

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

UNOLS COUNCIL MEETING
February 8, 9, 1990
Moss Landing, California
and
Monterey, California

UNOLS Council members, representatives from Department of State, ONR, NSF and NOAA, participants from University of Hawaii, Scripps and the Monterey Bay Aquarium Research Institution and other observers met at the MBARI Marine Facility, Moss Landing (February 8) and at the Ocean View Conference Room, Monterey Bay Aquarium (February 9). The meeting was called by George Keller, Chair, at 8:30 a.m., February 8. Items on the Agenda (Appendix I) were called in the order reported herein.

ATTENDEES

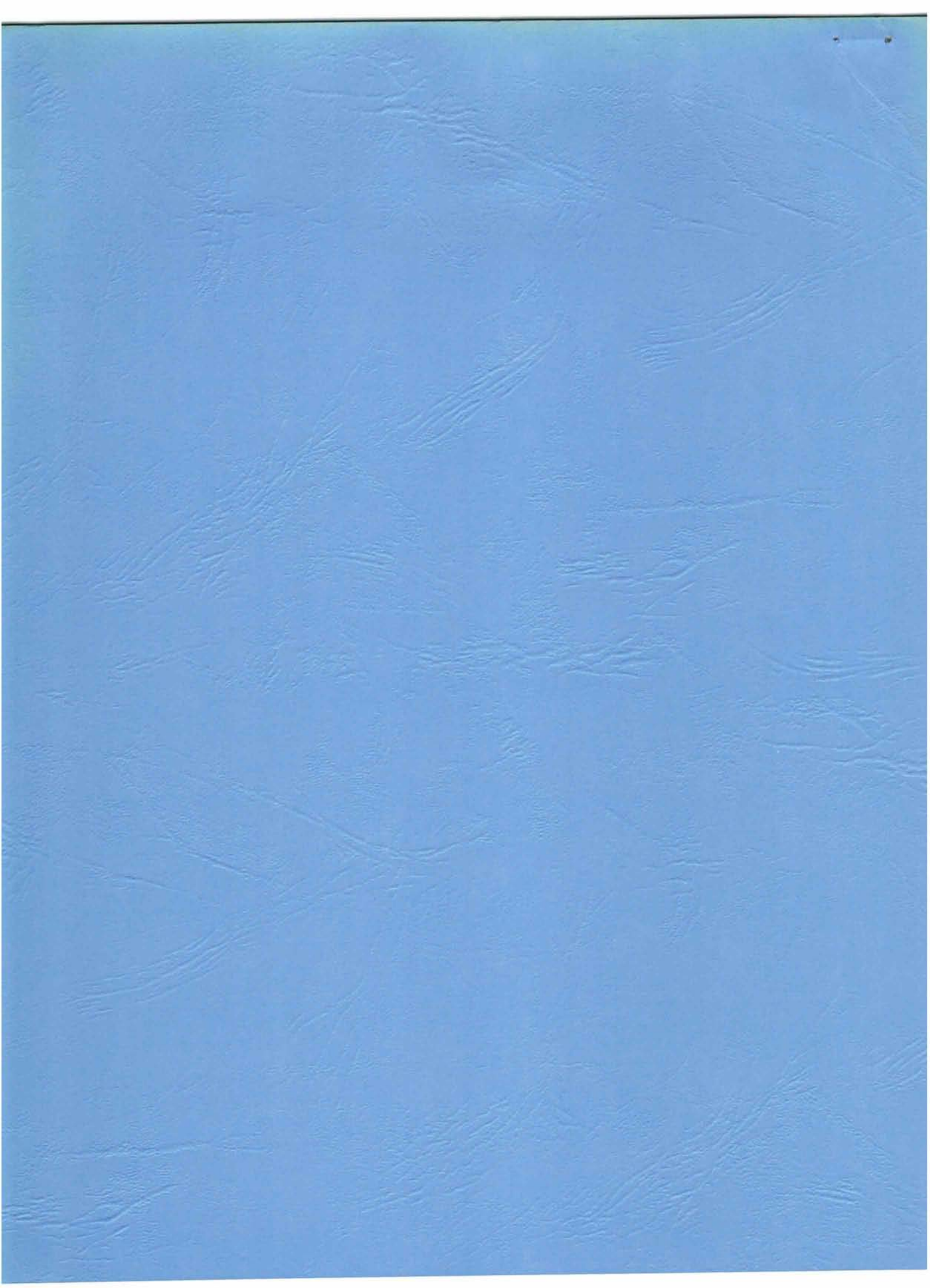
UNOLS COUNCIL:

