ Program and Opportunities for UNOLS*. After outlining NOAA plans to survey EEZ areas off California, Washington, Oregon, Alaska and around Hawaii, Admiral Bossler outlined opportunities for UNOLS participation. Two aspects are: possible

participation in the NOAA EEZ program by individual UNOLS institutions, ships or investigators, and the EEZ data base and products as research resources.

The Advisory Council recommended establishment of a joint NOAA/UNOLS EEZ Working Group to pursue UNOLS/NOAA interests and opportunities for collaboration. The Chairman intends to invite Joe Curray, Scripps, Jeff Fox, URI and Vern Kulm, OSU to represent UNOLS on the EEZ Working Group.

At their meeting in May, 1985, the Advisory Council had recommended that UNOLS, through Ship Scheduling Groups, take a direct part in identifying (or selecting) ships for lay-ups to save money. (See Advisory Council and UNOLS Semiannual meeting minutes for May, 1985.) The UNOLS Ship Scheduling Groups, at their October 22, 1985 meetings did identify several ships in the UNOLS fleet for part or full 1986 lay-up, and made such recommendations to funding agencies, NSF and ONR. The Advisory Council commends the UNOLS Ship Scheduling Groups for addressing this critical problem and reaching straightforward recommendations.

The Advisory Council has also followed with interest the activities of the UNOLS Fleet Replacement Committee (FRC) chaired by Robertson Dinsmore. The Council believes that the FRC is making good progress toward their objectives of developing science requirements for new research ships, producing conceptual designs and preparing a plan for fleet replacement. FRC activities are extremely valuable to the ocean research community.

On the conclusion of Chairman Miller's report UNOLS members discussed changes to UNOLS' cruise assessment process. Some members suggested that the method of returning completed assessments to the Advisory Council (through ship's captains or operating-institution marine operations) guaranteed a hopeless bias toward motherhood statements. Other members suggested that the existing method was working, and did not favor change.

International Restrictions to Ocean Science Committee. Harris Stewart, Chairman, reported that IROSC still has a charge to review mechanisms that would aid and foster cooperative research with foreign countries. (A proposal from David Ross, W.H.O.I., outlines one such mechanism.) Plans were for IROSC to meet in late 1985 or early 1986 to devise recommendations to be made to UNOLS.

The Handbook for International Operations of U. S. Scientific Research Vessels, written for UNOLS by Lee R. Stevens is ready to be published and distributed. This handbook should help individual investigators and operating institutions in preparing requests for clearance, provide guidance concerning post cruise obligations.

The Chairman, IROSC, has been working with a panel from the National Academy of Science's Ocean Studies Board to develop a regional program in marine science for the Caribbean. (This is the Caribbean regional program being promoted by Ambassador Negroponte, and discussed earlier in his keynote address.)

The Office of Marine Science and Technology Affairs Department of State continues to actively monitor the discharge of post-cruise obligations. That Office has notified operating institutions of delinquent obligations for foreign research from institution-operated ships, and has implemented procedures for continuing oversight of preliminary and final post-cruise reports. Their procedures are consistent with recent UNOLS, Advisory Council and RVOC suggestions and recommendations.

*UNOLS Fleet Replacement Committee.* Chairman Robertson P. Dinsmore reported that the Fleet Replacement Committee will deliver its final report in early 1986. The Committee,

Robertson P. Dinsmore, WHOI Chairman  
George Keller, OSU  
Marcus Langseth, L-DGO  
John Martin, MLML  
David Menzel, Skidaway

Worth Nowlin, TAMU  
Joseph Phillips, UTIG  
Fred Speiss, Scripps  
Derek Spencer, WHOI

has continued work on its charge,

- . to develop science requirements for a new generation of oceanographic research vessels,
- . to produce conceptual designs for these new types of ships, and
- . to prepare a Plan for Fleet Replacement.

A great emphasis has been placed on the development of science mission requirements and on reviews of those requirements from throughout the ocean science community. A document, *Science Mission Requirements for New Large Oceanographic Research Ships*, summarizing requirements for *high endurance*, a *SWATH design* and *medium endurance* ships is Appendix VI.

A modestly revised Ship Replacement plan is outlined in the table below. This plan differs from earlier versions by emphasizing that all new ships should be capable of supporting a broad variety of ocean investigations (i.e., be general purpose). Some ships would have *augmented* capabilities to support special mission (e.g., MG&G, polar research, submersible handling).

Time Frame	LARGE (Over 200 ft.) (200-275 ft.) Classes I & II	INTERMEDIATE (150-199 ft.) Class III	COASTAL (100-149 ft.) Class IV
	1985-1989	1 new GP 1 new MG&G modernize two	---
1990-1994	1 new GP 1 new MG&G 1 Polar R/V	---	1 new
1995-1999	1 Sub. Handling	2 new	1 new
2000-2004	1 new GP	1 new	2 new
2005-2009	---	3 new	---
2010-2014	2 new GP	---	2 new
<hr/> <hr/>			
Total	9	6	6

Notes:

1. GP signifies general purpose capability.
2. MG&G signifies marine geology and geophysics capability in addition to general purpose.
3. The need for a Polar R/V may be met by new procurement in other elements of Federal Oceanographic Fleet.
4. The two Class II ships modernized in 1985-89 are the same as replacements shown in 2010-14.

Achieving this plan would replace all Class IV or larger ships in the UNOLS fleet by 2015. The plan also would have the KNORR and MELVILLE (AGOR-14 class) modernized. (A request for proposals has been issued for an *Engineering Study for Refit of Main Propulsion System for AGOR-14 Class.*)

Regional meetings to review science requirements, a variety of conceptual designs and the Fleet Replacement Plan and Schedule should be completed by early November, and a national workshop will be held in January, 1986.

Fleet replacement will be expensive. The twenty-one ships would cost \$15-25 million each, plus design costs and outfitting. Appendix VII is a schedule of outfitting cost for a large research vessel.

UNOLS National Expeditionary Planning Committee. George Shor, Jr. reported that relatively little thought had been given to schedules or operational plans for 1987. An exception, an expedition is being developed for Black Sea, Mediterranean (and possibly Indian Ocean) work beginning early in 1987. Biological and chemical work is being coordinated for the Black Sea, and the KNORR has been tentatively selected to support investigations. Opportunities exist for work along a transatlantic transect, in the Mediterranean and perhaps the Indian Ocean.

The Ocean Drilling program is developing plans for work in the Indian Ocean, Western and Eastern Pacific. Specific targets have not yet been defined, and planning and funding for pre-drilling surveys/investigations lags.

Programs are being pursued to allow U.S. scientists to use French or British ships in exchange for providing time on U.S. (UNOLS) ships for scientists from those countries. Objectives of the programs are to provide platforms not otherwise available and to improve operational (and scheduling) efficiency. U. S. Scientists have been generally pleased with the support received. Arrangements for these exchanges have not generally been reached in time to help with advanced planning for scheduling.

UNEPC will not hold a general meeting during winter 1985-1986 to garner information for planning beyond 1987. Although presentations by agency and program staff to UNEPC in December, 1984 was very useful, the meeting was poorly attended and unnecessary. Similar information can be gained through letter solicitations.

*Research Vessel Operator's Council.* E. R. "Dolly" Dieter, Chair, RVOC, reported that a highly successful meeting was held September 25-27, in Monterey, California. The well-attended meeting was hosted by Moss Landing Marine Laboratories, the Naval Postgraduate School and the Monterey Marine Aquarium.

A full report of the meeting has been published and distributed separately. Significant discussions were held on the following:

- . A consensus was expressed that the winch report should be updated and reissued.
- . The RVOC Newsletter will be continued, and efforts will be made to solicit broader input.
- . Many operators expressed concern that adequate criteria do not exist on which to base fitness-for duty for crews on research vessels. A small working group will explore that development of such criteria, perhaps working with Medical Advisory Service.
- . Post-cruise obligations and recent efforts from State Department to monitor them were discussed.



- . The RVOC Standing Committee Safety Standards under T.K. "Tex" Treadwell outlined procedures for periodic update of the Standards and asked that any input from members be made promptly.
- . The sense of discussions of shared use equipment and marine technicians was that problems existed because practices vary widely and it is difficult to gain information on what is available and what costs will be. *The RVOC recommended that further meetings be held, limited to people with direct marine tech/shared use of responsibility, and to address a set of specific problems.*

Reports were heard on conversion of the OSPREY and on the new research vessel PELICAN at LUMCON.

*The RVOC will invite research vessel operators from Canada and from Mexico to next year's and future RVOC meetings.*

The high point of the meeting was a workshop on vessel stability organized and chaired by Eugene Allmendinger, University of New Hampshire. The workshop was organized around presentations by Duane Liable, naval architect, Bruce Adee, University of Washington, Lt. Scott Davis, USCG, and James Graf, ABS. Objectives were: to raise research vessel operator's awareness of stability criteria and the critical necessity for meeting these criteria under various operating conditions, and to provide input to the review of possible alteration of the stability section of the UNOLS Safety Standards. *These objectives were met admirably.*

*Regional Ship Scheduling Group, Joint Meeting.* This agenda was advanced on the agenda to assure its presentation to all or most UNOLS institution representatives. Robertson P. Dinsmore, Chairman, East Coast Ship Scheduling Group, reported for the East Coast meeting and for Brian Lewis, Chairman, West Coast Meeting. The report of the joint meeting was distributed separately and is Appendix VIII.

The meeting was effective. Operators were well prepared, and good information was available, especially from NSF, on funding status of those science proposals requesting Ship Time. Profiles of funding cycles for both 1985 and 1986 are in the tables that follow.

PROFILE OF FUNDING CYCLES  
\$ MILLION

	OP DAYS	NSF	ONR	OTHER	TOTAL	SHORTFALL
1983	4,499	23.4	3.9	5.3	32.6	-
1984	4,816	23.1	4.0	7.0	34.6	-
1985 COST PROJECTIONS						
MARCH 84 PROJECTION (ANTICIPATED)	5,889	28.7 (25.0)	5.4 (5.4)	7.6 (7.6)	41.7 (38.0)	(3.7)
MAY 84 PROJECTION (ANTICIPATED)	5,999	31.0 (25.0)	4.9 (4.9)	6.6 (6.6)	42.5 (36.5)	(6.0)
OCTOBER 84 PROJECTION (ANTICIPATED)	5,213	28.4 (25.0)	4.2 (4.2)	4.2 (4.2)	36.8 (33.4)	(3.4)
MARCH 85 PROJECTION (ANTICIPATED)	4,952	26.5 (25.0)	4.0 (4.0)	5.6 (5.6)	36.2 (34.6)	(1.6)
MAY 85 PROJECTION (ANTICIPATED)	4,994	26.6 (25.0)	4.4 (4.4)	6.3 (6.3)	37.2 (35.7)	(1.5)
OCTOBER 85 PROJECTION (ANTICIPATED)	4,619	25.6 (25.6)	4.1 (4.1)	6.0 (6.0)	35.7 (35.7)	-

Review of 1986 Schedules, Costs and Agency Support. Summaries of 1986 ship operation cost estimates are in the table below.

SUMMARY OF 1986 COST PROJECTIONS

OCT 22, 1985 PROJECTIONS	OP DAYS	NSF	COSTS ONR	OTHER	TOTAL
EAST	2,884	15,963	3,470	2,886	22,318
WEST	2,426	15,226	1,325	2,920	19,470
TOTAL	<u>5,310</u>	<u>31,189</u>	<u>4,795</u>	<u>5,806</u>	<u>41,788</u>

ANTICIPATED*		25.5M	4.8M	5.8M	36.1
PROJECTED SHORTFALL		(5.7)	--	--	(5.7)

\*NSF, ONR and other program officials

SIMILAR PROJECTIONS MADE MAY, 1985

EAST	3,220	15,470	5,008	2,642	23,120
WEST	2,537	16,782	772	2,160	19,716
TOTAL	<u>5,757</u>	<u>32,252</u>	<u>5,780</u>	<u>4,802</u>	<u>42,836</u>
ANTICIPATED		26.M	4.2M	3.8M	34.6M
PROJECTED SHORTFALL		(5.6)	(1.6)	-	(7.2M)

SIMILAR PROJECTIONS MADE MARCH, 1985

EAST	3,150	15,595	4,244	2,408	22,247
WEST	2,550	16,392	1,189	1,392	18,974
TOTAL	<u>5,700</u>	<u>31,987</u>	<u>5,433</u>	<u>3,800</u>	<u>41,221</u>

ANTICIPATED					
PROJECTED SHORTFALL		?	?	?	?

It was disturbing that for the 1986 operating year the shortfall of \$7.2M that had been anticipated after May, 1985 Ship Scheduling meetings had been only modestly reduced to \$5.7M. (This was in contrast to the profile for operating year 1985, where a May, 1984 estimated shortfall of \$6.0M had been diminished by October, 1984 to \$3.4M, and in October, 1985 has been eliminated. Further, estimates were for 5,310 operating days in 1986, approximately three ship years more than the 4,645 annual average for 1983, 1984, and 1985.

A Special Meeting was convened on the afternoon of October 22 to address scheduling problems not yet resolved, to identify cost savings and, potentially, to recommend additional lay-ups.

At this meeting, decisions already made by funding agencies (concerning CAYUSE, CAPE FLORIDA and OSPREY), elimination of unfunded projects, schedule consolidation and some ship-to-ship project shifting resulted in operator-estimated cost reductions:

EAST COAST	In \$1,000
CAPE HENLOPEN, reduction in days	130
CONRAD, reduction in days	200
ENDEAVOR, reduction in days	100
GYRE, reduction in days	50
ISELIN, reduction in days	140
KNORR, partial lay-up	<u>1,170</u>
subtotal	\$1,790
WEST COAST	
OSPREY, lay-up	435
SPROUL, reduction in days	100
WASHINGTON, reduction in days	450
WECOMA, reduction in days	<u>120</u>
subtotal	\$1,105
TOTAL	\$2,895

These savings would reduce the anticipated shortfall (both in NSF proposals and total) from \$5.7M to \$2.8M. The Chairmen of the Ship Scheduling Groups noted that with the changes made, the WECOMA would have only 84 operating days in 1986. They recommended that, should additional cost saving measures be required, the 84 days be transferred to other ships and WECOMA be laid up for most or all of 1986.

UNOLS Business. This agenda item was advanced on the agenda to assure the presence of all or most member institution representatives.

Applications for Associate Membership. Applications for Associate Membership in UNOLS from Harvard University, Committee on Oceanography and from University of South Carolina, Marine Sciences Program had earlier been received in UNOLS, reviewed and recommended by the Advisory Council, and forwarded to UNOLS Members and Associate Members in accordance with the UNOLS Charter. The letter of transmittal together with the two applications is Appendix IX.

Harvard University, Committee on Oceanography and University of South Carolina, Marine Science Program, were unanimously elected to Associate Membership, UNOLS.

*Proposed Charter Amendment.* A proposed amendment to the UNOLS Charter had been introduced, endorsed by the Advisory Council and circulated to UNOLS Members. The purpose of the amendment would be to change the terms of UNOLS Chairman and Vice Chairman to two years from existing one year terms and to limit those officers to two successive terms.

