# SUMMARY REPORT OF THE MAY 1982 SEMI ANNUAL MEETING

## NATIONAL ACADEMY OF SCIENCES, LECTURE ROOM 2101 CONSTITUTION AVENUE N.W. WASHINGTON, DC

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# Summary Report of the UNOLS meeting

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#### SUMMARY REPORT OF SEMIANNUAL MEETING

May 24, 25, 1982

National Academy of Sciences 2101 Constitution Avenue NW Washington, DC

General: Issues and items considered at the May, 1982 Semiannual meeting are reported in the order that they were taken up. Unless otherwise noted all items are from the published agenda (Appendix I).

The meeting was called to order at 0900 by Dr. Derek Spencer, UNOLS Chairman. A list of registered attendees appears as Appendix II.

Special Presentation: Advantage was taken of the opportunity afforded by the UNOLS meeting to make a presentation (not included in the agenda). Dr. Donald Langenberg, on behalf of Dr. John B. Slaughter, Director, presented the National Science Foundation's Distinguished Service Award to Captain Robertson P. Dinsmore. Dr. Langenberg read the citation (Appendix III) recognizing Captain Dinsmore's exceptional service as Chairman, Department of Facilities and Marine Operations, Woods Hole Oceanographic Institution, as first Executive Secretary, and a dedicated continuing participant in UNOLS.

Captain Dinsmore's brief response served to demonstrate the dedication and skill for which he had been cited.

<u>Panel Discussion</u>: Are Ships a Critical Limiting Resource for Oceanographic Science? Dr. Spencer introduced the subject of the panel discussion and noted that recent levels and trends for ship funding make the question especially timely. Panel participants in their order of presentation:

Dr. John H. Steele, Director, Woods Hole Oceanographic Institution, Dr. D. James Baker, Jr., Dean, College of Ocean and Fishery Sciences, University of Washington, Dr. George G. Shor, Jr., Associate Director, Scripps Institution of Oceanography, University of California, San Diego and Dr. Barry Raleigh, Director, Iamont-Doherty Geological Observatory, Columbia University.

Dr. Steele noted that in the past ships have clearly been the critical limiting factor to progress in ocean science. Ocean science has been datalimited, and ships have been essential to the observational technology available. Now, however, the answer is not as clear as it once was: Perhaps fundamental ideas and concepts for investigation are now the limit, although this is unlikely. For some investigations so much data are produced that the limit to progress becomes the capability for assembling and absorbing the computer technology that can analyze, synthesize and summarize results. New observational technology—moored and drifting buoys, acoustic tomography, satellites—are highly effective for some investigations.

Thus, ships remain as significant tools, but are they the critical limit? The answer, it seems, depends on the kinds of ocean science investigations to be undertaken. As the recent Ocean Science Board report on the Academic Fleet highlighted, to determine the near-future need for research ships, it is first necessary to project accurately the mix of ocean science

that the community will take up. While that report did not define either the need for ships or the future ocean program, it, together with other analyses, identifies a number of important trends: There may be a growing need for special purpose ships that will enable sophisticated investigations in geology and geophysics as well as in physical, chemical and biological oceanography. Ocean wide investigations will require ships as a part of elaborate observational systems. At the same time, large, elaborate investigations require careful advance planning, and reasonable assurance that ships will be available and will be funded. Planning and executing remote expeditions also require assurance of ship time. If there are questions concerning the availability or the amount of ship time, these uncertainties will influence the kinds of science proposed to funding agencies.

Thus, while the answer to "Are ships the critical factor?" is a qualified "Yes", there remains the need for accurate projections of ocean science programs, for clear definition of related fleet requirements and for a reduced level of uncertainty in funding. Neither ocean scientists nor funding agencies alone can provide the clearly defined projection of ship availability that is needed. But UNOLS, working closely with the funding agencies can achieve that definition.

Dr. Baker noted in his remarks that whether or not ships are a critical limiting factor depends on what ocean measurements are wanted. "We know enough about measurement techniques now that we can estimate the tradeoffs for platforms in many instances." Although every example [ocean investigation] now considered includes ships in a critical and fundamental way, the mix of ships and other platforms may change in the future.

Historically, the critical need for ships has been emphasized in important reports through the 1960s and 1970s, although in some of those same reports it has been noted that for some areas of the oceans and for some kinds of data only satellites are likely to provide regular synoptic observations.

An example of a tradeoff between observations from ships and buoys was drawn from an ocean climate monitoring plan. In a cost-effectiveness comparison ships show a 5 to 10 advantage over drifting buoys in monitoring heat storage and transport in mesoscale ocean eddies; but for measuring atmospheric disturbances over the ocean buoys can be 15 to 30 times more cost-effective than ships.

Other techniques can also supplant ships in the climate program (e.g., island and coastal stations for monitoring sea level variations). However, these techniques generally require a context from extensive ship observations.

Satellite techniques will have an important effect on ship use in the next decade, an effect that must be considered, especially in planning for new ship construction. An example was given, showing time dependent changes in sea surface topography measured from satellites and aircraft. New technologies will lead to a new mix of observational platforms, a mix, however, in which ships will remain central. These new technologies must be accounted for planning for the 1990s.

Dr. Shor suggested that while ships are a critical limiting resource, the basic problem has become the limit in funding for oceanographic research. The

change from the 1960s and early 1970s when most of the present fleet and many special facilities such as FLIP and ALVIN were aquired to the current situation of midlife refits and maintaining the existing fleet has led to lowered expectations. UNOLS and the oceanographic community are preoccupied with preserving existing capabilities, facilities and programs rather than aggressively addressing the growth program that would effectively exercise current scientific capability. There are good reasons for pursuing oceanography. UNOLS needs to be more effective in advancing these reasons and acquiring adequate resource support.

<u>Dr. Raleigh</u> opened by stating that <u>simply</u>, ships are a critical limiting factor. "Our science is primarily an observational one. The observations still lead theory. Our limiting resource is not an adequate theoretical base but good data. These remarks apply especially in the fields of marine geology and geophysics. Thus, regardless of the details, the answer to the question "Are ships a critical limiting facility? is emphatically Yes."

Many considerations are contained within that simple answer. In science there is a vital connection between the scientist and the facility for observation. In oceanography, the close connection between investigators and ships has contributed to important new ideas and technological breakthroughs. The economics of centralizing ship facilities and operations notwithstanding, it is important to maintain the close link between scientists and research ships.

A difficult challenge is to manage the academic fleet within a limited budget. Management from the funding agencies, NSF and ONR, has been remarkably good, and has contributed to the success of oceanographic research. Perhaps the most important principle of this management has been that it is driven by science and the requirements of science. Nevertheless, limited budgets may require innovations in management. One suggestion is to place additional incentive for economy on the individual scientist. For example, means should be considered by which a scientist is rewarded for finding the least expensive research vessel suitable to his needs.

We must be aware of the tendency during times of tight budgets to fund low cost science. Proposals dependent on large developmental costs might not get funded even though technical developments such as ALVIN, deep towed side scan sonar and down-hole measurement devices have proven their merit. Perhaps, in analogy to the move of the Earth Science Division, Ocean Sciences should, for a year, emphasize funding of new technology.

<u>Dr. Spencer</u> provided a summary of the panelists' remarks: that ships are an essential factor but that definition of the optimum fleet composition depends on a wise projection of ocean programs and must account for a new mix of platforms, new techniques and funding limits.

In the ensuing discussion among the assembly and panelists, it was noted that:

- new techology and enhanced measurement capability often, at least for a period, increase the demand for ship time;
- as long as there is innovation in oceanographic investigations there will be requirements for people at sea, and for ships;

- consideration should be given to managing some portion of the fleet as a national facility in the pattern of ALVIN; (No agreement was evidenced on this concept. Supporters cited the advantages to long term planning, while detractors noted that this would weaken the coupling between ships and individual institutions or investigators.)
- in projecting future ships needs, the lesson from experience is that large, multi-purpose, weather-worthy ships have proven their long term utility.

Forecasts by Federal Funding Agencies: Forecasts of relevant agency programs and funding levels were given for NSF, ONR, NOAA and USGS.

R.R. La Count, Head Oceanographic Facilities and Support Section, Division of Ocean Sciences (Appendix IV for complete statement) reported that the National Science Foundation's proposed budget for FY-1983 is \$1,073M, up \$76M (7.7%) over FY-1982 and \$31M (3%) over FY-1981. The Ocean Sciences budget is proposed at \$81M, up 8% over FY-1981 and 6.9% over FY-1982. These increases are well below inflation rates for those two years.

These budget levels and forecasts led to the formation within the Ocean Science Division and with ONR of a Task Group whose objections were:

- to determine the optimum mix of ships required to conduct viable research programs in Ocean Sciences, and
- to assess the managements of the academic fleet.

The results of the Task Group effort (distributed to the UNOLS membership by the Chairman on May 12, 1982) are:

- 1. We appear to have one more Class I ship than is needed (although the possible use of the ATLANTIS II as ALVIN support vessel may alter this finding);
- 2. We are oversubscribed in Class II ships (and this problem may be compounded during 1983 with THOMPSON and WASHINGTON undergoing refit);
- 3. We appear to have one more Class III ship than is needed;
- 4. We appear to have three more Class IV ships than are needed;
- 5. We appear to have 2 1/2 more Class V ships than are needed.

Within NSF, program needs (forecasts on the basis of the 1983 resources already listed) are for \$19.3M ship operations—significantly less than the \$21.5M used earlier for planning purposes. Thus, that expenditure of Ocean Science Division funds that reaches a balance between ship operations and project support does not require the full capacity of the academic fleet. This leads to a series of questions concerning management of the academic fleet:

If it becomes necessary to lay up or get rid of ships, which ships?

If by laying up or getting rid of ships, we face the danger of imbalancing the geographic distribution of ships in the fleet, should we reassign ships to where they're needed? If so, which ships and where? And if we reassign ships, how do we treat those that are institution-owned?

Would the loss of a ship at a single-ship institution adversely impact the ocean science group at that institution? If it does, what can we do to minimize that impact? In this context, should a case be made for a "big ship" review committee to conduct a more "national scheduling" similar to that of the ALVIN Review Committee?

Is there any doubt that as the fleet shrinks and as more constraints are put on the Federal dollar that our large ships are becoming more important as a national asset?

Keith Kaulum, ONR reported no dramatic changes in funding projected for FY-1983. There are changes in the ONR structure for ocean science. ONR's projection for Ocean Science funding in 1983:

Program	FY 1982	FY 1983
Oceanography (Core Program) Special program in Ocean Science Special focus programs (R/Vs) TOTALS	\$35.5M 5.5 3.5 \$44.5M	\$34.3M 7.4 3.1 \$44.8M

Note: That not all Special Focus Programs will utilize research ship time.

Planning estimates for RN funding (Code 420) are:

FT 1702	FY 1983	
\$ 1.19M .07 .26	\$ 1.49M .23 .31	
_	•45	
.06	.14 .02	
	.07 .26 1.44 -	

Note: That this new total was increased by \$.38M subsequent to the UNOLS meeting.

Major refits are scheduled for the THOMPSON and the WASHINGTON, using FY-1982 and FY-1983 funds. It is anticipated that these refits will reduce UNOLS fleet capacity by significantly less than nine ship months. The schedule for refits beyond CONRAD, THOMPSON and WASHINGTON is not yet set. Discussions have been held concerning a habitability upgrade for the MOANA WAVE.

Admiral R.C. Munson reported that two NOAA ships, the MILLER FREEMAN and the WHITING will be upgraded during FY-1982.

Uncertainties in both the FY-1982 and FY-1983 budgets make it difficult to predict whether or not additional ships will be cut from the NOAA fleet. Dr. John Byrne, NOAA Administrator is pressing for effective cooperation between NOAA and UNOLS fleet management. NOAA operational management will consider both the use of UNOLS ships for NOAA programs and NOAA ship support for other agency programs.

Dr. Thomas C. Aldrich reported that as yet there are no U.S. Geological Survey programs scheduled that would use UNOLS ships during FY-1983 or 1984. Perhaps none will be scheduled.

