UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

SUMMARY REPORT OF THE MAY 22, 1985

UNOLS SEMIANNUAL MEETING

WASHINGTON CONFERENCE CENTER
Sheraton Carlton Hotel
16th and K Street NW
Washington, D.C.

CONTENTS

APPENDICES

May 1985

Summary Report of UNOLS Semiannual Meeting

May 22, 1985

Sheraton Carlton Hotel
16th and K Street NW
Washington, D.C.

GENERAL: Issues and items considered at the May, 1985 Semiannual Meeting are reported in the order addressed. Unless otherwise noted, all items are from the published agenda (Appendix I).

A list of registered attendees (Appendix II) has been compiled from registration forms completed at the meeting. Information from the UNOLS Office was available during the meeting: UNOLS Directory (Feb., 1985), List of Research Vessels with Ship Scheduling Contacts (May, 1985), with Marine Operations Contacts (May, 1985), UNOLS Advisory Council Membership, 1971-1985 (Mar., 1985), UNOLS Chairman, Vice Chairman and Executive Committee, 1971-1985 (May, 1985), (Appendices III-VII). A Summary of UNOLS Vessel Fleet Operations - 1984 is Appendix VIII.

INTRODUCTION AND WELCOME: Ferris Webster opened the meeting at 8:40 a.m. He welcomed UNOLS Member Representatives, agency officials and others, and introduced Dean Carolyn Thoroughgood, newly designated representative from the University of Delaware. He also announced that he would rearrange the agenda to introduce Safety Standards for UNOLS adoption during the morning session (because of that issue's critical importance).

CHAIRMAN'S REPORT: The Chairman reported to the membership on his activities in behalf of UNOLS over the past year and, for the same period, on some issues critical to UNOLS.

As UNOLS Chairman he was invited to testify at hearings held by the Oceanography Subcommittee, House Merchant Marine and Fisheries Committee to review oceanographic research. His testimony to these September 26, 1984 hearings was included in Advisory Council minutes for October 24, 1984. Following the hearings discussions with Oceanography Subcommittee staff led to their request for information on Federal funding for oceanographic research. This information was provided to the Subcommittee (and has since been published in UNOLS NEWS). The information reveals a significant decrease in buying power for oceanography over the last decade.

The Chairman chose not to respond to a recent request for comment on the ship funding portion of the NOAA budget. He found differences of opinion within NOAA, and could find no advantage in being involved.

He has attended meetings of the Federal Oceanographic Fleet Coordinating Council (FOFCC) as UNOLS observer, most recently in January. FOFCC is interested in establishing an advanced scheduling and planning process, and will consider a scheme similar to UNEPC. FOFCC is also following the activities of UNOLS' Fleet Replacement Committee and FRC's strong involvement with Navy research vessel planning.

The processes for obtaining clearances for foreign research and for assuring fulfillment of post-cruise obligations have been issues. The Chairman has worked with NSF, Department of State and USGS to develop a policy that does not penalize ship operating institutions.

Dr. Webster attended a meeting of ocean principals, called by John Knauss, Chairman, Marine Division, NASULGC. Those attending:

John Knauss - NASULGC
Arthur Maxwell - JOI, Inc., Board of Governors
Allan Berman - NRAC
James Baker - NAS/BOSP
Ferris Webster - UNOLS
Robert Corell - NSF's OCE Advisory Committee.

Invited, but not able to attend: representatives from Sea Grant Directors and from NACOA.

Principal issues were the need for a better ocean research voice on the national scene, concern about the NAS/NRC advisory system for ocean sciences, and concern about Federal oceanographic agencies, especially NOAA. No strong conclusions or recommendations resulted from the meeting. Participants did reach a mutual no surprises agreement and agreed that the group should meet periodically.

Other issues of concern to UNOLS have been classification or control of bathymetric data acquired within academic research programs (an issue raised concerning NOAA's EEZ program), the treatment of non-traditional marine science facilities (being addressed by the Advisory Council in UNOLS) and an international marine science coordination office (IROSC and the Advisory Council in UNOLS).

ADVISORY COUNCIL REPORT: Charles Miller, Advisory Council Chairman reported on 1984-1985 Council activities.

Examination of the UNOLS fleet and preparation of their report Composition, Distribution and Management of the UNOLS Fleet, A Review, 1985 dominated the Council's activities. Recommendations of the review are included in the Executive Summary (Appendix IX). A draft of the report had been distributed to UNOLS Members in April, 1985. The Council had, at their May 20 meeting given their final consideration to the Review together with comments received from UNOLS Members and new information from funding agencies. The final report was to be prepared and distributed to UNOLS Members and Associate Members, Federal funding agencies and others among the oceanographic community without delay. (It was distributed, separately, on June 28, 1985.)

The Council has been concerned with UNOLS' ship scheduling process: although the annual scheduling process starts well with tentative schedules, a combination of factors including late-coming science funding decisions, institution desires to have their ships fully scheduled, etc. leads to delay in reaching effective funded schedules. Further, information from funding agencies indicates that lay-ups will be necessary in 1986. Thus, the Advisory Council reached the following recommendation:

The Advisory Council recommends that UNOLS take a direct part in selecting ships for lay-ups to save money. Because lay-up recommendations will arise from the scheduling process, the East, West and Joint Scheduling Committees of UNOLS should produce recommendations for lay-ups as early as possible each year.

(The Ship Scheduling Groups' response to this recommendation is included later in this report.)

The Council addressed issues on international restrictions, especially the clearance process, on fleet replacement and on scheduling and planning. Activities concerning these issues centered in the Council's International Restrictions on Ocean Sciences Committee and in UNOLS' Fleet Replacement Committee and National Expeditionary Planning Committee. Reports on these issues were deferred to committee reports.

The Advisory Council had continued interest in specialized instrumentation facilities. Early in 1985 this interest was focused on facilities aspects of NSF/OCE's recent planning documents and, prompted by dialogue with NSF, potential UNOLS roles in the management of facilities in addition to ships and seagoing platforms. The Council established a Subcommittee

"To advise UNOLS on its possible future role in the coordination of non-traditional oceanographic facilities. Such facilities go beyond the traditional concept of ships and other seagoing platforms and might include satellite facilities, data, and products, large-scale computers, and multi-channel seismic systems.

The subcommittee should:

1. Review existing systems and future needs for satellite facilities, supercomputers, and multichannel seismic systems.

2. Consider problems of access to such facilities, if any, and procedures whereby access might be improved.

3. Consider possible UNOLS roles that might improve the coordination, management and use of the facilities.

4. Examine how the UNOLS role might interact with other groups, such as JOI, Inc. and the NSF Advisory Committee on Ocean Sciences.

5. Consider the financial implications of implementation.

6. Prepare a report to the UNOLS Advisory Council in time for it to be considered by UNOLS at the Semiannual meeting in October, 1985."

International Restrictions on Ocean Science Committee (IROSC):
Harris B. Stewart, Jr., Chairman had furnished UNOLS comments to the Office of Marine Science and Technology Affairs, Department of State on draft revisions to the scientific research part of regulations for foreign fishing in the U.S. Fisheries Conservation Zone.

IROSC and the UNOLS Executive Committee had commented to the State Department and to NASULGC on policing post-cruise obligations for research in foreign jurisdictions. The UNOLS position is to cooperate in assuring fulfillment, but that it is State Department function to monitor and police post-cruise obligations.

The new State Department NTRVO #66 reflect the UNOLS position in assigning responsibility among UNOLS operators and Principal Investigators for post-cruise obligations.

Comment from UNOLS Members was that it is very difficult for operators or investigators alone to take responsibility for these obligations; it is even more difficult for either institutions or investigators alone to force compliance.

The IROSC Chairman accepted an invitation from the EEZ Panel of NACOA to discuss: the UNOLS EEZ program, academic research on the EEZ and classification aspects of EEZ data, especially data from the NOAA program. He noted that UNOLS does not formulate or pursue research programs in the EEZ or elsewhere. There have been and will continue to be significant research efforts within the EEZ from among various UNOLS Member institutions. UNOLS interest in EEZ research includes investigations proposed and conducted by individual principal investigators, investigations carried out aboard UNOLS ships to support Federal agency EEZ programs and the EEZ programs conducted by Federal agencies.

UNOLS is concerned with the issue of control or classification of bathymetric data from the NOAA EEZ program. Interest include the data sets themselves, potential impact on UNOLS swath-sounding ships in the EEZ and possible reciprocity impacts for foreign clearances. Dr. Stewart urged that if these data must be controlled, some means be worked out for releasing less sensitive parts of their information for academic use.

IROSC (and UNOLS) also reviewed and commented on the formation of a center for coordination of international ocean research. The UNOLS position:

1. The functions outlined for such an office are important and should be carried out.

2. A center to carry out such functions would be better established at a university or marine research institution rather than an operational role.

3. If a center is established, UNOLS will cooperate, especially in furnishing information via the UNOLS Office.

FLEET REPLACEMENT COMMITTEE: Robertson P. Dinsmore, Chairman, reported on the FRC's activities for the year. The Committee has been active for over a year, and have had two meetings during 1984-1985 year. Other members of the Committee are:

John Martin, MLML
David Menzel, Skidaway
Joseph Phillips,* University of Texas
Marcus Langseth,* L-DGO
Derek Spencer, W.H.O.I.
Worth Nowlin, TAMU
Fred Speiss, Scripps
George Keller, Oregon State

*added during year

The FRC continues to work on:

development of science requirements,
conceptual design studies for various types of ships and
a plan for fleet replacement.

Science requirements are being prepared for six classes of research ships: large, high endurance, general purpose (250-300 ft.); medium endurance, general purpose (200-250 ft.); high performance (SWATH), general purpose (200-250 ft.); geology and geophysics with multi-disciplinary capability (about 250 ft.); intermediate size, general purpose (150-200 ft.); and coastal size, general purpose (200-150 ft.). Requirements are being circulated for review throughout the community.

Eleven conceptual designs are being pursued within UNOLS. All are for larger ships, since the replacement need for UNOLS Class A and B ships appears most pressing. Design studies include three for SWATH, three for high endurance monohulls, three for medium endurance monohulls and two for G&G monohulls.

The fleet replacement plan remains similar to that reported in October, 1984. The plan recommends numbers and mix of ships similar to the existing fleet but with generally more capability and with specialized ships of advanced special capability and full multidisciplinary abilities.

The Fleet Replacement Committee Report is Appendix XVII.

ALVIN Review Committee Report: In the absence of Robert Corell, Chairman, William Barbee reported on recent ARC activities, ALVIN operations and the status of ALVIN supported research.

The ALVIN Review Committee held their annual review of ALVIN dive requests in Woods Hole on May 6, 7, 1985. The ARC reviewed 37 dive requests for 578 dives in 1986/1987 and made schedule recommendations to include 17 requests for about 200 dives. A provisional schedule was developed for 1986 (from the 1985 recommendations together with recommendations remaining from the 1984 review) that would have ATLANTIS II/ALVIN take up work in the North Atlantic in about March, 1986, support investigations in the Gulf of Mexico along transit to the Canal, and, in the Pacific, work in the Panama Basin and California Basins, ending the year in San Diego.

No schedule was developed for 1987. The most likely schedule would support work in the vicinity of Hawaii and the mid-Pacific enroute to the Mariana region. After completing recommended work there (late winter/spring 1987) the ATLANTIS II/ALVIN would return to the eastern Pacific, most likely the Gorda-Juan de Fuca - Oregon margin area. Work there and perhaps in the California Basins and farther south would finish operational availability prior to return to Woods Hole.

The Deep Submergence Group, W.H.O.I., ALVIN operators, reported on the 1984 ALVIN season and projected 1985 operations (complete report in ALVIN REVIEW COMMITTEE, Summary Report, May 6, 7, 1985 Meeting). In 1984, 174 dives were completed in 194 days on station, 266 days at sea. Projections for 1985 are: 150 dives, 157 days in station, 207 days at sea. By May, only one dive scheduled for 1985 had not been made.

At the request of the sponsoring agencies, ARC will make a review and report of the ALVIN supported science program: An Overview Review of Submersible Supported Science: An ALVIN Review Committee Perspective. Target date for the report is October, 1985.

Outlook for FY-1986 and FY-1987 Ship and Program Support: Rear Admiral Charles Townsend briefed the membership on NOAA ship operations, recapping FY-1985, 1986 and 1987. NOAA's ship operations in FY-1985 are being conducted under significant, but not crippling, cost-saving cutbacks. The Agency expects about level funding for FY-1986. Most in the oceanographic community are generally aware of NOAA's recent budget history and of differences between recent Administation budgets and NOAA appropriations. Because of these uncertainties NOAA has 1986 plans for fleet operations of from 13 to 23 ships. A 23 ship fleet would include activation of the OCEANOGRAPHER.

An upgrade is planned for the DISCOVERER during winter, 1985-86, to include Seabeam installation, and upgrade of other navigational and oceanographic equipment. Plans are to activate the OCEANOGRAPHER during the rennovation.

In FY-1987 ships will be funded through a combination of fleet block funding for salaries, maintenance, bases, etc. and user-program funding for the variable costs of sailing.

There is a FY-1987 initiative for upgrading equipment and modernizing ships throughout the fleet.

A-76 studies are continuing in NOAA. Currently, cost comparison studies are underway for three ships and the Marine Services Division at the Atlantic Marine Center. There have been no follow-on decisions concerning the Pacific Marine Center.

In response to questions from the membership Admiral Townsend noted that a budgetary holdup notwithstanding, NOAA would pursue its program for establishing Ocean Service Centers.

He responded that user-program managers would have some discretion concerning how much of their program funds went to support ships and

whether or not the NOAA fleet was used. However, after funds were allocated to the NOAA fleet, they would be under Office of Marine Operations control.

In response to questions on the EEZ classification issue, he stated that control had already been imposed on NOAA Seabeam data, that, in his opinion a permanent system of data control and controlled information release would be implemented, and that similar control might also be imposed on UNOLS and other U. S. ships with Seabeam.

Sandra Toye, Head, OCFS reported for the National Science Foundation. In comparing Ocean Sciences Division budgets for recent years:

	$ in millions		
	Actual 1984	Current Plan 1985	Request 1986
OSRS	55.09	58.16	59.94
OFS*	32.89	34.91	36.79
ODP	26.29	27.60	28.85
Total	114.27	120.67	125.58

*The OFS budget category is retained for the traditional ship, equipment, instrumentation and technician support received by UNOLS institutions.

Ms. Toye noted that the science funding in OSRS is the forcing function; unless science funding increases, ship needs (and ship support) will not. At the present level of science funding (and of OFS ship support) the UNOLS fleet will not be fully utilized.

Within the anticipated 1986 increase for OFS ($1.88M), $1M is targeted. OCFS has discretion over the remaining funds, and values UNOLS' advice on partitioning those funds.

The 1986 budget year is, an unusual one. National issues concerning budget deficits, Administration-Congress budget dialogue, etc. again make forecasts uncertain.

Long range outlook for science, specifically oceanography, funding is good if overall budget strictures ease. The National Science Foundation's long range planning for oceanography, initiatives for remote sensing and for a long range climate program are receiving wide review and favorable response.

Long range outlooks notwithstanding, some layups seem likely for 1986. UNOLS Fleet Funding Estimates prepared by NSF/OCFS (in Ship Scheduling Group Report, May 21, 1985, and Appendix X, this report) indicate funds for perhaps 25 ships. Discussions in Ship Scheduling, UNEPC and Advisory Council meetings have been heated, but to the issue, constructive and are valued.

Keith Kaulum discussed ONR and Navy outlook concerning academic ocean research. What for many years could be characterized as a gloom and doom report is, this year, more upbeat. Although ONR will have little increase in operating funds for academic support and the UNOLS fleet, Navy initiatives are positive and progressing. Three are of interest to UNOLS. Construction of a new research vessel remains in the budget (POM 87). This, hopefully will be a SWATH. A second initiative is planning for future research ships of the Navy. (This will affect both UNOLS and NAVOCEO fleets.) The third initiative is to enhance usefulness of Navy-operated submersibles to academic oceanography. It addresses, mainly SEA CLIFF, TURTLE, NR-1 and DOLPHINE. Dialogue has been initiated with UNOLS, their ALVIN Review Committee and others for advice and support in achieving effective utilization.

The new research ship would be for operation by an academic institution. In the 1987 budget, construction is estimated at $35M. Several draft concept studies have been pursued: for a SWATH, for a large monohull and for a conversion. The Navy will select one of these to pursue through preliminary and final designs. The SWATH concept is larger than designs conceived through UNOLS' Fleet Replacement Committee. Monohull concepts are for more than 4000 tons displacement, and the conversion study was for NOAA's OCEANOGRAPHER.

Requirements for Navy ships in UNOLS and NAVOCEO fleets have been sent to NAVSEA. These requirements are similar to those developed by the FRC for Medium Endurance ships. Conceptual studies have not yet been initiated. Conversion studies (e.g., of modern tuna ships) are getting attention. ONR has funded studies with the Fleet Replacement Committee. FRC efforts are very important in advancing fleet replacement initiatives ONR expresses their thanks to the Fleet Replacement Committee and Chairman Bob Dinsmore, and hope for their strong support to continue.

The Navy is committed to acquiring a support ship for their submersibles. They would contract for about $9M to convert a ship equal or larger than ATLANTIS II to submersible support. Operation would be by private contractor. This would defer plans for a large multi-disciplinary cruise using SEA CLIFF from 1986 to 1987.

A recently implemented reorganization in the Navy and its potential to affect research support and administration was discussed. Impact on support for academic research and UNOLS ships is difficult to forecast.

Robert Rowland gave projections for U.S. Geological Survey's marine programs. Noting that Dallas Peck, Director, USGS would address the membership later to discuss various programs, it might be valuable nevertheless to characterize various USGS efforts.

The USGS' marine program interests off the New England and Atlantic coasts are relatively slack, because oil and gas activity is and will be low. Little work for UNOLS ships is forecast.

In the Gulf of Mexico, because of oil and gas targets identified in deeper water, there is new need for environmental impact investigations,

and this may lead to increased UNOLS ship requirements. Similar, if more poorly defined, increases are potential in the Caribbean.

As part of the plan for small scale surveys of the EEZ, the GLORIA surveys completed off the west coast are being extended to the Gulf of Mexico, Puerto Rico and the Virgin Islands. This program, projected until about 1990, will be by contract to a United Kingdom ship.

The USGS program of gravity surveys for the Defense Mapping Agency continues. Heretofore the program, initiated in 1981 in the Gulf of Mexico and Caribbean, has used USGS ships. By recent agreement the program is being expanded into the North Atlantic, perhaps the Mediterranean and south of the Mediterranean. It is possible that a U.K. ship will be contracted for this work also.

Questions from the membership raised the issue of USGS requirements for UNOLS ships in the Pacific and off California. Dr. Rowland responded that, as Director Peck would indicate in his talk later, the USGS has plans on the West Coast for ALVIN use, and for the use of an all season general purpose ocean research ship off California for deployment and recovery of seafloor packages, coring and sampling, all following GLORIA surveys.

Mr. Hawley Thomas discussed Minerals Management Service programs and ship needs. Their budget for outer continental shelf studies is $24.3M, of which about $10M goes to NOAA for OCSEAP. As in the past, some use of UNOLS ships is anticipated. This use is usually through arrangements with individual investigators or institutions to carry out individual projects.

Dr. Donald Boesch, LUMCON, speaker for the Advisory Committee to MMS' OCS program suggested that MMS might consider planning and conducting their shelf investigations on a programmatic rather than a project basis.

Mr. Thomas Cocke reported on clearances processed by the Department of State and on clearance procedures. A summary of Foreign Clearances Processed, 1980 through 1984 (Appendix XI) shows a steady increase in numbers, almost doubling in 1983-84 over 1980-82. There have been especially notable increases for Central and South American and for the Caribbean. Requests have decreased for work in Mexican waters. Requests for 1984 are summarized in Appendix XII.

Members were alerted to Department of State's Notice to Research Vessel Operator (NTRVO) series, especially NTRVO 67 which brings up to date instructions for submitting Foreign Research Clearances Requests and NTRVO 66, outlining Post Cruise Obligations. These notices are Appendices XIII and XIV. Note also that NTRVO 61 lists submission lead times for various countries.

The critical importance of fulfilling post-cruise obligations was stressed. Default may lead to future clearance denials for individual scientists, institutions, ships or for all U.S. Science. In discussion the difficulty of assigning responsibility and at the same time authority to enforce fulfillment was noted.

Recent NTRVO's had notified the community of increases in required lead times for clearance requests to Mexico and the United Kingdom.

Recent problems had arisen with clearance requests to USSR and to Venezuela. Offsetting this were recent policy changes reached by Trinidad and Tobago that should ease the process.

Finally, please promptly alert the State Department to changes in research programs that occur while clearance requests are in process.

Report from East and West Ship Scheduling Groups. Robertson P. Dinsmore reported that the meetings held May 21 were good (Appendix X). Schedules contained few duplications, and operators approached the process in good faith.

SUMMARY OF 1986 COST PROJECTIONS

	OP DAYS	NSF	ONR	OTHER	TOTAL
May 22, 1985 Projections					
			$Millions		
East	3,220	15,470	5,008	2,642	23,120
West	2,537	16,782	772	2,160	19,716
Total	5,757	32,252	5,780	4,802	42,836
ANTICIPATED FUNDING*		(26,600)	(4,200)	(3,800)	(34,600)
PROJECTED SHORTFALL		5.6M	1.6M	-	7.2M

*NSF/OCFS LETTER OF MAY 2, 1985

(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	5,700	31,987	5,433	3,800	41,221

1985 COST PROJECTIONS

	OP DAYS	NSF	ONR	OTHER	TOTAL	SHORTFALL
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)
OCT 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)

The summaries for West Coast operations show little change from those of March, 1985. The SPROUL will operate a full year in 1986, and a replacement vessel is projected for the VELERO IV. On the East Coast, a full year is projected for all ships.