George Keller, UNOLS Chair
Tom Johnson, UNOLS Vice Chair
Larry Atkinson
Peter Betzer
Gary Brass
Jeff Fox
Donn Gorsline
Feenan Jennings
Tom Malone
Art Maxwell
Mike Rawson
Jim Williams

Observers, Participants:

Tom Cocke, DOS
Pat Dennis, JOI (OON)
Dolly Dieter, NSF
Don Heinrichs, NSF
Keith Kaulum, ONR
John Martin, MLML
Wadsworth Owen, U. Delaware
Steve Ramberg, ONR
Bruce Robison, MBARI
Alexander Shor, U. Hawaii
George Shor, Scripps
William Stubblefield, NOAA
Elizabeth White, NOAA
Austin Yeager, NOAA





John Martin, Director, Moss Landing Marine Laboratories welcomed the Council to Moss Landing and invited meeting attendees to inspect the Laboratories' use of the MBARI Marine Facilities. He discussed effects of the recent earthquake on MLML, and status of the Laboratories as they recover. Although MLML's main building was essentially destroyed, little of their scientific equipment, instrumentation and records was lost, and no one was injured. The move of their marine operations into the MBARI Facility had already been scheduled. MLML administration and research have been re-established in San Jose State University space available in Salinas, pending a rebuilding effort in Moss Landing.

1990 SHIP SCHEDULING PROCESS

The principal sponsors of UNOLS ship operations -- NSF and ONR -- were both concerned with the effectiveness of the ship scheduling process for 1990. Don Heinrichs, NSF/OCE, had written the UNOLS Chair, expressing concern generally over misinformation circulating within the community, and increasing parochialism among operators. Eric Hartwig, ONR, had also written the UNOLS Chair on the same issue, suggesting that the UNOLS scheduling process had chronic difficulty in reaching an efficient fleet schedule and in making recommendations concerning lay-ups.

Don Heinrich presented NSF's perspective on ship scheduling for 1990. The schedules presented at the September, 1989 UNOLS Ship Scheduling Meeting (and proposed in UNOLS institution's Ship Operations Proposals submitted October 1, 1989) included many projects that were not funded. The sum of funds proposed to NSF seriously exceeded NSF funds for ship operations. NSF's review of Ship Operations Proposals for 1990 operations resulted in hard negotiations and severe revisions to many of the proposals. NSF had no choice but to tailor the overall UNOLS fleet schedule to fit within available funds. Although negotiations with some institutions may have been hard, NSF believes that their review and grant process was objective and balanced; there was not bias against any individual or group of UNOLS institutions. The difference between schedules presented and proposed in September, 1989 and those adopted, funded and implemented in January, 1990 is not acceptable. Both the funding agencies and UNOLS operators need the schedules proposed in September to be efficient, effective and essentially final.

Specific problems encountered with 1990 schedules and the process: Schedules for the large ship, blue water part of the fleet were not effectively planned. Projects here are often ship-specific. Inadequate coordination and planning resulted in too much transit time. NSF (and presumably ONR) were not kept informed on P.I.-ship operator interactions. Too much of the fleet schedule was predicated on science projects still pending, and effective means were not achieved for handling pending proposals. Science requirements that constrained scheduling (e.g., seasonal or areal requirements on the project, rigorous ship or equipment requirements) were not communicated early enough. The

traditional UNOLS ship scheduling process is inadequate in integrating individual ship and institution schedules into an efficient, effective fleet schedule that serves well the most and most critical science at the least cost.