The general discussion on ship use projections centered on the possibility of reaching arrangements for cooperative use of foreign ships (e.g., pool use of the new West German ice breaker and of French research vessels). NSF representatives suggested that their agency would be receptive to such arrangements.

UNOLS Advisory Council Report: Chairman, Dr. Bruce Robison reported on the year's activities of the Advisory Council. His report is attached as Appendix V. The report emphasized the Councils' activities under the standing assignments made to individual Council members in August, 1981. In addition, to those standing roles, he reported on the allocation and management of radio frequencies for the UNOLS fleet, on a proposal to modify ATLANTIS II to function as ALVIN support ship, on information activities of the National Association of State Universities and Land Grant Colleges (NASULGC), on improving communications between the Advisory Council and the assembled membership, and on the potential of UNOLS use of the NOAA ship SURVEYOR.

The Advisory Council has received and accepted a charge from the National Science Foundation's Ocean Sciences Division together with the Office of Naval Research to develop specific recommendations on a ship-by-ship basis for the composition, distribution and management of the UNOLS fleet in the 1983-1988 time frame. These recommendations to be based on assessment of existing data, studies and projections for the UNOLS fleet and projections for its future funding. The report will be drafted by September 1, 1982, distributed to members for comment, and the report together with member comments will be delivered to NSF and ONR by October 1, 1982.

ALVIN Review Committee (ARC) Report: Dr. Robert Corell, Chairman reported that the program for ALVIN use remains a dynamic one in the face of significant changes. It is the opinion of the ARC that ALVIN projects continue as significant contributions to ocean science, and that there is a unique and critical UNOLS responsibility to manage and guide the program.

Operations summaries (Appendix VI) show 124 use days in 1981 and project 200 use days for 1982. The 1982 operations in the east Pacific will include the greatest number of the use days and dives of any ALVIN year to date.

The Submersible Science Study, April, 1982 has been completed. This study, funded by the National Science Foundation, the Office of Naval Research and the National Oceanic and Atmospheric Administration was distributed in draft form through UNOLS in February, 1982. The study, conducted by a Science Panel, a Task Force, observers from the funding agencies and a Project Office under Dr. William B.F. Ryan, Lamont-Doherty Geological Observatory assesses

contributions from submersible science, cites, in particular, the contributions from ALVIN operated through UNOLS as a national facility, and offers both near-term and long-term recommendations for a strong, continuing program in submersible science. The near-term recommendations are:

- modify ALVIN to single point lift,
- retire R/V LULU as support ship and replace her with a UNOLS vessel modified to launch and recover ALVIN,
- equip the replacement support vessel to operate unmanned tethered and autonomous submersibles alternatively with ALVIN,
- upgrade ALVIN tools and capabilities,
- preserve the operation of ALVIN and her support vessel as a dedicated facility operated by a single institution, and
- shallow-water manned vehicles should, for the time, be acquired part-time from industry.

The long-term recommendations are:

- availability of manned submersible with the depth limits as great as 6000m should be obtained with the aid of Federal agencies by access to the U.S. Navy's SEA CLIFF and to foreign submersibles,
- decision to acquire a dedicated a 6000m-capability submersible should be deferred pending potential technological developments and demonstrated scientific utility, and
- continuing technological innovation should not be sacrificed, even as a trade-off for science funding in times of constrained budgets.

The short-term recommendations from the report were addressed in February at a joint meeting of the Advisory Council and the ALVIN Review Committee. The Advisory Council recommended that Woods Hole Oceanographic Institution prepare a proposal for modifying ALVIN for single point lift and adopting ATLANTIS II for support. That proposal is pending to funding agencies.

Proposals for 1983 ALVIN use were reviewed in April, 1982. The review and recommendations were tentative both because the ALVIN/ATLANTIS II proposal is pending and because resultant modification would lead to an abbreviated 1983 operating period.

Although the Review Committee did not distribute a final schedule for operations, they did block out operating areas and tentative projects for the approximate period July (sea tests of the modified ALVIN/ATLANTIS II through December 1983). A planning schedule for ALVIN proposals and review is included in the Chairman, ALVIN Review Committee's information letter (Appendix III).

Captain George Verd, U.S. Navy, Deep Submersibles Division made a presentation on the use of Navy-operated submersibles by the research

community. This presentation was initiated as a result of the desires of the Deep Submersibles Division, the Office of Naval Research and other funding agencies, the ALVIN Review Committee and the community to use more effectively unique capabilities of Navy submersibles. Captain Verd described the unclassified characteristics of the NR1 and of the unclassified SEA CLIFF and TURTLE. He noted that primary missions of all of the Navy submersibles are military but they can also be used for research investigations and that these investigations can be planned and scheduled. Navy policy on use gives precedence and more favorable terms to projects with Navy sponsorships (e·g·, ONR projects or ONR endorsements). For further information, UNOLS users should contact the Chairman, ARC or the ALVIN Operations Manager, WHOI.

## East-West Regional Ship Scheduling Groups Report

The UNOLS East and West Regional Ship Scheduling Groups met jointly on May 23, 1982. Captain R. P. Dinsmore, Chairman, East Group presented a report of that meeting (Appendix VIII).

In 1982 UNOLS vessels were reasonably well utilized except the ISELIN (University of Miami) and the ATLANTIS II (Woods Hole Oceanographic Institution) were temporarily out of service. About 130 ship days originally scheduled and funded for 1982 were deferred to 1983.

Schedules submitted for 1983 generally indicate full use of ships except ATLANTIS II (conversion and ALVIN support), T. G. THOMPSON (reduced availability for mid life refit), T. WASHINGTON (reduced availability, mid life refit), and CAPE FLORIDA (incomplete ship requests).

Total costs for full 1983 operation of the UNOLS fleet are estimated at \$33.7M, about \$4M more than is anticipated from funding agencies. Reduced operating schedules were projected that limited operating costs to an estimated \$30.9M. This projection would result in a short fall of about \$1M, a still-serious problem.

The scheduling groups agreed that the remaining short fall would likely be met by one or more temporary or permanent lay ups during CY 1983.

The UNOLS Business Meeting was called to order by the Chairman at 0830, May 25, 1982.

UNOLS Office Transition: William Barbee, Executive Secretary reported that the move of the UNOLS Office from Woods Hole Oceanographic Institution to the School of Oceanography, University of Washington is physically complete. Nevertheless, communications between the Office and UNOLS Members and Associate Members is not yet satisfactory or adequate. This deficiency relates both to the timely and accurate submission of input data by UNOLS institutions (e.g., Cruise Reports, ship utilization data, Cruise Assessment Reports) and the distribution of information and reports by the Office to the assembled membership (e.g. Summaries of Ship Use Statistics, meeting reports, special reports). Improving these communications will be the major emphasis of the UNOLS Office, but improvements will also require the efforts of member institutions. One critical element will be to enhance the use of telemail at least among all operating institutions.

UNOLS and NASULGC: In continuation of recent UNOLS discussions concerning NASULGC, Dr. Robert Corell gave an information presentation. NASULGC, as an association of universities, functions in conformance with the laws and regula-tions governing such associations. It has traditionally been involved in those matters that have been of significant interest to the member state universities and land grant colleges. Recently NASULGC has established a Marine Affairs Committee to assess potential roles for the Association in marine matters. That Committee's preliminary analysis is that there are reasons to emphasize marine affairs within NASULGC functions and potential benefits to be accrued by strengthening ties between the Association and the oceanographic community. Currently, efforts are toward establishing a Division of Marine Affairs within NASULGC, thereby providing a permanent mechanism for focusing the Association's marine enterprise.

Two points were emphasized concerning an interface between UNOLS and NASULGC: Any formal relationship would be between NASULGC and individual UNOLS Member and Associate Member institutions. The essential NASULGC function of interest to the UNOLS community is the collection and dissemination of information on the status of marine affairs, especially concerning pending legislation and the posture of the Congressional structure concerning marine affairs.

National Academy of Science, Ocean Sciences Board Study, Academic Research Vessels 1985-1990: The final study is available through the Ocean Sciences Board. Copies of this study are distributed, separately from this Meeting Report, to all UNOLS Members and Associate Members. The report provides valuable information relative to the science needs for various kinds and numbers of ships during the rest of the 1980s. It also contains recommendations concerning future management, funding and schedules of new construction for the academic fleet. It does not, however, answer the management and other questions currently facing UNOLS and the funding agencies.

Election of UNOLS Chairman and Vice-Chairman: A nominating committee, G. Anderson, Chairman, J. Knauss and C. Yentsch had developed a slate for all offices which had been distributed prior to the meeting along with vitae for the candidates (Appendix IX). As noted on that announcement, the slate included but one candidate for Chairman and for Vice-Chairman. Therefore nominations remained open, and a call for additional nominations was made immediately prior to the election. None were forthcoming. By written ballot, Derek Spencer was elected Chairman and Dirk Frankenberg was elected Vice-Chairman.

Election to Advisory Council: One nomination in addition to those shown on the Nominating Committee's slate was received and, in accordance with the UNOLS Charter, placed before the membership. This additional candidate was Donald Boesch, for position from among Associate Members. By written ballot Dr. Roger L. Larson (URI) was elected from among Member institutions and Dr. Bruce H. Robison (UCSB) was elected from among the Associate Members.

Appointments to ALVIN Review Committee: Three current members of the ALVIN Review Committee (ARC) have expiring terms. The Committee, at its April 1982 review, recommended the reappointment of Dr. Robert Corell, UNH and present ARC Chairman and of Dr. Mark Wimbush, URI. It recommended, for the third vacancy:

Dr. Jeffrey K. Weissel Research Associate, Lamont-Doherty Geological Observatory Geophysics, Structural Geology/Tectonics

These three appointments were affirmed by the assembled membership.

Suggested change to UNOLS Charter concerning election procedures: The Chairman asked the membership to consider changes in UNOLS procedure for electing officers and Advisory Council members. This proposal was to elect these positions prior to the May Semiannual meeting through a mail or electronic mail procedure. The principle benefits would be that in the event of changing officers, those newly elected would be at the May meeting and could begin to take up their UNOLS responsibilities, thereby improving continuity in UNOLS business. Discussion centered on difficulties in the suggested procedure and on the advantages of the present method of elections held in an open assembly.

The Chairman will refine his proposal and circulate it through the membership for consideration at a later UNOLS meeting.

Need for Semiannual Meetings: The Chairman raised the question of the need for Semiannual meetings. If two meetings a year are not needed, the extra one is an unwarranted expense and an excessive demand on the time of institution representatives and UNOLS officers. In discussion of the question the value of the extra meeting for ship scheduling, for communication and as a forum for developing UNOLS policy were stressed. The Chairman withdrew the question. A Semiannual meeting will be scheduled in October, 1982.

Equipment Proposals: Representatives from NSF informed the assembly that the quality of equipment proposals are often poor, and urged that UNOLS and individual institutions take action to raise the quality of proposals submitted in the future.

The Chairman closed the meeting at 1215, May 25, 1982.