A significant shortfall, $7.2M, would exist. Much of this shortfall will be eliminated when all unfunded projects are eliminated from schedules. Beyond that, perhaps 1 1/2 years of ship layups will be necessary.

To identify, on the basis of efficient funded schedules, ships to be recommended for lay-ups, the Scheduling Groups made the following recommendation:

Recognizing potential schedule weaknesses or conflicts among the following vessels, the Scheduling Group considers that presently envisioned ship requirements in 1986 may be accomplished by one or two fewer ships:

East Coast	West Coast
ENDEAVOR	MOANA WAVE
GYRE	NEW HORIZON
ISELIN	VELERO IV Replacement
OCEANUS	WECOMA

Noting, however, that it is not possible to identify lesser utilized ship(s) until more science project funding information is available the Committee recommends that an Ad Hoc Working Group be convened for the following purposes: (1) To review the status of proposed 1986 projects; (2) To recommend the most effective ship schedules based on the best match of ships to project requirements, locations and costs; and (3) To recommend ship layups where so warranted. Tentatively, the meeting will be on September 24, 1985, the day preceding RVOC, in Monterey, California.

The Working Group shall comprise one represenative from each operating institution of the above listed ships and shall be co-chaired by the Chairmen of the East and West Coast Scheduling Committee.

Ms. Sandra Toye elaborated for the meeting on the statement in her May 2, 1985 letter "Any schedule which is still relying on new proposals, not yet submitted, for a major portion of next year's operation is unrealistic. There is no intent to penalize such ships. But most science funding is already committed; most of what will be funded is already funded. Thus operations proposed for as yet unsubmitted science proposals will not likely succeed.

Report on UNOLS National Expeditionary Planning Process. George Shor, Chairman reported on UNEPC's activities for the year. He began by noting that UNEPC's is not a scheduling committee. Rather they gather information on program directions and ship needs and then disseminate that information. Since the last report to UNOLS, UNEPC has had a workshop (San Francisco in December, 1984) and a meeting in Washington, D. C. (May 21, 1985).

Although Notices of Intent are still being solicited from potential investigators, relatively few are received. They are, perhaps, not effective planning tools.

The UNOLS National Expeditionary Planning Committee met on the morning of May 21, 1985, at the NSF building in Washington, D.C., immediately following the adjournment of the UNOLS East Coast and West Coast scheduling panels.

Representatives of ship operating institutions, and of ONR, NSF/DPP, USGS, and of the inter-institutional WOCE (World Ocean Circulation Experiment) program, presented their best estimates of agency and program needs for work in remote areas in late 1986, 1987, and subsequent years. There will be a significant need for ship time by NRL and ONR-sponsored programs in the western Indian Ocean and South Atlantic in late 1986 and in 1987 - approximately 60 days per year. The NSF funded US-India program may require one to two months of ship use in the Arabian Sea in 1987. Various investigators are proposing work to NSF for concerted programs in the Black Sea (near Turkey) and the Red Sea. The NSF Division of Polar Programs now has work scheduled for the POLAR DUKE through April, 1986; it now has equipment for trawling and dredging, and plenty of space for portable equipment, and can schedule non-DPP work in open periods. DPP expects to carry a major portion of its research on the POLAR DUKE, but will have a continuing need of time on a UNOLS ship every second Austral Summer for

geology and geophysics programs in the Antarctic. The next field season for which they expect such a need is the Austral Summer of 1987/88. The schedule of Ocean Drilling Program area geophysical surveys is not yet totally clear, but derived from the drilling planned schedule, there should be a need for surveys in the Western Pacific/Indonesia area early in 1987.

The U. S. Geological Survey will carry out surveys of the EEZ during the next few years primarily with the British ship FARNELLA, using the GLORIA system. Other USGS work will be on the JOHN WESLEY POWELL (converted drug-runner). Little if any USGS work is planned to be carried on UNOLS vessels. WOCE's ship requirement has not yet been determined; however, it is clear that their program will require long, station-intensive transects. This work requires ships with very long range and endurance; it would be taxing to the largest UNOLS ships.

Based on 1986 schedules and projections for 1987, UNOLS ships will, in early 1987, be away from their home port as follows:

R/V KNORR will probably cross the North Atlantic, for work in the Mediterranean, Black Sea, and possibly Red Sea and Western Indian Ocean.

R/V CONRAD will probably be in the South Atlantic at the beginning of 1987.

R/V THOMAS WASHINGTON is most likely to start the year in the western Pacific or eastern Indian Ocean, returning to San Diego in mid-1987.

R/V ATLANTIS II (with ALVIN) will start the year in Hawaii, and work west to the Marianas, then back to the U.S. northwest coast in the summer, returning to the North Atlantic near the end of 1987. It is probable that all work will be with ALVIN.

Both R/V COLUMBUS ISELIN and R/V MOANA WAVE are expected to be in the southeast Pacific at the start of 1987.

All of the other UNOLS ships are expected to be at their respective home ports at the beginning of 1987, and to work in areas relatively close to their home base during the year.

Revised UNOLS Safety Standards. In introducing this agenda item, Chairman Webster characterized as critical the need to adopt the revised UNOLS Safety Standards. He noted that the working group under Tex Treadwell had done an excellent job in drafting new standards. Members had had ample opportunity to comment. Member comments had been well incorporated into the draft. It was time to act on this issue.

Captain T. K. Treadwell, Chairman, RVOC Working Group on Safety Standards explained the nature of pen-and-ink changes made to the draft circulated to Member institutions in January, 1985. All Changes were minor, mainly editorial in nature.

After a short discussion, the Safety Standards were introduced for adoption.

The assembled membership of UNOLS adopted the University-National Oceanographic Laboratory System Research Vessel Safety Standards (to be dated May, 1985). All eighteen Member institutions were represented, and voted unanimously to adopt the Standards.

Chairman Webster, for the assembled membership, thanked Chairman Tex Treadwell, the Safety Standards Working Group, RVOC and its Chairman Dolly Dieter for their efforts in producing the new standards.

Marine Programs of the U.S. Geological Survey. Dallas L. Peck, Director, U.S. Geological Survey was the principal speaker for the meeting, discussing the history, current emphasis, recent accomplishments and budget process for USGS marine activities. His address is attached as Appendix XV.

The USGS has had, for many years, an active marine program. The program has been responsive to Department of Interior and public needs such as accelerated oil and gas leasing and, more recently, the establishment of the EEZ.

The USGS program started off at about $0.5M, in 1962. Much of the early work is characterized by the cooperative research programs of K. O. Emery at Woods Hole and John Byrne at Oregon State University. The oil and gas crisis of the early 70's led to accelerations, to identify and map offshore resources, and to work on potential geologic hazards to exploitation. More recently the proclamation of an EEZ required extensive geologic surveys.

Over much of the program's history, a significant portion of the work has been from UNOLS vessels: ships such as the GILLIS and GYRE have been equipped and used rather extensively. Many other UNOLS ships have been used on individual cruises or projects. The University of Hawaii operates the S P. LEE for the USGS. Programs have been conducted, and more are planned, on the ALVIN.

The main program emphasis now (and for medium range projections) is GLORIA surveys, in cooperation with the United Kingdom's Institute for Ocean Science, and carried out on a British vessel.

The Survey has also a program of gravity surveys, for the Defense Mapping Agency. These have been done on the USGS' J.W. POWELL (formerly the POLARIS II) and, in the future, may be from a contracted larger vessel.

Budgetarily, the program has grown from about $0.5M in 1962 to an anticipated $25M in FY 1986. The program lost $8M and 140 positions in 1982, when the Minerals Management Service was formed. In March, 1983 the President's EEZ proclamation led to a budget increase of $5M and in 1984 $2.5M more was received for mineral surveys off the Washington- Oregon coast.

Discussion after Director Peck's address centered on the potential for near future use of UNOLS ships on USGS marine programs.

Election of UNOLS officers, Advisory Council Members: Art Maxwell, Chairman of the Nominating Committee presented a slate of nominations.

This slate (Appendix XVI) formed in accordance with the UNOLS Charter, had earlier been circulated to UNOLS Member and Associate Member institutions.

In addition to candidates on the slate, a written nomination was received for Tom Lee, University of Miami, for membership, Advisory Council, Member representation.

Spirited elections resulted in the following:

Chairman, UNOLS	Ferris Webster, U. of Delaware
Vice Chairman, UNOLS	Robert Corell, U. of New Hampshire
Advisory Council	
Member Representative	John Martin, Moss Landing Marine Labs
Associate Representative	Christopher Mooers, Navy Postgraduate School

Appointments to ALVIN Review Committee: The ALVIN Review Committee at their May, 1985 meeting, had recommended reappointment of one member and two new members to replace members whose terms had expired.

By action of the assembled membership, UNOLS appointed to the ALVIN Review Committee:

Robert Corell, University of New Hampshire

William Ryan, Lamont-Doherty Geological Observatory

George Weatherly, Florida State University

Applications for Associate Membership: Applications for Associate Membership had been received from Sea Education Association, Inc., and from the University of Wisconsin-Superior. The Advisory Council had reviewed the applications, recommended them, and they had been distributed to the UNOLS membership.

Sea Education Association, Inc. and the University of Wisconsin-Superior were accepted as Associate Members, UNOLS.

Other Business: Ferris Webster, Chairman, initiated a short discussion on UNOLS meetings by noting that most UNOLS activities are conducted at meetings of and through the Advisory Council, UNOLS committees and subcommittees. Those who are concerned with specific UNOLS activities should track, and where appropriate, participate with those subgroups. As one consequence of this mode of activity UNOLS meetings are, in large part, reports on the activities of the Council and Committees. An effort has been made in recent years to conclude each UNOLS meeting in one day. This requires a degree of ruthlessness on the part of the Chairman. Does the membership agree with this approach to their meetings? It was the sense of the meeting that meetings should be concluded in one day and that

information is available to members from which they can stay current on UNOLS activities.

Questions were raised on the use of UNOLS Cruise Assessment forms. It was asserted that, for a variety of factors, these assessments may be avoiding critical comment and may be so biased as to be of little value. The comments were noted and referred to the Advisory Council.

There being no further business, the meeting was adjourned.

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM
SEMI-ANNUAL MEETING
AGENDA
8:30 a.m., Wednesday, May 22, 1985
Mt. Vernon Room, Sheraton Carlton Hotel
16th & K Street NW, Washington, D.C.

INTRODUCTION AND WELCOME - *Ferris Webster, Chairman, UNOLS*

CHAIRMAN'S REPORT - *Ferris Webster*

UNOLS ADVISORY COUNCIL REPORT - *Charles Miller, Advisory Council Chairman*

OUTLOOK FOR FY-1986 and FY-1987 SHIP AND PROGRAM SUPPORT - *Forecasts by Federal Funding Agencies (NOAA, NSF, ONR, USGS, MMS, DOE)*

ALVIN REVIEW COMMITTEE REPORT - *William D. Barbee (in absence of ARC Chairman Robert Corell) will report on 1984 season, 1985 plans and December 1984 and May 1985 workshops, reviews and schedule recommendations for 1986-1987.*

CLEARANCES FOR RESEARCH IN OCEAN REGIONS RESTRICTED BY FOREIGN STATES - *An overview from Dept. of State, Office of Marine Science and Technology Affairs.*

COMMITTEE ON INTERNATIONAL RESTRICTIONS ON OCEAN SCIENCE - *Harris B. Stewart, Jr.*

COMMITTEE ON FLEET REPLACEMENT - *Captain Robertson P. Dinsmore, Chairman, will report on the Committee's activities since October, and on the status of various efforts toward research vessel construction or acquisition.*

MARINE PROGRAMS OF THE USGS - *Dallas Peck, Director, U.S. Geological Survey will speak on their marine programs, including that for the Exclusive Econmic Zone (EEZ). Scheduled for 1:30 p.m.*

REPORT FROM EAST-WEST REGIONAL SHIP SCHEDULING GROUPS - *The East and West Regional Ship Scheduling Groups, having met separately and jointly, will present the results of their scheduling efforts for 1986 to UNOLS Members. Summary ship cost projections from UNOLS institutions will be presented. The session is open to all persons interested and especially to scientists who have ship time needs in 1986 and 1987, and who wish to present their needs to operators.*

REPORT ON UNOLS NATIONAL EXPEDITIONARY PLANNING PROCESS - *George Shor, Chairman, will report on recent UNEPC actions and the status of ship/expeditionary plans for 1987 and beyond.*

UNOLS BUSINESS MEETING

REVISED UNOLS SAFETY STANDARDS - *A committee from within RVOC, under the chairmanship of T.K. Treadwell has drafted revised UNOLS Safety Standards for Research Vessels. These revised Standards were introduced to UNOLS Membership at both the May, and October, 1984 meetings. A draft incorporating Member - introduced modifications was circulated to all UNOLS Members in January, 1985 with a request that each Member review and address adoption of the Standards. No substantive exceptions to the draft have been received. The draft Safety Standards as circulated in January, 1985 and with minor pen and ink corrections will be introduced for adoption.*

ELECTION OF CHAIRMAN AND VICE CHAIRMAN, UNOLS - *Slates of Nominations have been distributed.*

ELECTION OF TWO MEMBERS TO ADVISORY COUNCIL - *The terms of one Council Member representing Member Institutions and one representing Associate Members expire. A slate of nominations has been distributed.*

APPOINTMENT OF THREE MEMBERS TO ALVIN REVIEW COMMITTEE - *Recommendations for the ALVIN Review Committee will be presented to UNOLS for action.*

UNOLS ACTION ON OTHER RECOMMENDATIONS - *Recommendations, as may be introduced by the Advisory Council or by institutions will be acted on by the membership. Recommendations may include related, potential roles of UNOLS advise on facilities aspects of NSF long range plans, and expansion of UNOLS facilities-management efforts beyond ships and seagoing facilities.*

The Advisory Council will present their fleet status report to the UNOLS Membership.

OTHER BUSINESS

UNOLS SEMIANNUAL MEETING
May 22, 1985
List of Attendees

Thomas C. Aldrich, U.S. Geological Survey
E. Eugene Allmendinger, University of New Hampshire
William D. Barbee, UNOLS Office
John F. Bash, University of Rhode Island
Donald F. Boesch, Louisiana Universities Marine Consortium
Douglas R. Caldwell, Oregon State University*
J. Frisbee Campbell, Hawaii Institute of Geophysics*
Larry Clark, National Science Foundation
W. Thomas Cocke, State Department
Thomas N. Cooley, National Science Foundation
Bruce K. Cornwall, Johns Hopkins University
James W. Coste, University of Hawaii
Jody W. Deming, Johns Hopkins University*
Dolly R. Dieter, University of Alaska*
Robertson P. Dinsmore, Woods Hole Oceanographic Institution
Samuel E. Dixon, Sea Technology Magazine
John D. Donnelly, Woods Hole Oceanographic Institution
John R. Dudley, Lamont-Doherty Geological Observatory
William Erb, State Department
Robert H. Feden, Office of Naval Research
Richard J. Findley, University of Miami
Dirk Frankenberg, University of North Carolina*
Donn S. Gorsline, University of Southern California*
George D. Grice, Woods Hole Oceanographic Institution*
James J. Griffin, University of Rhode Island*
Grant Gross, National Science Foundation
Donald F. Heinrichs, National Science Foundation
Ron Hutchinson, University of Miami
K. William Jeffers, University of Washington
Tom Johnson, Duke University
Robert S. Jones, University of Texas, Port Aransas
Jay T. Katz, University of Michigan*
R. R. LaCount, National Science Foundation
Brian T. Lewis, University of Washington*
Carl Lorenzen, University of Washington
Wesley L. Lovaas, Office of Naval Research
Thomas C. Malone, University of Maryland
John Martin, Moss Landing Marine Labs*
Arthur Maxwell, University of Texas*
John G. McMillan, National Science Foundation
Nancy McKee, Navy Postgraduate School
David Menzel, Skidaway Institute of Oceanography*

*Member Institution Representatives

List of Attendees continued

Charles B. Miller, Oregon State University
William H. Mitchell, University of Texas
Don C. Newman, University of Southern California
Wadsworth Owen, University of Delaware
Kennard Palfrey, Oregon State University
Dallas Peck, U.S. Geological Survey
Bruce H. Robison, University of California
Robert Rowland, U.S. Geological Survey
Dieter K. Rudolph, U.S. Naval Observatory
Richard W. Schneider, University of Delaware
Lynda Shapiro, Bigelow Laboratory
Alexander N. Shor, Lamont-Doherty Geological Observatory
George G. Shor, Jr., Scripps Institution of Oceanography*
Mitchell Stebens, UNOLS Office
Harris B. Stewart, Jr., Old Dominion University
Hawley Thomas, Minerals Management Service, Dept. of Interior
Carolyn A. Thoroughgood, University of Delaware*
Charles K. Townsend, NOAA
Sandra Toye, National Science Foundation
T. K. Treadwell, Texas A & M University*
Richard B. Tripp, University of Washington
Joe F. Ustach, Duke/UNC
John C. Van Leer, University of Miami*
Ferris Webster, University of Delaware
Richard W. West, National Science Foundation
John M. Zeigler, Virginia Institute of Marine Science

*Member Institution Representatives

APPENDIX III

UNOLS DIRECTORY
(with designated representatives)

5/85

MEMBERS

UNIVERSITY OF ALASKA
Dr. Thomas C. Royer

UNIVERSITY OF DELAWARE
Dr. Carolyn A. Thoroughgood

DUKE/UNIVERSITY OF NORTH CAROLINA
Dr. Dirk Frankenberg

UNIVERSITY OF HAWAII
Dr. Charles E. Helsley

THE JOHNS HOPKINS UNIVERSITY
Dr. Lawrence Harding

COLUMBIA UNIVERSITY, LAMONT-DOHERTY GEOLOGICAL OBSERVATORY
Dr. Dennis E. Hayes

UNIVERSITY OF MIAMI, ROSENSTIEL SCHOOL OF MARINE AND ATMOSPHERIC SCIENCE
Dr. John C. Van Leer

UNIVERSITY OF MICHIGAN, GREAT LAKES AND MARINE WATERS CENTER
Dr. Alfred M. Beeton

MOSS LANDING MARINE LABORATORIES
Dr. John H. Martin

OREGON STATE UNIVERSITY
Dr. Douglas Caldwell

UNIVERSITY OF RHODE ISLAND
Dr. James J. Griffin

UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY
Dr. George G. Shor, Jr.

UNIVERSITY SYSTEM OF GEORGIA SKIDAWAY INSTITUTE OF OCEANOGRAPHY
Dr. David W. Menzel

UNIVERSITY OF SOUTHERN CALIFORNIA
Dr. Robert Douglas

UNIVERSITY OF TEXAS
Dr. Arthur E. Maxwell

TEXAS A & M UNIVERSITY
Captain T. K. Treadwell

UNIVERSITY OF WASHINGTON
Dr. Brian Lewis

WOODS HOLE OCEANOGRAPHIC INSTITUTION
Dr. Derek W. Spencer

ASSOCIATE MEMBERS

UNIVERSITY OF ALABAMA
Dr. George F. Crozier

BERMUDA BIOLOGICAL STATION
Dr. Wolfgang E. Sterrer

BIGELOW LABORATORY FOR OCEAN SCIENCES
Dr. Charles S. Yentsch

BROOKHAVEN NATIONAL LABORATORY
Dr. Terry E. Whitledge

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
Dr. Bruce H. Robison

CAPE FEAR TECHNICAL INSTITUTE
Mr. Edward Foss

UNIVERSITY OF CONNECTICUT
Dr. Donald F. Squires

FLORIDA INSTITUTE FOR OCEANOGRAPHY
Dr. William W. Behrens

ASSOCIATE MEMBERS (CON'T)

FLORIDA INSTITUTE OF TECHNOLOGY
Mr. Jack Morton

FLORIDA STATE UNIVERSITY
Dr. Ya Hsueh

HARBOR BRANCH FOUNDATION
Dr. Marsh Youngbluth

HOBART & WILLIAM SMITH COLLEGES
Mr. F. Richard Wilkins

LEHIGH UNIVERSITY
Dr. Bobb Carson

LOUISIANA UNIVERSITIES MARINE CONSORTIUM
Dr. Donald F. Boesch

UNIVERSITY OF MAINE
Dr. Bernard J. McAlice

MARINE SCIENCE CONSORTIUM
Dr. Robert W. Hinds

UNIVERSITY OF MARYLAND
Dr. Ian Morris

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Dr. John M. Edmond

NAVAL POSTGRADUATE SCHOOL
Dr. Christopher N. K. Moores

UNIVERSITY OF NEW HAMPSHIRE
Professor E. Eugene Allmendinger

NEW YORK STATE UNIVERSITY COLLEGE AT BUFFALO

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

NORTH CAROLINA STATE UNIVERSITY
Dr. Robert H. Weisberg

UNIVERSITY OF NORTH CAROLINA AT WILMINGTON
Dr. Robert Y. George

NOVA UNIVERSITY
Dr. Julian P. McCreary

OCCIDENTAL COLLEGE
Dr. John S. Stephens, Jr.

OLD DOMINION UNIVERSITY
Dr. Harris B. Stewart, Jr.