*The amendment to the Charter was introduced, seconded and passed by vote of UNOLS members. The amended paragraphs of the Charter now read:*

## 2. Organization

- (f) The Chairman of UNOLS will be elected from among the Member Institutions, the Vice Chairman may be elected from among the Associate Member Institutions. Each will serve for a term of two years and will not serve more than two successive terms. The Vice Chairman will serve in the absence of the Chairman. If neither the Chairman nor Vice Chairman are present at a meeting, the members present shall elect an Acting Chairman for the duration of the meeting.

## 3. Elections

- (a) Election of UNOLS Chairman and Vice Chairman will occur at a regularly scheduled meeting.

*UNOLS ALVIN Review Committee.* This agenda item was deferred so that it could be presented by Robert Corell, ARC Chairman.

The ALVIN Review Committee Report is Appendix X. ARC activities can be summarized into five categories:

- . The annual proposal review and scheduling meeting,
- . The ALVIN Program Study Committee,
- . Plans for annual long range planning workshops,
- . Committee activities related to SEA CLIFF use by the oceanographic research community, and
- . status of ALVIN operations.

The Committee held its annual review meeting in May, 1985 and recommended a schedule with a series of dive projects in the Atlantic, continuing in the eastern Pacific and ending in Southern California. The ARC anticipates that the program for 1987 will begin with central and western Pacific operations and conclude with investigations in the near-continent eastern Pacific. The program for 1988 is open although an ALVIN overhaul will be required before year's end.

The Committee notes that proposal pressure for ALVIN use continues heavy and that proposal quality and appropriateness of use continue to improve.

An ALVIN Program Study Committee has been formed to examine various aspects of the ALVIN program and make recommendations to improve ALVIN-supported ocean science and to position the ALVIN program for the future to support the best of science. The Committee, chaired by Dirk Frankenberg, expects to deliver its report in early 1986.

Two long range planning workshops will be held, in December, 1985 and in conjunction with the fall AGU meeting in San Francisco and in January, 1986 preceding the AGU/ASLO meeting in New Orleans.

The ARC has been working with Office of Naval Research to help provide the ocean sciences community with the 6000 meter capability of the Navy submersible SEA CLIFF. The Committee will conduct workshops to develop interest and intent to use SEA CLIFF in 1987 and 1988.

ALVIN has completed over 300 dives since its last overhaul and will arrive in New York City next week for a special recognition program in celebration of the first comprehensive ATLANTIS II/ALVIN cruise and the completion of twenty years of ALVIN operations. ATLANTIS II/ALVIN teams and systems work extremely well together. The transformation to worldwide capability has been completed and the first 22 months of combined work have been outstanding.

*Remarks from Federal Funding Agencies.* Don Heinrichs recently appointed head of Oceanographic Centers and Facilities Support Section reported for the *National Science Foundation*. For those who did not know him in his previous position as Program Director, Marine Geology and Geophysics, Ocean Science Research Section, he briefly outlined his education and professional background. Stanford, Oregon State University and Federal Service. Beginning in 1972, first at ONR, and since 1975 at NSF.



- . ship usage at the University of Miami relative to capabilities of the ISELIN and CAPE FLORIDA together with the charter-party agreement for CAPE FLORIDA.

*NSF decisions, reached on the basis of Panel recommendations and relevant factors:*

- . *Transfer the CAPE FLORIDA from the University of Miami to the West Coast for operation by the Moss Landing Marine Laboratories in CENCAL, early in 1986,*
- . *Lay up the CAYUSE at the beginning of 1986,*
- . *Decline request for funding the conversion of OSPREY in 1986,*
- . *Decline request for funding to operate OSPREY in 1986.*

Since fiscal year 1981, ocean science research proposals involving the use of UNOLS ships have been required to be submitted in time to be considered at the spring or summer proposal review panel meetings.

This policy remains in effect, and will be firmly enforced. In order to facilitate timely decisions on ships schedules and support levels, proposals should be submitted as early in the calendar year as possible particularly for expeditionary field work in remote ocean areas.

In 1986 the review panel schedule is:

Proposal Target Date	Panel Meeting	Start Date (Earliest)
February 1, 1986	April, 1986	July 1, 1986
June 1, 1986*	August, 1986	November 1, 1986
October 1, 1986	December, 1986	February 1, 1987

\*Last target date for proposals requiring ship support for calendar year 1987.

Dr. Heinrichs was pleased with the effectiveness of the October Ship Scheduling Group Meetings. An effort was made in the Ocean Science Division to provide better information to operators concerning ocean science funding decisions. OCFS and OSRS will work to provide comparable information earlier during 1986. *There remains a ship operations funding problem in excess of \$2M for 1986 operations.*

Among personnel changes, Tom Cooley has left OCFS for the Controller's Office, under Sandra Toye.

*Keith Kaulum reported that ONR's 1986 budget will not change dramatically. (Both ships operation and science program funding will be at about the same levels as in 1985 and earlier estimates.)*



Planning and implementation continue on Secretary of the Navy Initiatives.

In the initiative to enhance research use and availability of Navy-operated submersibles, emphasis had been on the SEA CLIFF (because of its 6,000 meter capability). ONR anticipates and is planning for significant availability in 1987 (i.e., with a capable support ship). ONR acknowledges assistance from the ALVIN Review Committee in organizing and conducting winter 1985-1986 workshops to elicit interest in using SEA CLIFF in major investigations during 1987-88. One ONR budget option under consideration would provide science funding for SEA CLIFF supported investigations.

Initiative 12 for construction of a new research vessel is progressing. The budget includes \$35M, to build in 1987. NAVSEA will manage the design construction process (with input from ONR). The Navy procurement plan includes preliminary studies leading to circular of requirements leading to final design and constructions. The current schedule would have RPF for final design and construction in January 1987, selection in April-July 1987 and award in August 1987. Indications are that the Navy will not operate the new ship, but will go directly to an institution.

ONR is pleased at its decision to help fund activities of UNOLS Fleet Replacement Committee and is well satisfied with the science requirements and concepts that have and are emerging from the Committee.

ONR is working with the Oceanographer of the Navy's office on Initiative 14: Research ship requirements of the Navy. Commander Dieter Rudolph, who is the focus for this activity in Oceanographer's office, was introduced. Ships under Initiative 14 could be of the same design as the Initiative 12 ship. Costs should be on the order of \$29M ship.

ONR has yet to decide (and yet to hear from UNOLS) on operating institutions for new ships. Among candidates would be institutions currently operating AGOR-3 ships and possibly those operating AGOR-14's.

Hawley Thomas, Environmental Studies Branch, Minerals Management Service, provided information on MMS programs and potential UNOLS ship use during 1986 (Appendix XI). Regional programs will be conducted and a potential requirement exists for UNOLS ships in biological and physical oceanography in Alaska, the Atlantic, and the Gulf of Mexico and the Pacific.

Robert Rowland reported that marine programs in USGS are budgeted for about \$25M, the same as in 1985. Almost all funds for investigations in the EEZ are committed to GLORIA surveys. Currently, no programs are being funded that would require UNOLS ships. USGS is working with the University of Hawaii on studies under SOPAC.

The schedule of spring UNOLS meetings in Washington had been set tentatively, but was changed subsequent to the meeting to:

- June 2 - Advisory Council
- June 3 - Ship Scheduling and UNEPC
- June 4 - UNOLS Semiannual

Before adjourning, Chairman Webster noted to the assembly that William J. Merrell, recently of Texas A&M University is on board as Assistant Director, National Science Foundation, for Astronomical, Atmospheric, Earth and Ocean Sciences.

The Chairman thanked Ambassador Negroponete for his address and Don Heinrichs, Keith Kaulum, Hawley Thomas and Robert Rowland for their information. He expressed UNOLS' appreciation for their work and reports to Charles Miller, Advisory Council, Harris Stewart, IROSC, Bob Dinsmore, FRC, Bob Corell, ARC, George Shor, UNEPC, Dolly Dieter, RVOC, and Bob Dinsmore and Brian Lewis, Ship Scheduling Groups.

The meeting was adjourned at about 3:15.

# UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

## SEMIANNUAL MEETING AGENDA

0830, Wednesday, October 23, 1985

National Trust for Historic Preservation  
1785 Massachusetts Avenue, NW  
Washington, D.C. 20036

INTRODUCTION AND WELCOME - Dr. Ferris Webster, UNOLS Chairman.

INTERNATIONAL SETTING FOR OCEAN RESEARCH - Ambassador John Negroponte, Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs will provide the principal address.

UNOLS ADVISORY COUNCIL - Dr. Charles Miller will report on Council activities including their recommendations for new Associate Members, modifications to UNOLS' Cruise Assessment process, potential UNOLS ship participation in NOAA's EEZ program, an ad hoc working group advising on special facilities, and the Council's agenda for the coming year.

INTERNATIONAL RESTRICTIONS TO OCEAN SCIENCE COMMITTEE - Dr. Harris B. Stewart, Jr. will report on IROSC activities.

UNOLS FLEET REPLACEMENT COMMITTEE - Captain Robertson P. Dinsmore will report on FRC activities and progress.

UNOLS ALVIN REVIEW COMMITTEE - Dr. Robert Corell will report on ALVIN program status, advanced planning and interaction with Navy submersible programs.

UNOLS NATIONAL EXPEDITIONARY PLANNING COMMITTEE - Dr. George Shor, Jr. will report on expeditionary planning progress.

1200-1330

LUNCH

1200-1300

RESEARCH VESSEL OPERATOR'S COUNCIL - Ms. E. R. Dieter will report on the RVOC annual meeting and activities.

REMARKS FROM FEDERAL FUNDING AGENCIES - Update forecasts on FY 86/87 ship support and ocean science funding; other matters of interest -- NSF, ONR, MMS, USGS, NOAA, and DOE.

REGIONAL SHIP SCHEDULING GROUPS, JOINT MEETING - A joint report from Chairmen Captain Robertson P. Dinsmore and Dr. Brian T. R. Lewis.

UNOLS BUSINESS - A Charter amendment to change terms for Chairman and Vice Chairman from one year to two and allowable successive terms from three to two will be introduced for Member action. Recommended Associate Member applications will be introduced for Member action.



UNOLS SEMIANNUAL MEETING  
 October 23, 1985  
 List of Attendees

E. Eugene Allmendinger, University of New Hampshire  
 William Barbee, UNOLS office  
 Howard Stuart Barnes, Bermuda Biological Station  
 John F. Bash, University of Rhode Island  
 Douglas R. Caldwell, Oregon State University\*  
 J. Frisbee Campbell, University of Hawaii\*  
 W. Thomas Cocke, State Department  
 Thomas N. Cooley, National Science Foundation  
 Bruce K. Cornwall, Johns Hopkins University  
 James W. Coste, University of Hawaii  
 Dolly R. Dieter, University of Alaska\*  
 Robertson P. Dinsmore, Woods Hole Oceanographic Institution  
 John D. Donnelly, Woods Hole Oceanographic Institution  
 Robert G. Douglas, University of Southern California\*  
 William Erb, State Department  
 Jack W. Fell, University of Miami  
 George D. Grice, Woods Hole Oceanographic Institution\*  
 James J. Griffin, University of Rhode Island\*  
 Grant Gross, National Science Foundation  
 Lawrence W. Harding, Jr., Johns Hopkins University\*  
 Donald F. Heinrich, National Science Foundation  
 Tom Johnson, Duke University  
 Jay T. Katz, University of Michigan\*  
 Brian Lewis, University of Washington\*  
 Carl Lorenzen, University of Washington  
 Wesley L. Lovaas, Office of Naval Research  
 John G. McMillan, National Science Foundation  
 Thomas C. Malone, University of Maryland  
 John Martin, Moss Landing Marine Laboratories\*  
 Barbara J. Martineau, Woods Hole Oceanographic Institution  
 Arthur G. Maxwell, University of Texas\*  
 Charles B. Miller, Oregon State University  
 William H. Mitchell, University of Texas\*  
 Donald A. Moller, Woods Hole Oceanographic Institution  
 Christopher N. K. Mooers, Naval Postgraduate School  
 John D. Negroponte, State Department  
 Wadsworth Owen, University of Delaware\*  
 Deiter K. Rudolph, U. S. Naval Observatory  
 George G. Shor, Jr., Scripps Institution of Oceanography\*  
 Mitch Stebens, UNOLS office  
 Harris B. Stewart, Jr., Old Dominion University  
 Hawley E. Thomas, Minerals Management Service, Dept. of Interior  
 T. K. Treadwell, Texas A&M University\*  
 Richard B. Tripp, University of Washington  
 Joe F. Ustach, Duke University\*  
 Ferris Webster, University of Delaware  
 Richard W. West, National Science Foundation  
 Terry E. Whitley, Brookhaven National Lab  
 Marsh S. Youngbluth, Harbor Branch Foundation

\*Member Representatives

UNOLS DIRECTORY  
(with designated representatives)

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*Dr. John C. Van Leer*

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BUFFALO

NEW YORK STATE UNIVERSITY AT STONY BROOK  
*Dr. J.R. Schubel*

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SEA Education Association  
*Dr. Susan E. Humphris*

UNIVERSITY OF SOUTH FLORIDA  
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*Ms. Mary Balcer*

THE CHALLENGE

KEYNOTE ADDRESS BEFORE THE  
UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM (UNOLS)

BY

AMBASSADOR JOHN D. NEGROPONTE  
ASSISTANT SECRETARY  
BUREAU OF OCEANS AND INTERNATIONAL  
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

OCTOBER 23, 1985

THANK YOU FERRIS. IT IS AN HONOR AND A PLEASURE FOR ME TO ADDRESS UNOLS. I WOULD LIKE TO USE THE TIME TO TALK ABOUT MARINE SCIENCE IN OES AND OUR RELATIONSHIP WITH UNOLS.

THE LAW OF THE SEA TREATY NEGOTIATIONS HAVE PROBABLY HAD A GREATER IMPACT ON MARINE SCIENCE THAN ANY OTHER SINGLE FACTOR. WHETHER OR NOT THE TREATY ENTERS INTO FORCE, THE NEGOTIATING PROCESS HAS RESULTED IN PLACING APPROXIMATELY 42 PERCENT OF THE OCEAN UNDER COASTAL STATE JURISDICTION, INCLUDING MOST OF THE AREAS OF HIGH SCIENTIFIC INTEREST.

IN THE FUTURE, JURISDICTIONAL LINES ARE NOT LIKELY TO BE DRAWN BACK; RATHER, HUMAN NATURE WILL FAVOR INCREASED CONTROL OF THE OCEANS. THIS BECOMES A CHALLENGE, AS I SEE IT, FOR THE UNITED STATES AND OTHER COUNTRIES THAT FAVOR UNRESTRICTED MARINE SCIENTIFIC RESEARCH. IT IS A CHALLENGE FOR GOVERNMENTS, AS WELL AS FOR ORGANIZATIONS LIKE UNOLS, TO DEMONSTRATE THAT NATIONS, LIKE SCIENTISTS, WILL BE BETTER SERVED IF RESTRICTIONS AND BURDENSOME CONSTRAINTS ARE REMOVED FROM MARINE SCIENCE.