William D. Barbee Executive Secretary, UNOLS

# UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM SEMIANNUAL MEETING

#### **AGENDA**

0900 MONDAY MAY 24, 1982, NATIONAL ACADEMY OF SCIENCES, LECTURE ROOM 2101 CONSTITUTION AVE. N.W., WASHINGTON, D.C.

INTRODUCTION & WELCOME - DR. D.W. SPENCER, CHAIRMAN, UNOLS

PANEL AND DISCUSSION - ARE SHIPS A CRITICAL LIMITING RESOURCE FOR OCEANOGRAPHIC SCIENCE? PANEL PARTICIPANTS:

DR. D. JAMES BAKER, JR.
ACTING DEAN
COLLEGE OF OCEAN & FISHERY SCIENCES
UNIVERSITY OF WASHINGTON
DR. BARRY RALEIGH

DIRECTOR
LAMONT-DOHERTY GEOLOGICAL OBSERVATORY
COLUMBIA UNIVERSITY

DR. GEORGE G. SHOR, JR.
ASSOCIATE DIRECTOR
SCRIPPS INST. FOR OCEANOGRAPHY
UNIV. OF CALIFORNIA, SAN DIEGO

DR. JOHN H. STEELE DIRECTOR WOODS HOLE OCEANOGRAPHIC INSTITUTION

1200-1400

LUNCH BREAK

OPEN

UNOLS ADVISORY COUNCIL REPORT - DR. BRUCE H. ROBISON, CHAIRMAN

ALVIN REVIEW COMMITTEE REPORT - DR. ROBERT W. CORELL, CHAIRMAN

RESEARCH USE OF NAVY SUBMERSIBLES - NR1, CAPT. GEORGE VERD, DEEP SUBMERGENCE SYSTEMS DIVISION AND SEACLIFF, TURTLE; MR. R.M. FORSSELL, NAVAL SEA SYSTEMS COMMAND

TECHNOLOGY FOR UNOLS OPERATIONS, FACILITIES AND ADMINISTRATION STATUS OF VARIOUS REPORTS AND SYSTEMS - W. BARBEE, EXECUTIVE SECRETARY, UNOLS

OUTLOOK FOR FY 1983-1984 SHIP AND PROGRAM SUPPORT - FORECASTS BY FEDERAL FUNDING AGENCIES

A 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 1983 to UNOLS members.

.The session is open to all persons interested and especially to scientists who have ship time needs in 1983 or 1984 and wish to present their needs to operators.

OTHER TOPICS

#### UNOLS BUSINESS MEETING

0830 TUESDAY MAY 25, 1982 NATIONAL ACADEMY OF SCIENCES, ROOM 150

UNOLS OFFICE TRANSITION STATUS

UNOLS AND NASULGC - A DISCUSSION

THE OCEAN SCIENCES BOARD FLEET STUDY

ELECTION OF CHAIRMAN AND VICE-CHAIRMAN, UNOLS

ELECTION OF TWO MEMBERS TO ADVISORY COUNCIL

APPOINTMENT OF THREE MEMBERS TO ALVIN REVIEW COMMITTEE

OTHER BUSINESS PROPER TO THE MEETING

# UNOLS

UNIVERSITY-NATIONAL
OCFANOGRAPHIC LABORATORY SYSTEM

ANNOUNCEMENT OF AGENDA

UNOLS SEMIANNUAL MEETING

MAY 24 AND 25, 1982 WASHINGTON, D.C.

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

Derek Spencer, Chairman Dirk Frankenberg, Vice Chairman William D. Barbee, Executive Secretary

For further information please

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

(206) 543-2203

contact:

The <u>University-National Oceanographic</u>
<u>Laboratory System</u> is a planning and coordinating mechanism for oceanographic facilities.

It is a joint effort of the academic community and the federal funding agencies, principally the NSF, ONR, NOAA, DOE, BLM and USGS.

<u>UNOLS provides</u> for community-wide cooperation and review of the utilization of facilities and opportunities for access to those facilities. It assesses the match of facilities to the needs of academic programs and makes recommendations of priorities for replacing or improving the numbers and mix of facilities.

<u>UNOLS serves</u> as a focus for new ideas and requirements for specialized facilities;

UNOLS does not replace direct contact between the investigator and institution's operating facilities. It does, however, serve as a backup and clearinghouse for information and coordination that might otherwise be available to the researcher and his laboratory.

UNOLS is composed of institutions and laboratories that operate or utilize Federally supported facilities. It is composed of an Advisory Council of both operators and users, a UNOLS Office hosted by a member institution and the Research Vessel Operator's Council. Membership consists of persons from major oceanographic facility operators whose role is to provide facility services to other users. Associate Membership is available to ship users and operators of other vessels. Membership in either category does not guarantee Federal funding.

#### SEMIANNUAL MEETING

#### Washington, D.C. 24-25 May 1982

#### REGISTERED ATTENDEES

K. Aagaard, U. WA

T.C. Aldrich, USGS

E.E. Allmendinger, U. WA

D.J. Baker, Jr., U. WA

W.B. Barbee, UNOLS

J.F. Bash, URI

J.F. Campbell,

H.L. Clark, NSF/OCE

R.W. Cook, Harbor Br. Found

R.W. Corell, UNH

J.R. Curray, SIO

R.P. Dinsmore, W.H.O.I.

J.D. Donnelly, W.H.O.I.

R.C. Digdale, USC

E.A. Dunnington, U. Maryland

W.A. Erb, State Department

D. Frankenberg, UNC

R.Y. George, U. NC, Wilmington

\*J.C. Gibbons, U. Miami

D.S. Gorsline, USC

\*J.J. Griffin, URI

M.K. Johrde, ex-NSF

J.T. Katz, U. Michigan

K.W. Kaulum, ONR/NSTL

\*G. Keller, OSU

H.V. Kennedy, L-DGO

R.R. La Count, NSF/OCE

J.H. Martin, MLML

R.C. McGregor, NASULGC

S.M. McKellar,

J.G. McMillan, NSF/OCE

\*D.W. Menzel, Skidaway

\*C.B. Miller, OSU

R.C. Munson, NOAA/NOS

W. Owen, U. Delaware

P. Penhale, NSF

M.J. Perry, NSF

B. Raleigh, L-DGO

H.B. Redman, NOAA

\*B.H. Robison, USCB

H.T. Rossby, URI

\*T.C. Royer, U. AK

R.W. Schneider, U. Delaware

R.K. Sheehan, CBI/JHU

R.L. Shipman, U. Texas

\*G.G. Shor, Jr., SIO

\*D.W. Spencer, W.H.O.I.

J.D. Stachelhaus, NOAA

M.C. Stebens, UNOLS

J. Steele, W.H.O.I.

L.R. Stevens, State Department

J.L. Taft, JHU

D.M. Tollaksen, NORDA

C. Tollerton, NASULGC

S. Toye, NSF

\*T.K. Treadwell, TAMU

J.F. Ustach, Duke

\*J.C. Van Leer, U. Miami

\*E.B. Veek, USC

G.H. Verd, Deep Submergence Div.

J.B. Watkins, U. WA

<sup>\*</sup>Representative of UNOLS member institution

# NATIONAL SCIENCE FOUNDATION WASHINGTON, D.C. 20550



#### DISTINGUISHED SERVICE AWARD

#### CAPTAIN ROBERTSON P. DINSMORE

Chairman of the Department of Facilities and Marine Operations Woods Hole Oceanographic Institution

Captain Robertson P. Dinsmore is being recognized for the high degree of exceptional service he has provided to the National Science Foundation (NSF) and the oceanographic community through his exemplary leadership.

Captain Dinsmore retired from the U.S. Coast Guard and began his civilian career as the first Executive Secretary of a new and untried organization known as UNOLS—University-National Oceanographic Laboratory System. With that acronym a new cooperative era for university based oceanographic ships began in 1971. The early survival and development of that fragile concept, which now provides the formal structure for scheduling and use of the academic fleet, may be ascribed directly to Captain Dinsmore. In addition to his practical knowledge of ships and the sea, he has an unusually broad acquaintance with academic oceanography gained during and following his tour of duty at Scripps Institution of Oceanography in the early 1950's. Adding to—indeed surpassing—these background qualifications is the extraordinary confidence he has long enjoyed from the academic oceanographic community. As a negotiator among oceanographic institutions, he has long since earned the position of statesman.

During this decade he has contributed extensively to the improvement in quality of the fleet by spearheading design efforts for better and more efficient ships and equipment; by organizing community ship inspection activities; by defining safety standards for ships and their equipment; and by identifying new directions for collective community support, such as submersibles and arctic platforms. Wherever the action was in oceanographic facilities, Captain Dinsmore was on the scene eliciting the best from others by his example of dedicated service.

Director

May 24, 1982

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UNOLS OFFICE

Statement by R.R. La Count Head, Office of Facilities and Support Division of Ocean Science National Science Foundation

NSF's proposed budget to the Congress for FY 1983 is \$1,073M -- an increase of \$76M or 7.7% over the current year, and \$31M or 3% over 1981.

The Ocean Sciences budget is increased \$5.2M in 1983 to a level of \$81.0M -- an increase of 6.9% over '82 and 8% over '81 -- well below inflation over these two years.

It was painfully obvious last February that significant cuts in ocean sciences research and ship operations could occur. With this in mind, we convened an internal task group to develop a plan for fleet operations in 1983 and beyond with 2 objectives:

- 1) Determine the optimum mix of ships required to conduct viable research programs in Ocean Sciences based on funding forecasts for FY 82, 83 and beyond.
- 2) Assess the management of the academic fleet and, if required, recommend directions for further study that could increase its effectiveness.

The Task Group obtained forecasts of use of the fleet in 1983 and beyond from all the elements within the Foundation. Other agency users of the fleet (NOAA, Navy, DOE, USGS, Coast Guard, NASA, and ONR) were also canvassed. Although we feel that the groups canvassed did their best to provide accurate forecasts, under today's climate of funding uncertainty, the 1983 numbers are somewhat soft.

Nevertheless, we had to go ahead with our planning and efforts to move toward the best possible mix of ships to support research in ocean sciences. I should add, that ONR, because of its vested interest in the fleet, joined us in the study. And, for now, the study is essentially complete.

I will describe our findings which should be obvious to you if you've examined the forecasts -- and if you've read it you know there are some limitations that are identified in the document: e.g.

They were compiled this past December/January

They were developed for a budget that is not yet final.

They reflect class size assignments which are not necessarily or always appropriate -- and so on.

But, very importantly, the forecasts have served as a useful guide in identifying potential areas of major mismatch between projected needs and available ships.

Ignoring the worst case situation of a 25% reducton in constant dollars or buying power between 1981 and 1983, and using the more optimistic middle case

- -- the 12% decrement -- here are our findings in their simplest terms:
  - 1. We appear to have one more Class I ships than is needed although possible use of the  $\underline{\text{ATLANTIS II}}$  as  $\underline{\text{ALVIN}}$  support ship may alter this finding.
  - 2. We are oversubscribed in the Class II ships (And this problem may be compounded with the  $\frac{\text{THOMPSON}}{\text{as 6 months}}$ ).
  - 3. We appear to have one ship too many in Class III
  - 4. We appear to have 3 ships too many in Class IV
  - 5. We appear to have 2 1/2 ships too many in Class V.

In my letter of May 5 to Derek Spencer -- and at an earlier UNOLS Advisory Council meeting -- I stated that for planning purposes we are using a target figure of \$21.5M for Ship Operations. If I do a simple arithmetic exercise on the funds needed to do the field science forecast -- OFS needs only \$19.3M for Ship Operations (I ignore lay ups for the time being). Even testing a best case situation in the forecasts -- the 5% decrement -- OFS needs only \$21.4M.

The obvious message is that the science to be funded does not require the number of ships we have in the NSF-support Academic Fleet -- not to mention the UNOLS fleet.

And while I believe we can adopt a plan to provide some lay up funds in FY-1983 for all those ships of the Academic Fleet that will not be used in 1983 -- as a method to avoid sudden termination of funds and damaging our capability for the future -- it is a practice that must be curtailed in some degree. In 1983, the cost of lay ups could be somewhere in the range of \$400,000 to \$700,000. Therefore, and before too long, it would be prudent, I believe, to get rid of -- or stop funding more ships than are needed to support funded ocean science research.

For example, 5-\$800,000 could be used to fund a number of things:

- -Giant Piston Corer
- -1/2 a SEABEAM SYSTEM
- -30-40 new current meters
- -State-of-the-art analytical equipment such as SEMs, mass spectrometers, etc.
- -6-10 additional research projects

Before I continue, I'll turn briefly to the document entitled "Criteria for Assessing Ship Retention Value" -- we and ONR have done it as an exercise and it has served as an effective tool in identifying some problems with individual ships and institutions.

Earlier I said that the message we got from the forecasts is that the science to be funded does not require the number of ships presently in the Academic Fleet. This leads us to a list of questions or problems that require an answer or a solution:

What is the best mix of ships to conduct viable research in ocean science in 1983?

If, it becomes necessary to lay up or get rid of ships, which ships?

If, by laying up or getting rid of ships, we face the danger of imbalancing the geographical distribution of ships in the fleet -- should we reassign ships to where they're needed? If so, which ships -- and where? And if we assign ships -- how do we treat those that are institution-owned?