NSF wants the scheduling process to aim for and achieve an efficient and effective fleet schedule as opposed to a schedule that keeps all UNOLS ships operating and accommodates all P.I.'s in spite of the cost. To this end, NSF/OCFS is taking steps generally aimed at providing information on NSF science program requirements in more timely fashion. A revised Form 831, **NSF-UNOLS Ship Time Request** has been implemented. Its use in science proposals and as a request form to institutions will aid in tracking proposals, securing funding information, etc. NSF intends to identify science projects rolled over from 1990 to 1991 and to press for ship time for them. As the Global Change programs (WOCE, RIDGE, JGOFS, ARCS, GLOBEC) begin to require more ship time, more long-term ship commitments are needed. A special effort will be made to achieve better exchange between science program managers and the ship operations manager, especially concerning critical factors constraining some cruises and on the **potential** for funding on projects still pending. These steps, together with information exchanged among P.I.'s and operators should provide a better basis for planning/scheduling.

The Council acknowledged Don Heinrich's summary. A question was raised concerning the special target dates and review schedule that had been established for some Global Change programs (e.g., WOCE, JGOFS). Would not this make associated science funding decisions even later in the scheduling year? In response, Dr. Heinrich noted that the WOCE review schedule should not delay funding decisions, but should achieve them earlier than for many core programs. The JGOFS had been allowed an exception in 1990 (affecting operations/schedules for 1991) but would be informed that such late submissions would not be allowed in later years.

Council members also raised questions as to what would be NSF's funding balance between Global Change programs and Core programs, and how might that balance be affected if NSF budget requests are not achieved? **Don Heinrichs noted that the question of balance between Global Initiatives and Core programs would be addressed in his report on the NSF budget** (see below in this report). He agreed that the potential for such changes raised the possibility of additional scheduling contingencies, suggesting this as even more reason for timely, rigorous schedule planning.

Keith Kaulum summarized ONR's concerns with the scheduling process, closely paralleling the NSF summary. ONR was not impressed with the scheduling process. In 1990, the day rate for intermediate ships approaches \$10,000, much too high for ONR. Both the OCEANUS and THOMAS WASHINGTON will be laid up in midsummer. Private work scheduled on the MOANA WAVE has cost NSF lengthy transit time. All of these inefficiencies were either caused or amplified by inadequate schedule planning coordination.

The process is too slow. ONR has 95% of its science and ship operating funds committed by June 1. (NSF has similar commitments by mid to late August.) Nevertheless, schedules proposed by institutions in late September, October change and improve little from those presented in the summer. There is little apparent effort to integrate toward a fleet schedule. The process is largely one of accepting the schedules put forth by individual institutions. Further, 1989 scheduling for 1990 was not a special year; it seemed to be typical of the process. ONR wants a process aimed to increase efficiency and effectiveness of the fleet schedule. They anticipate that this will entail some intership consolidation of schedules and expect some reduction in day rates.

ONR suggests that the provisional schedules developed for and at the UNOLS scheduling meeting in mid-summer be intensively reviewed to promote efficiency and refine the funding status prognosis for pending science projects.

Don Heinrichs, NSF, suggested that fleet contingency plans should be developed after the midsummer schedules are reviewed.

Mike Rawson, Ship Scheduling Chair, reviewed the 1989/1990 UNOLS scheduling process and the status of 1990 efforts toward 1991 schedules. A main problem in scheduling continues to be inadequate communications; schedulers cannot learn about all science funding decisions and science requirement constraints (on season, ship or area) are not always available to all players. Use of the revised Form 831's with NSF science proposals and as Ship Time Request to institutions should help, although some problems have been uncovered. (e.g., Should the form be used for non-NSF projects? Inadequate information for operators in some instances.) Schedulers and operators sometimes have problems in setting schedules that accommodate NSF, ONR and other-agency sponsorship, each with agency-specific ship use policies, science-funding calendar and policies. One particular set of problems deals with when and under what conditions are the Federally-owned ships available to work for industry. The overriding problems remain, however, science funding decisions delayed until late in the year and tight overall funding for ship operations. (For a few years, meetings were held adjunct to UNOLS ship scheduling meetings, among funding agency representatives and scheduling Committee Chairs. These meetings were very helpful in informally establishing the science funding status of critical projects.)