UNIVERSITY OF PUERTO RICO
Dr. Thomas Tosteson

SAN DIEGO STATE UNIVERSITY
Dr. Clive Dorman

SEA EDUCATION ASSOCIATION
Dr. Susan E. Humphris

UNIVERSITY OF SOUTH FLORIDA
Dr. Peter R. Betzer

VIRGINIA INSTITUTE OF MARINE SCIENCE
Dr. John M. Zeigler

WALLA WALLA COLLEGE
Dr. Lawrence McCloskey

UNIVERSITY OF WISCONSIN AT MADISON
Dr. Robert A. Ragotzkie

UNIVERSITY OF WISCONSIN AT MILWAUKEE
Dr. David N. Edgington

UNIVERSITY OF WISCONSIN AT SUPERIOR
Dr. Mary Balcer

THE UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM
LIST OF RESEARCH VESSELS (>20M) OPERATED BY UNOLS INSTITUTIONS

5/85

OPERATOR	NAME	LOA (FT/M)	BUILT/ CONVERTED	NUMBER OF SCIENTISTS	OWNER	SHIP SCHEDULING CONTACT
University of Hawaii Hawaii Institute of Geophysics 2525 Correa Road Honolulu, Hawaii 96822	MOANA WAVE	213/65	1973/1984	20	NAVY	Mr. J. Frisbee Campbell Scientific Coordinator for Marine Operations (808) 948-7654
University of Alaska Institute of Marine Science Fairbanks, Alaska 99701	ALPHA HELIX	133/41	1966	15	NSF	Dr. Thomas Royer Associate Professor (907) 474-7835
University of Washington School of Oceanography, UB-10 Seattle, Washington 98105	T.G. THOMPSON C.A. BARNES	209/64 66/20	1965 1966/1984	22# 6	NAVY NSF	Dr. Brian T.R. Lewis Director (206) 543-6487
Oregon State University School of Oceanography Corvallis, Oregon 97331	WECOMA	177/54	1975	16	NSF	Ms. Mary Jo Gutierrez Ship Scheduler (503) 754-4447
Moss Landing Marine Laboratories P.O. Box 223 Moss Landing, California 95039	CAYUSE	80/24	1968	8	NSF	Mrs. Gail Johnston Ship Scheduler (408) 633-3304
University of Southern California Inst. for Marine & Coastal Studies 820 South Seaside Avenue Terminal Island, California 90731	VELERO IV	110/34	1948/1972	12	USC	Mr. Don Newman, Mgr. Marine Support Facility (213) 830-4570
University of California, San Diego Scripps Institution of Oceanography La Jolla, California 92093	MELVILLE T. WASHINGTON NEW HORIZON R.G. SPROUL	245/75 209/64 170/52 125/38	1969 1965 1978 1981/1985	29 22 13 12	NAVY NAVY U.C. U.C.	Dr. George Shor, Jr. Ship Scheduler Code A-010 (619) 452-2840
University of Michigan Great Lakes & Marine Waters Center 2200 Bonisteel Boulevard Ann Arbor, Michigan 48109	LAURENTIAN	80/24	1974	8	U.MI.	Mr. Clifford Tetzloff Marine Superintendent (313) 763-3183
Texas A & M University Department of Oceanography College Station, Texas 77843	GYRE	182/54	1973	21	NAVY	Captain T.K. Treadwell Marine Operations Officer (409) 845-7211
The University of Texas 700 The Strand Galveston, Texas 77550	FRED MOORE	165/50	1967	20	U.T.	Mr. William H. Mitchell Marine Superintendent (409) 761-2276
University of Miami, RSMAS Oceanographic Facility 1620 Port Boulevard Miami, Florida 33132	ISELIN CAPE FLORIDA CALANUS	170/52 135/41 64/20	1972 1981 1971	16 12 6	U.M. NSF U.M.	Mr. Ronald Hutchinson Marine Operations (305) 373-3830
University System of Georgia Skidaway Institute of Oceanography P.O. Box 13687 Savannah, Georgia 31416-0687	BLUE FIN	72/22	1972/1975	8	U.G.	Dr. David W. Menzel Director (912) 356-2480
Duke/UNC Oceanographic Consortium Duke University Marine Laboratory Beaufort, North Carolina 28516	CAPE HATTERAS	135/41	1981	12	NSF	Captain Eric B. Nelson Marine Superintendent (919) 728-3372
The Johns Hopkins University Chesapeake Bay Institute Shady Side, Maryland 20764	R. WARFIELD	106/32	1967	10	J.H.U.	Mr. Bruce Cornwall Marine Superintendent (301) 867-7550, Ext. 246
University of Delaware College of Marine Studies 700 Pilottown Road Lewes, Delaware 19958	CAPE HENLOPEN	120/37	1976	12	U.D.	Mr. Wadsworth Owen Dir. of Marine Operations (302) 645-4320
Lamont-Doherty Geological Observatory Columbia University Palisades, New York 10964	CONRAD	209/64	1962	23	NAVY	Dr. Michael Rawson Marine Science Coordinator (914) 359-2900
University of Rhode Island Graduate School of Oceanography Narragansett, Rhode Island 02882	ENDEAVOR	177/54	1976	16	NSF	Mr. John F. Bash Ship Scheduler (401) 792-6203
Woods Hole Oceanographic Institution Woods Hole, Massachusetts 02543	KNORR ATLANTIS II OCEANUS DSRV ALVIN	245/75 210/64 177/54 25.8	1970 1963 1975 1964	24 25* 12 2	NAVY WHOI NSF NAVY	Mr. John D. Donnelly Manager of Marine Ops. (617) 548-1400, Ext. 2736

*15 scientists plus 10 ALVIN group
#Includes 1 Marine Technician

APPENDIX V

Marine Operations Contacts for

THE UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM
LIST OF RESEARCH VESSELS (>20M) OPERATED BY UNOLS INSTITUTIONS

5/85

OPERATOR	NAME	LOA (FT/M)	BUILT/ CONVERTED	NUMBER OF CREW	NUMBER OF SCIENTISTS	OWNER	MARINE OPERATIONS CONT
University of Hawaii Hawaii Institute of Geophysics 2525 Correa Road Honolulu, Hawaii 96822	MOANA WAVE	213/65	1973/1984	16	20	NAVY	Mr. J. Frisbee Campbell Scientific Coordinator for Marine Operations (808) 948-7654
University of Alaska Institute of Marine Science P.O. Box 617 Seward, Alaska 99664	ALPHA HELIX	133/41	1966	9	15	NSF	Ms. E. R. Dieter Assoc. Dir. for Mar. Op: (907) 224-5261
University of Washington School of Oceanography, WB-10 Seattle, Washington 98195	T.G. THOMPSON C.A. BARNES	209/64 66/20	1965 1966/1983	22 2	22# 6	NAVY NSF	Captain William Jeffers Marine Superintendent (206) 543-5062
Oregon State University School of Oceanography Corvallis, Oregon 97331	WECOMA	177/54	1975	12	16	NSF	Ms. Mary Jo Gutierrez Ship Scheduler (503) 754-4447
Moss Landing Marine Laboratories P.O. Box 223 Moss Landing, California 95039	CAYUSE	80/24	1968	7	8	NSF	Mrs. Gail Johnston Ship Scheduler (408) 633-3304
University of Southern California Marine Support Facility 820 South Seaside Avenue Terminal Island, CA 90731	VELERO IV	110/34	1948/1972	11	12	USC	Mr. Don Newman, Mgr. Marine Support Facility (213) 743-6977
University of California, San Diego Scripps Institution of Oceanography La Jolla, California 92093	MELVILLE T. WASHINGTON NEW HORIZON ROBERT SPROUL	245/75 209/64 170/52 125/38	1969 1965 1978 1981/1985	23 23 12 5	29 22 13 12	NAVY NAVY U.C. U.C.	Capt. Jim Williams Marine Facilities Code P-005 (619) 225-9600
University of Michigan Great Lakes & Marine Waters Center 2200 Bonisteel Boulevard Ann Arbor, Michigan 48109	LAURENTIAN	80/24	1974	6	8	U.MI.	Mr. Clifford Tetzloff Marine Superintendent (313) 763-3183
Texas A & M University Department of Oceanography College Station, Texas 77843	GYRE	182/54	1973	11	21	NAVY	Captain T.K. Treadwell Marine Operations Office (409) 845-7211
The University of Texas 700 The Strand Galveston, Texas 77550	FRED MOORE	165/50	1967	10	20	U.T.	Mr. William H. Mitchell Marine Superintendent (409) 761-2276
University of Miami, RSMAS Oceanographic Facility 1620 Port Boulevard Miami, Florida 33132	ISELIN CAPE FLORIDA CALANUS	170/52 135/41 64/20	1972 1981 1971	12 9 2	16 12 6	U.M. NSF U.M.	Mr. Ronald Hutchinson Operations Manager (305) 373-3830
University System of Georgia Skidaway Institute of Oceanography P.O. Box 13687 Savannah, Georgia 31416-0687	BLUE FIN	72/22	1972/1975	5	8	U.G.	Dr. David W. Menzel Director (912) 356-2480
Duke/UNC Oceanographic Consortium Duke University Marine Laboratory Beaufort, North Carolina 28516	CAPE HATTERAS	135/41	1981	10	12	NSF	Captain Eric B. Nelson Marine Superintendent (919) 728-3372
The Johns Hopkins University Chesapeake Bay Institute Shady Side, Maryland 20764	R. WARFIELD	106/32	1967	11	10	J.H.U.	Mr. Bruce Cornwall Marine Superintendent (301) 867-7550, Ext. 246
University of Delaware College of Marine Studies 700 Pilottown Road Lewes, Delaware 19958	CAPE HENLOPEN	120/37	1976	7	12	U.D.	Mr. Wadsworth Owen Dir. of Marine Operations (302) 645-4320
Lamont-Doherty Geological Observatory Columbia University Palisades, New York 10964	CONRAD	209/64	1962	23	23	NAVY	Captain John Dudley Marine Superintendent (914) 359-2900, Ext. 245
University of Rhode Island Graduate School of Oceanography Narragansett, Rhode Island 02882	ENDEAVOR	177/54	1976	12	16	NSF	Mr. John F. Bash Ship Scheduler (401) 792-6203
Woods Hole Oceanographic Institution Woods Hole, Massachusetts 02543	KNORR ATLANTIS II OCEANUS	245/75 210/64 177/54	1970 1963 1975	25 25 12	24 25* 12	NAVY WHOI NSF	Mr. John D. Donnelly Manager of Marine Ops. (617) 548-1400, Ext. 273
			Totals	322	400		

*15 Scientists plus 10 ALVIN group
#Includes 1 Marine Technician

UNOLS ADVISORY COUNCIL

1971-1976, Comprised of four members from Member Institutions, and three from Associate Member Institutions.

1977, Charter revision at Annual Meeting increased Membership in the Advisory Council to eight-five from Member and three from Associate Member Institutions. Three year term.

1971-1972	
J.V. Byrne, OSU, Chairman	
D.W. Menzel, SKIO	
R.A. Ragotzkie, U/WISC.	
H.M. Stommel, MIT	
W.S. Wooster, SIO	
J.P. Craven, U/HAWAII	
C.L. Drake, DARTMOUTH (resigned 1972)	

1973-1974	Expires
J.V. Byrne, OSU, Chairman	5/75
J.P. Craven, U/HAWAII	5/75
D.W. Menzel, SKIO	5/74
A.F. Richards, LEHIGH	5/76
R.A. Ragotzkie, U/WISC.	5/74
H.M. Stommel, MIT	5/74
P.L. Parker, U/TEXAS	7/76
R.C. Dugdale, U/WA	7/76
R. Colwell, U/MARYLAND (Interim Appointee)	

1974-1975	
J.V. Byrne, SIO, Acting Chairman	5/75
P.L. Parker, U/TEXAS	7/76
A.F. Richards, LEHIGH	7/76
W.S. Richardson, NOVA U., Ch.	(deceased)
R.J. Wold, U/WISC.	(resigned
R.C. Dugdale, U/WA	5/76
J.P. Craven, U/HAWAII	5/76

1975-1976	
R.C. Dugdale, BIGELOW, Chairman	5/76
P.L. Parker, U/TEXAS	7/76
A.F. Richards, LEHIGH	7/76
T.K. Treadwell, TAMU	5/78
D. Hood, U/ALASKA	5/76
F. Webster, WHOI	5/77

1976-1977	
R.C. Dugdale, BIGELOW, Chairman	5/77
R.T. Barber, DUKE	5/79
D. Frankenberg, UNC	5/79
M.G. Gross, JHU	5/78
G.H. Keller, OSU	5/77
J.H. Martin, MLML	5/79
T.K. Treadwell, TAMU	5/78
W.S. Wooster, U/WA, *ex-officio*	
F. Webster, WHOI, *ex-officio*	

1977-1978	
G.H. Keller, OSU, Chairman	7/76-6/80
D. Frankenberg, UNC, V-Chairman	7/76-6/79
R.T. Barber, DUKE	7/76-6/79
R.L. Fisher, SIO	7/77-6/80
M.G. Gross, JHU	7/75-6/80
J.H. Martin, MLML	7/76-6/79
J.R. Schubel, SUNY	7/77-6/80
T.K. Treadwell, TAMU	7/75-6/78
F. Webster, WHOI, *ex-officio*	7/76-6/78
W.S. Wooster, U/WA, *ex-officio*	7/76-6/78

1978-1979	
G.H. Keller, OSU, Chairman	7/76-6/80
R.T. Barber, DUKE, V-Chairman	7/76-6/79
G.C. Anderson, U/WA	7/78-6/81
R.L. Fisher, SIO	7/77-6/80
J.H. Martin, MLML	7/76-6/79
W.B. F. Ryan, L-DGO	7/78-6/81
J.R. Schubel, SUNY/STONY BROOK	7/77-6/80
J.M. Zeigler, VIMS	7/78-6/81
T.K. Treadwell, TAMU, *ex-officio*	7/78-6/79 CH.
A.F. Richards, LEHIGH, *ex-officio*	7/78-6/79 V-CH.

1979-1980	TERM	
G.C. Anderson, U/WA., Chairman	7/78-6/81	
J.R. Schubel, SUNY/S.B. V-Ch.	7/77-6/80	
G.H. Keller, OSU	7/76-6/80	
B.H. Robison, UCSB	7/79-6/82	
H.T. Rossby, URI	7/79-6/82	
W.B. F. Ryan, L-DGO	7/78-6/81	
R.L. Fisher, SIO	7/77-6/80	
J.M. Zeigler, VIMS	7/78-6/81	
T.K. Treadwell, TAMU, *ex-officio*	7/78-6/80	UNOLS CH.
J.H. Martin, MLML, *ex-officio*	7/79-6/80	UNOLS V-CH.

1980-1981		
G.C. Anderson, U/WA, Chairman	7/78-6/81	
H.T. Rossby, URI, V-Chairman	7/79-6/82	
B.H. Robison, UCSB	7/79-6/82	
C.B. Miller, OSU	7/80-6/83	
W.B. F. Ryan, L-DGO	7/78-6/81	
W.M. Sackett, U/So. FL.	7/80-6/83	
D.W. Spencer, WHOI	7/80-6/83	
J.M. Zeigler, VIMS	7/78-6/81	
T.K. Treadwell, TAMU, *ex-officio*	7/79-6/81	UNOLS CH.
J.H. Martin, MLML, *ex-officio*	7/79-6/81	UNOLS V-CH.

1981-1982		
B.H. Robison, UCSB, Chairman	7/79-6/82	
H.T. Rossby, URI, V-Chairman	7/79-6/82	
R.W. Corell, UNH	7/81-6/84	
J.R. Curray, SIO	7/81-6/83	
D.S. Gorsline, USC	7/81-6/84	
C.B. Miller, OSU	7/80-6/83	
W.M. Sackett, U/So. FL.	7/80-6/83	
J.C. Van Leer, U/MIAMI	7/81-6/84	
D.W. Spencer, WHOI, *ex-officio*	7/81-6/82	UNOLS CH.
D. Frankenberg, UNC, *ex-officio*	7/81-6/82	UNOLS V-CH.

1982-1983		
B.H. Robison, UCSB, Chairman	7/82-6/85	
J.R. Curray, SCRIPPS, V-Chairman	7/81-6/83	
R.W. Corell, UNH	7/81-6/84	
D.S. Gorsline, USC	7/81-6/84	
R.L. Larson, URI	7/82-6/85	
C.B. Miller, OSU	7/80-6/83	
W.M. Sackett, U/So. FL.	7/80-6/83	
J.C. Van Leer, U/MIAMI	7/81-6/84	
D.W. Spencer, WHOI, *ex-officio*	7/82-6/83	UNOLS CH.
D. Frankenberg, UNC, *ex-officio*	7/82-6/83	UNOLS V-CH.

1983-1984		
C.B. Miller, OSU, Chairman	7/80-6/86	
H.B. Stewart, Jr., Old Dominion, V-CH	7/83-6/86	
R.W. Corell, UNH	7/81-6/84	
R.P. Dinsmore, WHOI	7/83-6/86	
D.S. Gorsline, USC	7/81-6/84	
R. Larson, URI	7/82-6/85	
B.H. Robison, UCSB	7/79-6/85	
J.C. Van Leer, U/MIAMI	7/81-6/84	
F. Webster, U./DELAWARE, *ex-officio*	7/83-6/84	UNOLS CH.
J.R. Curray, Scripps, *ex-officio*	7/83-6/84	UNOLS V-CH.

1984-1985		
C.B. Miller, OSU, Chairman	7/80-6/86	
H.B. Stewart, Jr., Old Dominion, V-C	7/83-6/86	
R.P. Dinsmore, WHOI	7/83-6/86	
D.S. Gorsline, USC	7/81-6/85	
B.H. Robison, UCSB	7/79-6/85	
A.E. Maxwell, U/TEXAS, Austin	7/84-6/87	
C.J. Lorenzen, U./WA	7/84-6/87	
T. Malone, U/MARYLAND	7/84-6/87	
F. Webster, U/DELAWARE, *ex-officio*	7/83-6/85	UNOLS CH.
R.W. Corell, UNH, *ex-officio*	7/84-6/85	UNOLS V-CH.

03/85

UNOLS Chairman and Vice-Chairman
Advisory Council Chairman and Vice-Chairman and Executive Secretary
(Executive Subcommittee consists of UNOLS Chairman and Vice-Chairman, Advisory Council Chairman and Executive Secretary)

May 1971-1972	
A.E. Maxwell, WHOI	UNOLS Ch.
J.M. Savage, USC	UNOLS V-Ch.
J.V. Byrne, OSU	A/C Ch.
R.P. Dinsmore, UNOLS	E/S
May 1972-1973	
A.E. Maxwell, WHOI	UNOLS Ch.
J.M. Savage, USC	UNOLS V-Ch.
J.V. Byrne, OSU	A/C Ch.
R.P. Dinsmore, UNOLS	E/S
May 1973-1974	
A.E. Maxwell, WHOI	UNOLS Ch.
J.M. Savage, USC	UNOLS V-Ch.
J.V. Byrne, OSU	A/C Ch.
R.P. Dinsmore, UNOLS	E/S
May 1974-1975	
J.A. Knauss, URI	UNOLS Ch.
G.C. Shor, SIO	UNOLS V-Ch.
W.S. Richardson, NOVA	A/C Ch.
J.V. Byrne, OSU	A/C Act'g. Ch.
R.P. Dinsmore, UNOLS	E/S
May 1975-1976	
J.A. Knauss, URI	UNOLS Ch.
G.C. Shor, SIO	UNOLS V-Ch.
R.C. Dugdale, BIGELOW	A/C Ch.
R.P. Dinsmore, UNOLS	E/S
May 1976-1977	
W.S. Wooster, U.WA	UNOLS Ch.
T.F. Webster, WHOI	UNOLS V-Ch.
R.C. Dugdale, BIGELOW	A/C Ch.
T.R. Stetson, UNOLS	E/S
May 1977-1978	
W.S. Wooster, U.WA	UNOLS Ch.
T.F. Webster, WHOI	UNOLS V-Ch
G.H. Keller, OSU	A/C Ch.
D. Frankenberg, UNC	A/C V-Ch.
T.R. Stetson, UNOLS	E/S
May 1978-1979	
T.K. Treadwell, TAMU	UNOLS Ch.
A.F. Richards, LEHIGH	UNOLS V-Ch.
G.H. Keller, OSU	A/C Ch.
R.T. Barber, DUKE	A/C V-Ch.
T.R. Stetson, UNOLS	E/S
May 1979-1980	
T.K. Treadwell, TAMU	UNOLS Ch.
J.H. Martin, MLML	UNOLS V-Ch.
G.C. Anderson, U.WA	A/C Ch.
J.R. Schubel, SUNY/S.B.	A/C V-Ch.
T.R. Stetson, UNOLS	E/S
May 1980-1981	
T.K. Treadwell, TAMU	UNOLS Ch.
J.H. Martin, MLML	UNOLS V-Ch.
G.C. Anderson, U.WA	A/C Ch.
H.T. Rossby, URI	A/C V-Ch.
T.R. Stetson, UNOLS	E/S
May 1981-1982	
D.W. Spencer, WHOI	UNOLS Ch.
D. Frankenberg, UNC/C.H.	UNOLS V-Ch.
B.H. Robison, UCSB	A/C Ch.
H.T. Rossby, URI	A/C V-Ch.
T.R. Stetson, UNOLS	E/S
May 1982-1983	
D.W. Spencer, WHOI	UNOLS Ch.
D. Frankenberg, UNC/C.H.	UNOLS V-Ch.
B.H. Robison, UCSB	A/C Ch.
J.R. Curray, SCRIPPS	A/C V-Ch.
W.D. Barbee, UNOLS	E/S
May 1983-1984	
F. Webster, U.DEL	UNOLS Ch.
J.R. Curray, SCRIPPS	UNOLS V-Ch.
C.B. Miller, OSU	A/C Ch.
H.B. Stewart, Old Dominion	A/C V-Ch.
W.D. Barbee, UNOLS	E/S
May 1984-1985	
F. Webster, U.DEL	UNOLS Ch.
R.W. Corell, UNH	UNOLS V-Ch.
C.B. Miller, OSU	A/C Ch.
H.B. Stewart, Old Dominion	A/C V-Ch.
W.D. Barbee, UNOLS	E/S