PRESIDENT REAGAN'S EXCLUSIVE ECONOMIC ZONE PROCLAMATION CLEARLY DEMONSTRATED HIS SENSITIVITY TO THE NEED FOR A POSITIVE UNITED STATES RESPONSE TO THE EVER-GROWING JURISDICTIONAL CLAIMS OVER MARINE SCIENCE. THE PROCLAMATION IS NOTEWORTHY -- NOT FOR HOW MUCH IT SAYS ABOUT MARINE SCIENTIFIC RESEARCH -- BUT FOR HOW LITTLE. IT READS, "ALTHOUGH INTERNATIONAL LAW PROVIDES US WITH THE RIGHT TO EXERCISE JURISDICTION OVER MARINE SCIENTIFIC RESEARCH IN OUR EEZ, THE UNITED STATES HAS ELECTED NOT TO DO SO BECAUSE WE WISH TO ENCOURAGE MARINE SCIENTIFIC RESEARCH AND IMPOSE NO

UNNECESSARY BURDENS. NEVERTHELESS, WE SHALL RECOGNIZE THE RIGHT OF OTHER COASTAL STATES TO EXERCISE JURISDICTION OVER MARINE SCIENTIFIC RESEARCH WITHIN 200 NAUTICAL MILES OF THEIR COASTS, IF THAT JURISDICTION IS EXERCISED REASONABLY IN A MANNER CONSISTENT WITH INTERNATIONAL LAW."

THE U.S. MARINE SCIENCE COMMUNITY, FEDERAL AND PRIVATE, CONDUCTS MORE SCIENTIFIC RESEARCH IN FOREIGN WATERS THAN ANY OTHER COUNTRY IN THE WORLD. IT HAS BEEN SUGGESTED THAT THE UNITED STATES SHOULD SET IN PLACE REGULATIONS FOR CONTROLLING MARINE SCIENTIFIC RESEARCH THAT ARE REFLECTIVE OF, OR RECIPROCAL TO, THE REGULATIONS IMPOSED ON US BY OTHER NATIONS. FOR EXAMPLE, IF A NATION REQUIRES US TO SUBMIT CLEARANCES TO THEM SIX MONTHS IN ADVANCE, THEN THEY IN TURN SHOULD BE REQUIRED TO REQUEST PERMISSION FOR THEIR VESSELS SIX MONTHS IN ADVANCE. THE MAJOR WEAKNESS IN THIS CONCEPT IS THAT FOREIGN RESEARCH IN U.S. WATERS IS INFREQUENT, EXCEPT FOR CANADIAN VESSELS. MY VIEW IS THAT NATIONS WILL ONLY BECOME LESS RESTRICTIVE WHEN THEY UNDERSTAND THE IMPORTANCE OF RESEARCH AND FEEL UNTHREATENED BY SCIENTIFIC KNOWLEDGE.

OVERALL, WE BELIEVE THE PROCLAMATION SETS A GOOD EXAMPLE. A REVIEW OF THE REGULATIONS PROMULGATED BY COUNTRIES SINCE THE PROCLAMATION INDICATES THAT THE REGULATIONS ARE LESS RESTRICTIVE THAN THE LAW OF THE SEA CONVENTION WOULD PERMIT.



## MARINE SCIENCE IN OES

WHEN THOMAS JEFFERSON WAS SECRETARY OF STATE HE HANDLED SCIENTIFIC MATTERS HIMSELF, KNOWING AS MUCH ABOUT THEM AS ANYONE, BUT THE STATE DEPARTMENT, LIKE OCEAN SCIENCE, IS NOW MUCH MORE SPECIALIZED. IN 1948 THE POSITION OF SPECIAL ASSISTANT TO THE UNDER SECRETARY FOR FISHERIES AND WILDLIFE WAS ESTABLISHED. A FEW YEARS LATER, IN 1950, ANOTHER SMALL OFFICE WAS ESTABLISHED, THAT OF SCIENCE ADVISOR TO THE DEPARTMENT, WHICH WAS RESPONSIBLE FOR S&T MATTERS GENERALLY. BY 1973, OCEAN ACTIVITIES HAD GROWN SUFFICIENTLY IN SIZE AND SCOPE FOR CONGRESS TO PROVIDE A LEGISLATIVE BASE AND INCREASED STATURE FOR A STRONGER OCEANS AND S&T ACTIVITY WITHIN THE DEPARTMENT BY CREATING THE BUREAU OF OCEANS AND INTERNATIONAL ENVIRONMENTAL AND SCIENTIFIC AFFAIRS, OR "OES" AS IT IS KNOWN IN BUREAUCRATISE. SENATOR CLAIBORNE PELL SPONSORED THE LEGISLATION.

IF ONE HAD TO CHOSE A SINGLE PURPOSE FOR THE OFFICE OF MARINE SCIENCE AND TECHNOLOGY AFFAIRS, IT WOULD HAVE TO BE ACQUIRING ACCESS FOR U.S. SCIENTISTS TO CONDUCT RESEARCH IN FOREIGN WATERS. ALMOST ALL THE ACTIVITIES OF THE OFFICE EMANATE FROM AND SUPPORT THAT PURPOSE. U.S. MARINE SCIENCE POLICY IS BASED ON THAT PREMISE, WITH A PERFECT EXAMPLE BEING THE EEZ PROCLAMATION. OUR POLICY ON FOREIGN RESEARCH IN U.S. WATERS, WHICH IS EXTREMELY UNRESTRICTIVE, IS DESIGNED TO INFLUENCE FOREIGN STATES TO ACT LIKEWISE. THUS, THE GOAL OF THE OFFICE OF MARINE SCIENCE AND TECHNOLOGY AFFAIRS IS TO CREATE A WORLD-WIDE UNDERSTANDING THAT UNRESTRICTED

MARINE SCIENTIFIC RESEARCH WILL CONTRIBUTE TO THE ADVANCEMENT OF NATIONAL GOALS. THIS IS NO EASY TASK, AND, IN FACT, MIGHT EVEN BE UNATTAINABLE, BUT WE BELIEVE IT'S WORTH THE EFFORT.

A SPECIFIC RESPONSIBILITY OF THE OFFICE IS THE PROCESSING OF RESEARCH VESSEL CLEARANCE REQUESTS. REVIEWS OF THIS PROCEDURE HAVE BEEN CONDUCTED OVER THE YEARS BY JUDITH KILDOW, WARREN WOOSTER AND RECENTLY BY JOHN KNAUSS. GENERALLY, THERE HAS BEEN A STEADY GROWTH IN THE NUMBER OF CLEARANCES PROCESSED FOLLOWING THE TREND OF EXTENDED JURISDICTIONS, AND A CORRESPONDING INCREASE IN ASSOCIATED PROBLEMS. CLEARANCES PROCESSED IN THE FIRST 8 MONTHS OF 1985 TOTALLED 200, COMPARED TO A TOTAL OF 165 PROCESSED IN ALL OF 1984. THE YEARS 1984-85 WILL REPRESENT THE HIGHEST NUMBER OF REQUESTS PROCESSED EVER, WHILE INTERESTINGLY, RESEARCH FUNDS FOR THE PAST SEVERAL YEARS HAVE NOT INCREASED. THE REASON FOR THE INCREASE THEN MIGHT BE ATTRIBUTED TO A GREATER SCIENTIFIC INTEREST IN THE COASTAL ZONES OR POSSIBLY TO INCREASED USE OF OFFICIAL CHANNELS FOR PROCESSING CLEARANCES.

THE INCREASE IN CLEARANCES HAS RESULTED IN INCREASED POST-CRUISE OBLIGATIONS. THE SAD TRUTH IS THAT SCIENTISTS ARE USUALLY LATE IN COMPLYING WITH THE REQUIREMENTS, AND THIS RESULTS IN AN INCREASED WORKLOAD AND OCCASIONALLY COMPLAINTS FROM A FOREIGN GOVERNMENT THAT WE ARE NEGLIGENT IN OUR RESPONSIBILITIES. SINCE THE LAW OF THE SEA CONVENTION SPECIFICALLY STATES THAT NON-COMPLIANCE WITH POST-CRUISE OBLIGATIONS CAN BE A BASIS FOR COASTAL STATES TO DENY ANY FUTURE CLEARANCE REQUESTS

FROM THE NEGLIGENT COASTAL STATE (NOT SIMPLY THE GUILTY PERSON OR INSTITUTION), IT IS EXTREMELY IMPORTANT THAT THE OBLIGATIONS BE FULFILLED AND THE SYSTEM BE WELL MANAGED. IN THE PAST YEAR WE HAVE REVISED THE POST-CRUISE OBLIGATION SYSTEM; THIS WAS DONE WITH THE EXCELLENT SUPPORT OF THE RESEARCH VESSELS OPERATORS COUNCIL OF UNOLS. ALSO, OES PLANS TO COMPUTERIZE AS MUCH OF THE PRESENT SYSTEM AS POSSIBLE.

I AM PLEASED TO INFORM YOU THAT JUST LAST WEEK WE REACHED AGREEMENT WITH CANADA ON A NEW PROCEDURE FOR PROCESSING CLEARANCE REQUESTS. IT PROVIDES FOR DIRECT COMMUNICATIONS BETWEEN EXTERNAL AFFAIRS IN CANADA AND OMS, THEREBY ELIMINATING THE TIME-CONSUMING TASKS OF PREPARING CABLES AND DIPLOMATIC NOTES. THIS WILL FREE-UP A FAIR AMOUNT OF TIME FOR BOTH OUR EMBASSIES AND WILL HOPEFULLY RESULT IN FASTER PROCESSING OF CLEARANCES. CANADA HAS SURPASSED MEXICO AS THE LARGEST RECIPIENT OF OUR REQUESTS, WHICH IS A GOOD REASON FOR IMPROVED EFFICIENCY. OMS WILL CONTINUE TO SEEK OPPORTUNITIES FOR IMPROVEMENTS WITH OTHER GOVERNMENTS THAT WILL RESULT IN IMPROVED ACCESS TO FOREIGN WATERS.

#### MULTILATERAL MSR ACTIVITIES

THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC) IS AN ORGANIZATION WITH WHICH I THINK ALL OF YOU ARE FAMILIAR. WHEN THE UNITED STATES WITHDREW FROM UNESCO AT THE END OF 1984, IT DECIDED THAT IT WOULD REMAIN A MEMBER OF THE IOC, A SEMI-AUTONOMOUS SUBSIDIARY OF UNESCO. AS IT TURNS OUT, THAT WAS THE EASY PART OF THE PROBLEM. THE DIFFICULT PART HAS BEEN IDENTIFYING FUNDS TO PAY OUR DUES. OUR STANDARD CONTRIBUTION OVER THE YEARS THROUGH UNESCO HAS BEEN 25 PERCENT OF THE IOC BUDGET. THE FOREIGN AID AUTHORIZATION BILL, WHICH HAS

BEEN SIGNED BY THE PRESIDENT, IS NOW AWAITING CONGRESSIONAL FUNDING. WE EXPECT THAT THE AMOUNT PROVIDED WILL BE ABOUT \$500,000. THE MECHANISM FOR TRANSFERRING THE FUNDS TO IOC WILL BE NEW, AS IT IS NO LONGER POSSIBLE TO FUNNEL IT THROUGH UNESCO.

TO ENSURE ACHIEVEMENT OF U.S. OBJECTIVES IN CERTAIN IOC PROGRAM AREAS WHICH ARE PRESENTLY UNDERFUNDED, THE U.S. PLANS TO EARMARK FUNDS FOR VARIOUS PROGRAMS, TRAINING AND OTHER ACTIVITIES. THIS PROCESS WILL BE FULLY COORDINATED WITH U.S. NATIONAL COORDINATORS OF IOC PROGRAMS. ALSO, THE IOC SECRETARIAT WILL BE CONSULTED IN THIS PROCESS, AS WE REMAIN FULLY COMMITTED TO PROVIDE OUR FAIR SHARE TO IOC. BY IMPLEMENTING THESE ACTIVITIES THROUGH IOC PROGRAMS, THE U.S. CAN EFFECTIVELY ACCOMPLISH SCIENTIFIC AND POLICY OBJECTIVES IN AREAS WHERE BILATERAL ARRANGEMENTS WOULD BE POLITICALLY DIFFICULT OR IMPOSSIBLE.

THE MECHANISM FOR COORDINATING IOC ACTIVITIES IN THE U.S. IS KNOWN AS PIPICO (PANEL ON INTERNATIONAL PROGRAMS AND INTERNATIONAL COOPERATION IN OCEAN AFFAIRS). PIPICO IS CHAIRED BY THE DEPARTMENT AND INCLUDES REPRESENTATIVES FROM ALL THE AGENCIES WITH OCEAN PROGRAMS OR INTERESTS. PIPICO CAN DEAL WITH ISSUES OTHER THAN IOC AND, IN FACT, SEVERAL YEARS OPERATED A SUB-GROUP WITH THE CATCHY ACRONYM OF FROG (FEDERAL RESEARCH VESSEL OPERATORS GROUP). PERHAPS THE TIME HAS COME FOR THE RETURN OF THE FROG.

THE INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEAS (ICES) IS A MULTILATERAL ORGANIZATION OF A COMPLETELY DIFFERENT NATURE. IT IS COMPOSED OF EIGHTEEN NATIONS SURROUNDING

THE NORTH ATLANTIC, ITS PRIMARY RESEARCH AREA, ALTHOUGH SOME OF ITS SCIENTIFIC CONCERNS ARE GLOBAL. BECAUSE ALL OF THE MEMBER STATES OF ICES ARE WELL DEVELOPED SCIENTIFICALLY, AND RECOGNIZE ITS VALUE AS A FORUM FOR MSR COORDINATION AND EXCHANGE, POLITICS IS NOT A SIGNIFICANT FACTOR IN ICES. ACCORDINGLY, IT IS ABLE TO FOCUS ITS ATTENTION ON BASIC RESEARCH AND ON APPLIED RESEARCH PROGRAMS PRIMARILY RELATED TO FISHERIES AND POLLUTION. RESPECTING THE DISTINCTIVE SCIENTIFIC NATURE OF ICES, THE DEPARTMENT OF STATE DEVOTES MINIMAL OVERSIGHT TO IT, ESSENTIALLY GIVING THE AMERICAN SCIENTIFIC PARTICIPANTS, DRAWN AS EQUALLY AS POSSIBLE FROM GOVERNMENT AND ACADEMIA, FREE REIGN TO PURSUE U.S. SCIENTIFIC OBJECTIVES. I AM ALSO PLEASED TO NOTE THAT A DISTINGUISHED AMERICAN OCEANOGRAPHER, DR. WARREN S. WOOSTER, WHO HAD BEEN THE FIRST SECRETARY OF IOC, WAS ELECTED PRESIDENT OF ICES IN 1982 FOR A THREE-YEAR TERM.