If the UNOLS scheduling process is to improve significantly, a way must be found to consolidate and adjust individual ship schedules throughout the fleet, to improve efficiency and effectiveness. Such consolidation might lead to lay-ups, abbreviated schedules or other measures unpopular with operators. Such a scheduling process would have to be imposed (by funding agencies and/or UNOLS); operators generally oppose consolidation of schedules.

One partial step might be for a small group to review all schedules developed at summer UNOLS scheduling meetings and to report on their analysis of individual ship and fleet schedules to all operators.

After a Council discussion of the various scheduling problems that had been presented, Mike Rawson was asked to make, before the end of the Council meeting, recommendations on means of improving the UNOLS ship scheduling process. In formulating recommendations, Mike noted that options for the scheduling process range from centralized scheduling, wherein an individual or small group considers all shiptime requests and the entire fleet and devises a fleet schedule, to a system wherein even the current UNOLS Ship Scheduling Committee is disbanded and individual institutions schedule their ships unilaterally. The centralized scheduling would likely not work well, and many UNOLS institutions would be unwilling to operate ships under such a system. Scheduling by individual institutions, without an interinstitutional coordinating mechanism would not be satisfactory to the community of P.I.'s, especially those from non-operating institutions, nor would it be satisfactory to managers in funding agencies. Thus, means must be found that provide adequate coordination and fleet efficiency while still allowing institutions a significant role in scheduling the ships that they operate.

Since most credible ship time requests arrive at schedulers' desks by early February and at least 50% of science project funding decisions are made by June, it should be possible to develop realistic provisional schedules by late June. Means must be devised to communicate effectively information on funding decisions and overall funding status, to accommodate special-consideration science projects on suitable ships, to address lay-up questions and to integrate individual provisional schedules into an effective fleet schedule.

Some steps have already been taken to improve the scheduling process. The new UNOLS-NSF Ship Time Request Form is mandatory on all proposals to NSF/OCE; it should provide a basis for agency managers to review ship time requests along with science proposals and should allow more consistent tracking by operators, schedulers and program managers.

Additional recommendations to improve the UNOLS ship scheduling process are:

1. Agencies and UNOLS should continue to press for timely (as early as possible) submission of ship time requests and science proposals requiring ship time.
2. Funding agencies should review ship time requests along with science proposals, modify them if necessary, and communicate the results to P.I.'s, schedulers and operators.

3. UNOLS institutions should arrange and use regional and consortium meetings, especially prior to the summer UNOLS scheduling meeting to help formulate effective regional schedules.
4. All UNOLS institutions should submit provisional schedules, inventories of time requests and estimates of ship operation costs in a timely manner (e.g., 10 days before scheduling meetings, via electronic mail). All of these submissions must conform to established formats. Schedule submissions to UNOLS Ship Scheduling bulletin boards should be updated about monthly, or as necessary.
5. A small group should be formed to review individual ship and fleet schedules, immediately following UNOLS scheduling meetings. The group should assess individual and fleet schedule efficiency, review science project funding status, identify possible ship-project trades, and assess the efficiency of both individual ship and fleet provisional schedules. They should identify possible lay-ups and make recommendations to approve schedule efficiency/ effectiveness. They should report to funding agencies and the UNOLS Council. They should advise each UNOLS operator of the results of their review of that institution's ships, of developing effectiveness of the overall fleet schedule, and of any specific recommendations.

One objective of an improved UNOLS Ship Scheduling process must be to develop credible schedules for all ships and the fleet by the end of the Fall scheduling meeting so that the schedules included in ship operations proposals (October 1) will be acceptable and will accurately project all ship's work for the operating year.

The UNOLS Council discussed and concurred with the recommendations and directed that they all be implemented. In conjunction with funding agency representatives, they formed a Ship Scheduling Review Group of the Ship Scheduling Committee Chair and Vice Chair, the UNOLS Executive Secretary and one each from NSF/OCFS and ONR. In June, 1990, the review group will be Mike Rawson, George Shor, Bill Barbee, Dolly Dieter and Keith Kaulum; they will meet on June 26, the day after the UNOLS Ship Scheduling meeting.