APPENDIX VIII

UNOLS RESEARCH VESSELS FLEET OPERATIONS - 1984 -

CRUISE DAYS PROFILES

AGENCY	PHYS OCEAN	ACCOU STICS	CHEM OCEAN	BIOL OCEAN	ENVIR ECOL	FISH INVST	CLIM METEO	GEOLO GEOPH	MAP CHRTG	OCEAN ENGRG	TRAIN ING	TRANS NONSCI	TOTAL
NATL SCIENCE FNDTN	574.75	.00	535.50	1289.75	2.00	34.00	.00	777.00	.00	46.00	1.25	126.00	3386.25
OFF. NAVAL RESEARCH	226.75	16.00	20.00	16.00	.00	.00	.00	160.00	.00	9.00	.00	8.00	455.75
U.S. GEOL. SURVEY	.00	.00	.00	.00	.00	.00	.00	2.00	.00	.00	.00	.00	2.00
BUR. LAND MNGMT/MMS	73.00	.00	.00	73.00	47.00	.00	.00	48.00	.00	.00	.00	5.00	246.00
NATL OCEAN/ATMOSPH	49.75	.00	.00	6.00	.00	.00	.00	29.00	.00	.00	.00	.00	84.75
DEPT OF ENERGY	12.00	.00	43.50	38.00	1.00	.00	.00	28.00	.00	21.00	.00	.00	143.50
OTHER FEDERAL	8.00	.00	4.00	.00	.00	.00	.00	42.00	.00	4.00	3.00	1.00	62.00
STATE/MUNICIPAL	29.00	.00	9.00	206.00	12.00	2.00	.00	46.00	.00	.00	12.25	7.00	323.25
OTHER/PRIVATE	23.50	.00	11.00	.25	.00	.00	.00	44.00	.00	8.00	7.50	19.00	113.25
TOTALS	996.75	16.00	623.00	1629.00	62.00	36.00	.00	1176.00	.00	88.00	24.00	166.00	4816.75
PERCENT	20.7	.3	12.9	33.8	1.3	.7	.0	24.4	.0	1.8	.5	3.4	100.0

APPENDIX VIII-2

UNOLS RESEARCH VESSELS FLEET OPERATIONS - 1984 -

UNOLS OFFICE

CRUISE DAYS PROFILES

04/23/85

INSTITUTION	PHYS OCEAN	ACCOU STICS	CHEM OCEAN	BIOL OCEAN	ENVIR ECOL	FISH INVST	CLIM METEO	GEOLO GEOPH	MAP CHRTG	OCEAN ENGRG	TRAIN ING	TRANS NONSCI	TOTAL
UNIV. HAWAII	.00	.00	.00	14.00	.00	.00	.00	105.00	.00	10.00	.00	25.00	154.00
UNIV. ALASKA	33.00	.00	25.00	53.00	2.00	.00	.00	.00	.00	.00	2.00	.00	115.00
UNIV. WASHINGTON	87.00	1.00	121.00	113.00	.00	2.00	.00	57.00	.00	.00	2.00	21.00	404.00
OREGON STATE UNIV.	72.00	.00	4.00	97.00	.00	.00	.00	41.00	.00	.00	.00	.00	214.00
SCRIPPS INST. OCEAN	211.00	3.00	31.00	374.00	.00	.00	.00	209.00	.00	21.00	1.00	46.00	896.00
UNIV. SO. CALIF.	2.00	.00	22.00	58.00	.00	.00	.00	5.00	.00	.00	.00	.00	87.00
TEXAS A&M UNIV.	118.00	.00	68.00	23.00	47.00	.00	.00	.00	.00	.00	5.00	.00	261.00
UNIV. TEXAS	.00	.00	.00	.00	.00	.00	.00	62.00	.00	.00	.00	.00	62.00
UNIV. MIAMI, RSMAS	99.75	.00	86.00	303.00	.00	13.00	.00	23.00	.00	8.00	8.00	.00	540.75
UNIV GA., SKIDAWAY	12.00	.00	71.00	43.00	1.00	.00	.00	.00	.00	.00	.00	1.00	128.00
DUKE UNIV./UNC	2.00	.00	23.00	157.00	.00	.00	.00	57.00	.00	.00	1.00	7.00	247.00
JOHNS HOPKINS UNIV.	.00	.00	.00	114.00	.00	19.00	.00	.00	.00	.00	.00	.00	133.00
UNIVERSITY DELAWARE	119.00	.00	9.00	34.00	.00	.00	.00	.00	.00	.00	3.00	1.00	166.00
LAMONT-DOHERTY GEOL	.00	.00	.00	.00	.00	.00	.00	271.00	.00	.00	.00	38.00	309.00
UNIV. RHODE ISLAND	49.00	8.00	73.00	26.00	.00	.00	.00	57.00	.00	.00	.00	17.00	230.00
WOODS HOLE OCEAN	163.00	4.00	90.00	186.00	.00	.00	.00	283.00	.00	49.00	.00	8.00	783.00
MOSS LANDING MAR LAB	29.00	.00	.00	34.00	12.00	2.00	.00	6.00	.00	.00	2.00	2.00	87.00
TOTALS	996.75	16.00	623.00	1629.00	62.00	36.00	.00	1176.00	.00	88.00	24.00	166.00	4816.75
PERCENT	20.7	.3	12.9	33.8	1.3	.7	.0	24.4	.0	1.8	.5	3.4	100.0

CRUISE DAYS PROFILES 04/23/85

VESSEL	PHYS OCEAN	ACCOU STICS	CHEM OCEAN	BIOL OCEAN	ENVIR ECOL	FISH INVST	CLIM METEO	GEOLO GEOPH	MAP CHRTG	OCEAN ENGRG	TRAIN ING	TRANS NONSCI	TOTAL
MELVILLE	38.00	.00	28.00	43.00	.00	.00	.00	34.00	.00	21.00	.00	31.00	195.00
KNORR	72.00	.00	12.00	20.00	.00	.00	.00	64.00	.00	40.00	.00	.00	208.00
ATLANTIS II	.00	.00	37.00	74.00	.00	.00	.00	203.00	.00	9.00	.00	8.00	331.00
CONRAD	.00	.00	.00	.00	.00	.00	.00	271.00	.00	.00	.00	38.00	309.00
T. G. THOMPSON	83.00	.00	58.00	58.00	.00	.00	.00	43.00	.00	.00	.00	21.00	263.00
T. WASHINGTON	110.00	2.00	3.00	37.00	.00	.00	.00	129.00	.00	.00	.00	12.00	293.00
ENDEAVOR	49.00	8.00	73.00	26.00	.00	.00	.00	57.00	.00	.00	.00	17.00	230.00
OCEANUS	91.00	4.00	41.00	92.00	.00	.00	.00	16.00	.00	.00	.00	.00	244.00
WECOMA	72.00	.00	4.00	97.00	.00	.00	.00	41.00	.00	.00	.00	.00	214.00
GYRE	118.00	.00	68.00	23.00	47.00	.00	.00	.00	.00	.00	5.00	.00	261.00
C. ISELIN	45.75	.00	37.50	127.25	.00	.00	.00	23.00	.00	.00	.00	.00	233.50
NEW HORIZON	55.00	.00	.00	177.00	.00	.00	.00	21.00	.00	.00	.00	1.00	254.00
FRED H. MOORE	.00	.00	.00	.00	.00	.00	.00	62.00	.00	.00	.00	.00	62.00
KANA KEOKI	.00	.00	.00	14.00	.00	.00	.00	105.00	.00	10.00	.00	25.00	154.00
CAPE FLORIDA	44.50	.00	14.00	132.25	.00	13.00	.00	.00	.00	8.00	7.25	.00	219.00
CAPE HATTERAS	2.00	.00	23.00	157.00	.00	.00	.00	57.00	.00	.00	1.00	7.00	247.00
ALPHA HELIX	33.00	.00	25.00	53.00	2.00	.00	.00	.00	.00	.00	2.00	.00	115.00
ROBERT SPROUL	.00	.00	.00	31.00	.00	.00	.00	.00	.00	.00	.00	1.00	32.00
CAPE HENLOPEN	119.00	.00	9.00	34.00	.00	.00	.00	.00	.00	.00	3.00	1.00	166.00
VELERO IV	2.00	.00	22.00	58.00	.00	.00	.00	5.00	.00	.00	.00	.00	87.00
R. WARFIELD	.00	.00	.00	114.00	.00	19.00	.00	.00	.00	.00	.00	.00	133.00
E. B. SCRIPPS	8.00	1.00	.00	86.00	.00	.00	.00	25.00	.00	.00	1.00	1.00	122.00
CAYUSE	29.00	.00	.00	34.00	12.00	2.00	.00	6.00	.00	.00	2.00	2.00	87.00
BLUEFIN	12.00	.00	71.00	43.00	1.00	.00	.00	.00	.00	.00	.00	1.00	128.00
ONAR	3.00	.00	22.00	15.00	.00	.00	.00	.00	.00	.00	.00	.00	40.00
C. A. BARNES	1.00	1.00	41.00	40.00	.00	2.00	.00	14.00	.00	.00	2.00	.00	101.00
CALANUS	9.50	.00	34.50	43.50	.00	.00	.00	.00	.00	.00	.75	.00	88.25
TOTALS	996.75	16.00	623.00	1629.00	62.00	36.00	.00	1176.00	.00	88.00	24.00	166.00	4816.75
PERCENT	20.7	.3	12.9	33.8	1.3	.7	.0	24.4	.0	1.8	.5	3.4	100.0

UNOLS RESEARCH VESSELS FLEET OPERATIONS - 1984 - APPENDIX VIII-4

UNOLS OFFICE

OPERATIONAL DAYS CHARGED BY SPONSOR

04/23/85

INSTITUTION	NATL SCI. FNDTN	OFF. NAVAL RES.	U.S. GEOL SURV.	BUR. LAND MNGMT	NATL OCEAN ATMOS	DEPT OF ENRGY	OTHER FEDER FUNDS	STATE OR MUNIC	PRIV/ FORGN FUNDS	TOTALS
UNIV. HAWAII	69.00	21.00	.00	53.00	.00	.00	.00	5.00	6.00	154.00
UNIV. ALASKA	113.00	.00	.00	.00	.00	.00	.00	2.00	.00	115.00
UNIV. WASHINGTON	333.00	53.00	2.00	.00	2.00	.00	.00	14.00	.00	404.00
OREGON STATE UNIV.	204.00	6.00	.00	.00	.00	.00	4.00	.00	.00	214.00
SCRIPPS INST. OCEAN	448.50	230.50	.00	.00	.00	23.00	.00	194.00	.00	896.00
UNIV. SO. CALIF.	80.00	.00	.00	.00	2.00	.00	5.00	.00	.00	87.00
TEXAS A&M UNIV.	159.00	.00	.00	57.00	.00	.00	4.00	30.00	11.00	261.00
UNIV. TEXAS	24.00	.00	.00	.00	.00	.00	.00	13.00	25.00	62.00
UNIV. MIAMI, RSMAS	420.25	29.25	.00	38.00	12.75	6.00	.00	.25	34.25	540.75
UNIV GA., SKIDAWAY	99.50	.00	.00	.00	1.00	27.50	.00	.00	.00	128.00
DUKE UNIV./UNC	204.00	.00	.00	33.00	.00	.00	.00	10.00	.00	247.00
JOHNS HOPKINS UNIV.	133.00	.00	.00	.00	.00	.00	.00	.00	.00	133.00
UNIVERSITY DELAWARE	70.00	.00	.00	35.00	38.00	.00	5.00	13.00	5.00	166.00
LAMONT-DOHERTY GEOL	240.00	.00	.00	.00	.00	.00	37.00	.00	32.00	309.00
UNIV. RHODE ISLAND	158.00	34.00	.00	.00	.00	38.00	.00	.00	.00	230.00
WOODS HOLE OCEAN	580.00	82.00	.00	30.00	29.00	49.00	7.00	6.00	.00	783.00
MOSS LANDING MAR LAB	51.00	.00	.00	.00	.00	.00	.00	36.00	.00	87.00
TOTALS	3386.25	455.75	2.00	246.00	84.75	143.50	62.00	323.25	113.25	4816.75
PERCENT	70.3	9.5	.0	5.1	1.8	3.0	1.3	6.7	2.4	100.0

OPERATIONAL DAYS CHARGED BY SPONSOR

APPENDIX VIII-5

VESSEL	LOA	NATL SCI. FNDTN	OFF. NAVAL RES.	U.S. GEOL SURV.	BUR. LAND MNGMT	NATL OCEAN ATMOS	DEPT OF ENRGY	OTHER FEDER FUNDS	STATE OR MUNIC	PRIV/ FORGN FUNDS	TOTALS
MELVILLE	245FT	173.00	.00	.00	.00	.00	21.00	.00	1.00	.00	195.00
KNORR	245FT	185.00	19.00	.00	.00	.00	.00	4.00	.00	.00	208.00
ATLANTIS II	210FT	270.00	32.00	.00	.00	29.00	.00	.00	.00	.00	331.00
CONRAD	209FT	240.00	.00	.00	.00	.00	.00	37.00	.00	32.00	309.00
T.G. THOMPSON	209FT	211.00	52.00	.00	.00	.00	.00	.00	.00	.00	263.00
T. WASHINGTON	209FT	146.50	133.50	.00	.00	.00	.00	.00	13.00	.00	293.00
ENDEAVOR	177FT	158.00	34.00	.00	.00	.00	38.00	.00	.00	.00	230.00
OCEANUS	177FT	125.00	31.00	.00	30.00	.00	49.00	3.00	6.00	.00	244.00
WECOMA	177FT	204.00	6.00	.00	.00	.00	.00	4.00	.00	.00	214.00
GYRE	174FT	159.00	.00	.00	57.00	.00	.00	4.00	30.00	11.00	261.00
C. ISELIN	170FT	183.00	29.25	.00	.00	.00	6.00	.00	.00	15.25	233.50
NEW HORIZON	170FT	33.00	68.00	.00	.00	.00	.00	.00	153.00	.00	254.00
FRED H. MOORE	165FT	24.00	.00	.00	.00	.00	.00	.00	13.00	25.00	62.00
KANA KEOKI	156FT	69.00	21.00	.00	53.00	.00	.00	.00	5.00	6.00	154.00
CAPE FLORIDA	135FT	159.25	.00	.00	38.00	3.25	.00	.00	.00	18.50	219.00
CAPE HATTERAS	135FT	204.00	.00	.00	33.00	.00	.00	.00	10.00	.00	247.00
ALPHA HELIX	133FT	113.00	.00	.00	.00	.00	.00	.00	2.00	.00	115.00
ROBERT SPROUL	125FT	17.00	.00	.00	.00	.00	.00	.00	15.00	.00	32.00
CAPE HENLOPEN	120FT	70.00	.00	.00	35.00	38.00	.00	5.00	13.00	5.00	166.00
VELERO IV	110FT	80.00	.00	.00	.00	2.00	.00	5.00	.00	.00	87.00
R. WARFIELD	106FT	133.00	.00	.00	.00	.00	.00	.00	.00	.00	133.00
E.B. SCRIPPS	95FT	79.00	29.00	.00	.00	.00	2.00	.00	12.00	.00	122.00
CAYUSE	80FT	51.00	.00	.00	.00	.00	.00	.00	36.00	.00	87.00
BLUEFIN	72FT	99.50	.00	.00	.00	1.00	27.50	.00	.00	.00	128.00
ONAR	65FT	34.00	.00	.00	.00	1.00	.00	.00	5.00	.00	40.00
C.A. BARNES	65FT	88.00	1.00	2.00	.00	1.00	.00	.00	9.00	.00	101.00
CALANUS	64FT	78.00	.00	.00	.00	9.50	.00	.00	.25	.50	88.25
TOTALS		3386.25	455.75	2.00	246.00	84.75	143.50	62.00	323.25	113.25	4816.75

UNOLS RESEARCH VESSELS FLEET OPERATIONS - 1984 -

APPENDIX VIII-6

UNOLS OFFICE

04/23/85

PROJECT PERSON-DAYS AT SEA BY SPONSOR

VESSEL	LOA	TOTAL DAYS CHRGD	NATL SCI. FNDTN	OFF. NAVAL RES.	U.S. GEOL. SURV.	BUR. LAND MNGMT	NATL OCEAN ATMOS	DEPT. OF ENRGY	OTHER FEDER FUNDS	STATE OR MUNIC	PRIV/ FORGN FUNDS	TOTALS
MELVILLE	245	195.00	3292.00	.00	.00	.00	.00	609.00	.00	22.00	.00	3923.00
KNORR	245	208.00	2573.00	384.00	.00	.00	.00	.00	16.00	.00	.00	2973.00
ATLANTIS II	210	331.00	5424.00	538.00	.00	.00	609.00	.00	.00	.00	.00	6571.00
CONRAD	209	309.00	3849.00	.00	.00	.00	.00	.00	466.00	.00	582.00	4897.00
T.G. THOMPSON	209	263.00	2833.00	618.00	.00	.00	.00	.00	.00	.00	.00	3451.00
T. WASHINGTON	209	293.00	1776.50	2128.50	.00	.00	.00	.00	.00	183.00	.00	4088.00
ENDEAVOR	177	230.00	1349.00	444.00	.00	.00	.00	728.00	.00	.00	.00	2521.00
OCEANUS	177	244.00	1177.00	349.00	.00	360.00	.00	557.00	36.00	66.00	.00	2545.00
WECOMA	177	214.00	2771.00	58.00	.00	.00	.00	.00	48.00	.00	.00	2877.00
GYRE	174	261.00	1048.00	.00	.00	187.00	.00	.00	8.00	214.00	11.00	1468.00
C. ISELIN	170	233.50	1972.00	255.00	.00	.00	.00	78.00	.00	.00	244.00	2549.00
NEW HORIZON	170	254.00	359.00	896.00	.00	.00	.00	.00	.00	2257.00	.00	3512.00
FRED H. MOORE	165	62.00	336.00	.00	.00	.00	.00	.00	.00	233.00	313.00	882.00
KANA KEOKI	156	154.00	819.00	208.00	.00	648.00	.00	.00	.00	.00	106.00	1781.00
CAPE FLORIDA	135	219.00	2103.75	.00	.00	495.00	22.75	.00	.00	.00	202.75	2824.25
CAPE HATTERAS	135	247.00	2376.00	.00	.00	408.00	.00	.00	.00	200.00	.00	2984.00
ALPHA HELIX	133	115.00	1200.00	.00	.00	.00	.00	.00	.00	30.00	.00	1230.00
ROBERT SPROUL	125	32.00	196.00	.00	.00	.00	.00	.00	.00	183.00	.00	379.00
CAPE HENLOPEN	120	166.00	710.00	.00	.00	290.00	352.00	.00	30.00	104.00	25.00	1511.00
VELERO IV	110	87.00	702.00	.00	.00	.00	10.00	.00	40.00	.00	.00	752.00
R. WARFIELD	106	133.00	910.00	.00	.00	.00	.00	.00	.00	.00	.00	910.00
E.B. SCRIPPS	095	122.00	609.00	180.00	.00	.00	.00	14.00	.00	102.00	.00	905.00
CAYUSE	080	87.00	359.00	.00	.00	.00	.00	.00	.00	528.00	.00	887.00
BLUEFIN	072	128.00	169.50	.00	.00	.00	2.00	130.50	.00	.00	.00	302.00
ONAR	065	40.00	121.00	.00	.00	.00	3.00	.00	.00	43.00	.00	167.00
C.A. BARNES	065	101.00	314.00	5.00	8.00	.00	5.00	.00	.00	129.00	.00	461.00
CALANUS	064	88.25	440.50	.00	.00	.00	38.00	.00	.00	4.50	12.50	495.50
TOTALS		4816.75	39789.25	6063.50	8.00	2388.00	1041.75	2116.50	644.00	4298.50	1496.25	57845.75

UNOLS RESEARCH VESSELS FLEET OPERATIONS - 1984 - APPENDIX VIII-7 UNOLS OFFICE

UNOLS CRUISE PARTICIPANTS AND AFFILIATIONS 04/23/85

SHIP	SCI	TECH	GRAD	STU/OBS	TOTAL	ASSOC	NON-UNOLS	FED	FRGN	TOTAL
KANA KEOKI	42	92	35	30	199	0	12	9	7	28
ALPHA HELIX	39	18	22	21	100	2	18	1	0	21
T. G. THOMPSON	33	62	27	0	122	2	15	1	2	20
ONAR	13	27	24	36	100	0	1	3	0	4
C. A. BARNES	35	63	57	86	241	0	1	15	2	18
WECOMA	53	76	45	16	190	7	13	0	3	23
MELVILLE	53	71	35	15	174	4	13	3	27	47
ROBERT SPROUL	17	5	13	1	36	0	14	0	12	26
NEW HORIZON	48	81	34	50	213	13	16	12	18	59
E. B. SCRIPPS	50	50	54	21	175	2	15	0	1	18
T. WASHINGTON	38	127	23	31	219	8	7	0	11	26
VELERO IV	40	12	52	12	116	28	5	0	0	33
GYRE	34	31	20	4	89	0	15	0	4	19
FRED H. MOORE	21	25	4	26	76	0	1	0	0	1
C. ISELIN	55	43	25	7	130	26	18	10	5	59
CAPE FLORIDA	51	84	18	23	176	20	21	7	6	54
CALANUS	20	9	22	92	143	11	2	0	0	13
BLUEFIN	49	148	26	31	254	0	13	0	3	16
CAPE HATTERAS	104	63	83	43	293	69	83	0	0	152
R. WARFIELD	100	80	25	50	255	73	55	3	1	132
CAPE HENLOPEN	72	120	40	3	235	40	33	41	0	114
CONRAD	63	62	20	39	184	9	7	1	28	45
ENDEAVOR	51	82	15	13	161	16	13	1	8	38
ATLANTIS II	175	157	40	3	375	12	26	20	7	65
KNORR	86	67	25	10	188	22	13	5	10	50
OCEANUS	72	121	15	4	212	34	16	38	2	90
CAYUSE	65	50	133	242	490	0	102	0	0	102
TOTALS	1479	1826	932	909	5146	398	548	170	157	1273
PERCENT	28.7	35.5	18.1	17.7	100.0	7.7	10.6	3.3	3.1	24.7

COMPOSITION, DISTRIBUTION AND MANAGEMENT OF THE UNOLS FLEET - A REVIEW, 1985

EXECUTIVE SUMMARY

1. The UNOLS Fleet once again has a recurring excess of shiptime available compared to the demand from funded scientific projects. This mostly is due to decline of the funding for ocean science from $ 84M (1967-dollars) in 1971 to $ 68M (1967-dollars) in 1985. It also results from changes in the fleet through the independent actions of operator institutions. The excess is around 2 to 2.5 ships/year, and it shows no sign of diminishing in the immediate future. The government agencies have been handling the excess by laying-up ships for all or part of given years. They appear willing to continue in this manner. Therefore, we recommend that UNOLS begin to take an active role in identifying ships for lay-up as part of the standard East-West scheduling process. We also recommend that federal agencies that approve or fund changes to the fleet by single UNOLS members take full account of the effects of those changes on total fleet capacity and thus on the magnitude of our recurring excess in shiptime.