#### BILATERAL MSR ACTIVITIES

BILATERAL MSR ACTIVITIES ARE NUMEROUS, AND RANGE FROM THE FORMAL GOVERNMENT-TO-GOVERNMENT AGREEMENTS WHICH ARE VERY BROAD AND COVER A NUMBER OF TOPICS, TO THE INNUMERABLE INFORMAL COOPERATIVE PROJECTS CONDUCTED BOTH BY THE TECHNICAL AGENCIES AND THE UNIVERSITIES. THE GOVERNMENT-TO-GOVERNMENT AGREEMENTS, INCLUDING THE BROAD S&T UMBRELLA TREATIES AND AGREEMENTS, ARE USUALLY MANAGED BY FORMAL COMMISSIONS, AND CONDUCTED UNDER THE AUSPICES OF AN EXECUTIVE AGENT, SUCH AS NSF FOR THE SOVIET S&T AGREEMENT. S&T AGREEMENTS OFTEN INCLUDE A SPECIFIC MSR COMPONENT, OR OFFER WIDE

LATITUDE UNDER WHICH ONE MAY BE DEVELOPED. THESE INCLUDE THOSE WITH MEXICO, INDIA, ISRAEL, EGYPT, PAKISTAN, AND BRAZIL. FOR EXAMPLE, FISHERIES AND AQUACULTURE PROPOSALS ARE NOW BEING CONSIDERED UNDER THE MEXICAN AGREEMENT. MONSOON RESEARCH IS CONDUCTED WITH INDIA, MARINE GEOLOGY WITH PAKISTAN, AND EXPANSION OF THE REGIONAL TIDE GAUGE NETWORK WITH BOTH. SOME AGREEMENTS WHICH ARE EVEN BROADER THAN S&T CAN ALSO ACCOMMODATE MSR ACTIVITIES, SUCH AS THE FISHERIES OCEANOGRAPHY PROJECTS UNDER THE U.S.-SPANISH TREATY ON FRIENDSHIP AND COOPERATION.

THE AGREEMENTS WITH A SPECIFIC OR EVEN EXCLUSIVE MARINE FOCUS INCLUDE THOSE WITH FRANCE, JAPAN, THE SOVIET UNION, AND CHINA. THE U.S.-FRANCE COOPERATIVE PROGRAM IN OCEANOGRAPHY COVERS SUCH DIVERSE TOPICS AS MARINE GEOLOGY AND GEOPHYSICS, POLLUTION, SUBMERSIBLES AND OTHER TECHNOLOGY, LIVING RESOURCES, AND CLIMATE. PARTICIPATION INCLUDES NOAA, NSF, NAVY, COAST GUARD, GEOLOGICAL SURVEY, AND ACADEMIA. THE U.S.-JAPAN NATURAL RESOURCES (UJNR) AGREEMENT IS CURRENTLY EMPHASIZING DIVING PHYSIOLOGY IN THE MARINE AREA, WHILE THE AGREEMENT WITH CHINA IS CURRENTLY FOCUSED ON CLIMATE AND HEAT TRANSFER STUDIES, FOLLOWING USEFUL PROJECTS ON SEDIMENT DYNAMICS, INSTRUMENTATION, AND AQUACULTURE. THE WORLD OCEAN AGREEMENT WITH THE USSR HAS RECENTLY BEEN RENEWED, WITH NOAA TAKING THE LEAD IN DEVELOPING A NEW AND ACTIVE WORK PLAN.

I DO NOT WANT TO GIVE THE IMPRESSION THAT THERE IS A GREAT POT OF GOLD TO FINANCE BILATERAL AGREEMENTS. MOST S&T AGREEMENTS DO NOT CARRY SEPARATE FUNDING, BUT ARE IMPLEMENTED

WITHIN THE BUDGETS OF PARTICIPATING AGENCIES. A FEW DO HAVE THEIR OWN POOLS OF MONEY, AS WITH SPAIN AND INDIA. NONETHELESS, PARTICIPATION IS OFTEN WORTH THE EFFORT INVOLVED IN SEEKING OUT THESE LIMITED FUNDS. FOR THOSE REALLY INTERESTED IN SUCH COOPERATION THERE UNDOUBTEDLY IS A ROLE TO PLAY IF THEY APPROACH THE SUBJECT WITH ENTHUSIASM, IMAGINATION, AND INNOVATIVE IDEAS.

### REGIONAL MSR ACTIVITIES

IN COMPARISON TO BILATERAL AND MULTILATERAL PROGRAMS, REGIONAL PROGRAMS MIGHT PRODUCE GREATER BENEFITS FOR SCIENTISTS AND GOVERNMENTS. THEY ARE USUALLY DEVELOPED TO ADDRESS A PARTICULAR SCIENTIFIC PROBLEM, SUCH AS ONE RELATED TO CLIMATE, POLLUTION, OR FISHERIES. MOST OFTEN THE COUNTRIES OF THE REGION ARE UNABLE TO TACKLE THE PROBLEM INDIVIDUALLY BECAUSE OF FINANCIAL, POLITICAL, OR TECHNICAL CONSTRAINTS. POOLING RESOURCES, ALONG WITH AN INFLUX OF FUNDS FROM OUTSIDE THE REGION, CAN RESULT IN SUCCESSFUL SCIENTIFIC PROGRAMS THAT ARE ALSO INSTRUMENTAL IN DEVELOPING AN INFRASTRUCTURE IN THE REGION THAT LARGELY ADVANCES COOPERATION. THEY MAY ALSO BECOME THE SKELETAL STRUCTURE FOR OTHER PROGRAMS IN THE REGION THAT MAY OR MAY NOT BE SCIENTIFICALLY ORIENTED.

AN EXCELLENT EXAMPLE OF A REGIONAL PROGRAM SUPPORTIVE OF U.S. POLITICAL AND ECONOMIC OBJECTIVES IS THE TRIPARTITE "SOPAC" PROGRAM DEVELOPED WITHIN THE COMMITTEE FOR THE COORDINATION OF JOINT PROSPECTING FOR MINERAL RESOURCES IN THE SOUTH PACIFIC (CCOP/SOPAC). INTEREST IN A PROGRAM WITH THE

PACIFIC ISLANDS ORIGINATED IN EARLY 1981 WHEN THE UNITED STATES, AUSTRALIA, AND NEW ZEALAND JOINED TOGETHER TO ASSIST THE SOUTH PACIFIC ISLANDS IN EXPLORING FOR HYDROCARBON AND MINERAL RESOURCES IN THEIR OFFSHORE AREAS. THE SCIENTIFIC INTEREST IS TO STUDY THE DEVELOPMENT OF THE EARTH'S CRUST AND TO FURTHER ADVANCE TECTONIC THEORIES RELATIVE TO THE REGION. PRESENT SOPAC MEMBERS INCLUDE THE COOK ISLANDS, FIJI, KIRIBATI, NEW ZEALAND, PAPUA NEW GUINEA, SOLOMON ISLANDS, TONGA, TUVALU, VANUATU AND THE U.S. TERRITORY OF GUAM. COMBINED FUNDING FOR THE PROGRAM TOTALS \$7.8 MILLION, WHICH IS LARGELY PROVIDED BY THE U.S. AND AUSTRALIAN AID.

OIL AND GEOPHYSICAL COMPANIES UNDERTOOK RECONNAISSANCE SURVEYS IN THE SOUTH PACIFIC DURING THE EARLY 1970'S, BUT THEIR RESULTS WERE NOT ENCOURAGING. THE RECENT SOPAC SURVEYS BY THE U.S. GEOLOGICAL SURVEY'S S.P. LEE HAS REKINDLED INDUSTRIAL INTEREST. WITH RESPECT TO THE MINERAL RESOURCE POTENTIAL, AT LEAST TWO BASINS WITH INDICATIONS OF A MASSIVE METALIFEROUS SULFIDE DEPOSIT POTENTIAL HAVE BEEN LOCATED, AND THE UNIVERSITY OF HAWAII IS PLANNING TO CONDUCT MAJOR MINERAL RESOURCE RESEARCH IN THE NEXT FEW MONTHS. ALTHOUGH, THE ECONOMIC BENEFITS OF THE PROGRAM HAVE NOT YET BEEN PROVEN, TRANSFER OF TECHNICAL KNOWLEDGE TO THE REGION WHICH WILL ENHANCE THE ABILITY OF ISLAND NATIONS TO EVALUATE AND EXPLOIT THEIR ECONOMIC ZONES. PROGRAMS LIKE SOPAC CAN BE INSTRUMENTAL IN DEVELOPING THE PERSONAL TIES AND LONG-TERM INTERESTS THAT WILL SERVE THE INTERESTS OF THE REGION AND THE U.S. SCIENTIFIC COMMUNITY AS WELL.



IN MY VIEW, THE CARIBBEAN IS ANOTHER REGION THAT WOULD BENEFIT BY THE ESTABLISHMENT OF A MARINE SCIENCE REGIONAL PROGRAM. I HAVE HEARD THAT IT IS DIFFICULT TO DEVELOP MARINE SCIENCE PROGRAMS IN THE CARIBBEAN BUT I HAVE ALSO HEARD OF SMALL SUCCESSES IN THE REGION AND HOW THE SCIENTIFIC CAPABILITY IS SLOWLY GROWING IN CERTAIN COUNTRIES. IT IS OBVIOUS THAT COUNTRIES OF THE CARIBBEAN WILL BENEFIT BY THE RESOURCES OF THEIR ECONOMIC ZONES IF THEY ARE IDENTIFIED AND MANAGED WISELY. IT IS ALSO CLEAR THAT REGIONAL COOPERATION IN THE CARIBBEAN IS ESSENTIAL TO PRODUCE THE ECONOMIC BENEFITS THAT WILL STEM FROM PROGRAMS AND COOPERATION. I HAVE ASKED OMS TO WORK WITH THE NATIONAL ACADEMY OF SCIENCES' OCEAN STUDIES BOARD TO DEVELOP A PROGRAM PLAN FOR THE CARIBBEAN. THIS PLAN WOULD REQUIRE FUNDING, AND WE WOULD LOOK TO THE USUAL SOURCES WHEN A PLAN IS DEVELOPED. AS IN OTHER REGIONAL PROGRAMS, AGENCIES AND ACADEMIC INSTITUTIONS WOULD BE THE PARTICIPANTS AND MANAGERS OF THE ACTIVITIES DEVELOPED. SINCE MOST U.S. FOREIGN RESEARCH IS CONDUCTED IN THE CARIBBEAN, IF ONE INCLUDES THE RESEARCH CONDUCTED OFF MEXICO, IT IS EXPECTED THAT A SUCCESSFUL PROGRAM WOULD RESULT IN A GREATER APPRECIATION OF MSR OVERALL.

#### THE CHALLENGE

IN REVIEWING THE ORIGINS OF UNOLS AND OES, IT IS REVEALING THAT BOTH BEGAN OPERATING IN THE EARLY 1970'S. PERHAPS THIS IS NOT SURPRISING, SINCE IN 1974 THE THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA OPENED. APPARENTLY, BOTH ACADEMIA AND THE CONGRESS WERE FEELING THE EFFECTS OF COASTAL STATE

EXPANSIONISM IN THE EARLY 1970'S AND WISELY ACTED IN ANTICIPATION OF NEW RESPONSIBILITIES. SINCE WE ALL KNOW THE CHICKEN NEVER COMES BEFORE THE EGG, THE TRUTH MUST BE SOMEWHERE IN BETWEEN. PROBLEMS WERE ALREADY BEGINNING TO DEVELOP IN ACQUIRING ACCESS AS A RESULT OF UNILATERAL RESTRICTIONS ON RESEARCH, AND THE FINANCIAL BURDEN OF MANAGING A GROWING RESEARCH FLEET DICTATED THAT COORDINATION BETWEEN INSTITUTIONS AND THE GOVERNMENT BE IMPROVED. COUPLE THIS WITH THE EXCITEMENT GENERATED BY THE PROSPECT OF RESOURCE AND ENERGY ALTERNATIVES IN THE OCEAN, AND WITH THE RECOMMENDATIONS OF THE STRATTON COMMISSION, AND THE RATIONALE FOR THE CREATION OF UNOLS AND OES IS CLEAR.

NOW, PERHAPS MORE THAN BEFORE, THERE ARE IMPORTANT REASONS FOR THE MARINE SCIENCE COMMUNITY AND THE STATE DEPARTMENT TO WORK CLOSELY TOGETHER. THE MOST IMPORTANT, IN MY VIEW, IS THAT WE ARE NOW PERCEIVED AS ONE. THE LAW OF THE SEA TREATY PLACES RESPONSIBILITY ON ALL OF US IF ONE RESEARCH VESSEL RUNS AFOUL. FOREIGN GOVERNMENTS MAY LIMIT THEIR RETALIATION TO ONE INSTITUTION OR ONE AGENCY, BUT THE PRACTICAL EFFECT REACHES US ALL, MAINLY BECAUSE IN FOREIGN GOVERNMENTS THE NUMBER OF PEOPLE DEALING WITH CLEARANCES IS SMALL AND THEY PERSONALLY VIEW VIOLATIONS OF THEIR LAW AS ACTS COMMITTED BY THE RESEARCHING COUNTRY. THE LOS TREATY REQUIRES PROCESSING OF CLEARANCES THROUGH OFFICIAL CHANNELS, AND POST-CRUISE OBLIGATIONS ARE THE RESPONSIBILITY OF THE RESEARCHING STATE. THIS SIMPLE FACT DICTATES THAT WE IMPROVE COORDINATION OF THE ENTIRE RESEARCH OPERATION FROM PLANNING THROUGH THE POST-CRUISE OBLIGATION STAGE.

I HAVE BEEN REMINDED OF A WORKSHOP ON FACILITATION OF RESEARCH IN FOREIGN WATERS SPONSORED BY UNOLS AND THE NATIONAL ACADEMY OF SCIENCES IN THE LATE 1970'S, WHEN WARREN WOOSTER EXHORTED THE MEMBERSHIP TO DEVELOP RECOMMENDATIONS WHICH WOULD PROVIDE GREATER BENEFITS TO THE HOST COUNTRIES THAN SIMPLY THE MINIMUM REQUIRED FOR ACCESS. I THINK WARREN WAS RIGHT ON TARGET. TODAY, UNFORTUNATELY, MANY FOREIGN GOVERNMENTS VIEW ACCESS TO THEIR ECONOMIC ZONES AS A COMMODITY THAT CAN BE TRADED. TO A LESSER DEGREE, MANY BELIEVE THEY MUST BENEFIT FROM RESEARCH CONDUCTED IN THEIR WATERS OR AT LEAST BE ABLE TO CONVINCING THEIR POPULACE THAT THEIR COUNTRY IS DERIVING SOME BENEFITS. THUS, THE CHALLENGE. WHAT ARE SOME OF THE STEPS WE CAN TAKE TOGETHER TO ASSURE ACCESS?

ON PLANNING RESEARCH CRUISES IT IS CRITICAL TO UNDERSTAND THE CLEARANCE REQUIREMENTS OF THE HOST COUNTRIES, THE POLITICS, AND THE JURISDICTIONAL CLAIMS. IMPROVED COORDINATION CAN BE ACHIEVED HERE BY PARTICIPATION OF PERSONNEL FROM THE MARINE SCIENCE OFFICE AT THE UNOLS SCHEDULING MEETINGS AND THE SPECIAL EXPEDITIONARY TASK FORCE.

WHEN A UNOLS VESSEL ENTERS A FOREIGN PORT, IT IS REALLY AN EXTENSION OF AMERICA. THE SCIENTISTS AND SHIP OPERATORS HAVE AN EXCELLENT OPPORTUNITY TO INTERACT, EXCHANGE IDEAS ABOUT RESEARCH, AND ESTABLISH BETTER UNDERSTANDING ON THE CONDUCT OF THE RESEARCH. ACTIVITIES RANGING FROM INFORMAL CHATS AND RECEPTIONS TO SEMINARS AND WORKSHOPS SHOULD, WHENEVER POSSIBLE, BE PART OF ROUTINE PORT CALLS. AS YOU KNOW, THESE ACTIVITIES

USUALLY CANNOT BE PLANNED ON SHORT NOTICE, AND THEY WILL ONLY OCCUR IF THERE IS A MECHANISM TO MAKE THEM HAPPEN. THIS IS AN AREA IN WHICH UNOLS COULD WORK WITH STATE, BUT PERHAPS ALSO WITH THE OFFICE FOR INTERNATIONAL MARINE SCIENCE COOPERATION BEING DEVELOPED BY DAVID ROSS AT WOODS HOLE. DAVE'S PLAN IS TO PROVIDE A FOCAL POINT IN THE COMMUNITY FOR COLLECTING INFORMATION RELATED TO COOPERATIVE MARINE SCIENCE AND PROVIDING IT TO SCIENTISTS THAT REQUIRE IT TO FURTHER THEIR PROGRAMS. WE INTEND TO COOPERATE FULLY WITH THE OFFICE AS I SEE IT AS BEING FULLY SUPPORTIVE OF OUR BASIC OBJECTIVE - CONTINUED ACCESS TO FOREIGN WATERS.