Would the loss of a ship to a single ship institution adversely impact the ocean science group at that institution? If it does, what can we do to minimize the impact on that institution? In this context, should a case be made for a "big ship" review committee to conduct a more "national scheduling" similar to that of the <u>ALVIN</u> Review Committee?

Is there any doubt that as the fleet shrinks and as more constraints are put on the Federal dollar that our large ships are becoming more important as a national asset?

There are two resolutions adopted by the UNOLS Advisory Council at its February 14-15, 1982 meeting concerning new ships -- one concerned an immediate effort to conduct a design study for new ships in the 190-220 foot class; and the other was for construction of a polar research vessel. I suggest that no matter what the class -- we will not have much success proposing new ships if we have too many. I don't believe tht NSF is reluctant to plan for, and propose a new ship or ships but what does it look like?

Out short-term needs are to identify those ships that should be laid up or retired, even perhaps, reassigned within the next year. And in the long term, we should continually plan on what (and where) is the best mix of ships.

Can UNOLS, acting as an independent group, conduct a study and come up with the answer or solutions?

# ADVISORY COUNCIL REPORT to May Semiannual UNOLS Meeting

Last August the A/C was organized so that each member has a standing assignment for continuing effort on topics important to the system. Since our last report to you at the October Semiannual meeting, the Council has acted on a number of issues - some related to the standing assignments and others which have been raised independently.

Joe Curray has been working to develop, and to summarize the data from cruise assessment forms in order to provide regular feedback from chief scientists on ship operations and performance - the summaries are distributed quarterly to the operating institutions and to the funding agencies. So far the sytem seems to be working pretty well although the levels and rates of returns are not consistent - the A/C encourages each UNOLS representative to make sure that these forms are distributed to all chief scientists - and the council recommends that the operating institutions require each chief scientist to complete and submit the forms before leaving the ship.

Dirk Frankenberg's report on ship user manuals is finished and will be distributed to the UNOLS membership for review. The goal of this effort is a more uniform and comprehensive content for the manuals. What is required now is your response and input from the ship operating institutions.

Tom Rossby has circulated the technical report on winches and wire and he is waiting for comments from the membership - thus far only Oregon State has responded. The purpose of this report is to help the fleet upgrade the capabilities of winch and wire systems and to allow for cost savings through improved maintenance and bulk purchases. The council urges you to read and respond to this report. The data appendices, which were not sent out with the report are now available.

The council has approved the concept and preliminary stage of a proposal prepared by Bob Corell and Derek Spencer for a working conference on microprocessor and microelectronics applications to oceanographic research and technology. A proposal for a workshop to be held in the fall of 1983 will be submitted to NSF and ONR after further development.

Charlie Miller's work on ship design led to two A/C recommendations to the funding agencies:

- 1) that given the very long lead-time necessary, design studies should be initiated now for replacement ships in the 190-220 ft size range, Class I or II:
- 2) that federal support be encouraged for the construction of a polar research vessel.

Yesterday the council spoke with Vern Pankonin of NSF on the allocations and management of Satellite Communications frequencies - this topic will be dealth with further in the business meeting tomorrow.

The council passed a motion that the ATS Satellite Communications Link (operated now throught he University of Miami) should become a regular part of the UNOLS budget, through a subcontract from the University of Washington. John Van Leer will look into the preparation of a user manaual and the dissemination of information about the system.

In a joint meeting last February, the A/C and the ALVIN Review Committee recommended that Woods Hole prepare a proposal for the conversion of ATLANTIS II to replace LULU as the ALVIN support ship. The proposal is now being finished.

On of the points made by George Shor this morning concerning the political bearing of oceanography on a national scale - Dirk Frankenberg told us last October about the NASULGC Organization - the National Association of State Universities and Land Grant Colleges - the A/C has discussed how UNOLS might best take advantage of the information and activities provided by NASULGC for increasing our awareness of the decision making processes in Washington that will influence the funding and development of oceanography. Nearly all UNOLS institutions are already directly or indirectly involved with NASULGC, although this is not the case for all Associate members. Derek Spencer has distributed a letter concerning NASULGC and UNOLS relationship to it. What we recommend is that the information provided by NASULGC should be widely distributed by the administrators who receive it, to the faculty and researches who can act on it. If broad based interest and response to federal decision making is to be achieved, then a much larger portion of the oceanographic community must have access to the timely information provided by NASULGC.

The council has also discussed piggybacking as a means of increasing ship use efficiency but it is not clear how much potential demand exists within the community for science projects to accompany primary ship users at sea. We would like to hear from the Associate Members in order to assess this question, and Dirk Frankenberg is preparing a letter to solicit responses to that effect.

In an effort to implement communications between the A/C and the UNOLS membership, it was resolved that drafts of the A/C meeting minutes will be distributed to UNOLS members and Associate members as soon as possible after A/C meetings. They will include a summary of highlights of the meetings and actions taken by the council.

Yesterday, the council spoke with Tom Pyle, Deputy Director of NOS, NOAA, about the possibilities for future use of the NOAA ship SURVEYOR by UNOLS scientists. SURVEYOR is a large, ice-strengthened survey vessel, with a seabeam system, highly suited for underway work. Given the present situation in our own fleet there were no immediately obvious needs for UNOLS use of SURVEYOR. However, this dialog will continue.

By now you should all have seen the NSF task group documents. Projected ship needs for ocean science research, 1983-88 and Criteria for Assessing Ship Retention Value, and we've heard from Ron La Count

These documents demonstrate that for 1983 and beyond, we are faced with the situation of not having enough funded science programs to keep the present fleet busy. This is clearly a case of underfunding of science compared with the past, and not an overfunding of ships. Nevertheless, the situation exists and must be faced directly.

In response, the UNOLS A/C has accepted a charge from the NSF Division of Ocean Sciences and ONR that the council develop specific recommendations on a ship-by-ship basis for composition, distribution and management of the UNOLS fleet in the 1983-88 time frame. These recommendations to be based on assessment of existing data studies and projections for the UNOLS fleet and projections for its future funding. This

A/C Report Page 3 of 3

report will be drafted by September 1, 1982, distributed to the members for comment, and the report and membership comments will be delivered to NSF and ONR by October 1, 1982.

Such a task is the specific responsibility of the A/C under the UNOLS charter, and while it is a task that no one accepts with pleasure, we prefer that it be done within UNOLS rather than by some outside group.

Dr. Bruce Robison Advisory Council Chairman UNOLS

ALVIN/LULU
1981 Operations Summary

From	To	<u>Investigator</u>	Use Davs	RECON NSF	MENDED ONR	APPOR	FIONMENT OTHER*
1/8	1/9	Keach/Training	2				2 IMI
1/10	1/13	Sobel/Recovery	4				4 NADC
1/15	1/21	Ballard/Imaging	7		7		
1/22	1/22	Weiss/Orientation	1	1			
1/28	1/28	Williams/Recovery	1				1 FWTF
1/30	2/1	Hubbard/Biology	3			3	
6/30	7/4	Donnelly/Certification Buttman/Recovery	0	14.			l USGS
7/7	7/21	Hecker/Biology	15				15 BLM
8/13	9/2	Malahoff/Geology	21			21	
9/5	9/13	Grassle/Biology	9	9			
9/21	10/5	K. Smith/Biology	15	15	**		
10/10	10/27	Murray/Manop	18	12	6		3.1
11/9	11/25	Edmond/Geo Chem	17	15	2		
12/4	12/13	Alldredge/Biology	10	10			
		TOTAL	124	62	15	24	23

<sup>\*</sup>International Maritime Inc - Training Japanese Pilots Naval Air Development Center Fleet Weapons Training Facility, St. Croix U.S. Geological Survey Bureau of Land Management

ALVIN/LULU 1982 Projection Based On Schedule Issued 1/26/82

				PROJE	ECTED A	APPORTIC	ONMENT
From	To	Investigator	- <u>Use Days</u>	NSF	ONR	NOAA	OTHER*
1/5	1/23	Lonsdale	19	19	6 3 - 4	A	
1/28	2/14	Lonsdale	18		18	4	
2/19	3/2	Childress	12	9	3		
3/6	3/15	K. Smith	10		10		
4/3	4/6	Hessler	4		4		
4/11	4/28	K. Smith	18	18			
5/2	5/15	K. Smith	14	14			
5/30	6/12	Grassle	14	- 14			
7/5	7/31	Rona	27	17		10	
8/5	8/18	Sayles	14	10			3, 1
8/23	9/1	Cooper	10			10	
9/6	9/19	Hecker	14		ŧ		14
9/23	10/5	Stubblefield	13		ą.	13	
10/26	10/28	Hecker	3	3			
10/31	11/9	Neumann	10	_10_			
		TOTAL	200	114	35	33	18



# UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM



# Summary of Tentative Deadlines and Estimated Schedule

April 1982	- ALVIN Review Committee considered 1983 proposals for ALVIN dive program. Tentative schedule developed for 1983.
	- Formal proposal review for recommended conversion of ATLANTIS II as ALVIN support vessel.
November 1, 1982	- Deadline for revised 1983 proposals and deadline for letters of intent for fall 1985 and beyond.
December 1982	- ARC to make final 1983 program and to tentatively outline 1984-85 program.
	- ARC to hold workshop at AGU/ALOS meeting to develop initial projections for fall 1985 and beyond. Letters of intent are strongly encouraged to be submitted to UNOLS by November 1, 1982.
March 1983	- Deadline for ALVIN 1984 and early 1985 proposals, directed primarily at the Pacific basin, both eastern and western.
April 1983	- ARC meets to complete cruise plans through summer 1985.
Summer 1983	- ALVIN/AII conversions completed and certification cruises.
September 1983	- 1983 ALVIN program begins, most likely transit to Panama to begin in western Pacific near Panama.
September 1983	- Summer 1984 - ALVIN program most likely to be located in eastern Pacific. Proposals for January 1984 through spring 1985 are due March 1983.
Summer 1984	- Summer 1985 - ALVIN program in Pacific basin, with locations dependent on quality of proposed science. ALVIN returns to WHOI for overhaul by early summer 1985.

# UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

June 2, 1982

TO:

ALVIN Users, ALVIN Sponsors and Interested Parties

FROM: for Robert W. Corell, Chairman M. Olow

ALVIN Review Committee

SUBJECT: ALVIN Information

The ALVIN Review Committee (ARC) met in Woods Hole, Massachusetts on April 22, 23, 1982 to consider ALVIN operations and schedules for 1983 and beyond. Proposed changes in the mode of ALVIN operations, particularly concerning support vessels and the method of at-sea deployment, will probably result in an abbreviated schedule for 1983 operations and will be a factor in scheduling and operations for subsequent years. The ARC finds it essential that information on these changes and on the Committee's efforts to accommodate new factors in ALVIN scheduling promptly be made available to the community. Information is provided on the results of the April ARC meeting, on near-term committee plans to refine ALVIN schedules for 1983-1985 and on the probably mode of future ALVIN operations.

April ARC Meeting

Representatives from the federal funding agencies, NSF, ONR and NOAA gave reports that tentatively indicated 1983 funds for ALVIN would be roughly comparable to those available in 1982.

A review of 1981 and 1982 ALVIN operations to date was provided by WHOI ALVIN operations personnel. At the conclusion of 1982 operations, ALVIN/LULU will return to Woods Hole for periodic maintenance.

Robertson Dinsmore made a presentation on WHOI studies to support a proposal in preparation for ALVIN support. These studies and the proposal are for the modification and use of ATLANTIS II as ALVIN support vessel and for the modification of ALVIN to accommodate a single-point lifting mode of deployment and recovery. If funds are available and the proposal is accepted, work would be accomplished and testing completed during the period of March - August, 1983. Some scientific dives could be completed during at-sea testing, and ALVIN/ATLANTIS II could be available for extended operations beginning in September, 1983. This scenerio envisions that a significant but not as yet specified portion of the ATLANTIS II operations would be devoted to ALVIN support in 1983 and beyond.