2. After review of the physical condition of the fleet, based on the NFS/ONR inspections of 1984, it is concluded that 7 of the 27 ships are less capable than they need to be for full support of modern oceanography. By class:

- 3 of the 6 large ships are below optimal operating standards (the AGOR-3 class ships)
- 1 of the intermediate ships is inadequate
- 3 of 13 small ships are inadequate.

There are no significant deficiencies in terms of safety.

3. Ship demand has been consistently short in the Southeast. We recommend that NSF and ONR review the possibility of reassigning a Miami-based ship elsewhere, *provided the review indicates that no greatly increased demand will be forthcoming.*

4. We continue to urge formation of a consortium of institutions for operation of a ship in the Central California area. However, we urge careful review of whether demand really would increase in response to assignment of a ship to CENCAL.

5. The Advisory Council recommends that the UNOLS Fleet Replacement Committee proceed aggressively with their replacement study and that they should continue to receive the support of UNOLS. The appropriate federal agencies, notably ONR and OCE-NSF, should be receptive to the Committee's recommendations. Although tentative replacement plans call for a fleet with about the same number of ships as at present, the new fleet will be ship-for-ship larger and more expensive to operate. We remind the institutions that there are budgetary constraints on replacement of present ships by larger, more capable ships that are more expensive to operate. The agencies should consider that expanded, multi-disciplinary research, as described in the NSF Long-Range Plan, will require a more capable fleet that is significantly more expensive to operate.

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

East Coast Ship Scheduling Group
West Coast Ship Scheduling Group
REPORT OF JOINT MEETING
May 21, 1985
Room 1242, National Science Foundation
1800 G Street NW
Washington, D.C.

The East and West Regional Ship Scheduling Groups met separately at 8:30 a.m. and jointly at 2:00 p.m. in room(s) 1242, National Science Foundation. Individual meetings were called to order by Robertson P. Dinsmore (East) and Brian Lewis (West). They jointly chaired the combined meeting. The order of business followed the agenda (Appendix I). In addition, the Groups discussed the May 2, 1985 letter from Sandra Toye, Head OCFS concerning 1986 UNOLS Fleet Support Outlook (Appendix II).

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.

The total number of operating days and the total costs projected have changed very little since the March, 1985 projection. Most of the change is in increases in funding from Other sources and from ONR. The total of operating days, 4,994 is up 3 1/2% over 1984, and costs are projected to rise about 7%. Scheduling problems for individual ships had been identified in earlier reports (West Coast Ship Scheduling, March 11, 1985 and East Coast, March 15).

The University of Southern California's plans are to operate the VELERO IV into late August, after which the ship will be laid up for transfer of equipment and later sale.

PROFILE OF FUNDING CYCLES
$MILLIONS

	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

	OP DAYS	NSF	ONR	OTHER	TOTAL	SHORTFALL
MARCH 84 PROJECTION	5,889	28.7	5.4	7.6	41.7	
(ANTICIPATED)		(25.0)	(5.4)	(7.6)	(38.0)	(3.7)
MAY 84 PROJECTION	5,999	31.0	4.9	6.6	42.5	
(ANTICIPATED)		(25.0)	(4.9)	(6.6)	(36.5)	(6.0)
OCT 84 PROJECTION	5,213	28.4	4.2	4.2	36.8	
(ANTICIPATED)		(25.0)	(4.2)	(4.2)	(33.4)	(3.4)
MARCH 85 PROJECTION	4,952	26.5	4.0	5.6	36.2	
(ANTICIPATED)		(25.0)	(4.0)	(5.6)	(34.6)	(1.6)
MAY 85 PROJECTION	4,994	26.6	4.4	6.3	37.2	
(ANTICIPATED)		(25.0)	(4.4)	(6.3)	(35.7)	(1.5)

1986 Costs and Schedules. Tentative schedules for individual ships are being updated on UNOLS bulletin board: SHIP.SCHED86. Summaries of costs appear in the following *Summary of 1986 Cost Projections* and in the attached tables *1986 Cost Projections.*

SUMMARY OF 1986 COST PROJECTIONS

	OP DAYS	NSF	ONR	OTHER	TOTAL
May 22, 1985 Projections					
		$Million			
East	3,220	15,470	5,008	2,642	23,120
West	2,537	16,782	772	2,160	19,716
Total	5,757	32,252	5,780	4,802	42,836
ANTICIPATED FUNDING*		(26,600)	(4,200)	(3,800)	(34,600)
PROJECTION SHORTFALL		5.6M	1.6M	-	7.2M
*NSF/OCFS LETTER OF MAY 2, 1985					
(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	5,700	31,987	5,433	3,800	41,221

Projections for 1986 are for heavy ship use--over 5,700 days. This is about the capacity of the UNOLS fleet. Although this is lower than last year's projections for 1985, it is for about 750 days more than probably will be realized. According to information from funding agencies (Appendix II) neither ship operations funding nor funded science ship requirements will increase significantly over 1984 and 1985 totals of 4,900-5,000 days. The potential exists for ship layups in 1986.

A number of specific scheduling problems were identified for 1986:

Although all ships are proposing to operate a full year in 1986 (except MOORE, projecting one half year), funding constraints will undoubtedly reduce the fleet schedule.

Proposed schedules are for about 50% of science projects already funded with most of the remainder submitted and pending review. The distribution of funded projects among individual ship, though, is uneven. Some ships have schedules with virtually all projects firm, while others have as little as 15% already funded.

Possible schedule weaknesses are indicated for the following ships:

CAPE HENLOPEN (late in year)
ENDEAVOR (early in year)
ISELIN
KNORR (late in year)
MOORE
WECOMA
USC ship.

Possible layups were identified for the CAPE HENLOPEN (1/4 year), KNORR (1/4 year) and MOORE (1/2 year). Although there may also be need for layup among intermediate vessels, it is not possible to identify which ship(s) until further science funding decisions are made. (See the recommendation below.)

Some problems remain in effectively incorporating certain funded projects into schedules:

WEPOCS, in the western Pacific,
the Riser, et al project to Tahiti,
part of the China Sea project,
various projects off the west coast of South America, and
regional survey work for the Ocean Drilling Program in the western Pacific (probably early 1987).

The Joint Ship Scheduling Group made the following recommendation:

Recognizing potential schedule weaknesses or conflicts among the following vessels, the Scheduling Group considers that presently envisioned ship requirements in 1986 may be accomplished by one or two fewer ships:

East Coast	*West Coast*
ENDEAVOR	*MOANA WAVE*
GYRE	*NEW HORIZON*
ISELIN	*VELERO IV Replacement*
OCEANUS	*WECOMA*

Noting, however, that it is not possible to identify lesser utilized ship(s) until more science project funding information is available, the Committee recommends that an Ad Hoc Working Group be convened for the following purposes: (1) To review the status of proposed 1986 projects; (2) To

recommend the most effective ship schedules based on the best match of ships to project requirements, locations and costs; and (3) To recommend ship layups where so warranted. Tentatively, the meeting will be on September 24, 1985, the day preceding RVOC, in Monterey, California.

The Working Group shall comprise one representative from each operating institution of the above listed ships and shall be co-chaired by the Chairmen of the East and West Coast Scheduling Committee.

Wire. Donald A. Moller, W.H.O.I., reported on the status of the UNOLS wire pool. Oceanographic cables on hand at institutions, in the pool, on order and in the proposal for 1985 are shown on the attached summary: Oceanographic Cables. He also presented an excellent status report on manufacturer's specifications, test results and supply availability for 3 X 19 torque balanced wire rope. Although the problem of a supplier for this standard in the oceanographic community cannot be said to be solved, good progress is being made.

The meeting was adjourned at 3:15 p.m.

APPENDIX X-5

DATE May 21, 1985

1985 COST ESTIMATES

SHIP	1984 OP DAYS	1984 COSTS	1985 OPS DAYS	1985 NSF $K	1985 ONR $K	1985 OTHER $K	1985 TOTAL $K
ATLANTIS II	331	3,090	264	2,600	250	370	3,220
KNORR	208	2,840	191	1,370	1,170	-	2,540
CONRAD	322	2,915	348	2,301	550	413	3,264
OCEANUS	244	1,500	237	1,270	-	390	1,660
ENDEAVOR	238	1,679	262	1,478	89	379	1,946
GYRE	261	1,890	259	942	74	904	1,920
ISELIN	233	1,381	laid up	548	-	-	548
CAPE HENLOPEN	166	748	197	580	0	345	925
CAPE HATTERAS	255	1,374	255	1,026	-	DOE 176 MMS 187 STATE 56	1,445
CAPE FLORIDA	219	1,100	228	932	19	155	1,106
WARFIELD	133	531	138	506	-	-	506
BLUE FIN	129	187	180	105	-	DOE 85	190
LAURENTIAN	-	-	-	-	-	-	-
CALANUS	88	171	160	172	39	33	243
MOORE	64	540	58	200	-	376	576
TOTAL	2,891	19,946	2,777	14,030	2,191	3,869	20,089
WEST COAST	1,923	14,656	2,217	12,577	2,165	2,389	17,133
TOTALS	4,814	34,602	4,994	26,607	4,356	6,258	37,222

APPENDIX X-6

DATE May 21, 1985

1985 COST ESTIMATES

	1984 OP DAYS	1984 COSTS	1985 OPS DAYS	1985 NSF $K	1985 ONR $K	1985 OTHER $K	1985 TOTAL $K
MELVILLE	194	2,521	275	2,719	265	UC 24 NOAA 36 Sandia 265	3,308
WASHINGTON	293	2,981	239	1,368	1,149	UC 230	2,747
NEW HORIZON	254	1,791	200	822	66	UC 506 DOE 73	1,468
(Scripps) ROBT. G. SPROUL	(32)* 155	(187)* 449	154	390	57	UC 72 DOE 64	584
VELERO IV	93	630	85	364	0	18	382
CAYUSE	87	473	122	319	47	153	519
WECOMA *from Mar 11,85	214	1,411	212	1,553	193		1,747
THOMPSON	262	2,145	272	2,252	388	0	2,640
BARNES	101	113	175	207	0	23	230
ALPHA HELIX	115	1,212	155	1,478	-	16	1,494
MOANA WAVE KANA KEOKI	** 155	** 930	328	1,105	0	909	2,014
TOTAL	1,923	14,656	2,217	12,577	2,165	2,389	17,133

*included in SPROUL TOTAL

APPENDIX X-7

DATE May 21, 1985

1986 COST PROJECTIONS

SHIP	1985 COSTS NSF	1985 COSTS (Proposed)	1985 OP DAYS	PROJECTED 1986 COSTS: 1986 OP DAYS	NSF	ONR	OTHER	TOTAL
ATLANTIS II	2,600	3,220	264	260	2,000	700	620	3,320
KNORR	1,370	2,540	191	273	2,143	1,463	-	3,606
CONRAD	2,301	3,264	348	320	2,045	1,227	0	3,272
OCEANUS	1,270	1,660	237	278	640	830	420	1,890
ENDEAVOR	1,478	1,946	262	279	1,603	210	140	1,953
GYRE	942	1,920	259	292	1,607	99	361	2,067
ISELIN	548	548	Laid up	278	1,752	-	-	1,752
CAPE HENLOPEN	580	925	197	130	600	-	283	883
CAPE HATTERAS	1,026	1,446	255	250	1,085	-	328	1,413
CAPE FLORIDA	932	1,106	228	209	869	113	-	982
WARFIELD	506	506	138	172	618	-	-	618
BLUE FIN	105	190	180	180	100	-	100	200
LAURENTIAN	-	-	-	-	-	-	-	-
CALANUS	172	243	160	188	243	9	30	282
MOORE	200	576	58	111	528	-	360	888
TOTAL	14,030	20,090	2,777	3,220	15,470	5,008	2,642	23,120
West Coast	12,577	17,133	2,217	2,537	16,782	772	2,160	19,716
TOTAL	26,607	37,223	4,994	5,757	32,252	5,780	4,802	42,836

APPENDIX X-8

DATE May 21, 1985

1986 COST PROJECTIONS

SHIP	1985 COSTS NSF	1985 COSTS (Proposed)	1985 OP DAYS	1986 OP DAYS	PROJECTED 1986 COSTS NSF	ONR	OTHER	TOTAL
MELVILLE	2,719	3,308	275	262	2,161 DPP 838	0	UC 13 Sandia 419	3,154
WASHINGTON	1,368	2,747	239	264	1,958 DPP 716	0	UC 358 Other 119	3,152
NEW HORIZON	822	1,468	200	236	1,101	75	UC 397 DOE 195	1,767
ROBT. G. SPROUL	390	584	154	175	564	0	UC 8 DOE 100	672
VELERO IV	364	Replacement in 1986 382	85	195	1,181	0	GS 98 NPS 84	1,363
CAYUSE	319	519	122	135	364	40	141	546
WECOMA	1,553	1,747	212	260	2,028	-	-	2,028
THOMPSON	2,252	2,640	272	264	2,380	438	0	2,818
BARNES	207	230	175	200	229	7	26	262
ALPHA HELIX	1,478	1,494	155	217	1,610	-	15	1,625
MOANA WAVE	1,105	2,014	328	329	1,652	212	187	2,051
TOTAL	12,577	17,133	2,217	2,537	16,782	772	2,160	19,716

OCEANOGRAPHIC CABLES
UNOLS
1985 SUMMARY

Wire Size	On Hand	Pools	On Order	'85 Prop.	Totals (Dec.'85)
3 x 19					
3/16"	11	2	0	0	13
1/4"	5	0	0	7	12
3/8"	0	0	1 (?)	1	2
1/2"	11	0	0	5 *	16
9/16"(30K)	2	0	0	4	6
9/16"(45K)	2	0	1 (?)	1	4
E-M (CTD)					
.225" (25K)	3+(3/2)	0	0	6*	9+(3/2)
.303" (27K)	1	1	0	0	2
.322" (20K)	7	2	0	5	9
.322" (33K)	7	4	0	2	13
COAXIAL					
.68" (30K)	1+(2/2)	0	3+(1/2)	1	5+(3/2)

* Includes the Polar Program requests

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

AGENDA

Separate and Joint Meetings

East Coast Scheduling Group

West Coast Scheduling Group

May 21, 1985

Separate Meetings

1. Brief review of 1985 schedules, costs and funding status *(Please provide 15 copies of updated schedule and cost summaries.)*

2. 1986 Ship Use Requests *(Please provide 15 copies of summaries of your Requests received.)*

3. Tentative 1986 schedule *(Please provide 15 copies of your tentative 1986 schedules - format similar to UNOLS SHIP.SCHED86, if practical. At least time line.)*

4. Ship Costs for 1986 *(15 copies of your rough estimates for 1986---similar to 1985 cost summary noted above.)*

5. Long Range Expeditionary Plans *(Expeditionary projects, Austral summer 1986-87 and beyond. Interface with UNEPC.)*

6. 1986 and 1987 wire and cable requirements *(If necessary, update your March, 1985 inputs.)*

7. Recommendations and response to 1986 UNOLS Fleet Support Outlook *(Recommended response to May 2, 1985 letter from Head, OCFS.)*

Joint Meeting

Consolidate and summarize results of separate meetings.

APPENDIX II
NATIONAL SCIENCE FOUNDATION
WASHINGTON, D.C. 20550

DIVISION OF OCEAN SCIENCES
OCEANOGRAPHIC CENTERS AND FACILITIES SECTION

May 2, 1985

MEMORANDUM

TO: Brian Lewis, Chairman, West Coast Scheduling Committee
Bob Dinsmore, Chairman, East Coast Scheduling Committee
George Shor, Chairman, Expeditionary Planning Committee
Charles Miller, Chairman, Advisory Council
Ferris Webster, Chairman, UNOLS Membership

FROM: Head, Oceanographic Centers and Facilities Section

SUBJECT: 1986 UNOLS Fleet Support Outlook

As we complete our preparations for the UNOLS Semi-Annual Meetings on May 20-22, we see difficulties ahead for the fleet. These difficulties probably cannot be completely avoided, since they result from larger national budget problems; but their impact can be lessened by concerted effort in the community. We would like you to know our concerns now so that you can work them into your thinking about the UNOLS agenda.

The outlook for fleet support for Fiscal Year 1986 is not encouraging. That is our annual prediction, and it is understandably tempting to shrug it off. But as everyone is aware, concern about the Federal deficit makes FY 1986 an uncommon year: budget reductions are in store for much of the Federal establishment. Furthermore, the political sensitivities surrounding budget and appropriations may result in continuing resolutions, vetoes, or other tactics which can compound the problem by adding months of uncertainty to the equation.

We do not want to presume on the agency reports that will be made to the UNOLS membership at the upcoming meeting, but our discussions with the other Federal agencies and our assessment of our own prospects point to a difficult year. At best, we expect level funding for the fleet in absolute dollars. When this is racked up alongside the expectations of the operators as recently as the March scheduling meetings, the discrepancies become self-evident. [See Attachment]

It's true, of course, that estimates in the early scheduling rounds are always based on extremely hopeful forecasts of success in project funding. Since the March round, the NSF Ocean Sciences Research Section panels have met, and many PI's and ship operators should now have more solid indications of the likelihood of support for proposed field programs. After all allowances are made, however, it still appears to us that no more than 20 or 21 ship years can be supported in 1986. We call on UNOLS to help find the most rational way to deal with that reality if it does come to pass.