A RECENT LETTER FROM STATE TO UNOLS INQUIRED IF UNOLS COULD PROVIDE ASSISTANCE TO OTHER COUNTRIES IN THE AREA OF SHIP OPERATIONS AND MANAGEMENT. THIS WAS BASED ON A REQUEST FROM THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION FOR ASSISTANCE TO MEMBER STATES. UNOLS HAS TREMENDOUS EXPERTISE IN THIS AREA, INCLUDING SHIPBOARD TECHNOLOGY, SCHEDULING, SAFETY, ETC. PERHAPS A WORKSHOP OR SERIES OF WORKSHOPS COULD BE ACCOMPLISHED AT A MODEST COST, AND AGAIN IT COULD GREATLY INFLUENCE GOVERNMENTS TO HAVE A POSITIVE ATTITUDE REGARDING MSR. I UNDERSTAND THAT THE RESEARCH VESSEL OPERATORS COUNCIL LAST MONTH DECIDED TO INVITE MEXICAN AND CANADIAN OFFICIALS TO THEIR NEXT MEETING. I APPLAUD THIS AS A VERY POSITIVE ACTION.

NEW AND INNOVATIVE IDEAS ARE NEEDED THAT GO BEYOND OUR PRESENT MIND-SET, AS WARREN STATED. PERHAPS THE UNOLS ADVISORY COUNCIL AND INTERNATIONAL COMMITTEE COULD FOCUS ON WAYS TO BETTER UTILIZE OUR RESEARCH FLEET TO MAKE U.S. RESEARCH MORE

ATTRACTIVE TO FOREIGN GOVERNMENTS. SHARED USE OF RESEARCH VESSELS, CO-FUNDING OF PROJECTS, DEDICATED SHIP-TIME TO SUPPORT ORGANIZATIONS LIKE THE IOC, OR PERHAPS AN INTERNATIONAL RESEARCH PLATFORM, MIGHT BE POSSIBLE. FUNDING, OF COURSE, IS A MAJOR CONSIDERATION HERE. CLEARANCE PROBLEMS OR CREEPING JURISDICTION MIGHT BE AVOIDED BY AN INVESTMENT NOW, WHICH MIGHT HAVE A SIGNIFICANT IMPACT ON THE WORLD'S PERCEPTION OF MSR IN THE FUTURE. I APPRECIATE HOW DIFFICULT IT IS NOW TO MAINTAIN A VIABLE FLEET, AND I RECALL ADMIRAL BRAD MOONEY'S WARNING THAT ON ANY ONE DAY THERE ARE MORE SOVIET RESEARCH VESSELS AT SEA THAN WE HAVE IN OUR ENTIRE FLEET. WITH THIS REALITY IN MIND, IT MIGHT BE POSSIBLE BY COMBINED EFFORT TO MAKE SOME HEADWAY WITH NEW INITIATIVES. IT IS OUR INTENTION TO WORK MORE CLOSELY WITH UNOLS AND THE ADVISORY COUNCIL TO EXPLORE WHAT CAN BE DONE.

IN CONCLUSION, THE CHALLENGE OF PRESERVING THE RIGHT TO CONDUCT MARINE SCIENTIFIC RESEARCH IS REAL. I PREFER TO VIEW IT AS A CHALLENGE RATHER THAN A PROBLEM, AND THE RESPONSE REQUIRES GOVERNMENT, UNOLS, AND OTHER REPRESENTATIVE BODIES TO WORK TOGETHER IF WE ARE TO BE SUCCESSFUL. YOU HAVE MY ASSURANCES THAT WE WILL DO OUR PART, BUT WE CAN'T DO IT ALONE WITHIN EXISTING PERSONNEL CONSTRAINTS. I WELCOME RECOMMENDATIONS FOR STRENGTHENING THE MARINE SCIENCE PROGRAM IN THE STATE DEPARTMENT. THANK YOU FOR THIS OPPORTUNITY TO SHARE MY IDEAS WITH YOU, AND I LOOK FORWARD TO A CONTINUED CLOSE ASSOCIATION WITH UNOLS AND ITS MEMBERS.

## PURPOSE AND ORGANIZATION OF THE UNOLS ADVISORY COUNCIL

The University National Oceanographic Laboratory System (UNOLS) was founded to create a mechanism for coordinated utilization of and planning for oceanographic facilities, especially, ships. UNOLS also promotes Federal and other support for academic oceanography, thereby maintaining and enhancing the excellence of this nation's oceanographic program. An underlying principal is that control of operations and scheduling remains with operating institution, thereby maintaining the close coupling between fleet users and operators. It promotes cooperative scheduling, financial efficiency, operator accountability, fleet maintenance and replacement, safety, and access to the fleet for scientists outside the institutions. UNOLS plays a key part in most decisions affecting the fleet.

Oceanography no longer is pursued only from ships. Our community is acquiring other large assets that will require information exchange and cooperative management. These include super-computers, imagery analysis systems, seismic arrays, and bio-technical laboratories. UNOLS now is organizing to assist the community with acquisition and cooperative management of these new sorts of facilities.

Most of the day-to-day work of UNOLS is done by the executive office under Capt. William Barbee, located at the School of Oceanography of the University of Washington. He is provided direction on a regular basis by the UNOLS Advisory Council composed of eight scientists elected by the UNOLS members and associate members, plus the chairman and vice-chairman of UNOLS. The Advisory Council has organized for its tasks by assigning to its members a set of standing roles described below. Council members stay current with developments related to their standing roles, and acting upon that information they promote changes and activities that will improve fleet and facility operations.

We seek the assistance of the UNOLS community, both administrators and scientists, with fulfilling these standing roles. We hope you will contact Advisory Council Members when your concern match their assignment. Our names and addresses are at the end of this essay. We are all on telemail with boxes addressed as C.Lorenzen, F.Webster, etc., and the whole Council can be reached as ADVISORY.COUNCIL. The chairman will be glad to assist you in communicating with the Council. It is a way of communicating with the whole oceanographic community.

## UNOLS Advisory Council Standing Roles

### A. Roles regarding effective operation and management of the UNOLS fleet:

1. Oversight of the joint scheduling process  
East Coast scheduling committee - Harris Stewart  
West Coast scheduling committee - John Martin  
University National Expeditionary Planning - Robert Corell  
ALVIN Review Committee - Robert Corell
2. Fleet effectiveness review  
User assessment forms - Carl Lorenzen  
Vessel inspection process - Robert Dinsmore  
Preparation for triennial review - Charles Miller
3. Fleet replacement - Robert Dinsmore
4. Shipboard scientific instrumentation, technician programs and user manuals - John Martin

### B. Roles in communications and liaison

5. Editing the UNOLS News - Thomas Malone
6. Minutes, Advisory Council Resolutions, Direct Correspondence with the membership - Charles Miller, William Barbee
7. Oversight of the UNOLS and federal agency statistical base - Ferris Webster
8. International Restrictions to Ocean Science Committee - Harris Stewart, Robert Corell
9. Mechanisms for acquisition and management of advanced technical facilities - Charles Miller, Chris Mooers
10. Forecast of scientific and governmental trends through federal agency contact - Chris Mooers, Art Maxwell, Ferris Webster

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SUMMARY SHEETS  
SCIENCE MISSION REQUIREMENTS  
FOR  
NEW LARGE OCEANOGRAPHIC RESEARCH SHIPS  
OCTOBER, 1985

Attached are summary sheets comparing key features of the UNOLS Fleet Replacement science requirements for new large ships:

High Endurance Ship - 250-300 feet

SWATH Ship - 200-250 feet

(with characteristics very similar to High Endurance Ship except features unique to SWATH ships)

Medium Endurance Ship - 200-250 feet

(envisioned as direct replacements for existing large ships)

These requirements are held under continuing updates and comments are always invited.

Wind and Sea Scale for Fully Arisen Sea

Sea state	Description	Wind				Sea								Sea state		
		Beaufort wind force	Description	Range, knots	Wind velocity, knots†	Wave height, ft			Significant range of periods, sec	I <sub>max</sub> , period of maximum energy of spectrum	T̄ average period	L̄ average wave-length	Minimum fetch, nmi		Minimum duration, hr	
						Average	Significant	Average to highest								
0	Sea like a mirror.	0	Calm	Less than 1	0	0	0	0								0
	Ripples with the appearance of scales are formed, but without foam crests.	1	Light air	1-3	2	0.05	0.08	0.10	Up to 1.2 sec	0.7	0.5	10 in.	5	18 min		
1	Small wavelets, still short but more pronounced; crests have a glassy appearance, but do not break.	2	Light breeze	4-6	5	0.18	0.29	0.37	0.4-2.8	2.0	1.4	6.7 ft	8	39 min		1
	Large wavelets, crests begin to break. Foam of glassy appearance. Perhaps scattered white horses.	3	Gentle breeze	7-10	8.5	0.6	1.0	1.2	0.8-5.0	3.4	2.4	20	9.8	1.7 hr		
2	Small waves, becoming larger; fairly frequent white horses.	4	Moderate breeze	11-16	10	0.88	1.4	1.8	1.0-6.0	4	2.9	27	10	2.4		2
					12	1.4	2.2	2.8	1.0-7.0	4.8	3.4	40	18	3.8		
3	Moderate waves, taking a more pronounced long form; many white horses are formed (chance of some spray).	5	Fresh breeze	17-21	13.5	1.8	2.9	3.7	1.4-7.6	5.4	3.9	52	24	4.8		3
					14	2.0	3.3	4.2	1.5-7.8	5.6	4.0	59	28	5.2		
4	Large waves begin to form; the white foam crests are more extensive everywhere (probably some spray).	6	Strong breeze	22-27	16	2.9	4.6	5.8	2.0-8.8	6.5	4.6	71	40	6.6		4
					18	3.8	6.1	7.8	2.5-10.0	7.2	5.1	90	55	8.3		
5					19	4.3	6.9	8.7	2.8-10.6	7.7	5.4	99	65	9.2		5
					20	5.0	8.0	10	3.0-11.1	8.1	5.7	111	75	10		
6					22	6.4	10	13	3.4-12.2	8.9	6.3	134	100	12		6
					24	7.9	12	16	3.7-13.5	9.7	6.8	160	130	14		
					24.5	8.2	13	17	3.8-13.6	9.9	7.0	164	140	15		
					26	9.6	15	20	4.0-14.5	10.5	7.4	188	180	17		

7	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind (spindrift begins to be seen).	7	Moderate gale	28-33	29	11	18	23	4.5-15.5	11.3	7.9	212	230	20		
					30	14	22	28	4.7-16.7	12.1	8.6	250	280	23		
8	Moderately high waves of greater length; edges of crests break into spindrift. The foam is blown in well-marked streaks along the direction of the wind. Spray affects visibility.	8	Fresh gale	34-40	30.5	14	23	29	4.8-17.0	12.4	8.7	258	290	24		7
					32	16	26	33	5.0-17.5	12.9	9.1	285	340	27		
9	High waves. Dense streaks of foam along the direction of the wind. Sea begins to roll. Visibility affected.	9	Strong gale	41-47	34	19	30	38	5.5-18.5	13.6	9.7	322	420	30		
					36	21	35	44	5.8-19.7	10.3	10.3	363	500	34		
10	Very high waves with long overhanging crests. The resulting foam is in great patches and is blown in dense white streaks along the direction of the wind. On the whole, the surface of the sea takes a white appearance. The rolling of the sea becomes heavy and shock-like. Visibility is affected.	10	Whole gale*	48-55	37	23	37	46.7	6-20.5	14.9	10.5	376	530	37		
					38	25	40	50	6.2-20.8	15.4	10.7	392	600	38		
11	Exceptionally high waves (small and medium-sized ships might for a long time be lost to view behind the waves). The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere the edges of the wave crests are blown into froth. Visibility affected.	11	Storm*	56-63	40	28	45	58	6.5-21.7	16.1	11.4	444	710	42		
					42	31	50	64	7-23	17.0	12.0	492	830	47		
12	Air filled with foam and spray. Sea completely white with driving spray; visibility very seriously affected.	12	Hurricane*	64-71	44	36	58	73	7-24.2	17.7	12.5	534	960	52		
					46	40	64	81	7-25	18.6	13.1	590	1110	57		
					48	44	71	90	7.5-26	19.4	13.8	650	1250	63		
					50	49	78	99	7.5-27	20.2	14.3	700	1420	69		
					51.5	52	83	106	8-28.2	20.8	14.7	736	1560	73		
					52	54	87	110	8-28.5	21.0	14.8	750	1610	75		
					54	59	95	121	8-29.5	21.8	15.4	810	1800	81		
					56	64	103	130	8.5-31	22.6	16.3	910	2100	88		9
					59.5	73	116	148	10-32	24	17.0	985	2500	101		
					>64	>80‡	>128‡	>164‡	10-(35)	(26)	(18)	~	~	~		

\* For hurricane winds (and often whole gale and storm winds) required durations and fetches are rarely attained. Seas are therefore not fully arisen.

† A heavy box around this value means that the values tabulated are at the center of the Beaufort range.

‡ For such high winds, the seas are confused. The wave crests blow off, and the water and the air mix.

Source: W. A. McEwen and A. H. Lewis, "Encyclopedia of Nautical Knowledge," p. 483, Cornell Maritime Press, Cambridge, Md., 1953. "Manual of Seamanship," pp. 717-718, vol. II, Admiralty, London, H.M. Stationery Office, 1952. Pierson, Neumann, James, "Practical Methods for Observing and Forecasting Ocean Waves," New York University College of Engineering, 1953.

## GENERAL

### High Endurance Ship

The ship is to serve as a large general purpose oceanographic research ship. The primary requirement is for a high endurance vessel capable of worldwide cruising (except in close pack ice) and able to provide both overside and laboratory work to proceed in greater capacity and in higher sea states than is now available. Other general requirements are larger scientific parties, reliability, flexibility, cleanliness, vibration and noise free, and an overall upgrading of quality for doing science and engineering at sea.

### Large SWATH Ship

The ship is to serve as a large general purpose research ship. The most overriding required characteristic is that the ship provide the most stable environment possible in order to allow both overside and laboratory work to proceed in greater capacity and in higher sea states than is now possible. Other general requirements are larger scientific parties, reliability, flexibility, cleanliness, vibration and noise free, and an overall upgrading of quality for doing science and engineering at sea.

### Medium Endurance Ship

The ship is to serve as a medium to large general purpose research ship. The primary requirement is a maximum capability commensurate with ship size to support science and engineering operations at sea in terms of overside equipment handling, laboratory qualities, and a clean vibration free and stable environment for precision measurements.