ALVIN Information June 2, 1982 Page 2 of 2

The ARC recognized that such a scenerio is tentative and contingent on funding-agency acceptance both of proposals and this new operational concept. The Committee also recognizes that both ALVIN and other UNOLS fleet users may have interests that must be considered. Nevertheless, the ARC accepted the scenerio as the probable outlook for ALVIN operations and used it as the basis for developing a tentative 1983 ALVIN operating schedule.

The tentative schedule for 1983 ALVIN/ATLANTIS II operations includes scientific program dives that can be accommodated during at-sea testing of new systems out of the Woods Hole and later, convenient to a transit to Panama Canal, all during July and August, 1983. Operations during September - December would be in the eastern Pacific, south of San Diego. The proposals accommodated in this tentative schedule are from among those received by ARC in response to the ALVIN flyer on research opportunities in 1983. (Individual responses are in prepration for all proposals received and considered.) The Committee next considered 1984 ALVIN/ATLANTIS II operations and recommended that they be scheduled in the eastern Pacific.

# ARC Plans to Develop and Finalize Schedules

The ARC decided that because of the possible curtailed ALVIN season in 1983, the tentative status of ALVIN and ATLANTIS II modifications and uncertainties concerning the ALVIN/ATLANTIS II mode of operation that they could not publish even their provisional scheduling recommendations at this time. The Committee has set a meeting for December, 1982 (in conjunction with the winter AGU meeting) to finalize the 1983 operating schedule and to begin to formulate the ALVIN schedule for 1984. In addition, the Committee will hold a workshop to help generate information on which to develop the scientific diving program for 1984 and 1985. At the December ARC meeting new proposals for ALVIN operations, especially during 1984 in the eastern Pacific, will be welcome. The Committee's work will also be aided by the submission of supplemental information for the proposals that were submitted before March 1, 1982 ARC deadline. Information bearing on specific questions indicated in Committee responses to individual proposals will be especially helpful. Finally, the Committee will be aided by the submission of letters of intent indicating interest in ALVIN dives in the Pacific during early 1985.

A regular ALVIN Review Committee Scheduling Meeting will be held about April, 1983. The 1984 ALVIN operating schedule will be finalized at that time. The ARC will consider proposals received after the December, 1982 meeting in setting he 1984 schedule. However, potential ALVIN users should note that to receive consideration during the entire 1984 scheduling process, their proposals should reach UNOLS Office by November 1, 1982.

A revised ALVIN flyer will be distributed during summer, 1982. This revision will define the scheduling process above and will more sharply define the content and format desired of proposals for ALVIN use.

cc: ALVIN Review Committee
UNOLS Advisory Council
UNOLS Delegates
Submersible Science Study Members

# UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

EAST-WEST COAST SCHEDULING GROUPS

# Report of Meeting 23 May 1982

The Spring meeting of the UNOLS East-West Coast Scheduling Groups was held on May 23, 1982, at Washington, D. C., just prior to the Semi-annual UNOLS meeting.

## Agenda

- 1. Quick review of 1982 ship schedules and related support in order to identify any problem areas.
- 2. Review and discussion of projected 1983 ship schedules and operating data. Compare with ship request inventories to insure completeness.
- 3. Compare projected costs with anticipated funding.
- 4. Make recommendations to meet any short-falls noted.

#### Attendees

A list of meeting participants is attached (see Appendix A).

# 1982 Schedules

1982 ship schedule reports generally indicate all ships are reasonably well utilized except ISELIN (Miami) and ATLANTIS II (WHOI) which are temporarily out of service during 1982. About 130 ship days originally scheduled and funded for 1982 have been deferred to 1983. Most 1982 scheduled cruises show funding indicated. Exceptions are several JOI and BLM cruises where funding action from those agencies traditionally is slow. This works hardships on both operating institutions and other users when schedules are uncertain and daily rates indefinite.

# 1983 Schedules

Ship operating schedules were available for all larger vessels. As usual, schedules are not yet compiled for the smaller ships. Schedules submitted generally indicate full use of ships except as follows:

ATLANTIS II - Out one-half year for conversion, then ALVIN support in 1983

T. G. THOMPSON - One-half year mid-life refit

T. WASHINGTON - One-half year mid-life refit

CAPE FLORIDA - Incomplete ship requests

It is estimated that about two-thirds of the proposed schedules represent currently funded projects. Funding action pends on the remainder with varying degrees of certainty.

Chief problem area in Atlantic scheduling is the accomplishment of the SEQUEL cruises by suitable vessels. Presently, intermediate sized ships are assigned to the January and July cruises. Lamont and Woods Hole agreed to consider the scheduling of CONRAD and KNORR respectively.

Requirements for Polar Programs ship time 1983-84 not yet firm but should be planned for. MELVILLE or CONRAD considered most likely candidates for this assignment.

Proposed operating days for "full" 1983 schedules are shown by Appendix B.

# Projected Costs and Anticipated Funding

Total estimated costs for the UNOLS fleet in 1983 are \$33.7M. This compares with 1982 costs of about \$28.7M. About half the increase is due to inflation and the remainder due to more ship days proposed (ATLANTIS II and ISELIN back in). Costs of individual ships and proposed support is shown by Appendix B and is summarized as follows:

1982 S	upport	1983 Scl	nedules
		"Full Use"	(5/23/82)
NSF	\$20.5M	NSF	\$24.9M
ONR	3.4M	ONR	3.9M
OTHER	<u>4.8M</u>	OTHER	4.9M
Total	\$28.7M		\$33.7M

Anticipated 1983 support is:

NSF	\$21.8M
ONR	3.1M
OTHER	<u>4.8M</u>
Total	\$29.7M

Based on the above, the schedules submitted as of 23 May indicate a funding shortfall of \$4.0M.

# Reduction in Operations

Because much of the excess costs over anticipated funding may be due to proposed ship use for projects which themselves may not be funded, the first attention was given to attempts in predicting profiles based on more realistic operating schedules. In this exercise, funded projects remained firm and a best estimate was projected for the remainder of each ship's operating year based on project status and traditional trends. This resulted in fifty fewer operating days on the large ships, 170 fewer on intermediate ships, and a total of 256 days less fleetwide. This is shown by Appendix C.

Costs associated with reduced operations are summarized as follows:

*	1983 "Reduced" Schedules	1983 Anticipated Support	Shortfall
NSF ONR OTHER	\$22.2M 3.8M 4.8M	\$21.8M 3.1M 4.8M	\$0.4M 0.7M 0
Total	\$30.9M	\$29.7M	\$1.1M

It can be seen that a realistic cut in normal operations results in a continued shortfall of about \$1.0M.

# Recommendations

Although a \$1.1M shortfall in operations funding is approaching a manageable figure, further reductions through normal attrition of operating days cannot be expected. The shortfall should be met by either:

- increased operations funding
- planned vessel layup(s)

The former is not likely, noting that the major portion of the deficiency is based on ONR support and is higher than is normal or can be expected. It is further unlikely that NSF or other supporting agencies will pick up this amount. Therefore, it would appear that the shortfall will have to be met by introducing one or two planned layups for all or a part of CY 1983.

The scheduling groups were not prepared to recommend which ship or ships are the most likely candidates for layup. This should be done following the results of science project funding actions in order to judge the best projected profiles for ship use. This can best be done at the October meetings.

A recommendation supported by a majority of members present was to achieve parity between requirements, costs, and support by the means of permanently retiring an appropriate vessel within the fleet. It was suggested that the oldest vessel in the fleet is R/V VELERO IV which also is marginally capable of meeting the growing needs developing in its area of operations. It is suggested further that a vessel from the Atlantic southeast where an over-capacity of ship time has existed for several years be re-assigned. In particular, it was suggested that R/V CAPE FLORIDA be considered by the Advisory Council for re-assignment as a replacement for R/V VELERO IV.

# Attendees

10 m 20 1 m

# UNOLS East-West Scheduling Meeting 23 May 1982

J. K. T. G. R. E.	Keller Watkins Aagaard Royer Shor Dugdale Veek Campbell	Oregon State University University of Washington University of Washington University of Alaska Scripps Institution of Oceanography University of Southern California University of Hawaii
	Dinsmore	Woods Hole Oceanographic Institution
	Donnelly	Woods Hole Oceanographic Institution
	Griffin	University of Rhode Island University of Rhode Island
	Bash Kennedy	
	Katz	Lamont-Doherty Geological Observatory
	Owen	University of Delaware
	Ustach	Duke University
R.	Barber	Duke University
	Menzel	Skidaway Institute of Oceanography
	Gibbons	University of Miami
	Treadwell	Texas A & M University
	Stebbins	UNOLS Office
	Wall	National Science Foundation
	Heinrichs ·	National Science Foundation
	West	National Science Foundation
	Clark	
		National Science Foundation
	Collins	National Science Foundation
	Kaulum	Office of Naval Research
D.	Tollaksen	Office of Naval Research

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PRO	OFILE OF	1983 5	SHIP COS	TS	APPENDI	х в
	E	TULL SUP	PORT			1 1982
	DAYS	TOT. COST \$M	NSF →M	ONR \$M	OTH.	COST
ATLANTIS II KNORR CONRAD OCEANUS ENDEAVOR GYRE ISELIN CAPE HENLOPEN CAPE HATTERAS CAPE FLORIDA WARFIELD BLUE FIN LONCHORN	174 290 294 258 267 271 225 200 268 156	2.1 3.3 3.0 1.8 1.8 1.9 1.3 0.2 0.9	1.3 2.5 2.0 1.2 1.1 0.8 0.8	0.3 0.3 0.2 0.1 0.2 0.1 0.0 0	0.5 0.5 1.0 0.1 0.2 0.6 0.7 0.3	02216772700521
CALANUS [fot EAST]	99	0.2	<u>0.2</u> [13.4]	[1.6]	[4.2]	0.2
MELVILLE WASHINGTON THOMPSON WECOMA NEW HORIZON KANA KEOKI ALPHA HELIX YELERO IV E.B. SCRIPPS CAYUSE ONAR HOH LTOT WEST	181 180 173 280 227 225 213 208 148	2.3 2.0 2.1 1.4 1.3 1.6 0.8 0.5 0.1 0.1 [14.5]	1.9 1.7 1.9 1.9 1.7 0.3 0.1 [11.5]	0.4 0.3 0.8 0.2 0.1 0.4 0 0 0 0 [2.3]	0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1.9 2.3 7 1.6 0.3 6.4 5.1 0.1 [4.2]
TOTAL ALL		33.6	24.9	3.9	4.9	28.7
FUNDING: 1982 EST 1983 PRO		28.7 29.7	20.5	3.4 5.1	4.8 4.8	

4.0 3.1 0.8 0.1

1983 SHORTFALL

0		4.0		_
PROFILE	OF	1983	SHIP	(OSTS
INUTILL	01	1 100		00

APPENDIX C

REDUCED SUPPORT					1982	
	DA42	TOT COST	NSF	ONR	OTH.	COST
ATLANTIS II	174	2.1	1.3	0.3	0.5	0.6
KNORR	270	3.0	2.3	0.3	0.4	2.9
CONRAD	264	2.7	1.7	0	1.0	2.1
OCEANUS	258	1.8	1.5	0.2	0.1	1.6
ENDEAVOR	267	1.8	1.2	0.4	0.2	1.7
GYRE	201	1.5	8.0	0.1	0.6	1.7
ISELIN	195	1.1	0.9	0.2	0	0.2
CADE HEN COPEN	200	0.8	0.1	0	0.7	1.0
CAPE HATTERAS	244	1.0	0.6	0.1	0.3	1.0
CAPE FLORIDA	156	0.8	8.0	5 0	1	0.5
WARFIELD		9.09	0.6	0	0.3	0.2
BLUE FIN LONG HORN			1	5		0.1
CALANUS	99	0.2	0.2	0	0	0.2
(tot EAST)		[17.8]	[12.0]	[1.6]	[4.1]	[14.5]
L		1				
MELVILLE	181	2.3	1.9	0.4	0	1.9
WASHINGTON	180	2.0	1.7	0.3	0	2.8
THOMPSON	173	2.0	1.0	0.8	0.2	2.3
WECOMA	250	1.9	1.7	0.2	0	1.7
NEW HORIZON	195	1.2	1.0	0.1	0.1	1.6
KANA KEOKI	115	0.7	0.4	0.2	0.1	1.3
ALPHA HELIX	172	0.8	0.7	0	0.1	0.6
VELERO ID E.B. SCRIPPS	129	0.4	0.2	O	0.2	0.4
CAYUSE	150	0.5	0.3	0	0.2	0.5
ONAR	189	0.1	0.1	0	0	0.1
HOH	86	0.1	0.1	O	a	0.1_
[tot WEST]		[13.]]	[10.2]	[2.2]	[0.7]	[14.2]
TOTAL ALL		30.9	22.2	3.8	4.8	28.7
	1					
FUNDING:		007	00.5	21	4.8	
1982 ES		28.7	20.5	3.4	4.8	
1983 PR	30.	29.7	1 21.8	1 3.1	0	10
1983 54.	STEALL	1.1	0.4	۵.٦	0	



# UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM



#### MAY 1982

### UNOLS NOMINATION COMMITTEE

The Nomination Committee has assembled the following slate of candidates for UNOLS and Advisory Council positions to be filled at the May, 1982 Semmiannual meeting. Note that the slate includes but one nominee for each the UNOLS Chairman and UNOLS Vice-Chairman. No other nominations were received for these positions, and the Nomination Committee did not find additional suitable candidates willing to stand in the 1982 election. It should be understood that nominations for UNOLS Chairman and Vice-Chairman will remain open up to the election at the UNOLS business meeting on May 25, 1982.