. Fully utilized ships get more
ar, especially in distant water
, it is better to plan for them
last-minute partial layups which
es for scientists and operators alike.

dules must be rationalized if the
lable -- the Western Pacific, Indian
. Following on the Indian Ocean,
the Red Sea and Gulf of Aden; another
ı oceans; and yet others, in the
is is the kind of situation UNEP was
edules show little evidence of
erators with an obvious stake in these
and THOMPSON schedulers need to sit
l requirements. Any schedule which
yet submitted, for a major portion
c.

fleet management under the likely
the Advisory Council and/or the
d be our position on fleet expansion
cumstances? How can the community
s essential to the long-range health
lines or other administrative devices
ule and support decisions?

in the coming months to manage this

a D. Toye

APPENDIX XI

FOREIGN CLEARANCES PROCESSED

	1980-1982		1983		1984		1983-1984	
	Number	Percent of Total	Number	Percent Change from 80-82	Number	Percent Change from 80-82	Number	Percent of Total
CANADA	17	23	27	+59	35	+106	31	23
MEXICO	19	26	11	-42	13	-32	12	9
CENTRAL/SOUTH AMERICA	12	17	22	+83	35	+192	28	21
CARIBBEAN	14	19	16	+14	37	+164	26	19
OTHER	11	15	33	+200	43	+291	38	28
TOTAL	73		109	+49	163	+123	136	

SUMMARY OF 1984 CLEARANCE REQUESTS

	SHIP	COUNTRY(S)	RESEARCH PERIOD
84-1	CONRAD[1]/	Romania Turkey	May-June 1984
84-2	ONAR	Canada	January 1984 February 1984
84-3	SCRIPPS	Mexico	June-July 1984
84-4	S.P. LEE[2]/	Australia Fiji New Zealand	March 1984
84-5	FRED MOORE	Bahamas[3]/	April 1984
84-6	HERO	Chile	May-June 1984
84-7	ALBATROSS IV	Canada	February-April 1984
84-8	ONAR	Canada	April 1984
84-9	ALVIN/ATLANTIS IV	Panama	March-April 1984
84-10	HERO	Chile[4]/	June-July 1984
84-11	MELVILLE	Chile	April 1984
84-12	S.P. LEE	Fiji Papua New Guinea Solomon Islands Tonga Vanuata	April-July 1984
84-13	ALBATROSS IV	Canada	May-June 1984
84-14	SURVEYOR	Canada	March-April 1984
84-15	ENDEAVOR	Ecuador	April 1984
84-16	BARNES	Canada	June 1984
84-17	BARNES	Canada	June-July 1984
84-18	HARKNESS	Egypt	March-June 1984
84-19	HERO	Chile[5]/	July-August 1984
84-20	WESTWARD	Canada U.K. (Bermuda)	May-July 1984

84-21	MELVILLE	U.K. (Falkland Is)[6]	March 1984
84-22	NEW HORIZON	Mexico	May 1984 November-December 198
84-23	CAPE HENLOPEN	Canada[7]	March-April 1984
84-24	KNORR	Canada	April-May 1984
84-25	RESEARCHER NOAA Aircraft	France (Fr. Polynesia) Republic of Kiribati	May-June 1984
84-26	OCEANUS	Portugal (Azores)	August-September 1984
84-27	SEAWARD EXPLORER (Charter Vessel)	Haiti	June 1984-June 1986
84-28	ALVIN/ATLANTIS II WECOMA	Canada	August-September 1984
84-29	LAURENTIAN	Canada	May 1984
84-30	NOS Hydrographic Field Party	Canada	June-October 1984
84-31	WESTWARD	Canada	July-September 1984
84-32	MT. MITCHELL PIERCE	Bahamas	July-October 1984
84-33	LYNCH	Norway	May-June 1984
84-34	THOS WASHINGTON	Argentina Uruguay[8]	September-November 198
84-35	THOS. WASHINGTON	Argentina[9] Brazil Uruguay	November-December 198
84-36	HERO	Chile	August-September 1984
84-37	OCEANUS	Spain[10]	September-October 198
84-38	CONRAD	Canada	August-September 1984
84-39	KANA KEOKI	Japan	May-June 1984

84-40	CONRAD	Brazil[11/]	November-December 1984
84-41	MOANA WAVE	Peru[12/]	February-April 1985
84-42	MOANA WAVE	Ecuador[13/]	January 1985
84-43	CAPE HATTERAS	Canada	July 1984
84-44	CAPE HATTERAS	Canada	August 1984
84-45	CAPE HATTERAS	Canada U.K. (Bermuda)	August-September 1984
84-46	CAPE HATTERAS	Canada	September 1984
84-47	HARKNESS	Somalia	July 1984-July 1986
84-48	NOAA Aircraft	Denmark (Greenland) Norway	June-July 1984
84-49	THOMPSON	Canada	August 1984
84-50	CONRAD	U.K. (Bermuda)	October-November 1984
84-51	PACIFIC STATES I (Charter vessel)	Mexico[14/]	September 1984
84-52	BARNES	Canada	July 1984 August 1984
84-53	WECOMA	Peru	February-March 1985
84-54	RESEARCHER	Bahamas Dominican Republic Haiti[15/]	August-September 1984
84-55	POWELL	Canada	August-September 1984
84-56	NEREID SEAFARER (Charter Vessels) TEVEGA	Canada	July-October 1984
84-57	Marine Mammal Research (Charter aircraft)[16/]	Canada	August 1984
84-58	ALBATROSS IV	Canada	September-November 1984
84-59	THOMPSON	Japan Mexico[17/]	April-June 1985

84-60	THOS. WASHINGTON	Argentina	August-September 1984
84-61	CONRAD	France	July-August 1984
84-62	CONRAD	Brazil[18/] U.K. (Ascension Is.)	December 1984 - February 1985
84-63	WESTWARD	Barbados Dominica France (Martinique) St. Lucia St. Vincent U.K. (Bermuda)	October-November 1984
84-64	JEAN A	Dominican Republic	September-October 1984
84-65	SPROUL	Mexico[19/]	September-October 1984
84-66	NEW HORIZON	Mexico[20/]	March 1985
84-67	SEDCO	Bahamas	January-February 1985
84-68	RESEARCHER	Ecuador[21/]	November-December 1984
84-69	BARNES	Canada	October-November 1984
84-70	ENDEAVOR	U.K. (Bermuda)	August-September 1984
84-71	WECOMA	Ecuador	April 1985
84-72	JORDAN	Mexico[22/]	January-March 1985
84-73	DELAWARE II	Canada	November-December 1984
84-74	WECOMA	Peru	March-April 1985
84-75	SURVEYOR	Canada	September 1984
84-76	ENDEAVOR	Canada U.K. (Bermuda) Venezuela[23/]	March-April 1985
84-77	JEAN A	Haiti	September-October 1984
84-78	DELAWARE II	Canada	January-February 1985
84-79	ENDEAVOR	Brazil	March 1985
84-80	OREGON II	Mexico[24/]	March-April 1985

84-81	WESTWARD[25]	Belize Dominican Republic France (Martinique) Grenada Haiti Netherlands (Bonaire) St. Vincent	November 1984 - January 1985
84-82	POWELL	Bahamas	October-November 1984
84-83	MOANA WAVE	Costa Rica[26] Panama	April-June 1985
84-84	MOANA WAVE	Chile[27]	February 1985
84-85	CONRAD	Barbados Dominican Republic France (Martinique) Grenada St. Lucia St. Vincent Venezuela (Aves Is.)[28]	April-May 1985
84-86	MT MITCHELL WHITING[29]	Honduras	January-August 1985
84-87	ENDEAVOR	Barbados Guyana Suriname[30] Trinidad and Tobago[31]	March-April 1985
84-88	CAPE HENLOPEN	Bahamas	October-November 1984
84-89	ALPHA HELIX	USSR[32]	June-July 1985 September-October 1985
84-90	ALPHA HELIX	USSR[33]	July-August 1985
84-91	THOMPSON[34] MOANA WAVE	Papua New Guinea	July-August 1985 December 1985 - January 1986
84-92	ALASKA (Charter Vessel)	Mexico[35]	February-March 1985
84-93	SEDCO	Spain	April-June 1985
84-94	SEDCO	Norway[36]	June-August 1985
84-95	WESTWARD	Bahamas Haiti Honduras Jamaica Mexico[37] U.K. (Cayman Is.)	February-March 1985

84-96	MARSYS RESOLUTE	Antigua Dominican Republic	March-July 1985
84-97	RESEARCHER	Honduras[38]	December 1984
84-98	CONRAD	Barbados	March 1985
84-99	THOS. WASHINGTON	South Africa	February-March 1985
84-100	ALVIN/ATLANTIS II	Panama	April 1985
84-101	CONRAD	Barbados Dominica France (Guadeloupe & Martinique) St. Lucia St. Vincent	March-April 1985
84-102	THOMPSON	Japan[39] USSR[40]	July-August 1985
84-103	ALVIN/ATLANTIS II	Mexico[41]	July-September 1985
84-104	CAPE HATTERAS[42]	Dominican Republic U.K. (Turks & Caicos Is.)	January 1985
84-105	ALBATROSS IV	Canada	February 1985
84-106	DELAWARE II	Canada	February-March 1985
84-107	DELAWARE II	Canada	April-May 1985
84-108	SEA CLIFF/LULU[43] USS FLORIKAN	Guatemala Mexico	March-May 1985
84-109	ALBATROSS IV	Canada	February-April 1985
84-110	SPROUL	Mexico[44]	June-July 1985
84-111	BARNES	Canada[45]	March 1985

1. Research cancelled by institution due to lack of funding.

2. Research cancelled by agency due to damage to ship.

3. Approval received after Embassy and the Ocean Drilling Program worked out problems in area of research which were under a commercial oil lease.

4. Limitations placed on areas of research by Chileans were worked out prior to cruise by chief scientist.

5. Original research plan modified by Chilean Navy to avoid sensitive areas.

6. State Dept. was able to obtain approval with 3 days prior notice.

7. State Dept. was able to obtain approval with one week prior notice.

8. Clearance request modified to include clearance for Uruguay for second leg of cruise.

9. Argentine approval not received until 1 week into cruise leg.

10. Clearance not required; outside Spanish jurisdiction.

11. Although this research had been previously approved and then rescheduled, Brazilians required resubmission of all documentation with 180-day prior notice.

12. Clearance held up owing to multiple schedule changes.

13. Clearance held up owing to multiple schedule changes.

14. Ship sailed one day late owing to late approval by Mexicans

15. Haitian approval not given until 12 days into cruise leg.

16. Research curtailed when aircraft crashed.

17. Mexican clearance given after ship sailed and too late to meet research requirements.

18. Request denied by Brazil. Reason given was that survey area was not in agreement with NRL negotiations.

19. Mexican approval was given to newly-acquired vessel with just one month notice.

20. Approval not received until 5 days after scheduled start of research.

21. Approval not received until after ship sailed.

22. Approval not received until 2 days after scheduled start of research.

23. Research originally approved, but later denied when ship was unable to pick up participants in Venezuela.

24. Research cancelled by agency due to lack of funding.

25. Research amended just prior to cruise. Belize and Bonaire clearances cancelled and late requests made for Haiti and Dominician Republic. Haitian clearance never received.

26. Costa Rican approval not given until second cruise leg.

27. Clearance held up owing to multiple schedule changes.

28. Research originally approved, but later denied when ship was unable to pick up participants in Venezuela.

29. Clearance request modified to substitute WHITING for portion of surveys.

30. Request originally denied, but Embassy obtained approval during research cruise.

31. Clearance obtained represents first obtained from Trinidad-Tobago since 1977, without publication restriction on marine science reports. This was due to the efforts of Dr. Harris B. Stewart, Jr., who visited Trinidad-Tobago and was instrumental in change of policy concerning marine scientific research.

32. Research denied by Soviets; no reason given.

33. Research denied by Soviets; no reason given.

34. MOANA WAVE replaced by THOMPSON for July-August period after approval was received.

35. Denied by Mexicans; did not meet 180-day prior notice requirement.

36. Request pending approval.

37. Request not accepted by Mexicans; did not meet 180-day prior notice requirement.

38. Research cancelled by agency.

39. Japanese clearance sought after Soviet denial; approval pending.

40. Request denied by Soviets; no reason given.

41. Request pending approval.

42. Clearance request for Silver Bank and Turks and Caicos requested on very short notice. Approval from Dominican Republic not received in time for research.

43. Research cancelled by agency owing to damage to Navy escort vessel.

44. Request pending approval.

45. Research cancelled by institution; no reason given.

TOTAL REQUESTS PER COUNTRY - 1984

Canada - 35

Mexico - 13
Honduras - 3
Panama - 3
Belize- 1
Costa Rica - 1
Guatemala - 1

Chile - 6
Brazil - 4
Ecuador - 4
Argentina - 3
Peru - 3
Uruguay - 2
Venezuela - 2
Guyana - 1
Suriname - 1

Bahamas - 7
Dominican Republic - 6
Barbados - 5
Haiti - 5
St. Vincent - 4
St. Lucia - 3
Dominica - 2
Grenada - 2
Antigua - 1
Jamaica - 1
Trinidad-Tobago - 1

United Kingdom - 10
France - 6
Norway - 3
USSR - 3
Denmark - 1
Netherlands - 1
Portugal - 1
Romania - 1
Turkey - 1

Egypt - 1
Somalia - 1
South Africa - 1

Japan - 3
Fiji - 2
Papua New Guinea - 2
Australia - 1
Kiribati - 1
New Zealand - 1
Solomon Islands - 1
Tonga - 1
Vanuatu - 1

The Department of State submitted a total of 163 clearance requests to 48 foreign governments during 1984.

Eight clearances were denied. Research was affected in nine other instances owing to non-receipt of timely clearances. Four clearances are still pending.

United States Department of State

Washington, D.C. 20520

BUREAU OF OCEANS AND INTERNATIONAL
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

January 14, 1985

NOTICE TO RESEARCH VESSEL OPERATORS #67

SUBJECT: Foreign Research Clearance Requests

Enclosed are instructions for requesting State Department assistance in obtaining foreign research clearance for marine scientific research and the revised UNOLS Cruise Prospectus form for making such requests. A publication entitled "Handbook for International Operations of U.S. Scientific Research Vessels" is being prepared by UNOLS and should be available by early 1985. It contains valuable information relating to foreign research clearances.

W. Thomas Cocke
Research Vessel Clearance Officer
Office of Marine Science
and Technology Affairs

FOREIGN CLEARANCE REQUESTS

A request for State Department assistance in obtaining a foreign clearance for marine scientific research should consist of (1) a cover letter from the R/V operator which references the enclosed Cruise Prospectus, explains what clearances are required, and gives any special instructions necessary; (2) a Cruise Prospectus form (attached); (3) a one page description of the scientific purpose and research objectives including previous related cruises and plans for future research and follow-on studies; (4) and a track chart or charts (page-sized and suitable for reproduction). This information should be forwarded to:

R/V Clearance Office

Office of Marine Science and
Technology Affairs

Rm. 5801

U.S. Department of State

Washington, D.C. 20520

It should be understood that the above information should reach the State Dept at least one month before the required lead time of the country involved (See NTRVO #61). It should be further understood that two berths must be made available to participants from each country for which a clearance is requested and that all data results must be shared with each host country. Refer to UNOLS "Handbook for International Operations of U.S. Scientific Research Vessels" for additional information regarding clearances. See NTRVO #66 for information concerning post cruise obligations.

UNOLS
10/1/74
(REV 12/84)

DATE _____

APPENDIX XIII-3

CRUISE PROSPECTUS

1. SHIP NAME	2. OPERATING INST. OR AGENCY
3. PROJECT TITLE	4. CRUISE DATES (inclusive)

5. ACTION REQUIRED

RESEARCH CLEARANCES

____ REQUEST STATE DEPT. TO INITIATE

____ REQUEST STATE DEPT. ADVICE

____ BEING HANDLED PRIVATELY - INFORMATION ONLY

____ NONE REQUIRED - INFORMATION ONLY

____ OTHER (SPECIFY ON REVERSE)

PORT CALL CLEARANCES

____ PUBLIC VESSEL - STATE DEPT. INITIATE

____ PART OF RESEARCH CLEARANCE - REQUEST STATE DEPARTMENT INITIATE

____ BEING HANDLED BY SHIP'S AGENT

____ UNUSUAL PROBLEM - REQUEST STATE DEPARTMENT ASSISTANCE (SPECIFY)

6. ITINERARY		7. CRUISE COORDINATOR OR CONTACT (name, address & telephone number)
PORT	INCLUSIVE DATES	
		8. PRINCIPAL SCIENTIST(S) (name, title & affiliation)
		NO. SCIENTISTS_____
9. FUNDING AGENCY(S)		10. COOPERATING INSTITUTIONS (including foreign)
11. SCIENTIFIC EQUIPMENT TO BE USED		12. DATA TO BE COLLECTED
13. SHIP DESCRIPTION GROSS TONS ___LOA___DRAFT___ NAME OF MASTER: NO. CREW_____ RADIO CALL SIGN:		14. ANCILLARY PROJECT(S) (describe briefly)

United States Department of State

Washington, D.C. 20520

BUREAU OF OCEANS AND INTERNATIONAL
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

April 17, 1985

NOTICE TO RESEARCH VESSEL OPERATORS #66

SUBJECT: Post-Cruise Obligations

In the United States we have always emphasized the need to provide data results and final reports to the coastal states, who have given us permission to conduct marine scientific research. UNOLS, the National Academy of Sciences, and the State Department agreed in 1979 to institute a procedure for complying with post-cruise obligations (NTRVO #57). In March, 1983, President Reagan proclaimed a U.S. Exclusive Economic Zone (EEZ) and recognized the right of other coastal states to exercise jurisdiction over marine scientific research within 200 nautical miles of their coasts. The concept of the EEZ has been recognized as a valid part of customary international law by the International Court of Justice, and mandatory sharing of data results is a universally accepted requirement embodied in the EEZ concept.

This notice replaces NTRVO #57 and #40, although the procedures are generally unchanged. The purpose of issuing a new notice on post-cruise obligations is to simplify the instructions, which will hopefully result in better compliance.

The Procedure

Preliminary Cruise Report

Presently, government and academic institutions receive written notification from the State Department when a research clearance is approved by a foreign government. A sample copy of the notice is attached (Attachment A). The notice lists the obligations and conditions required of the researcher as specified by the coastal state. Within (30) days after completing a research cruise, the chief scientist should submit to the R/V Clearance Officer a Preliminary Cruise Report. A sample report is attached which identifies the information required (Attachment B). Most importantly the report should restate the obligations and include a schedule indicating when the data and various reports will be submitted to meet the obligations. This may require using an additional page. If the cruise is multidisciplined or multi-phased, the Preliminary Cruise Report should address each separately.

The Preliminary Cruise Report is our first communication back to the government which granted us the research clearance. Their foreign office usually distributes it to several agencies for review and it demonstrates our willingness to fulfill the remaining obligations. It should be a polished document, typed on institution letterhead. It is required that the original and two copies be provided.

Other Post Cruise Obligations

All data, samples, charts/maps, data results, reports, other publications, and anything relating to the research scheduled for delivery in the Preliminary Cruise Report must be sent to the Research Vessel Clearance officer as soon as possible and in compliance with the schedule, so that it can be provided to the Embassy for transmittal to the host country. Even though copies of data or samples may be supplied directly to foreign cruise participants, cooperating foreign scientists, or academic institutions in the host country, our agreement is with the Foreign Office. Thus, all obligations must also be forwarded to the Foreign Office, through the State Department unless the Foreign Office accepts an alternative arrangement. On occasion, scientists may prefer to mail bulky data or tapes directly to a foreign scientific institution or agency, which is permissible, but it is extremely important that copies of the transmittal letter be sent to the R/V Clearance Officer. This is to assure that Embassy, Foreign Office, and other clearing agencies in the host country give credit for having fulfilled the obligations.

Mailing Instructions

Preliminary cruise reports and other materials relating to post-cruise obligations should be mailed to the following address:

Research Vessel Clearance Officer
U.S. Department of State
OES/OMS, Room 5801
Washington, D.C. 20520

Responsibility

It is the responsibility of the chief scientist who conducted the research to comply with post-cruise obligations. If the chief scientist does not comply, the research institution at which he is employed will be held responsible and clearance requests submitted to the State Department by that institution will not be processed. This action is necessary to protect other scientists who may wish to work in the same area, since coastal states have the right to reject any request from a researching state that has overdue post-cruise obligations. The next step would involve funding agencies and actions within their purview.

If the chief scientist is from an institution not operating a research vessel, then arrangements will be made by the State Department with the agency funding the research, to hold up further funding until the chief scientist is in compliance.

Reminders

Unfortunately, reminders are time consuming and we simply do not have the staff to handle them. As such, if preliminary cruise reports and other obligations are not received on time, the research institution at which the chief scientist is employed will be notified that their clearance requests will not be processed until the matter is resolved. A sample copy of the notice is attached (Attachment C). Although the research institution may remind researchers of their obligations, only the scientist can fulfill the responsibility.

Our overall objective is to ensure continued access for U.S. researchers to foreign waters. Compliance with post-cruise obligations is a very small cost to ensure continued access, and may result in less burdensome obligations being imposed. Your cooperation with this procedure is essential. Please contact me if you have questions concerning the procedure or requirements.

W. Thomas Cocke
Research Vessel Clearance Officer
Office of Marine Science
and Technology Affairs

Attachments: as stated

(Attachment A)

BUREAU OF OCEANS AND INTERNATIONAL
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

MEMORANDUM

TO: Chief Scientist

FROM: Research Vessel Clearance Officer
Office of Marine Science
and Technology Affairs

SUBJECT: Clearance Approval and Post Cruise Obligations

1. A. The Government of _____ has approved the research cruise of the R/V _____ during _____.

B. The document authorizing the research is _____ dated _____.

2. The obligations stated as a condition of research are as follows:

(Example)

Provision of full data results to the Government of _____ (see Notice to Research Vessel Operators #66).

3. In the preliminary cruise report submitted 30 days after completion of the cruise, the chief scientist is required to provide a schedule (month/year) for meeting each obligation listed above, independently. Obligations already met, such as taking aboard participants, should be noted in the preliminary cruise report. All other obligations should be met according to the schedule outlined in the preliminary cruise report. Copies of all data results and reports should normally be sent to this Office for forwarding to the U.S. Embassy for transmittal to the Foreign Office. The Department will rely on the institution that operates the research vessel to implement these requirements.

4. Consult Notice to Research Vessel Operators #66 for further details or contact this Office if obligations are not understood.

cc: R/V Operator

APPENDIX XIV-5 (Attachment B)
(S A M P L E)

LETTERHEAD (In order to achieve most visible affect use institution or agency logo or letterhead)

PRELIMINARY CRUISE REPORT

SHIP NAME: OPERATING INSTITUTION:

DATES: PROJECT TITLE:

CHIEF SCIENTIST: CLEARANCE COUNTRIES:

FOREIGN PARTICIPANTS: PORT CALLS:

DESCRIPTION OF SCIENTIFIC PROGRAM: (SHORT PARAGRAPH)

DATA OBSERVATIONS AND SAMPLES COLLECTED: (TYPE, LOCATION, CUSTODIAN)

INFORMATION ADDRESS:

SCHEDULE OF DELIVERY FOR ALL DATA RESULTS AND REPORTS:

(Example:) Data Collected	Delivery to Host Countries
Geophysical Data	Data tapes - Oct 1984 Report - June 1985
Hydrocasts	Data included with this report Report - Feb 1985
Biological Samples	Samples on file (list name and address of custodian) Report - June 1985
Meteorological Data	Data logs - Oct 1984
Cruise Summary	Final Report - Oct 1985

Instructions:

1. The above report (or similar) shall be submitted to the R/V Clearance Officer, (OES/OMS), Rm. 5801, U.S. Department of State, Washington, D.C. 20520 within 30 days of termination of period for which foreign clearance was granted.

2. Append page size track chart suitable for reproduction.

3. THIS REPORT IS ONLY THE FIRST STEP IN MEETING THE OBLIGATIONS OF A FOREIGN RESEAROH CLEARANCE. DATA RESULTS AND REPORTS MUST BE DELIVERED ACCORDING TO THE SOHEDULE IN THIS REPORT. Any planned departure from the schedule must be received by this office in writing.

(Attachment C)

BUREAU OF OCEANS AND INTERNATIONAL
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

MEMORANDUM

TO: Research Vessel Operator

FROM: Research Vessel Clearance Officer
Office of Marine Science
and Technology Affairs

SUBJECT: Post Cruise Obligations

REF: OES/OMS Memo dated _____

1. The above memo indicated that a clearance for research operations of R/V _____ during _____ was granted by _____. The memo also outlined the post cruise obligations resulting from this clearance.