## OPERATING CHARACTERISTICS

### High Endurance Ship

- Size:** The size ultimately is determined by the requirements. It seems likely that these will result in a vessel larger than present academic ships. However, the LOA should not exceed 300 feet.
- Endurance:** Sixty days; providing the ability to transit to the most remote area and work 3 - 4 weeks on station.
- Speed:** 15 knots cruising; sustainable through Sea State 5. Speed control plus/minus 0.1 knot in 0-6 knot range; and plus/minus 0.2 knot in range 6-15 knots.

### Large SWATH Ship

- Size:** The size ultimately is determined by the requirements.
- Endurance:** Forty-five days; providing the ability to transit 21 days at cruising speed and 24 days station work (see stationkeeping and towing); 10,000 mile total range.
- Speed:** 15 knots cruising; sustainable in Sea State 6. Speed control plus/minus 0.1 knot in 0-8 knot range; and plus/minus 0.2 knot in range 9-15 knots.

### Medium Endurance Ship

- Size:** The size ultimately is determined by the requirements. However, it is intended that this is a class ship to be a direct replacement of the current large university research ships such as the AGOR-3 Class (210 ft. LOA).
- Endurance:** Fifty days; providing the ability to transit 24 days at cruising speed and 24 days station work (see stationkeeping and towing); 12,000 mile total range.
- Speed:** 14 knots cruising; sustainable through Sea State 4. Speed control plus/minus 0.1 knot in 0-6 knot range; and plus/minus 0.2 knot in range 6-14 knots.

## SCIENCE ACCOMODATIONS

### High Endurance Ship

25 - 30 scientific personnel in two-person staterooms. Expandable to 40 through the use of vans. Science library-lounge with conference capability. Science office.

### Large SWATH Ship

25 - 30 scientific personnel in two-person staterooms. Expandable to 35-40 through the use of vans. Science library-lounge with conference capability. Science office.

### Medium Endurance Ship

20 - 25 scientific personnel in two-person staterooms. Expandable to 30 through the use of vans. Science library-lounge with conference capability. Science office.

SEAKEEPING  
STATION KEEPING

High Endurance Ship

Maintain science operations in following speeds and sea states:

15 knots cruising through Sea State 5  
8 knots cruising through Sea State 6  
6 knots cruising through Sea State 7

Maintain station and work in Sea States through 5;  
limited work in SS 6

Large SWATH Ship

Maintain science operations in following speeds and sea states:

15 knots cruising through Sea State 6  
10 knots cruising through Sea State 7

Maintain station and work in Sea States through 6; limited work in SS 7.

Medium Endurance Ship

Maintain science operations in following speeds and sea states:

12 knots cruising through Sea State 5  
8 knots cruising through Sea State 6  
6 knots cruising through Sea State 7

Maintain station and work in Sea States up through 5;  
limited in SS 6.

## STATION KEEPING

### All Ships

Dynamic Positioning: Depths to 6,000 m in wind speed 35 knots, SS-5 and 3-knot current, at best heading, using GPS and/or bottom transponders. Max excursion of 150 ft.

Precision Trackline: Maintain slow speed (2 knots mean speed) track under controlled conditions (GPS and/or bottom transponders in depths to 6,000 m) in wind speed 35 knots, SS-5 and 3-knot current, and ships heading within 45 degrees of intended track with a 10,000 lb. horizontal pull. +/- 0.1 knot speed control along track. Maximum lateral excursion 150 ft.

## ICE STRENGTHENING

### High Endurance Ship

Ability to transit loose pack (5/10 cover). Not intended for icebreaking or close pack work. Protection against encounters with growlers and other glacial ice difficult to detect.

### Large SWATH Ship

None. Not intended for icebreaking or work in pack ice.

### Medium Endurance Ship

Ability to transit loose pack (3/10 cover). Not intended for icebreaking or close pack work.



## DECK WORKING AREA

### High Endurance Ship

Spacious fantail area - 3,000 sq. ft. minimum with contiguous work area along one side 12 x 50 ft. minimum. Provide for deck loading up to 1,500 lbs./sq. ft. and an aggregate total of 100 tons.

Dry working deck but not greater than 7 - 10 ft. above waterline.

### Large SWATH Ship

Spacious; 4,000 sq. ft. minimum with work areas along all sides; bow and stern; and center well.

Provide for deck loading up to 1,500 lbs./sq. ft. and an aggregate total of 100 tons.

Approximately 15' x 30' center well accessible from working deck and interior deck.

### Medium Endurance Ship

Spacious fantail area - 2,000 sq. ft. minimum with contiguous waist work area along one side 12 x 40 ft. minimum. Provide for deck loading up to 1,200 lbs./sq. ft. and an aggregate total of 90 tons.

Dry working deck but not greater than 6 - 8 ft. above waterline.

### All Ships

Oversize holddowns on 2-ft. centers. Highly flexible to accommodate large and heavy equipment. Removable bulwarks and/or railings.

Usable clear foredeck area to accommodate specialized towers and booms extending beyond bow wave.

All working decks accessible for power, water, air, and data and voice communication ports.

## SHIPBOARD CRANES

### All Ships

A suite of modern cranes to handle heavier and larger equipment than at present: (1) to reach all working deck areas and offload vans and heavy equipment up to 20,000 lbs.; (2) articulated to work close to deck and water surface; (3) to handle overside loads up to 5,000 lbs., 30 ft. from side and up to 10,000 lbs. closer to side; (4) overside cranes to have servo controls and motion compensation; (5) usable as overside cable fairleads at sea.

Ship capable of carrying portable cranes for specialized purposes.

## WINCHES

### All Ships

New generation of oceanographic winch systems providing fine control (0.5 m/min); constant tensioning and constant parameter. Wire monitoring systems with inputs to laboratory panels and shipboard recording systems. Local and remote controls.

Permanently installed general purpose winches include:

- Two winches capable of handling 30,000 ft. of wire rope or electromechanical cables having diameters from 1/4" to 3/8".
- A winch complex capable of handling 40,000 ft. of 9/16" trawling or coring wire and 30,000 ft. of 0.68" electromechanical cable (up to 10 KVA power transmission and fibreoptics). This could be two separate winches or one winch with two storage drums.

Additional special purpose winches may be installed temporarily at various locations along working decks. Winch sizes may range up to 40 tons (140 sq. ft.) and have power demands to 300 h.p.

Winch control station(s) located for optimum operator visibility with reliable communications to laboratories and ship control stations.

Portable shelters available to winch work areas for instrument adjustments and repairs. Winch control station(s) located for optimum operator visibility with reliable communications to laboratories and ship control stations.

## OVERSIDE HANDLING

### High Endurance Ship Large SWATH Ship

Stern A-frame to have 20-ft. minimum horizontal and 30-ft. vertical clearance; 15-ft. inboard and outboard reaches.

Articulated stern ramp, 20-ft. minimum width, providing variable configurations ranging from a flush deck to a waterline platform.

### Medium Endurance Ship

Stern A-frame to have 15-ft. minimum horizontal and 25-ft. vertical clearance; 12-ft. inboard and outboard reaches.

Articulated stern ramp, 15-ft. minimum width, providing variable configurations ranging from a flush deck to a waterline platform.

### All Ships

Various frames and other handling gear to accommodate wire, cable and free launched arrays. Matched to work with winch and crane locations but able to be relocated as necessary.

Provision to carry additional overside handling rigs along working decks from bow to stern.

Control station(s) to give operator protection and operations monitoring and be located to provide maximum visibility of overside work.

## TOWING

### All Ships

Capable of towing large scientific packages up to 10,000 lbs. tension at 6 knots and 25,000 lbs. at 2.5 knots.

## LABORATORIES

### High Endurance Ship Large SWATH Ship

Approximately 4,000 sq. ft. of laboratory space including: Main Lab area (2,000 sq. ft.) flexible for frequent subdivision providing smaller specialized labs; Hydro lab (300 sq. ft.) and Wet lab (400 sq. ft.) both located contiguous to sampling areas; Bio-Chem Analytical lab (300 sq. ft.); Electronics/Computer lab and associated users space (600 sq. ft.); Darkroom (150 sq. ft.); climate controlled chamber (100 sq. ft.), and freezer (100 sq. ft.).

### Medium Endurance Ship

Approximately 3,000 sq. ft. of laboratory space including: Main Lab area (1,400 sq. ft.) flexible for frequent subdivision providing smaller specialized labs; Hydro lab (300 sq. ft.) and Wet lab (300 sq. ft.) both located contiguous to sampling areas; Bio-Chem Analytical lab (300 sq. ft.); Electronics/Computer lab and associated users space (500 sq. ft.); climate controlled chamber (100 sq. ft.), and freezer (100 sq. ft.).

### All Ships

Labs should be located so that none serve as general passageways. Access between labs should be convenient.

Labs to be fabricated using uncontaminated and "clean" materials and constructed to be maintained as such. Furnishings, HVAC, doors, hatches, cable runs, and fittings to be planned for maximum lab cleanliness.

Fume hoods to be installed permanently in Wet lab and Analytical lab. Main lab shall have provision for temporary installation of fume hoods.

Cabinetry shall be high grade laboratory quality including flexibility through the use of unistruts and deck boltdowns.

## PORTABLE LABS & VANS

### High Endurance Ship Large SWATH Ship

To carry four standardized 8 ft. by 20 ft. portable vans which may be laboratory, berthing, storage, or other specialized use. Hookup provision for power, HVAC, fresh water uncontaminated sea water, compressed air, drains, communications, data and shipboard monitoring systems. Van access direct to ship interior.

Provision to carry up to four additional portable non-standard vans (600 sq. ft. total) on superstructure and working decks. Supporting connections at several locations around ship including foredeck.

Ship should be capable of loading and offloading vans using own cranes.

### Medium Endurance Ship

To carry two standardized 8 ft. by 20 ft. portable vans which may be laboratory, berthing, storage, or other specialized use. Hookup provision for power, HVAC, fresh water uncontaminated sea water, compressed air, drains, communications, data and shipboard monitoring systems. Van access direct to ship interior.

Provision to carry up to three additional portable non-standard vans (500 sq. ft. total) on superstructure and working decks. Supporting connections at several locations around ship including foredeck.

Ship should be capable of loading and offloading vans using own cranes.

## BOATS

### All Ships

At least one and preferably two 16-ft. inflatable (or semi-rigid) boats located for ease of launching and recovery.

A scientific work boat 25 - 30 ft. LOA specially fitted out for supplemental operations at sea including collecting, instrumentation, and wide angle signal measurements. 12-hour endurance including both manned accommodations and automated operation. "Clean" construction. To be carried as a one of four-van options above.



## ACOUSTICAL SYSTEMS

### High Endurance Ship Large SWATH Ship

Design target is underway echo sounding at 15 knots at Sea State 5.

### Medium Endurance Ship

Design target is underway echo sounding at 14 knots at Sea State 4.

### All Ships

Ship to be as acoustically quiet as practicable in the choice of all shipboard systems and their location and installation.

Ship to have 12 kHz, 3.5 kHz echo sounding systems and provision for additional systems.

Phased array, multibeam precision echo sounding system (Sea Beam).

Transducers appropriate to dynamic positioning system.

Transducer wells (20") one located forward and one aft. Large pressurized sea chest (4 ft. x 8 ft.) to be located at optimum acoustic location for at-sea installation and servicing of transducers and transponders.

## SCIENTIFIC STORAGE

High Endurance Ship  
Large SWATH Ship

Total of 20,000 cubic ft. of scientific storage accessible to labs by elevator and weatherdeck hatch(es). Half to include suitable shelving, racks, and tie downs; remainder open hold.

Medium Endurance Ship

Total of 15,000 cubic ft. of scientific storage accessible to labs by interior and weatherdeck hatch(es). Half to include suitable shelving, racks, and tie downs; remainder open hold.

## SHIP CONTROL

### All Ships

Chief requirement is maximum visibility of deck work areas during science operations and especially during deployment and retrieval of equipment. This would envision a bridge-pilot house very nearly amidships and with unobstructed stern visibility.

The functions, communications, and layout of the ship control station should be carefully designed to enhance the interaction of ship and science operations. For example, ship course, speed, attitude, and positioning will often be integrated with scientific operations requiring control to be exercised from a laboratory area.

## MULTI-CHANNEL SEISMICS SYSTEMS

### High Endurance Ship Large SWATH Ship

Temporarily install and carry large array MCS system comprising two large capacity air compressors; streamer reel (10-ft. high, 15-ft. wide, 20-ton weight); rigging and booms to tow arrays with 100-meter separation; and up to four vans (600 sq. ft.) well aft in close proximity to towed arrays.

### Medium Endurance Ship

Temporarily install and carry large array MCS system comprising two large capacity air compressors; streamer reel (10-ft. high, 15-ft. wide, 20-ton weight); rigging and booms to tow arrays with 100-meter separation; and up to three vans (500 sq. ft.) well aft in close proximity to towed arrays.

Draft

**Priorities of Research Ship Requirements**

- (1) Seakeeping
  - Station Keeping
- (2) Work Environment
  - Lab Spaces and Arrangements
  - Deck Working Area: overside handling; winches and wire
- (3) Science Complement
- (4) Acoustical Characteristic
- (5) Operating Economy
- (6) Endurance
  - Range
  - Days at Sea
- (7) Speed
  - Ship Control
- (8) Pay Load
  - Science Storage
  - Weight Handling

## GEOLOGY/GEOPHYSICS OPTIONS

<u>REQUIREMENTS</u>	<u>LARGE GENERAL PURPOSE SHIP</u>			<u>INTERMED. GEN. PURPOSE SHIP</u>
	<u>HIGH ENDURANCE</u>	<u>MED. ENDURANCE</u>	<u>SWATH</u>	-----
MCS COMPRESSORS	PERMANENT	PERMANENT	PERMANENT	PORTABLE
CAPACITY	4000 CFM	3000 CFM	4000 CFM	1000 CFM
MCS STREAMER	PERMANENT	PORTABLE	PERMANENT	PORTABLE
LENGTH	7200 M	4000 M	7200 M	2400 M
SOURCE ARRAYS (NO.)	6-8	4	6-8	2
PARAVANES	YES	YES	YES	NO
PRECISION TRACKLINE	YES	YES	YES	YES
WIRELINER/ BOREHOLE RE-ENTRY	YES	YES	YES	YES

8/8/85

Schedule of  
Large R/V  
Scientific Outfitting  
Showing Estimated Costs

	\$ K
1. Two Pettibone #30 cranes or equivalent @ \$190K	380
2. One Pettibone #100 crane or equivalent @ \$300K	300
3. Two Hiab articulated cranes or equivalent @ \$60K	120
4. One gantry crane	95
5. Stern A-frame (submersible rated)	550
6. Side A-frame	120
7. Two hydro/CTD winches @ \$275K	550
8. One trawl/coring winch	500
9. One deep tow winch	500
10. Super Sea Beam	1,200
11. One 12 kHz system	40
12. One 3.5 kHz system	60
13. Doppler profiling system	85
14. Dynamic positioning	1,000
15. VAX 11/750 (or MICROVAX II) computer system/10 terminals	400
16. Four vans @ \$32K each	128
17. Cabinetry - 200 lin. ft. @ \$100/ft.	20
18. Lab hoods - 2 @ \$12K	24
19. Lab outfitting (misc.)	80
20. Uncontaminated sea water system	15
21. Refrigerator & climate chamber	130
22. Data communications	75
23. SATNAV - 2 @ \$35K	70
24. GPS (2) - 2 @ \$70K	140
25. SAIL system	60
26. Wire and cable - 8 each (4 sizes)	300
27. Photo lab outfit	50
28. Diving locker outfit	60
29. 30-ft. workboat	200
30. Two inflatable boats @ \$15K	30
Total	\$7,732

**UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM****EAST COAST SHIP SCHEDULING GROUP  
WEST COAST SHIP SCHEDULING GROUP  
REPORT OF JOINT MEETING**

October 22, 1985  
Rooms 543 and 628  
National Science Foundation  
1800 G Street  
Washington, D.C.