### The Slate

For Chairman, UNOLS:

Derek Spencer (Incumbent)

Woods Hole Oceanographic Inst.

For Vice-Chairman, UNOLS:

Dirk Frankenberg (Incumbent)

UNC-Chapel Hill

For Advisory Council, representing Member Institutions: Choose one.

Knut Aagaard

University of Washington

Roger Larson

University of Rhode Island

For Advisory Council, representing Associate Member Institutions: Choose One.

Tony Sturges

Florida State University

Bruce Robison (Incumbent) University of California, SB

Vitae on reverse.



#### VITAE

Name/Discipline
Present Occupational Status
Title
Research Interest

Dr. Derek W. Spencer, Oceanography, Marine Geochemistry (Incumbent)
Senior Scientist, W.H.O.I.
Associate Director for Research
Trace element geochemistry of sediments & ocean water, chemical
oceanography, ocean circulation & time scale of ocean mixing,
marine radioactivity

Dr. Dirk Frankenberg, Biological Oceanography (Incumbent)
Professor of Marine Sciences, U. of N.C. at Chapel Hill
Director of Marine Sciences Program
Biological oceanography, ecology of macro-benthos, oxygen phenomena
in estuaries

Dr. Bruce H. Robison, Marine Biology (Incumbent) Assistant Research Oceanographer Marine Science Institute, University of California, Santa Barbara Vertical transport of organic material through the oceanic water column

Dr. Knut Aagaard, Physical Oceanography Professor of Oceanography Acting Associate Director for Research University of Washington Ocean circulation, Arctic Oceanography

Dr. Roger L. Larson, Geological Professor of Marine Geophysics, University of Rhode Island Plate tectonic history and magnetic reversal stratigraphy of the ocean basins in the Jurassic and Cretaceous

Dr. Wilton (Tony) Sturges, III, Physical Oceanography Professor of Physical Oceanography Chairman of Oceanography Department, Florida State University Ocean Circulation, especially Caribbean Sea and Gulf of Mexico; mixing in bottom currents

## UNOLS PESEARCH VESSELS FLEET OPERATION - 1981 -

CRUISE DAYS PROFILES

AUGUST 1982

AGENCY	OCEAN	STICS	OCEAN	BIOL	ENVIR ECOL	FISH	CL IM METED	GEOLE GEOPH	CHRTG	OCEAN	TRAIN	TRANS NONSCI	TOTAL.	
NATAL SCIENCE FADTA	560	65	495	923	179	4 ()	5	642	0	63	В	26	3006	
OFF. NAVAL RESEARCH	198	103	12	18	1	0	0	151	0	27	0	0	510	
IS GEOL. SURVEY	8	5	0	0	0	0	0	178	0	ŋ	0	n	188	
HUR. LAND MNGMT.	50	0	0	0	21	0	0	31	0	0	.3	0	105	
MATAL OCEAN/ATMOSPH	11	<u>n</u>	2.4	0	0	0	1	6	6	0	0	n	48	
DEPT OF ENERGY	19	0	128	70	20	0	0	73	0	7	0	n	317	
THER FEDERAL	0	n	n	11	0	0	0	1	0	6	0	n	18	
TATE/MUNICIPAL	0	3	11	27	24	84	1	19	0	0	53	0	222	
THER / PRIVATE	5	19	11	0	0	0	0	56	0	0	0	0	87	
			****	****	***	****	*****	****	***	*****	*****	****		******
OTALS	849	191	681	1049	245	124	7	1157	6	103	64	26	4501	
PERCENT	18.5	4.2	15 • 1	23.3	5.4	2.8		25.7		2.3	1.4	. 6		

AUGUST 1982

INSTITUTION	PHYS OCE AN	STICS	OCEAN	BIOL	ENVIR ECOL	FISH INVST	CLIM	GFOLE GEOPH	MAP CHRTG	OCEAN ENGRG	TRAIN ING	TRANS NONSCI	TOTAL	
IINIV. HAWAII	65	3	33	30	0	0	0	131	0	0	0	0	262	~
INIV. ALASKA	30		32	50	53	0	0	6	0	0	1	0	142	
IJNIV. WASHINGTON	82	1	62	199	91	0	1	49	0	1	16	0	502	
OREGON STATE UNIV.	98	0	50	2	0	0	0	52	0	34	0	0	236	
SCRIPPS INST. OCEAN	74	84	48	229	32	84	6	260	0	0	5	0	822	
HNIV. SU. CALIF.	0	37	0	18	43	0	0	56	0	10	0	0	164	
TEXAS AAM UNIV.	38	49	n	51	0	0	0	139	0		10	n	287	*** ** ****** ****
UNIV. TEXAS	7	0	9	10	1	0	0	68	0		6		101	N 4 HWA KAN K
UNIV. MIAMI, RSMAS	59	5	74	163	0	19	0	132	0		7	13	473	
INIV GA SKIDAWAY	4	0	18	87	0	0	0	3	to rimer to		- m <del>ara</del> na na filara	Harrier de Page		
DUKE UNIV.	0	n	0	2	0	0	0	0	6	7	1	. 0	126	to the
JOHNS HOPKINS UNIV.	1	)	0	71	0	12	0	0	0	0	0		2	300
UNIVERSITY DELAWARE	43	n	25	7	21	0	0	55			0	0		
LAMUNT-DOHERTY GEOL	0	ŋ	0	0	0	0	0	21		0	3	n	154	
INIV. RHODE ISLAND	102	0	47	7	0	0	0	103	0			0	21	
WOODS HOLE OCEAN. I	168	15	278	99	0	9	# 434 A	79		0		_13	272	
LANDING MAR LAR	71	0	5	54		0	0	79	0		0	0	695	757 P
*********	*****	*****	ត្តមក្នុងក្នុង	***	*****	****	0	*********	) ********	) ********	15 ******	() 1. 数数数数数数数	158	****
TOTALS	849	191	681	1049	245	124	**** <b>7</b> ***	1157	6	103	64	26	4501	
PERCENT	18.8	4.2	15•1	23.3	5.4	2.8	.2	25.7	1	2.3	1.4	•6	T.23/ L	
(4) - 15 (- 14)	lander of the						A & Williams	ellen i enmer i min			• • •	• * * *		0.0

AUGUST 1982

VESSEL	OCE AN	STICS	OCEAN	BIOL OCEAN	ECOI	FISH INVST	CLIM METEO	GEOLE GEOPH	MAP CHRTG	OCEAN ENGRG	TRAIN ING	TRANS NONSCI	TOTAL	
4FLVILLE	0	٥	31	78	10	0	6	122	0	0	0	0	247	
< NORR	18	0	SuS	15	0	0	n	0	0	0	0	0	235	
ATLANTIS II	95	n	76	21	0	0	0	32	0	0	0	n	221	
T.G. THOMPSON	45	n	38	83	24	0	n	14	0	0	0	0	264	
T. WASHINGTON	42	34	13	0	0	0	0	124	0	0	0	0	213	
/EMA	0	0	0	0	0	0	0	21	0	0	0	0	21	- 44(mm - mm)
ENDEAVOR	102	0	47	7	0	0	n	103	0	0	0	13	272	
CEANUS	58	15	0	63	0	9	n	47	0	47	0	0	239	m = 2-22-0
VECUMA	98	0	50	2	0	0	0	52	0	34	0	0	236	
GYRE	38	49	0	51	0	0	0	139	0	0	10	0	287	Commence of the second
. ISELIN	54	ŋ	קד	58	0	19	n	63	0	0	. 0	n	226	
NEW HORIZON	10	31	4	66	19	84	n	0	0	0	5	0	216	-)
KANA KEUKI	65	3	33	30	0	0	0	131	0	0	0	0	262	
CAPE FLORIDA	5	?	26	49	0	0	0	0	0	0	6	13	101	
ALPHA HELIX	30	n	32	20	53	0	ŋ	6	0	0	1	0	142	4- <del></del>
CAPE HENLOPEN	43	0	?5	7	21	0	0	55	0	0	3	0	154	- (m-1)
FASTWARU	0	n	0	2	0	0	0	0	0	0	0	n	2	
VELLAO IV	0	37	0	18	43	0	0	56	0	10	0	0	164	3
P. WARFIELD	1	n	n	71	0	12	0	0	0	0	0	0	84	
F.B. SCRIPPS	22	19	0	85	3	0	0	14	0	0	3	0	146	
CAYUSE	77	0	5	54	4	0	0	3	0	0	15	0	158	
LONGHORN	7	n	9	10	1	0	n	68	0	·	6	0	101	- 4/-4/
ALUEFIN	4	0	18	87	0	0	ń	3	6	7	1	0	126	
40н	17	]	8	60	1	0	0	0	0			n		$\hat{\sigma}^{\pm} = -i - \hat{\sigma}(\hat{\sigma}, \hat{\sigma}) + \hat{\sigma}(\hat{\sigma})$
	20	m: -m =	10 A - 1-4 (40 40 40 40 40 40 40 40 40 40 40 40 40 4				+ 1-5		e sees a				t at the term	4 - 10 - 10 - 10 - 10
CALANUS	0	0	16	56	0	0	0	60						
************	****	***	********	*****	****	****	*****	****	*****	****	*****	*****	322222222 140	*****

INSTITUTION	NATL SCI. FNDTN	OFF. NAVAL RES.	U.S. GFOL SHRV.	HUR. LAND MNGMT	NATL OCEAN ATMOS	DEPT OF ENRGY	OTHER FEDER FUNDS	STATE OR MUNIC	PRIV/ FORGN FUNDS	TOTALS	
UNIV. HAWAIT	106	143	10	0	0	0	0	3	n	262	7
UNIV. ALASKA	142	0	0	0	0	0	0	0	n	142	
UNIV. WASHINGTON	406	15	9	0	26	25	0	21	0	502	eres actions
OREGON STATE UNIV.	209	. 0	0	0	0	2	0	0	25	236	The second second
SCRIPPS INST. OCEAN	513	184	0	0	0	8	0	117	0	822	
UNIV. SO. CALIF.	132	25	6	0	0	0	0	1	0	164	F - Complete
TEXAS AAM UNIV.	99	32	116	0	0	0	1	19	20	287	
UNIV. TEXAS	56	0	18	Ö	0	6	0	21	0	101	• **** ********************************
UNIV. MIAMI. RSMAS	372	36	0	13	0	21	0	1	30	473	
UNIV GA. SKIDAWAY	38	0	0	0	6	59	11	. 15	0	126	11
DUKE UNIV.	5	0	0	0	0	0	0	0	n	2	~·····································
JOHNS HOPKINS UNIV.	84	0	0	0	0	0	0	0	0	84	
UNIVERSITY DELAWARE	7	0	0	67	16	52	0	0	12	154	ed and allow
LAMONT-DOHERTY GEOL	21	0	0	0	0	0	0	0	0	21	
UNIV. RHODE ISLAND	509	22	0	13	0	28	0	0	0	272	Art - grant and a
WOODS HOLE OCEAN. I	479	53	29	12	0	116	6	0	0	695	
LANDING MAR LAB	131	0	0	0	0	0	0	27	0	158	S ( ), TOT 2 AT ( T) TO
TOTALS	3006	510	188	105	48	317	18	222	87	4501	-5.420
ERCENT	66.8	11.3	4.2	2.3	1.1	7.0	.4	4.9	1.9		