2. Our records indicate that the chief scientist for this research, Dr. _____, has not complied with these requirements. It is Department of State policy not to process further clearances for any institution for which there are overdue post cruise obligations for one of their researchers.

3. Failure of the chief scientist to comply forces us to take this action with the research institution at which he is employed since the situation could adversely affect other institutions and agencies. UNOLS has endorsed this policy to force compliance.

4. The consequence of non-compliance with post cruise obligations, is that the coastal state has the right to reject further U.S. requests until all obligations have been met. To avoid this situation, we urge you to seek the necessary cooperation from the scientist concerned.

5. Further steps to resolve this problem would involve the funding agency and appropriate actions within their purview. We will resume processing clearances for your institution when we are assured the matter is satisfactorily resolved.

MARINE PROGRAMS OF THE U.S. GEOLOGICAL SURVEY [1/]

DALLAS L. PECK, DIRECTOR
U.S. GEOLOGICAL SURVEY

THANK YOU, FERRIS, FOR THE INTRODUCTION AND THE OPPORTUNITY TO TALK TODAY TO YOU AND THE UNOLS MEMBERSHIP.

THE U.S. GEOLOGICAL SURVEY HAS AN ACTIVE MARINE PROGRAM; SOMETIMES THERE ARE THOSE OF US IN THE DIRECTOR'S OFFICE THAT THINK IT IS TOO ACTIVE, BUT ON THE OTHER HAND, THE MARINE FOLKS OVER THE YEARS HAVE SHOWN THEMSELVES TO BE ABLE TO START NEW PROGRAMS IN RESPONSE TO THE DEPARTMENT OF THE INTERIOR'S NEEDS, SUCH AS ACCELERATED OIL AND GAS LEASING AND MORE RECENTLY THE ESTABLISHMENT OF THE EEZ. THEY HAVE ALSO PROVED THAT THEY CAN REACT IN PROMPT FASHION TO REQUESTS FROM OUTSIDE THE DEPARTMENT OF THE INTERIOR; REQUESTS, FOR EXAMPLE, FROM STATE DEPARTMENT, U.S. AID, AND FROM THE DEFENSE MAPPING AGENCY.

THROUGHOUT ALL OF 20 YEARS THAT THE SURVEY HAS HAD FORMAL MARINE PROGRAMS, WE HAVE HAD TO BE RESPONSIVE TO NATIONAL NEEDS. THAT BEING THE CASE, OUR PROGRAMS HAVE, OF NECESSITY, DEVELOPED A LEVEL OF FLEXIBILITY. AND, IN TERMS OF FLEXIBILITY, NO OTHER GROUP HAS BEEN AS ACCOMMODATING AS THE UNOLS MEMBERSHIP AND THE NATIONAL SCIENCE FOUNDATION'S OCEAN SCIENCES DIVISION.

IN FACT, I THINK THERE IS A POINT OF IRONY HERE--SOME UNIVERSITY PEOPLE IN MARINE RESEARCH TEND TO REGARD GOVERNMENT AGENCIES AND THEIR PROGRAMS AS LONG-TERM EFFORTS THAT CHANGE ONLY SLOWLY. LET ME TELL YOU THAT IS NOT THE CASE. THE BUDGET

1/ PRESENTED BEFORE THE SEMI-ANNUAL MEETING OF THE UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM (UNOLS), WASHINGTON, D.C. ON MAY 22, 1985.

PROCESS IS A BUMPY ROAD. EVEN AFTER THE GEOLOGICAL SURVEY, THE DEPARTMENT OF THE INTERIOR, AND THE OFFICE OF MANAGEMENT AND BUDGET AGREE ON THE SURVEY'S LEVEL OF FUNDING, BOTH HOUSES OF CONGRESS FEEL FREE TO ADD OR SUBTRACT FROM OUR PROGRAMS. FORTUNATELY FOR OUR MARINE PROGRAM, CONGRESS HAS ADDED MONEY THE LAST FEW YEARS. OUR MARINE PROGRAM SUFFERED THE LOSS OF NEARLY $8 MILLION AND 140 POSITIONS WHEN MINERALS MANAGEMENT SERVICE WAS FORMED IN MAY 1982. THEN IN MARCH 1983 THE PRESIDENT DECLARED AN EEZ AND OUR MARINE BUDGET WENT UP BY ALMOST $5 MILLION. WE HAVE BEEN USING A MAJOR PORTION OF THIS MONEY TO CONDUCT GLORIA SURVEYS, IN COOPERATION WITH THE UNITED KINGDOM'S INSTITUTE OF OCEANOGRAPHIC SCIENCES. IN 1984 WE RECEIVED AN ADDITIONAL $2.5 MILLION FOR MINERAL SURVEYS OFF THE COAST OF WASHINGTON AND OREGON OVER THE GORDA AND JUAN DE FUCA RIDGES. WE HAVE BEEN WORKING IN THIS AREA FOR SEVERAL YEARS IN COOPERATION WITH OREGON STATE, UNIVERSITY OF WASHINGTON, THE MINERALS MANAGEMENT SERVICE, AND NOAA. OUR RESEARCH VESSEL, THE SAMUEL P. LEE, LEAVES OUR NEW MARINE FACILITY IN REDWOOD CITY, CALIFORNIA, ON JULY 27 TO CONDUCT THE LATEST PHASE IN THIS PROJECT IN COOPERATION WITH NOAA AND OREGON STATE UNIVERSITY SCIENTISTS. PRESENTLY OUR MARINE PROGRAM IS EARMARKED IN THE PRESIDENT'S FY 1986 BUDGET FOR APPROXIMATELY $25 MILLION. AND WHILE OUR MARINE BUDGET SITUATION HAS IMPROVED, NATURALLY IT IS NOT AS ROSY AS WE WOULD HAVE LIKED. LAST YEAR WE ANTICIPATED AN FY86 INCREASE OF $14 MILLION RATHER THAN $2.5 MILLION. THIS WOULD HAVE CARRIED US INTO TWO OTHER AREAS OF EEZ ACTIVITIES;

THOSE AREAS WERE COOPERATIVE SCIENCE PROJECTS WITH UNIVERSITIES AND CONTINENTAL MARGIN, SHALLOW CORING PROJECTS. THE FORMER WOULD HAVE FOCUSED ON SEDIMENT TRANSPORTATION PATTERNS AND PROCESSES OUTLINED FROM THE GLORIA SURVEYS AND THE LATTER WOULD HAVE CONTINUED THE REGIONAL STRATIGRAPHIC CORING OF THE TYPE THAT WE CONDUCTED IN 1976 OFF THE ATLANTIC MARGIN. BECAUSE OF BROAD CONCERN OVER THE DEFICIT, THIS INCREASE IN FUNDS TO START THESE TWO ACTIVITIES WAS NOT INCLUDED WHEN THE ADMINISTRATION'S BUDGET WAS FORWARDED TO CONGRESS.

LOOKING BACKWARD FOR A MOMENT, THE SURVEY WAS MANDATED BY CONGRESS IN 1879 WITH THE RESPONSIBILITY FOR "THE CLASSIFICATION OF PUBLIC LANDS AND THE EXAMINATION OF THE GEOLOGIC STRUCTURE, MINERAL RESOURCES, AND PRODUCTS OF THE NATIONAL DOMAIN." AT THAT TIME THE MANDATE WAS DIRECTED AT THE PUBLIC LANDS IN THE WESTERN REGION OF THE CONTINENTAL UNITED STATES INCLUDING ALASKA. AT PRESENT, OF COURSE, THAT SAME MANDATE IS DIRECTING US TO STUDY THE EEZ. STUDIES RANGING NOT ONLY AROUND THE 50 STATES OUT TO 200 NAUTICAL MILES, BUT AROUND THE U.S. COMMONWEALTHS OF PUERTO RICO AND THE MARIANAS, AND POSSESSIONS AND OCEANIC ISLANDS IN THE PACIFIC BASIN--AMONG THEM THE U.S. VIRGIN ISLANDS, AMERICAN SAMOA, JOHNSTON ISLAND, AND JARVIS ISLAND. CLEARLY OUR MARINE PROGRAM NOW HAS A VERY BROAD OUTLOOK.

AND THIS ISN'T ALL THAT BAD FOR A PROGRAM THAT STARTED OFF AT A HALF MILLION DOLLARS IN 1962. THE PROGRAM HUDDLED AT

ABOUT THE MILLION DOLLAR LEVEL THROUGH THE LATE 60'S AND EARLY 70'S. DURING THIS TIME ABOUT HALF THE FUNDS WERE SPENT INTERNALLY AND ABOUT HALF WENT TO SUPPORT COOPERATIVE RESEARCH PROGRAMS AT WOODS HOLE UNDER K.O. EMERY AND AT OREGON STATE UNDER JOHN BYRNE. MAJOR CHANGES TOOK PLACE WITH THE OIL AND GAS CRISES IN THE EARLY AND MID 1970'S. THE MARINE PROGRAMS WERE DIRECTED TO CONDUCT SYSTEMATIC REGIONAL-RECONNAISSANCE SURVEYS OF THE CONTINENTAL SHELVES TO IDENTIFY AND MAP OFFSHORE BASINS THAT MIGHT CONTAIN OIL AND GAS, AND TO WORK ON THE GEOLOGIC HAZARDS THAT MIGHT BE ENCOUNTERED AS THOSE AREAS WERE EXPLORED AND DEVELOPED. AS THE PROGRAM RESPONSIBILITIES GREW THROUGH THE 70'S AND EARLY 80'S, MAJOR EXAMPLES OF COOPERATION WITH UNOLS MEMBER INSTITUTIONS WERE GENERATED. OUR EAST AND GULF COAST SCIENTISTS WERE ABLE TO USE AND EQUIP VESSELS LIKE THE GILLIS AND THE GYRE FOR RELATIVELY LONG PERIODS OF WORK, WHILE OTHER VESSELS LIKE THE OCEANUS WERE USED EACH YEAR FOR SHORTER INTERVALS TO POSITION AND RETRIEVE INSTRUMENTED TRIPODS FROM THE SEABED. ON THE WEST COAST WE OPERATED OUR OWN VESSELS, PRIMARILY FOR ALASKAN OFFSHORE SURVEYS, THOUGH WE HAVE ALSO USED THE HIG VESSEL KANA KEOKI WITH THE SEA MARC SYSTEM TO MAP THE GORDA AND JUAN DE FUCA RIDGE SYSTEM. COOPERATION ON BOTH COASTS TOOK PLACE IN ALVIN DIVES. MORE ALVIN DIVES ARE PLANNED FOR THE GORDA, JUAN DE FUCA REGION AS A FOLLOWON FROM THE WORK TO BE CARRIED OUT OFF THE LEE THIS AUGUST/SEPTEMBER. THIS WORK IS BEING PLANNED BY NOAA AND USGS SCIENTISTS AND

CAN BE CONDUCTED WHENEVER THE SUBMERSIBLE RETURNS TO THE NORTHEAST PACIFIC.

Also VIA UNOLS contacts we have been able to use THE NAVY RESEARCH SUBMERSIBLE NR-1 AND RIGHT NOW TWO OF OUR WOODS HOLE GEOLOGISTS ARE OUT AND DOWN IN THE SUBMARINE. IN ADDITION WE HAVE EXPRESSED OUR DESIRE TO SEE A GENERAL PURPOSE ALL-SEASON OCEANOGRAPHIC SHIP AVAILABLE FOR CALIFORNIA, OREGON, AND WASHINGTON WORK. WE HAVE SIGNED THE CENCAL (CENTRAL CALIFORNIA) CONSORTIUM AGREEMENT, AND WE EXPECT THAT WE WILL BE USING THE USC OCEANOGRAPHIC SHIP OSPREY, WHEN IT IS AVAILABLE, TO RETRIEVE AND DEPLOY SEAFLOOR TRIPODS AND FOR CORING AND SAMPLING PROGRAMS FOLLOWING OUR GLORIA SURVEY OF THE REGION.

WHILE WE'RE ON THE TOPIC OF GLORIA, I PRESUME THAT MOST OF YOU KNOW THAT GLORIA IS THE ACRONYM FOR THE WIDE SCAN SONAR MAPPING SYSTEM DEVELOPED AND OWNED BY THE INSTITUTE OF OCEANOGRAPHIC SCIENCES (IOS) OF THE UNITED KINGDOM. IN 1979 AND 1982, WE USED THIS SYSTEM, WHICH HAS A SWATH WIDTH OF 32 MILES, TO SURVEY PART OF THE ATLANTIC AND GULF COAST MARGINS. IN 1984, WE AGAIN USED THE UPDATED GLORIA SYSTEM TO SURVEY THE PACIFIC COAST EEZ IN COOPERATION WITH IOS. THE DIGITAL DATA IS NOW BEING PROCESSED BOTH IN ENGLAND AND AT USGS LABS IN FLAGSTAFF AND MENLO PARK; WE WILL PRODUCE MOSAIC IMAGES FOR INCLUSION IN A SEA-FLOOR ATLAS COVERING THE 250,000 SQUARE MILE AREA BETWEEN THE CANADIAN AND MEXICAN BORDERS FROM THE BREAK IN SLOPE OUT TO 200 NAUTICAL MILES. OUR WORK

WITH IOS AND GLORIA CONTINUES. THIS FALL WE WILL MAP THE OUTER PORTIONS OF THE GULF OF MEXICO, AND IN THE FOLLOWING YEARS WE WILL MAP THE EEZ OFF ALASKA AND HAWAII. TO DO ALL THIS WILL TAKE A SECOND GLORIA SYSTEM AND WILL TAKE US THROUGH 1991. WE DECIDED TO STAY WITH THE GLORIA SYSTEM BECAUSE IT IS ABLE TO MAP LARGE AREAS IN A SHORT TIME AND IT IS PROVEN AND DEBUGGED. IOS WENT OUT FOR BIDS AND DECIDED TO KEEP THE SYSTEM ON A BRITISH VESSEL BECAUSE IT WAS THE CHEAPEST AVAILABLE HULL.

ANOTHER AREA THAT MAY BE OF INTEREST TO YOU IS OUR COOPERATIVE PROGRAM OF GRAVITY SURVEYS WITH THE DEFENSE MAPPING AGENCY. IN 1981 DMA APPROACHED US WITH A MULTI-YEAR PROGRAM TO HELP THEM GATHER GRAVITY DATA ON THE U.S. CONTINENTAL MARGINS. WE OBTAINED THE POLARIS II--A CAPTURED DRUG BOAT, CONVERTED IT, ADDED 2 LA COSTE AND ROMBERG GRAVITY METERS AND SEVERAL NAVIGATION SYSTEMS. THE POLARIS II HAS NOW BEEN RENAMED THE J.W. POWELL AFTER THE SECOND DIRECTOR OF THE SURVEY AND HAS CONDUCTED SURVEYS IN THE GULF, CARIBBEAN, AND OFF OUR ATLANTIC COAST. WE WILL SHORTLY BE SHIFTING OPERATIONS TO THE NORTH AND EASTERN ATLANTIC, AND WE HAVE A REQUEST FOR PROPOSALS OUT FOR A LARGER VESSEL CAPABLE OF PROVIDING A STABLE PLATFORM FOR THE GRAVITY METERS WHILE SURVEYING AROUND THE NORTH ATLANTIC ISLANDS AND EAST ATLANTIC COASTLINES. THIS MAY IN TURN FREE THE POWELL FOR DMA WORK IN THE CARIBBEAN AND SOME USGS WORK IN THE GULF OF MEXICO.

In other areas where the pressure isn't on us to the same degree, UNOLS provides a continuing forum where all of us together can evaluate the problems of aging and replacement of the nation's oceanographic vessels. The LEE and her AGOR sisterships are now more than 20 years old. At the Survey, we believe, as does UNOLS and the Federal Oceanographic Fleet Coordinating Council (FOFCC), that any replacement program for these ships must have the concurrence of all ship operators and users; otherwise, the financial types (OMB) will delay or not allow any agency or group of agencies to undertake orderly replacement.

I understand you have a subgroup called the UNOLS Expeditionary Force, headed by an old Caltech acquaintance, George Shor. This group is of interest to us. In January and February 1984, we worked with the Lee off Antarctica. I don't know when we will be going back that far south again, but I'm sure that our geophysical surveys will point to future work in the region. The first results of our work will be out shortly in Science. Probably the most feasible way to follow up on our findings could be via a cooperative science project leading to a cooperative expeditionary cruise to the South Pacific as well as the Antarctic.

Before I close there are two other areas of major cooperation.

On the East Coast the majority of our Atlantic Branch is housed on the campus at Woods Hole Oceanographic Institution. We hope to continue that relationship and are now exploring with WHOI the building of a new permanent building to house our personnel, laboratories, and equipment.

On the West Coast we are cooperating with the University of Hawaii's Institute of Geophysics. In the SOPAC program, we conducted reconnaissance surveys for oil and gas in regions from Tonga to Papua-New Guinea, and HIG conducted sea-floor mineral surveys. In addition, HIG has effectively crewed and maintained the LEE for us for the last couple of years. This arrangement allowed us to work more efficiently in the South Pacific and also permitted HIG to lower the fixed costs of their marine facility.

Throughout this talk, I've stressed the operational aspects of our marine programs and the real financial and political pressures we have to respond to--especially here in D.C. and out in Reston, Virginia, where our headquarters is located. But in closing, I want us all to remember that the science goals, the results of our work and the delivery and discussion of our results are the reason that all of us are here. There is a great deal of marine science still to do, not only around the U.S. but also on the high seas and near foreign shores. We look forward to continued association with UNOLS and its member institutions and scientists.

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

May 1985

UNOLS NOMINATING COMMITTEE

The Nominating Committee has assembled the following slate of candidates for UNOLS and Advisory Council positions to be filled at the May, 1985 Semi Annual meeting.

THE SLATE

For Chairman, UNOLS

George G. Shor, Jr.	Scripps Institution of Oceanography University of California, San Diego
Ferris Webster (incumbent)	University of Delaware

For Vice Chairman, UNOLS

Robert W. Corell (incumbent)	University of New Hampshire
Marsh J. Youngbluth	Harbor Branch Foundation

For Advisory Council - Member Representation

John H. Martin	Moss Landing Marine Labs San Jose State University
Ralph Moberly	University of Hawaii
Tom Lee	University of Miami

For Advisory Council - Associate Member Representation

Richard F. Ford	San Diego State University
Christopher N. K. Mooers	Naval Postgraduate School

VITAE

Name, discipline
Position, Title
Research Interest

George G. Shor, Jr., Geological Oceanography
Associate Director and Professor of Marine Geophysics
Scripps Institution of Oceanography
Geophysical exploration, structural geology, tectonics

Ferris Webster, Physical Oceanography
Professor of Oceanography
University of Delaware
Currents and circulation; tides and waves

Robert W. Corell, Ocean Engineering
Director, Marine Program
Professor, University of New Hampshire
Ocean engineering, instrumentation engineering

Marsh J. Youngbluth, Biological Oceanography
Acting Director and Senior Research Scientist
Harbor Branch Foundation
Zooplankton, invertebrates, marine biology, physiology

John H. Martin, Geochemistry
Director and Professor, Moss Landing Marine Laboratories
San Jose State University
Geochemistry, phytoplankton, zooplankton, inorganic chemistry, radiochemistry

Ralph Moberly, Geological Oceanography
Associate Director, Hawaii Institute of Geophysics and
Professor, Department of Geology and Geophysics
University of Hawaii
Marine geology, sedimentology, stratigraphy, tectonic processes

Richard F. Ford, Biological Oceanography
Director, Center for Marine Studies and
Professor of Biology
San Diego State University
Marine ecology, population of fishes and invertebrates

Christopher N. K. Mooers, Physical Oceanography
Chairman and Professor, Department of Oceanography
Naval Postgraduate School
Currents and circulation, theoretical dynamics and geophysical fluid dynamics

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

REPORT OF THE FLEET REPLACEMENT COMMITTE

22 May 1985

The UNOLS Fleet Replacement Committee is continuing its work along three general fronts:

- Development of Science Requirements
- Conceptual Design Studies of New Types of Ships
- Plan for Fleet Replacement

1. Science Requirements

Outline requirements have been or are being prepared for at least six classes of research ships. These are kept under continuing review as comments and recommendations are received.

- Large High Endurance General Purpose R/V. Size Range 250-300 ft.
- Medium Endurance General Purpose R/V. Size Range 200-250 ft.
- "High Performance" (SWATH type) General Purpose R/V. Size Range 200-250 ft.
- Geology & Geophysics R/V (including multi-discipline capability). Approximate Size - 250 ft.
- Intermediate Size General Purpose R/V. Size Range 150-200 ft.
- Coastal Size General Purpose R/V. Size Range 100-150 ft.

These requirements have been and will continue to be circulated throughout the community. Their effectiveness will be only as good as the reviews and comments received.

2. Conceptual Design Studies

This is the first step in translating a set of requirements into a real ship. Conceptual designs are prepared by a naval architect and include the following elements:

1. Technical report of the vessel design providing a discussion of the responsiveness to the scientific requirements and ship characteristics stated
2. General arrangement plans
3. Inboard and outboard profile plans
4. Machinery arrangement and description of propulsion system and auxiliary power
5. Scientific arrangement
6. Estimate of drag, power, and fuel consumption rates

7. Analysis of ship's motion in waves

8. Operating characteristics, including costs

9. Estimated construction cost

10. Artist's conception drawing

Within the overall UNOLS effort, about eleven conceptual design studies are presently ongoing. All are large ships because of the priorities assigned to the replacement of the older, more obsolete types, most of which are the larger ships.