The East and West Regional Ship Scheduling Groups met separately (8:30 a.m.) and jointly (10:45 a.m.) at the National Science Foundation, Washington, D.C. The separate meetings were chaired by Robertson P. Dinsmore (East) and Brian Lewis (West). They co-chaired the joint meeting, together with a Special Meeting to address issues of potential lay-ups, consolidation of schedules, and arrangements to accommodate critical funded projects. All UNOLS Member institutions, together with interested Associate Member Institutions, were represented at the separate and joint meetings. The Special Meeting was attended by representatives of Ships/Institutions directly affected. ONR, MMS and USGS representatives provided information on ship needs, potential ship use and project funding. Representatives from NSF, OCFS, OSRS, ODP and DPP, provided full information on science project funding status, facilities and operations funding status, ocean drilling program plans and operational plans for the POLAR DUKE. Information provided by these Federal agency program managers was the basis for 1986 schedule changes made and lay-ups recommended to reduce total fleet operating costs to a level close to the anticipated total funding level.

Review of 1985 Schedules and Costs. Schedules and Costs for 1985 were quickly reviewed. They are summarized in the attached tables, 1985 Estimates, and in the following table, Profile of Funding Cycles, 1985 Cost Projections. Schedules for individual ships are being updated on the UNOLS bulletin board: SHIP.SCHED85.





PROFILE OF FUNDING CYCLES  
\$ MILLION

	OP DAYS	NSF	ONR	OTHER	TOTAL	SHORTFALL
1983	4,499	23.4	3.9	5.3	32.6	-
1984	4,816	23.1	4.0	7.0	34.6	-
1985 COST PROJECTIONS						
MARCH 84 PROJECTION (ANTICIPATED)	5,889	28.7 (25.0)	5.4 (5.4)	7.6 (7.6)	41.7 (38.0)	(3.7)
MAY 84 PROJECTION (ANTICIPATED)	5,999	31.0 (25.0)	4.9 (4.9)	6.6 (6.6)	42.5 (36.5)	(6.0)
OCTOBER 84 PROJECTION (ANTICIPATED)	5,213	28.4 (25.0)	4.2 (4.2)	4.2 (4.2)	36.8 (33.4)	(3.4)
MARCH 85 PROJECTION (ANTICIPATED)	4,952	26.5 (25.0)	4.0 (4.0)	5.6 (5.6)	36.2 (34.6)	(1.6)
MAY 85 PROJECTION (ANTICIPATED)	4,994	26.6 (25.0)	4.4 (4.4)	6.3 (6.3)	37.2 (35.7)	(1.5)
OCTOBER 85 PROJECTION (ANTICIPATED)	4,619	25.6 (25.6)	4.1 (4.1)	6.0 (6.0)	35.7 (35.7)	-

Review of 1986 Schedules, Costs and Agency Support. Summaries of 1986 ship operation cost estimates are in the table below.

SUMMARY OF 1986 COST PROJECTIONS

	OP DAYS	NSF	COSTS ONR	OTHER	TOTAL
OCT 22, 1985 PROJECTIONS					
EAST	2,884	15,963	3,470	2,886	22,318
WEST	2,426	15,226	1,325	2,920	19,470
TOTAL	<u>5,310</u>	<u>31,189</u>	<u>4,795</u>	<u>5,806</u>	<u>41,788</u>
ANTICIPATED*		25.5M	4.8M	5.8M	36.1
PROJECTED SHORTFALL		(5.7)	--	--	(5.7)

\*NSF, ONR and other program officials

## SIMILAR PROJECTIONS MADE MAY, 1985

EAST	3,220	15,470	5,008	2,642	23,120
WEST	2,537	16,782	772	2,160	19,716
TOTAL	<u>5,757</u>	<u>32,252</u>	<u>5,780</u>	<u>4,802</u>	<u>42,836</u>
ANTICIPATED		26.M	4.2M	3.8M	34.6M
PROJECTED SHORTFALL		(5.6)	(1.6)	-	(7.2M)

## SIMILAR PROJECTIONS MADE MARCH, 1985

EAST	3,150	15,595	4,244	2,408	22,247
WEST	2,550	16,392	1,189	1,392	18,974
TOTAL	<u>5,700</u>	<u>31,987</u>	<u>5,433</u>	<u>3,800</u>	<u>41,221</u>
ANTICIPATED					
PROJECTED SHORTFALL		?	?	?	?

Cost and operations projections for 1986 remained at a relatively high level, despite funding-agency forecasts that funds would remain at about 1985 levels. Total ship use was projected at over 5,300 days--a significant reduction from the 5,757 days forecast in May, 1985, but still, higher than the 4,500, 4,800 and 4,600 in 1983, 84 and 85.

Cost estimates exceeded the funding anticipated by \$5.7M, all within proposals to NSF. Further, science program managers indicated that funded science ship requirements would be less than the 5,300 days/\$41.8M ship use projected.

A project-by-project funding status review was made for all ships and schedules, together with efforts to eliminate transit time and consolidate schedules through intership project exchanges. (NSF program managers in particular provided excellent information on project funding status.) Virtually every project that had not already been funded was eliminated from 1986 schedule consideration. (Only a few projects still pending will receive schedule consideration. Further, NSF managers announced that for 1987 and subsequent years science proposals must be submitted in time for spring and summer (February, June) panels or they would not get ship time. Only extreme, time-critical justifications would be excepted.)

NSF program managers announced a number of ship operations funding decisions that also affected scheduling:

The CAYUSE would not be funded for operation in 1986. (MLML'S 1986 cost projections did not include CAYUSE operations.)

The CAPE FLORIDA would be transferred from the University of Miami to the West Coast for operation by MLML under CENCAL in 1986.

The OSPREY would not be funded for operation.

The various funding and operational decisions served to identify significant schedule changes in many ships:

East Coast	West Coast
CAPE HENLOPEN	OSPREY
CONRAD	SPROUL
ENDEAVOR	WASHINGTON
GYRE	WECOMA
ISELIN	
KNORR	

SPECIAL MEETING. A special meeting was convened at 1:30 p.m. to address schedule problems, especially among the above-listed ships, to identify cost savings and, potentially, to recommend additional lay-ups. Chairman of the two scheduling groups together with representatives of the University of Rhode Island, Texas A & M University, the University of Miami, Woods Hole, Scripps and Oregon State University attended.

Elimination of unfunded projects, schedule consolidation and some trading resulted in operator-estimated cost reductions:

EAST COAST	in \$1,000
CAPE HENLOPEN, reduction in days	130
CONRAD, reduction in days	200
ENDEAVOR, reduction in days	100
GYRE, reduction in days	50
ISELIN, reduction in days	140
KNORR, partial layup	1,170
	subtotal <u>\$1,790</u>
WEST COAST	
OSPREY, layup	435
SPROUL, reduction in days	100
WASHINGTON, reduction in days	450
WECOMA, reduction in days	120
	subtotal <u>\$1,105</u>
	TOTAL <u>\$2,895</u>

These savings would reduce the anticipated shortfall (both in NSF proposals and total fleet funding) from \$5.7M to \$2.8M.

The Chairmen of the two Ship Scheduling Groups noted that with the changes made, the WECOMA would have only 84 days operation in 1986. They recommended that, should additional cost-saving measures be required, the 84 days be transferred to other ships and the WECOMA be laid up for most or all of 1986. This could reduce fleet cost by an additional \$725,000, leaving a potential shortfall of \$2.1M.

A number of projects were identified to be shifted from one ship or institution to another; problems so identified were to be addressed by the ship operators involved in the days immediately following UNOLS meetings.

Ship schedules will be posted on the telemail bulletin board SHIP.SCHED86 as they are developed.

Current inventories of wire and cable together with requirements for 1986 were collected from individual institutions, for use in the Wire and Cable Pool.

Ship scheduling meetings were adjourned at 3:10 p.m.

Date 22 October 1985

## 1986 COST PROJECTIONS

## PROJECTED 1986 COSTS

SHIP	1985 COSTS NSF	1985 COSTS (Proposed	1985 OP DAYS	1986 OP DAYS	NSF	ONR	OTHER	TOTAL
ATLANTIS II	2815	3230	267	261	2350	149	1041	3540
KNORR	1721	2542	186	255	2074	1476	-	3550
CONRAD	2301.2	3264	358	320	2290.7	770.6	NRL 316.7	3378
OCEANUS	1218	1658	226	252	1229	661	-	1890
ENDEAVOR	1478	1797	253	238	1247	73	406	1726
GYRE	942	1920	268	294	1856	91	120	2067
ISELIN	437	448	Laid Up	246	1846	120	-	1966
CAPE HENLOPEN	542.8	925	167	194	627	111	31MMS 181	950
CAPE HATTERAS	1026	1412	245	244	1168	-	178MMS 58 State	1404
CAPE FLORIDA	-	-	-	-	-	-	-	-
WARFIELD	506	506	138	137	577	-	-	577
BLUE FIN	81	190	140	136	77	-	DOE 86	163
LAURENTIAN	136	146	43	120	370	-	6	376
CALANUS	170	238	157	177	251	18	-	269
MOORE	200	466	44	10	-	-	State 462	462
TOTAL	13,574	18,742	2,492	2,884	15,963	3,470	2,886	22,318
WEST COAST	11,987	16,947	2,127	2,426	15,226	1,325	2,920	19,470
TOTALS	25,561	35,689	4,619	5,310	31,189	4,795	5,806	41,788

Date 22 October 1985

1986 COST PROJECTIONS

PROJECTED 1986 COSTS

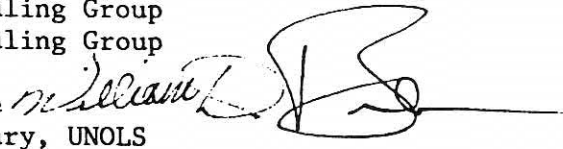
SHIP	1985 COSTS NSF	1985 COSTS (Proposed	1985 OP DAYS	1986 OP DAYS	NSF	ONR	OTHER	TOTAL
MELVILLE	2572	3129	275	231	2547	-	DOE 414 UC 26	2986
WASHINGTON	1019	2833	239	280	2902	401	-	3303
NEW HORIZON	871	1537	194	236	1080	45	DOE 302 UC 355	1782
ROBT. G. SPROUL	381	580	131	223	735	10	DOE 35	780
VELERO IV /OSPREY	364	382	85	OSPREY 101	635	-	GS 104 NPS 139	878
CAYUSE/C.FLA	231	422	106	C.FLA 159	328	52	594	974
WECOMA	1462	1666	213	201	1333	152	313	1798
THOMPSON	2224	2640	271	280	2688	448	-	3136
BARNES	198	230	150	200	229	7	26	262
ALPHA HELIX	1478	1528	153	207	1534	-	15	1549
MOANA WAVE	1187	2000	310	308	1215	210	597	2022
TOTAL	11,987	16,947	2,127	2,426	15,226	1,325	2,920	19,470

## UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

An association of institutions  
for the coordination and support  
of university oceanographic facilities

UNOLS Office, WB-15  
School of Oceanography  
University of Washington  
Seattle, Washington 98195  
(206) 543-2203

TO: East Coast Scheduling Group  
West Coast Scheduling Group

FROM: William D. Barbee   
Executive Secretary, UNOLS

SUBJECT: Scheduling Meetings, October 22, 1985

The Fall Meetings for the East Coast and West Coast Ship Scheduling Groups, a joint meeting of the two groups, a special meeting to address problem schedules, consolidate to produce effective schedules and, potentially, to recommend necessary lay-ups will be held Tuesday, October 22, 1985 in Washington, D.C. The UNOLS National Expeditionary Planning Committee will also meet.

#### Schedule of Meetings

8:30 a.m. - 10:30 a.m.	East Coast Group	Room 543 National Science Foundation 1800 G Street NW
	West Coast Group	Room 628 National Science Foundation 1800 G Street NW
10:30 a.m. - 12:00 noon	Joint Meeting East and West Coast Groups	Room 543
1:00 p.m. - 2:30 p.m.	Special Meeting Representatives of affected ships/institutions	Room 543
2:30 p.m. - 5:00 p.m.	UNEPC	Room 543

Attachments: Ship.Sched 85 - Your ships, latest entries  
Ship.Sched 86 - Your ships, latest entries  
1985 Cost estimates dated May 21, 1985  
1986 Cost estimates dated May 21, 1985

#### Distribution:

UNOLS Institutions:

University of Hawaii:

Helsley  
Campbell

University of Alaska:	Royer Dieter
University of Washington:	Lewis Jeffers
Oregon State University	Caldwell Gutierrez Palfrey
Moss Landing Marine Laboratories:	Martin Johnston
University of Southern California:	Douglas Keach Newman
University of California-Scripps:	Shor
University of Michigan:	Beeton Katz
Texas A & M University:	Treadwell
University of Texas:	Maxwell Jones Mitchell
University of Miami, R.S.M.A.S.:	Van Leer Hutchinson
University System of Georgia, Skidaway:	Menzel
Duke/University of North Carolina:	Frankenberg Nelson Ustach
Johns Hopkins University - C.B.I.:	Harding Cornwall
University of Delaware:	Thoroughgood Owen
Columbia University, LDGO:	Hayes Rawson Shor
University of Rhode Island:	Griffin Bash
Woods Hole Oceanographic Institution:	Grice Dinsmore Donnelly



UNEPC Members not already included:

Rooth  
Corell  
Hussong  
Langseth

Agencies:

NSF:

Heinrichs  
McMillan  
Clark  
West  
Wall  
La Count

ONR:

Kaulum  
Lovaas

NOAA:

Townsend  
Albright  
Finkle

USGS:

Rowland

MMS:

Thomas

DOE:

Osterberg

EPA:

Mclain

Stewart  
(A/C representative)

# UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

## AGENDA

### INDIVIDUAL MEETINGS

1. Assemble institution inputs on 1985 ship schedules, operations, ship costs and agency support. The 1985 information will not be reviewed--or review will be extremely brief unless there are explicit problems.
2. Review and discuss projected 1986 ship schedules, operations and costs, and agency support.

Update 1986 ship scheduling information as shown on current Ship.Sched.86 bulletin board (attached for your ships).

Update by ship 1986 Cost Projections (basis will be 1986 Cost Projections dated May 21, 1985). Institutions should use their latest information to update the May 21 summaries.

3. Assembly of any unfilled 1986 Ship Time Requests held by operating institutions.
4. Comparison of unfilled 1986 Ship Time Requests with Tentative Schedules. Address problems, revise schedules as necessary.
5. New (since May, 1986) information on expeditionary plans 1987 and beyond.