# UNOLS RESEARCH VESSEL FLEET OPERATIONS - 1981 OPERATIONAL DAYS CHARGED BY SPONSOR

VESSEL	LOA	NATE SCI. FNDTN	OFF. NAVAL RES.	U.S. GFOL SURV.	BUR. LAND MNGMT	NATL OCEAN ATMOS	DEPT OF ENRGY	OTHER FEDER FUNDS	STATE OR MUNIC	PRIV/ FORGN FUNDS	TOTALS	Ŋ-
MELVILLE	245FT	246	0	0	0	0	0	0	1	0	247	
KNORR	2.45FT	111	8	0	0	0	116	0	0	0	235	
ATLANTIS II	210FT	221	0	U	0	0	0	0	0	0	551	
T.G. THOMPSON	209FT	230	14	0	0	0	20	0	0	0	264	
T. WASHINGTON	209FT	76	133	0	0	0	0	0	4	0	213	
VEMA	197FT	21	0	0	0	0	0	0	0	0	21	
ENDEAVOR	177FT	209	22	0	13	0	28	0	0	0	272	
OCEANUS	177FT	147	45	29	12	0	0	6	0	0	239	
WECOMA	177FT	209	ŋ	0	0	0	2	0	0	25	236	
GYRÉ	174FT	99	32	116	0	0	0	1	. 19	20	287	15 9 - 100 - 100
C. ISELIN	170FT	166	32	0	13	0	15	0	0	0	226	**************************************
NEW HORIZON	170FT	61	41	0	0	0	8	0	106	0	216	O H NOS VICINIA PROMINA
KANA KEOKI	156FT	106	143	10	0	n	0	0	3	0	262	V
CAPE FLORIDA	135FT	95	0	0	0	0	6	0	0	n	101	
ALPHA HELIX	133FT	142	0	0	0	0	0	0	n	0	142	
CAPE HENLOPEN	120FT	7	0	0	67	16	52	0	0	12	154	
EASTWARD	118FT	2	0	0	0	0	0	0	0	۸	2	
VELEPO IV	110FT	132	25	6	0	0	0	0	1	n	164	( ) e ( gree ) steed (ur) employe.
R. WARFIELD	106FT	84	0	0	0	0	0	0	0	0	84	·
E.B. SCRIPPS	95FT	130	10	υ	0	0	0	0	6	0	146	
CAYUSE	80FT	131	0	0	0	0	0	0	27	0	158	
LONGHOPN	BOFT	56	0	18	0	0	6	0	21	0	101	
BLUEFIN	72FT	38	0	0	0	6	59	11	12	0	126	
нон	65FT	78	1	0	0	9		0	9	0	97	and depending to
ONAH	65FT	98	0	Ą	0	17	5	0	12	n	141	98"
CALANUS	64FT	111	4	0	0	0	0	0	1	30	146	THE PARTY OF THE P
OTALS		3006	510	188	105	48	317	18	222	87	4501	
RUENT		66.8	11.3	4.2	2.3	1.1	7.0	. 4	4.9	1.9	-9 80	S AT THE

UNOLS OFFICE AUGUST 1982

SHID	COL	2-2-1						AUGUST 19	82	
		TECH			ASSOC	NON	FED -	FRGN	DAYS	
KANA KEOKI	47	85	30	42	1	16	4		262	14 Pg
ALPHA HELIX	-32	46	33			9				- (1-)
T.G. THOMPSON		99	8			11				
нон —		95	47							
UNAK						0				
WFCOMA		140				0				
						26		5	236	= - + + + + + + + + + + + + + + + + + +
EN 1908 (20N)	27	90	50						247	
HE # HOKIZON	- 65	105	12	67						
F.B. SCHIPPS					45	10	9	28	146	
T. WASHINGTON	67	86	13	14	<b>7</b>				213	
FLERO IV	80	78	9	14	23	52				
7YRE		555	38		4	16	702	1	164	
ONGHORN	43						202	1	287	
C. ISELIN	57			100	5	135	15	0	101	
APF FLORIDA			33	18	34		2	4	256	
The Francisco	C1 -	46	4	13				0	101	
,45,400	36	51	20	56	- · · · · 3	13			146	
LUEFIN	52		50	37	- 5	26	8		126	
ASTWARU -		8	····· - ··· 0 ······	0		0			5	
. WAPFIELD	52	65	15		······································		V	U	84	7 74 2400
APE HENLOPEN -	38	150		- 2A	12	3	8	1	154	
EMA	4				15	36	2	0	154	
NOF AVON-			0	0	0	0	0	3	S1	
NDEAVOR	5h	105	55	9	11	12	0	5	272	
TLANTIS II	49	62	33	- 13 -	- 18			10	221	
иокн	-85	283	4	3 -	1	9		2	235	
CEANUS	143	141	10	6		17	46		239	************************
AYUSE	47	64	···3····	- 217	16	72	10 10-00		158	
TOTALS	1393	2394	472	1151	295	572	411	120	4501	1.5.4.
to the second second				Principal design of the property of the party of the part		- V		120	450)	The state and
RAND TOTAL PERSONNI	EL =6916.		eres en la companya de la companya d						The second secon	
PERCENT	20.4	35•1	6.9	16.9	4.3	R•4	6.0	1 0	CANADA A CAN	
					**   **   ** -			1.9	Control of the contro	

# CRUISE DAYS PROFILES

VEENCA	OCE AN	ACCOU STICS	OCEAN	OCE AN	ENVIR ECO:	FISH INVST	CLIM METER	GEOPH GEOPH	MAP CHRTG	OCE AN ENGRG	TRAIN ING	TRAMS MONSOI	TOTAL
MATAL SCIENCE FUITA	560	65	495	923	179	41)	5	642	0	63	А	26	3016
OFF. NAVAL RESEARCH	193	103	12	1.8	1	0	n	151	0	27	0	n	510
HS GEAL . SUPVEY	4	2	0	O	0	n	n	178	0	n	0	0	199
HIR. LAWD MUCMT.	50	7	0	n	1	0	n	31	0	n	3	n	105
HATTL OCEAN/ATMOSPH	11	0	24	0	0	0	1	6	6	0	0	0	4.8
DEBL DE EMEDRA	19	0	128	70	~0	0	0	73	0	7	0	0	317
OTHER FRIERAL	1)	n	0	11	0	0	0	1	0	6	0	n	18
STATENMUMICIPAL	0	3	11	21	24	84	1	19	0	0	53	0	227
ULHES > BOINTE	2	12	11	0	0	0	0	5.6	0	•	3.3	V.	600

TOTALS 844 191 1049 245 124 1157 103 64 25 4501 PERCENT 18.9 4.2 15.1 23.3 5.4 2.3 . 7 25.7 . 1 2.3 1.4 . 4

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#### DEPARTMENT OF STATE

Washington, D.C. 20520

BUREAU OF OCEANS AND INTERNATIONAL ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

May 20, 1982

NOTICE TO RESEARCH VESSEL OPERATORS # 61 (Revision 2)

SUBJECT: Claimed Maritime Jurisdictions

The purpose of the following table is to provide research institutions and federal agencies with guidance on maritime claims of foreign nations. The listing does not necessarily reflect acceptance or recognition by the United States Government of the claims or of the countries. Researchers are advised to consult with this office when any research is planned off foreign coasts.

Users of this table should recognize the limit of the application of these data. More specific information, such as claimed baselines, negotiated or claimed boundaries with neighboring states, etc. should be obtained for precise interpretative analysis.

Extended territorial sea, fishing, or economic zones may be interpreted by the coastal state as including jurisdiction over marine scientific or fisheries research. However, unless a claim is explicitly stated in the national law of that state the claim will not appear in the table. Researchers should consult this office for guidance as necessary.

Questions or updates on these lists should be directed to:

Lee R. Stevens
Office of Marine Science
and Technology Affairs
Department of State
Washington, D.C. 20520
Telephone (202) 632-0789

# CLAIMED MARITIME JURISDICTIONS

Claims listed in this table are derived from national laws. Boundary situations with neighboring states may preclude the extension of certain claims to the limits specified in those laws. This table excludes citation of jurisdictional claims over the continental shelf as well as jurisdictional claims over aircraft overflights.

Claimed Maritime Jurisdictions:

TS - Territorial Sea

FR - Fisheries Research

F - Fishing

MS - Marine Scientific Research

EZ - Economic Zone

#### Lead Time:

LT - Clearance request should be submitted to the Department of State (or country involved when diplomatic channels are not being used) the stated number of months in advance of the starting date of the research.

Official Channels:

OC - Clearance request should generally be submitted through the Department of State.

### Party to 1958 Conventions:

HS - Convention on the High Seas

CS - Convention on the Continental Shelf

TS/CZ - Convention on the Territorial Sea and Contiguous Zone

Parentheses indicate that a reservation, declaration, or statement may affect the interpretation of the convention by individual states.

								Party t	o 1958	Conventions
COUNTRY	TS	FR	F	MS	EZ	LT	oc	HS	cs	TS/CZ
Albania .	15							(X)	х	
Algeria	12									
Angola	20	200	200					1		
Antigua & Barbuda	3		12							
Argentina*	200	200	200	200	4	7				
Australia	3		200					X	X	X
Bahamas, The	3	200	200			2				
Bahrain	3									
Bangladesh**	12		200		200			1		
Barbados	12	200	200	200	200					
Belgium	3		200					X		X
Belize (U.K.)	3	12	12							
Benin	200									
Benin	200						Loza S			

<sup>\*</sup> Navigation and overflight permitted beyond 12 nautical miles.

<sup>\*\*</sup> Bangladesh claims are delimited from a claimed 10-fathom baseline.

								Party t	o 1958	Conventions
COUNTRY	TS	FR	F	MS	EZ	LT	ос	HS	CS	TS/CZ
Brazil	200	200	200	200		7	X			
Bulgaria	12							(X)	X	(X)
Burma	12	200	200	200	200					
Cameroon	50		50					İ		
Canada	12	200	200				X		(X)	
Cape Verde*	12	200	200	200	200					
Chile	3	200	200			7				
China	12									
Colombia	12	200	200	200	200	4		į	X	
Comoros	12		200		200					
Congo	200									
Cook Islands (NZ)	12	200	200		200					
Costa Rica	12		200		200			X	X	-
Cuba	12	200	200	200	200			į		
Cyprus	12								X	
Denmark**	3		200					X	X	X
Djibouti	12	200	200	200	200			Ì		
Dominica	3		200		200					
Dominican Republic	6	200	200	200	200			X	X	X
Ecuador	200	200	200	200		***				
Egypt	12									
El Salvador	200							1		
Equatorial Guinea	12									
Ethiopia	12		12					<u>i</u>		

<sup>\*</sup> Archipelagic claim.

<sup>\*\*</sup> Danish claim includes Greenland and the Faroe Islands.

<sup>\*\*\*</sup> Lead-time for Ecuador is 3 months; Galapagos Islands require 5 months.