Status of Design Studies

High Performance Research Vessel (SWATH)

- SSSCo (Lang) - Conceptual Design completed
- Blue Sea McClure - Conversion of U/T G & G Design started
- NAVSEA - Feasibility Study in progress

High Endurance Research Vessel (Large Monohull, 250-300')

- Leiby/WHOI - Conceptual Design in progress
- Rodney Lay - Conversion of SACLANT Design proposed
- Guarino & Cox - Conversion of U/T G & G Design proposed

Medium Endurance Researdh Vessel (Monohull, 200-250')

- URI - Conceptual Design proposed
- Scripps - Conceptual Design proposed
- OCEANAV (NAVSEA) - Requirements still under development

Geophysics Ship

- U. Texas - Conceptual Design completed, entering preliminary design phase (J. Gilbert Associates)
- Lamont-Doherty - Conceptual Design for G & G "Friendly" ship started (Marinette Marine)

3. Plan For Fleet Replacement

The plan for fleet replacement has not changed significantly since that reported at the October 26, 1984 meeting. The recommended numbers and mix of ships remains not too different from that now existing. Chief difference lies in the area of specialized ships which are intended to have advanced capability in a designated field while at the same time retaining full multi-disciplinary ability.

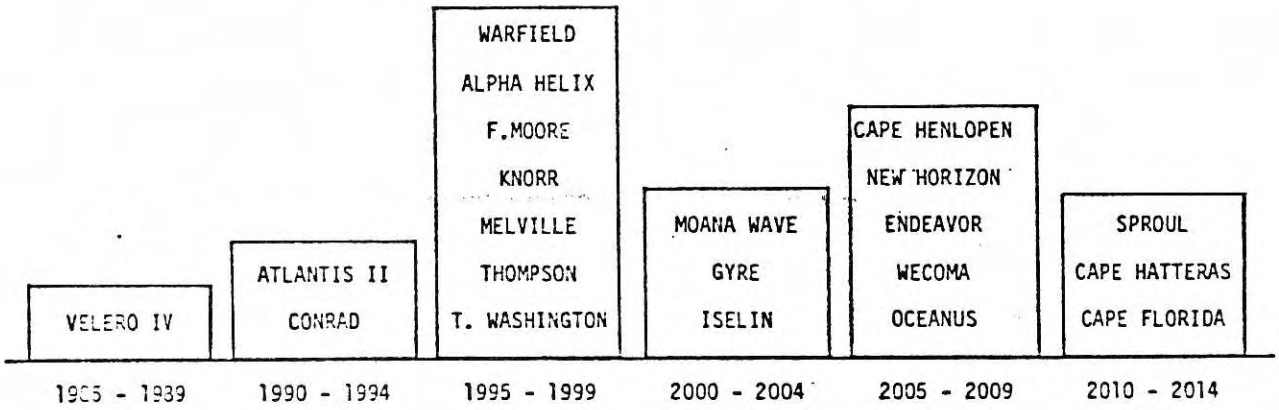
Replacement planning begins with the projected retirement dates (Fig. 1) of existing ships and is modified by the requirements of science in terms of numbers, size and capabilities. The present outline upon which the plan is based is shown by Fig. 2.

The overall scheme for the Committee's work is shown by Fig. 3 and the current schedule of work is shown by Fig. 4.

4. Selected Ship Designs

Based on the ongoing conceptual design studies, illustrations of two SWATH and one large monohull ship are shown by Figs. 5, 6 and 7. Final reports of these design studies will be circulated to the community in the Fall.

Fig. 1



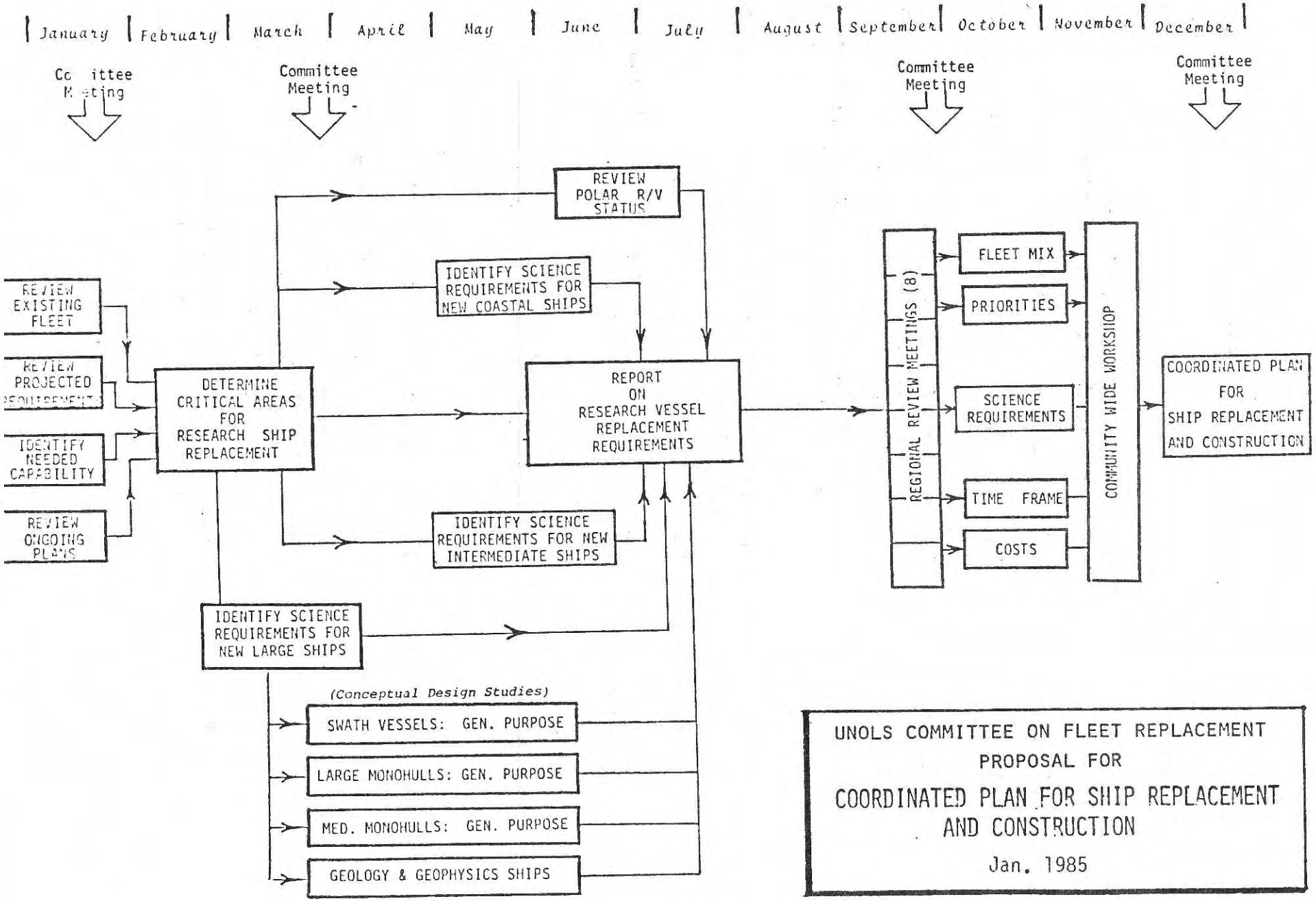
PROJECTED RETIREMENTS FROM UNOLS FLEET
Based on 30-Year Age Criterion

Fig. 2

Outline of Plan

Fleet replacement by five-year increments is given by the following table:

Time Frame	Class I & II	Class III	Class IV	Specialized
1985-89	2 new (modernize 2)		1 new	1 G&G
1990-94	1 new		1 new	1 Polar R/V
1995-1999	1 new	2 new	1 new	1 Sub Handlin 1 G&G
2000-2004		2 new	2 new	
2005-2009		3 new		
2010-2014	2 new		2 new	
Total	6	7	7	4



UNOLS COMMITTEE ON FLEET REPLACEMENT

PROPOSAL FOR

COORDINATED PLAN FOR SHIP REPLACEMENT AND CONSTRUCTION

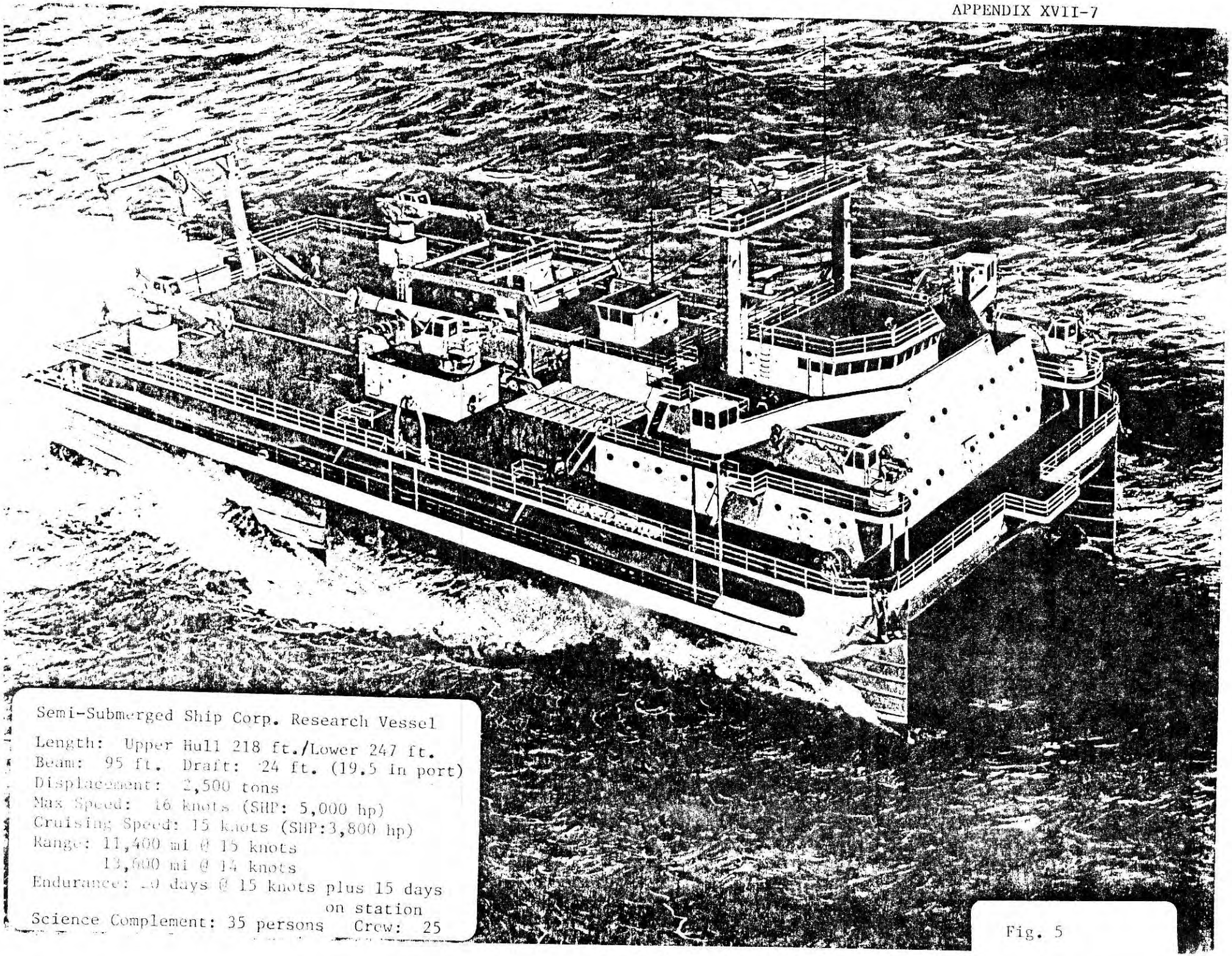
Jan. 1985

FLEET REPLACEMENT COMMITTEE

Work Schedule

1 April	Distribute Draft Replacement Study Proposal to Fleet Replacement Committee
15 April	Submit Proposal to ONR/NSF
15 May	First Draft Report on Research Vessel Replacement Plan
1 June	Analysis of Hull Model Tests (SWATH and MONOHULL); Completed by David Taylor Ship R & D Center (R. Lamb)
1 July	Complete Science Requirements Statements for Intermediate and Coastal Vessels (Class C & Class D)
15 July	Second Draft Report on Research Vessel Replacement Plan
1 August	All Conceptual Design Studies Completed
August-September	Regional Reviews of Replacement Plan and Design Studies at Several Major Labs: - Scripps Inst. - Oregon State U - U. Washington - U. Hawaii - Woods Hole - U. Rhode Island - Lamont-Doherty - U. Miami - Texas A & M - Washington, D. C.
7-8 October	Fleet Replacement Committee Meeting
20 October	Third Draft Report (including Review Proceedings)
Mid-November	Community-Wide Workshop -- 3-day event, 36 invitees (Alton Jones Conference Center, U. R. I.)
1 January	Fourth and Final Draft Report on Research Vessel Replacement Plan

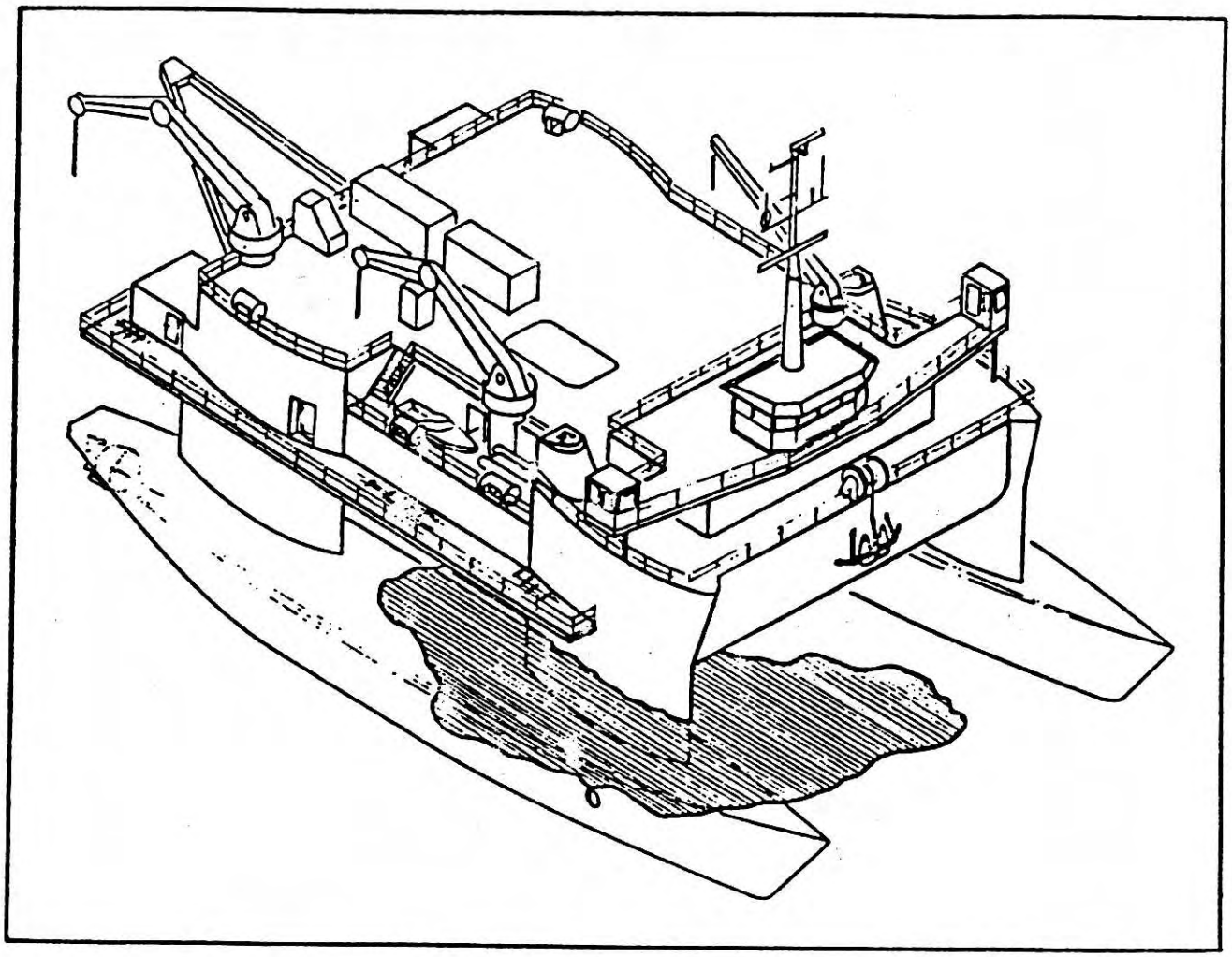
Fig. 4



Semi-Submerged Ship Corp. Research Vessel

Length: Upper Hull 218 ft./Lower 247 ft.
Beam: 95 ft. Draft: 24 ft. (19.5 in port)
Displacement: 2,500 tons
Max Speed: 16 knots (SHP: 5,000 hp)
Cruising Speed: 15 knots (SHP:3,800 hp)
Range: 11,400 mi @ 15 knots
13,600 mi @ 14 knots
Endurance: 30 days @ 15 knots plus 15 days on station
Science Complement: 35 persons Crew: 25

Fig. 5

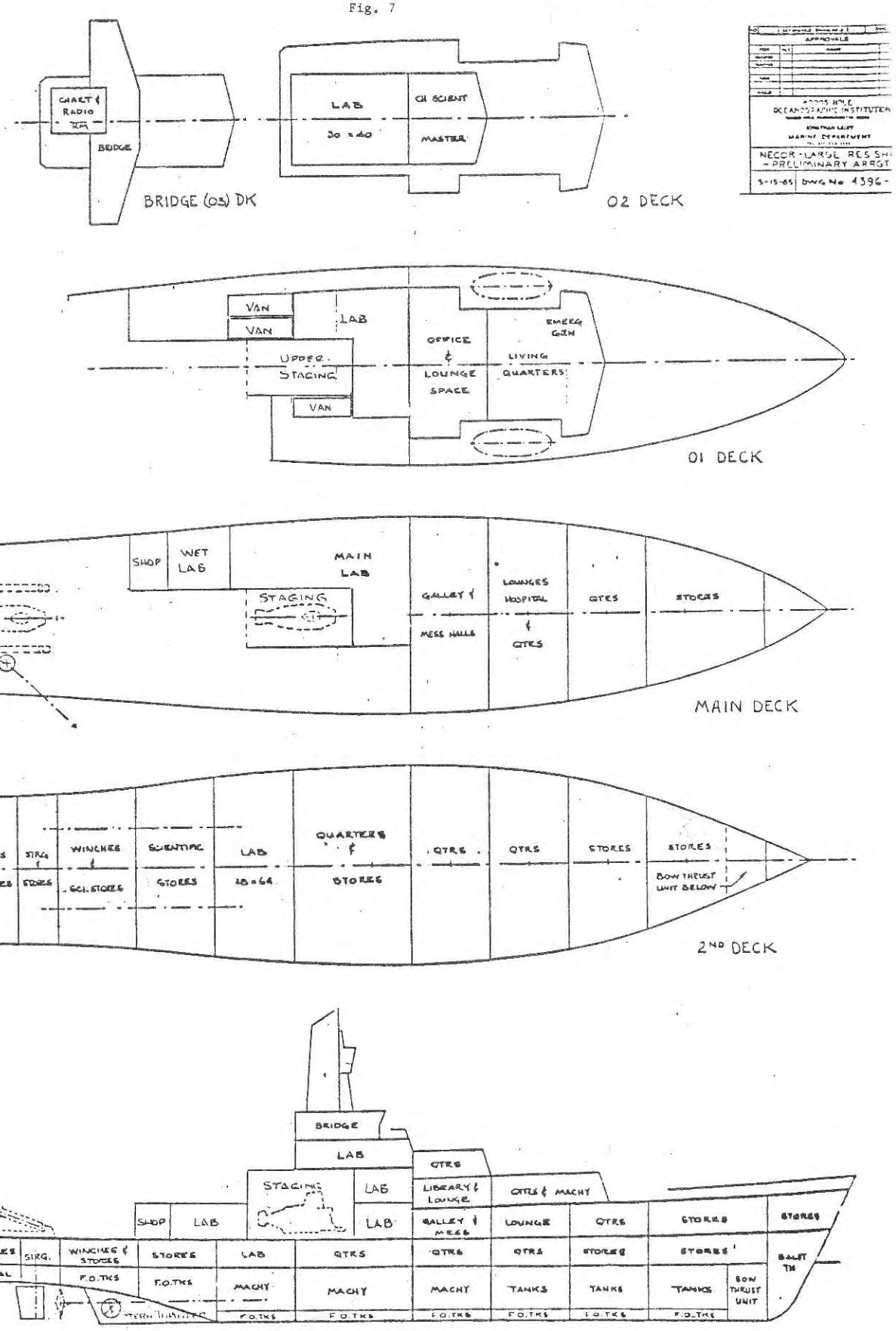


Blue-Sea McClure-SWATH Research Vessel

Length: Upper Hull 147 ft./Lower Hull 202 ft.
Beam: 104 ft.
Draft: 26 ft. operating; 15 ft. transit
Max Speed: 16 knots transit; 6,000 SHP
Cruising Speed: 15 knots transit
10 knots operating
Displ: 3,220 tons operating; 2,645 transit
Range: 10,000 mi @ 15 knots Endurance: 60 days
Science Complement: 30 persons Crew: 23
NOTE: Operates as SWATH; transits as catamaran

Fig. 6

Fig. 7



WHOI/NECOR Large Research Vessel

Length: 290 ft. LWL; 310 ft. LOA
Beam: 68 ft. Draft: 21 ft.
Displacement: 3,668 tons
Max Speed: 16 knots; SHP 6,000 hp

Cruising Speed: 15 knots Endurance: 60 days
Range: 12,000 mi @ 15 knots
Science Complement: 35 persons Crew: 25