### JOINT MEETING

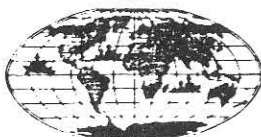
6. Combine East and West Coast ship schedules, operating, costs, and agency support information for 1985. This information will not be reviewed unless there are problems.
7. Combine East and West Coast Ships Schedules, operating cost and agency support information for 1986. Assemble unfilled 1986 Ship Time Requests.

Includes comparison of projected total UNOLS fleet costs for 1986 with estimated agency support.

Identify problems with unfilled 1986 Ship Time Requests. Resolve as possible.

Identify ships or segments of the fleet with marginal or ineffective schedules for 1986.

8. Assembly of expeditionary planning information (for UNEPC)



9. Wire and Cable Pool.

Report on current inventories of wire and cable.  
Wire and cable requirements for 1986.

SPECIAL SCHEDULING MEETING.

A meeting had been scheduled for September 24 to address problem areas anticipated in the 1986 schedules for Class C ships. The meeting was later deferred.

This Special Meeting is called to:

Address problems in schedules for individual ships or segments of the UNOLS fleet.

Identify ships or segments of the fleet with marginal or ineffective schedules for 1986 (see Joint Meeting Agenda).

Consolidate or rearrange schedules to accommodate unfilled funded Ship Time Requests and develop effective schedules.

Recommend 1986 Ship lay-ups as necessary.

Attendees at this meeting should be representatives of those ships or institutions with 1986 scheduling problems or who would be affected by rescheduling.

MATERIALS FOR OCTOBER 22 MEETING

So that meetings can progress effectively, each UNOLS institution should bring the following information:

- 15 Copies: Update 1985 ship schedules.  
Please mark up the attached schedule from Ship.Sched85.
- 15 Copies: Update 1985 Cost Estimates.  
Mark up to correct the attached 1985 Cost Estimates.
- 15 Copies: Update 1986 ship schedules.  
Mark up to correct attached schedules from Ship.Sched86.
- 15 Copies: Update 1986 Cost Projections.  
Mark up to correct attached 1986 Cost Projections summary.
- 15 Copies: Unfilled 1986 Ship Time Requests held by your institution.
- 15 Copies: New information on post 1986 expeditionary plan.
- 15 Copies: Table 1 (B), Section 8, your 1986 Ship Ops Proposal (1985 costs)
- 15 Copies: Table 1 (C), Section 8, your 1986 Ship Ops Proposal (1986 Costs)
- 5 Copies: Current standard size wire and cable inventories and requirements for 1986

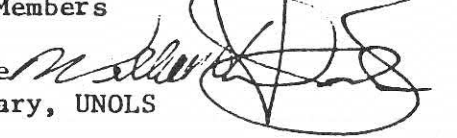
# UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

An association of institutions  
for the coordination and support  
of university oceanographic facilities

UNOLS Office, WB-15  
School of Oceanography  
University of Washington  
Seattle, Washington 98195  
(206) 543-2203

3 October 1985

TO: UNOLS Members  
UNOLS Associate Members

FROM: William D. Barbee   
Executive Secretary, UNOLS

SUBJECT: Applications for Associate Membership

The Advisory Council, at their August, 1985 meeting, reviewed Applications for Associate Membership from Harvard University, Committee on Oceanography and from the University of South Carolina, Marine Science Program. The Advisory Council recommended both institutions for Associate Membership, and their applications will be presented to UNOLS membership for action on October 23.

The applications are attached.

WDB:ms

: Attachments (2)

cc: A. Robinson  
R. Thunell

# UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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Seattle, WA 98195

UNOLS

## APPLICATION FOR ASSOCIATE MEMBERSHIP

Pursuant to the UNOLS Charter the below named organization hereby submits application for associate membership in the University-National Oceanographic Laboratory System. In doing so the applicant understands and agrees to work for the objectives set forth in the UNOLS Charter.

Name of

Institution: HARVARD UNIVERSITY, COMMITTEE ON OCEANOGRAPHY

Name of person delegated to act as representative to UNOLS

Name: Allan R. Robinson

Title: Gordon McKay Professor of Geophysical Fluid Dynamics; Chairman, Committee on Oceanography

Address: Division of Applied Sciences, Pierce Hall  
Cambridge, Massachusetts 02138

Telephone Number: 617/495-2819

General Information on oceanographic, Sea Grant and other marine science programs: \*\*\* see attached

No. Professional Personnel \_\_\_\_\_ No. Graduate Students \_\_\_\_\_

Approximate Annual Budget \_\_\_\_\_

List of research vessels owned or operated: NONE

<u>NAME</u>	<u>SIZE</u>
_____	_____
_____	_____
_____	_____

NOTE: Please attach copies of brochures, bulletins, photos, etc. which describe the institution and its facilities.

Please attach a brief list of the names and addresses of key individuals to whom the following information sent out by UNOLS would apply (Note: The Institution UNOLS Representative receives all): \*\*\* see attached

Ship user information - research ship schedules, ship availabilities, etc.  
(intended for scientists and ship users);

Research ship operations and maintenance - for marine superintendents and port captains.

SEND TO:

William D. Barbee  
Executive Secretary  
UNOLS Office, WB-15  
School of Oceanography  
University of Washington  
Seattle, Washington 98195

SUBMITTED:

Signature 

Name: Allan R. Robinson

Title: Gordon McKay Prof., Geophysical Fluid

Date: May 10, 1985 Dynamics

Revised 7/82

# UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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UNOLS

UNOLS Office, WB-15  
School of Oceanography  
University of Washington  
Seattle, WA 98195

## APPLICATION FOR ASSOCIATE MEMBERSHIP

Pursuant to the UNOLS Charter the below named organization hereby submits application for associate membership in the University-National Oceanographic Laboratory System. In doing so the applicant understands and agrees to work for the objectives set forth in the UNOLS Charter.

Name of Institution: University of South Carolina

Name of person delegated to act as representative to UNOLS

Name: Robert Thunell

Title: Associate Professor

Address: Department of Geology  
University of South Carolina  
Columbia, SC 29208

Telephone Number: (803) 777-7593

General Information on oceanographic, Sea Grant and other marine science programs:

No. Professional Personnel 29 No. Graduate Students 35

Approximate Annual Budget \$3.2 million

List of research vessels owned or operated:

<u>NAME</u>	<u>SIZE</u>
_____	_____
_____	_____
_____	_____

NOTE: Please attach copies of brochures, bulletins, photos, etc. which describe the institution and its facilities.

Please attach a brief list of the names and addresses of key individuals to whom the following information sent out by UNOLS would apply (Note: The Institution UNOLS Representative receives all):

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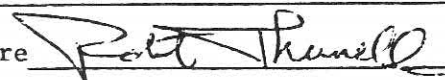
Research ship operations and maintenance - for marine superintendents and port captains.

SEND TO:

William D. Barbee  
Executive Secretary  
UNOLS Office, WB-15  
School of Oceanography  
University of Washington  
Seattle, Washington 98195

SUBMITTED:

Signature



Name: Dr. Robert Thunell

Title: Associate Professor

Date: 10 September 1985

Revised 7/82

variety of interests and perspectives, including the ocean sciences, deep ocean technology, operations, academic institutional interest, and the operating and funding agencies. The committee has been charged with the responsibility of reviewing virtually all aspects of the ALVIN program, from user access, to operations, funding arrangements, and the management structure of the ARC and WHOI. The intent of the study is to develop recommendations in all areas, with the goal of improving the total program of submersible support ocean science, and to position the ALVIN program in the years ahead to support the "best of science" in all fields of study and in the most appropriate locations throughout the world's oceans. The Committee held its first meeting last week, though the chairman and others have been very active in its efforts to move the study along rapidly, so that the Committee can submit its recommendations early in 1986.

#### The Plans for the Annual Long Range Planning Workshops

The ARC has established a pattern of annual long range planning workshops, usually held in conjunction with the winter AGU and ASLO meetings. This year, with separate AGU and AGU/ASLO Ocean Sciences Conference and Meeting, the ARC will host two workshops. The first will be held December 8, 1985, the Sunday preceding the AGU meeting in San Francisco. The second workshop will be held on January 12, 1986, in New Orleans, the Sunday before the Ocean Sciences Meeting. Both workshops will focus on out-year planning for CY1988 and beyond. This year's workshops are particularly important, as the first series of western Pacific submersible operations will have been completed, and science planning and opportunities for new areas of operations will be considered. The invitations for letters of intent are out, and the community is urged to participate with the ARC in scoping operation for CY1988 and beyond. The results of the workshops will be published and distributed to UNOLS and the ocean science community in the Annual Prospectus.

#### ARC Activities related to SEACLIFF use by Oceanographic Research Community

The ARC has been working with Office of Naval Research in a program to provide the ocean sciences community with the 6000 meter capable SEACLIFF submersible. The Secretary of the Navy, in his special oceanographic initiatives, has provided 60 days of SEACLIFF time, to support academic ocean science. The ARC, at the request of the Navy, will assist in the development of the program, and in the recommendations for science programs. The ARC will use the methods and procedures it now uses for the ALVIN, for this new capability for the Ocean sciences. The first step in that process, is to assist in the development of a focus and coordinated program for 1987 or 1988, using the two upcoming Workshops as the planning vehicle. The invitations to submitted letters of intent are being sent out, and are being announced here. Please carry this message to your institutions and your research colleagues.

The opportunity for our academic ocean science community to have access to 6000 meter capability, 2000 meters beyond that which ALVIN can reach, is going to open totally new areas of deep ocean research,

UNIVERSITY NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

Semiannual Meeting

October 23-24, 1985  
Washington, D.C.

ALVIN REVIEW COMMITTEE REPORT

The UNOLS ALVIN Review Committee activities for the past several months, can be summarized into five major activities:

- . The Annual Proposal Review and Scheduling Meeting
- . The ALVIN Program Study Committee
- . The Plans for the Annual Long Range Planning Workshops
- . ARC Activities related to SEACLIFF use by Oceanographic Research Community
- . Status of ALVIN Operations

The Annual Proposal Review and Scheduling Meeting

The ARC held its annual proposal review and scheduling meeting in May, in Woods Hole, Mass. The committee conducted the review of the time requests, and recommended an operation schedule for CY1986 to the Woods Hole Oceanographic Institution and the funding agencies. The schedule begins in early spring, after the completion of an ALVIN overhaul, and an AII drydocking and periodic maintenance. The research program begins with a series of dives in the Atlantic, and a program that continues in the near eastern Pacific, ending the calendar year in Southern California.

The committee anticipates the program for CY1987 will be devoted to central and western Pacific operations, with some programs in the near continent eastern Pacific operations concluding the calendar year. The schedule for CY1988 is undecided, though an ALVIN overhaul will be required in mid to late 1988.

The committee continues to note the substantial proposal "pressure" for the use of ALVIN, with a noticeable increase in the quality and appropriate use of this unique research tool.

The committee meeting minutes have been published, and are available on request from the UNOLS Office.

The ARC in concert with the funding agencies, have undertaken comprehensive review of the total ALVIN program. It was decided that a forward looking review was desirable, based on the fact that ALVIN has been operational for twenty years, and that the ALVIN program has recently been transformed into a worldwide capable system with the addition of the support vessel, the ATLANTIS II. A Committee, chaired by Dr. Dirk Frankenberg, was appointed, with representatives of a wide



including such areas as subduction zones and deeper ocean biology. The Committee is excited by this potential, and invites your suggestions and participation.

#### Status of ALVIN Operations

The ALVIN has completed over 300 dives since its last overhaul, and will arrive in New York City next week for a special recognition program to celebrate the completion of the first comprehensive cruise of the ATLANTIS II/ALVIN combination and to recognize the twenty years of ALVIN operations. The ALVIN and ATLANTIS II will both undergo overhauls and recertifications during the next several months, before embarking on the CY1986 diving program in the early spring. The science accomplishments the forefront of our disciplines. ATLANTIS II/ALVIN teams and systems are working extremely well together. The transformation to worldwide capability had been completed and the first 22 months of combined work have been outstanding.

Submitted by:

Robert W. Corell, Chairman  
For the ALVIN Review Committee  
October 22, 1985



# United States Department of the Interior

MINERALS MANAGEMENT SERVICE  
WASHINGTON, DC 20240

OCT 22 1985

MINERALS MANAGEMENT SERVICE (MMS) ENVIRONMENTAL STUDIES ARE AWARDED IN THE FORM OF CONTRACTS, USUALLY BY COMPETITIVE PROCUREMENT, TO PRIVATE COMPANIES OR, IN A FEW CASES, AS INTERAGENCY AGREEMENTS TO OTHER FEDERAL ORGANIZATIONS. AT THE HEADQUARTERS LEVEL, THE MMS DOES NOT COORDINATE OR DIRECT USE OF RESEARCH VESSELS FOR STUDIES. VESSELS ARE SELECTED BY EACH POTENTIAL VENDOR AND APPROVED BY THE MINERALS MANAGEMENT SERVICE. COORDINATED USE OF A GIVEN VESSEL BY MULTIPLE VENDORS MAY BE INITIATED AT THE REGIONAL LEVEL. COST SHARING FOR SHIPTIME WITH OTHER FEDERAL AGENCIES HAS ALSO OCCURRED OPPORTUNISTICALLY.

THE MINERALS MANAGEMENT SERVICE, ENVIRONMENTAL STUDIES PROGRAM'S TOTAL 1986 FISCAL YEAR FUNDING IS \$26,086,000. REGIONAL BUDGET ESTIMATES OF FUNDS ARE AS FOLLOWS: ALASKA \$10,921,000, (\$4,161,000 FOR THE REGIONAL STUDIES AND \$6,760,000 FOR THE NOAA-OCSEAP PROGRAM); ATLANTIC, \$3,576,860; GULF, \$4,060,000; PACIFIC, \$5,186,000; AND WASHINGTON (HIQ), \$2,342,140.

REGIONAL STUDIES REQUIRING USE OF RESEARCH VESSEL ARE PHYSICAL OCEANOGRAPHY AND BIOLOGICAL PROJECTS INCLUDING ENVIRONMENTAL MONITORING. SPECIFIC STUDIES, BY REGION, INCLUDE:

#### ALASKA

- ENVIRONMENTAL OBSERVATION OF THE ARCTIC SHELF

#### ATLANTIC

- IMPLEMENTATION OF PANEL RECOMMENDATION FROM THE NORTH CAROLINA MEMORANDUM OF UNDERSTANDING
- CHARACTERIZATION AND MONITORING OF BENTHIC COMMUNITIES IN AREAS OF THE CONTINENTAL SLOPE AND RISE THAT ARE SUBJECT TO OIL AND GAS OPERATIONS (NORTH, MID-, AND SOUTH ATLANTIC-YEAR 4)

#### GULF OF MEXICO

- GULF OF MEXICO PHYSICAL OCEANOGRAPHY PROGRAM FY1986
- MISSISSIPPI-ALABAMA SHELF MARINE ECOSYSTEM STUDY, YEAR 2

#### PACIFIC

- SCCCAMP DATA ANALYSIS
- MONITORING: ASSESMENT OF LONG TERM CHANGES IN BIOLOGICAL COMMUNITIES, PHASE II, YEAR 2
- NORTHERN CALIFORNIA CIRCULATION

IF YOU HAVE ANY QUESTION ON THE REPORT PLEASE CONTACT THE ENVIRONMENTAL STUDIES BRANCH AT (202) 343-7744.