•								Party t	o 1958 Co	nventions
COUNTRY	TS	FR	F	MS	EZ	LT	ОС	HS	CS	TS/CZ
Federal Republic of Germany	3		200					X		
Fiji*	12		200		200			X	X	X
Finland	4		12					X	X	X
France**	12	200	200	200	200	¥.			(X)	
Gabon	100		150							
Gambia, The	50		200							
German Democratic Republic	3		200					(X)	(X)	(X)
Ghana	200									
Greece	6			1.4			X		(X)	
Grenada	12	200	200	200	200					
Guatemala	12	200	200	200	200			X	X	
Guinea	12		200		200					
Guinea-Bissau	12		200		200					
Guyana	12	200	200	200	200					
Haiti	12	200	200	200	200			X	X	X
Honduras	12	200	200	200	200					
Iceland .	12	200	200	200	200	7		ļ		
India	12	200	200	200	200	7	X			
Indonesia	12	200	200	200	200	6		(X)		
Iran***	12		200							
Iraq	12									
Ireland	3		200							
Israel	6							X	X	Х

<sup>\*</sup> Archipelagic claim.

<sup>\*\*</sup> French claims apply to all overseas departments and territories.

<sup>\*\*\*</sup> Iranian fishing limit extends to the median line of the Gulf of Oman.

								Party t	o 1958 C	onvention
COUNTRY	TS	FR	F	MS	EZ	LT	ос	HS	CS	TS/CZ
Italy	12							X		(X)
Ivory Coast	12	200	200	200	200					
Jamaica	12							X	X	X
Japan*	12	200	200					(X)		(X)
Jordan	3		3							
Kampuchea	12		200		200			X	X	X
Kenya	12	200	200	200	200			X	X	X
Kiribati	3		200							
Korea (North)**	12		200		200					
Korea (South)***	12		200							
Kuwait	12									
Lebanon	none		6							
Liberia	200		-							
Libya	12							į		*
Madagascar	50		150		150			(X)	X	(X)
Malaysia	12		200		200			X	X	X
Maldives	****	35 <del>-</del> 310	35 <b>-</b> 310	35 <b>-</b> 310	35 <b>-</b> 310					
Malta	12		25					į	X	X
Mauritania	70	200	200	200	200					
Mauritius	12	200	200	200	200			X	X	X
Mexico	12	200	200	200	200	4	X	(X)	X	(X)

<sup>\*</sup> Japan's territorial sea is 3 nm in five "international straits."

<sup>\*\*</sup> North Korea has also claimed a 50-mile "military boundary line" in which all foreign vessels and aircraft are banned without permission.

<sup>\*\*\*</sup> South Korea's territorial sea is 3 nm in the Korea Strait.

<sup>\*\*\*\*</sup> Maldives has a rectangular/polygonal claim defined by coordinates.

								Party t	:o 1958 C	onventions
COUNTRY	TS	FR	F	MS	EZ	LT	ос	HS	CS	TS/CZ
Monaco	12									
Morocco	12	200	200	200	200		x			
Mozambique	12		200		200					
Namibia	*		200							
Nauru	12	200	200							
Netherlands	3		200					X	Х	Х
New Zealand	12	200	200	200	200				X	
Nicaragua	200									
Nigeria	30		200		200			X	X	X
Niue (N.Z.)	12	200	200	200	200					*
Norway	4	200	200	200	200				x	
Oman	12		200		200	4				
Pakistan	12	200	200	200	200					
Panama	200	*								
Papua New Guinea	12		200		200					
Peru	200							ļ		
Philippines**	12	200	200	200	200					
Poland ·	12		200					(X)	X	
Portugal	12	200	200	200	200	7		X	X	x
Qatar	3									
Romania	12							(x)	x	(X)
Saint Lucia	3		12							
Saint Vincent and the Grenadines	3		12							

<sup>\*</sup> No known legislation but probably 12.

<sup>\*\*</sup> Archipelagic claim.

				3				Party 1	to 1958	Conventions
COUNTRY	TS	FR	F	MS	EZ	LT	OC	   HS	CS	TS/CZ
Sao Tome & Principe*	12	200	200	200	200					
Saudi Arabia	12							-		
Senegal	150							X		
Seychelles	12	200	200	200	200					
Sierra Leone	200		200					l X	, X	X
Singapore	3		12							
Solomon Islands*	3	200	200							
Somalia	200							1		
South Africa	12		200					X	X	X
Soviet Union	12		200				X	(X)	X	(X)
Spain	12		200		200	7		(X)	(X)	(X)
Sri Lanka	12	200	200	200	200					4
Sudan	12									
Suriname	12	200	200	200	200					
Sweden**	12		200			÷			X	
Syria	35									
Tanzania	50							1		
Thailand	12	200	200	200	200			X	X	X
Togo	30		200		200					
Tonga***	30-150*							X	X	x
Trinidad & Tobago	12	,		•				X	X	x

<sup>\*</sup> Archipelagic claim.

<sup>\*\*</sup> Sweden's territorial sea is 9 nm at Kattegat and in the Baltic at Bornholm.

<sup>\*\*\* &</sup>quot;Historic" Rectangular/Polygonal Claim - 12 nm for Minerva Reef.

*								Party to 1958 Conventions		
COUNTRY	TS	FR	F	MS	EZ	LT	ос	HS	CS	TS/CZ
T.T.P.I.	3		200					1		
Tunisia	12							1		
Turkey*	6		12							
Tuvalu	3	200	200							
United Arab Emirates	3**		200		200			 		
United Kingdom***	3		200					(X)	X	(X)
United States****	3	12	200					   X	X	х
Uruguay****	200									
Vanuatu	12		200		200					
Venezuela	12	200	200	200	200	5		X	(X)	(X)
Vietnam	12	200	200	200	200					
Western Samoa	12									
Yemen (Aden)	12	200	200	200	200					
Yemen (Sana)	12									
Yugoslavia	12							X	(X)	x
Zaire	12									
								1		

<sup>\*</sup> Turkey's territorial sea is 12 nautical miles in the Black Sea.

<sup>\*\* 12</sup> nautical miles for Sharjah.

<sup>\*\*\*</sup> Includes Bermuda, British Virgin Islands, the Cayman Islands, the Turks and Caicos Islands, Pitcairn, Henderson, Ducie, Oeno Islands, St. Helene and Ascension.

<sup>\*\*\*\*</sup> Includes Puerto Rico, U.S. Virgin Islands, American Samoa, Guam, and other U.S. territories.

<sup>\*\*\*\*\*</sup> Navigation and overflight permitted beyond 12 nautical miles.

# SUMMARY OF 1981 CLEARANCE REQUESTS

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in

SHIP	COUNTRY(S)	RESEARCH PERIOD
Marsys Resolute	Mexico Belize Honduras Nicaragual Haiti Bahamas	March-June 81
Melville	Mexico Guatemala	August-September 81
Endeavor	Barbados	June 81
Westward	Jamaica	February-March 81
Delaware II	Canada	April-May 81
Wilkes	Somalia	April 81
Ellen B. Scripps	Mexico	June 81
Oregon II	Mexico	April-May 81
New Horizon	Mexico	July 81
Jeanie	Bahamas <sup>2</sup>	May 81
Delaware II	Canada	May 81
Davidson	Canada	May 81
Thomas G. Thompson	Mexico	October-November 81
Harkness	Mexico <sup>3</sup>	August 81 - March 83
Oregon II	Mexico <sup>4</sup>	August-Sepember 81
Hero	Argentina	September 81
Hero	Argentina <sup>5</sup> United Kingdom	May-July 81
Melville	Mexico <sup>6</sup>	June-July 82
Buttonwood	Mexico	July-August 81

Velero IV	Mexico	July 81		
Alvin/Lulu/Melville/ E.B. Scripps/New Hor		October 81 - May 82		
Regina Maris	Denmark	June-August 81		
Westward	United Kingdom Canada	June-July 81		
Onar	Canada	June 81		
Onar	Canada	July-August 81		
Atlantis II	Spain <sup>8</sup> Morocco	August 81		
Laurentian	Canada	August 81		
Oregon Beaver	Mexico	October-November 81		
Cayuse Wecoma	Mexico	October-November 81		
Westward	Canada	August 81		
Delaware II	Canada	August-September 81		
David Starr Jordan	Mexico	October-November 81		
Researcher	Peru	October-December 81		
Virginia Key	Bahamas	October-December 81		
De Steiguer	Mexico	November-December 81		
Westward	Venezuela St. Lucia St. Vincent	Dec 81 - Jan 82		
David Starr Jordan	Mexico	February-March 82		
Researcher	Mexico <sup>9</sup>	April 82		
Robert D. Conrad	Chile <sup>10</sup>	April 82		
Delaware II	Canada	October-November 81		
Albatross IV	Canada	November-December 81		

O TITE

Westward France October-November 81 Barbados<sup>11</sup> Dominica St. Lucia St. Vincent Mexico<sup>12</sup> Nov - Dec 81 Cayuse Hero Argentina November 81 Haiti January-December 1982 Harkness Mexico<sup>13</sup> March 82 Ellen B. Scripps Canada December 81 Onar Cape Hatteras Bahamas January 82 Thomas Washington Costa Rica April-May 82 Guatemala Mexico Robert D. Conrad April-June 82 Peru Buttonwood Mexico March 82 Cape Florida Barbados January 82 Thomas Washington Mexico July-August 82 Mexico<sup>14</sup> April-May 82 Oregon II June-July 82 Bartlett Spain May-July 82 Chile Hero March 82 Albatross Canada Canada March-May 82 Delaware II March 82 Installation of NOAA Bahamas Tide Station

Mexico<sup>15</sup>

Mexico

John Isaacs

Oregon Beaver

March-May 1982

January-March 82

# NOTES

- 1. Research off Nicaragua was cancelled because of operational delays and because the researchers objected to the Nicaraguan requirement that prior approval be obtained for all photographs taken during the research off the Nicaraguan coast.
- 2. Cruise cancelled due to budgetary restrictions.
- 3. Clearance denied at the insistence of the Mexican Navy. No reason was given.
- 4. Research significantly modified at the insistence of the Mexican Fisheries Ministry. R/V OREGON II had originally planned to conduct a reef fish survey as part of the cooperative MexUSGulf program; Mexico requested that plankton studies be conducted instead.
- 5. Cruise cancelled due to illness of ship's master.
- 6. Research postponed by operating institution.
- 7. Research interrupted due to mechanical difficulties aboard R/V MELVILLE. An extension of clearance was granted by Mexico and the research proceeded upon completion of repairs.
- 8. Clearance not granted by Spain because of failure to meet six month lead-time requirement.
- 9. Cruise cancelled due to budgetary restrictions.
- 10. Cruise postponed due to delays in overhauling ship.
- 11. Research off Barbados cancelled due to nonreceipt of timely clearance.
- 12. Clearance for research concerning tuna migration denied at the insistence of the Mexican Fisheries Ministry.
- 13. Research cancelled due to unreasonable restrictions imposed by the Mexican Fisheries Ministry. Mexico stipulated that no environmental measurements be made during the research on marine mammals and that the proposed tagging of animals not take place on shore, effectively preventing the conduct of meaningful research.
- 14. Clearance denied at the insistence of the Mexican Fisheries Ministry. Mexico stated that the proposed research had not been agreed within the cooperative MexUSGulf program, and that similar work by a Mexican research vessel made the U.S. cruise unnecessary.
- 15. Clearance denied for two of six planned research segments. Other segments proceeded as scheduled. No reason was given for the denial.

# TOTAL REQUESTS PER COUNTRY

1981

CANADA - 14

15 the first war

MEXICO - 26 GUATEMALA - 2 BELIZE - 1 HONDURAS - 1 NICARAGUA - 1 COSTA RICA - 1

CHILE - 2 ARGENTINA - 3 PERU - 2 VENEZUELA - 1

BAHAMAS - 5 HAITI - 2 JAMAICA - 1 DOMINICA - 1 ST. LUCIA - 2 ST. VINCENT - 2 BARBADOS - 3

UNITED KINGDOM - 2 FRANCE - 1 SPAIN - 2 DENMARK - 1

MOROCCO - 1 SOMALIA - 1

The Department of State submitted a total of 78 clearance requests to 24 foreign governments during 1981.

Three clearances were denied. Research was cancelled in two other instances due to nonreceipt of timely clearance.

Unreasonable restrictions were imposed in connection with four additional cruises, two of which were subsequently cancelled.