Captain George Martin, Chief, Ice Operations Division, U.S. Coast Guard, had written UNOLS for assistance in developing a five-year plan for the use of Coast Guard ice-breakers in support of ocean research. In a separate letter, Don Heinrichs had noted that similar letters had gone to NSF, other FOFCC members and elsewhere throughout the community. (See Appendix II.) NSF and other agencies are prepared to work with the Coast Guard to achieve an effective use of ice breaker resources; it is not

clear that UNOLS would be effective in responding unilaterally. The Council agreed that, while UNOLS should be prepared to cooperate with the Coast Guard, no immediate action is indicated.

FLEET MANAGEMENT

NSF and ONR representatives had raised a number of questions concerning the status of the UNOLS fleet relative to current and projected ship use requirements. The 1989 UNOLS Fleet Improvement Plan, currently in advanced draft form, was pertinent to the same questions. Other Fleet Management issues were also before the Council.

ANALYSIS AND RECOMMENDATIONS FOR EAST COAST INTERMEDIATE AND SMALL RESEARCH SHIPS. Don Heinrichs, NSF/OCFS, had written the UNOLS Chair noting that, for the past several years, the UNOLS fleet had included -- and NSF, together with ONR, had supported on the east coast -- four intermediate ships (Class III), four small ships (Class IV) and two smaller ships. In 1988 and 1989, two additional intermediate ships had been provisionally designated into the UNOLS fleet and two small research vessels on the Gulf Coast had been designated. During the period, funded science project ship requirements had not been adequate to fully use all of these ships. Further, projections from NSF/OCE (the principal sponsor) do not indicate significant increase in requirements for these ships. (See Appendix III.) NSF asked the UNOLS Council for analysis and recommendations addressing:

- Required members of ships and science capability to meet coastal oceanographic research on the U.S. east coast. Specific recommendations for work within the Chesapeake and Delaware Bays should be included.
- Number of intermediate ships, science and berthing capability, and organizational arrangements to meet science requirements in the western North Atlantic and adjacent regions. Specific attention to the relation of the intermediate ships to both the large and small ships that also operate in the region should be included.
- Actions required, if any, to obtain an appropriate balance between ship capabilities, geographic distribution, requirements of anticipated science programs and operational requirements.

Don Heinrichs summarized concerns for the Council by noting that an NSF analysis of science programs and ship requirements for the Atlantic-based intermediate and small ships in UNOLS fleet indicates current and continuing poor utilization. The use rate is especially low in 1990. Most increases foreseen for NSF ocean research in 1991 and 1992 are in Global Change, related to large ship requirements; little change is anticipated for intermediate and small ships. Finally, there are two small ships devoted to

work in Delaware and Chesapeake Bays, with chronically less than two ships' requirement. (A table indicating recent and current use of these intermediate and small ships is Appendix IV. This table was not available at the Council meeting.)

Council discussion (which included contribution from Wady Owen, University of Delaware) touched on several points. The Fleet Improvement Committee had concentrated on large ships and had not examined intermediate and smaller classes comprehensively. There is emerging a significant need for coastal zone and estuarine programs, notably along the east coast, and there will be a growing need for ships to support these programs. At the same time, there must be better coordination and cooperation to reach effective regional schedules that efficiently use scarce ship operations funding. A scheme wherein more ships are maintained in the area than are employable, resulting in a series of rolling lay-ups or chronically weak schedules cannot be justified.

The UNOLS Council agreed that they must address the problems of small ship requirements for Chesapeake-Delaware Bays and the central Atlantic coast, and of intermediate ship requirements for those based in the western Atlantic.

It was agreed that FIC would try to provide an analysis of requirements for these two groups of ships based on examination of ship use statistics during the 1980's together with a refinement of their recent **Scientific Requirements for the UNOLS Fleet**. Analysis of science program requirements would specifically address the two groups of east coast UNOLS ships, and would try to quantify emerging requirements from NOAA, EPA, DOE and NSF emphasis on coastal and estuarine research programs.

The Council supported the need for effective regional consortia for cooperative ship scheduling, use and operation, so as to provide more efficient use of federal funds for ship operation. The Council recognized that new coastal/estuarine programs in various federal agencies gave promise of increased ship support for small ships. At the same time, they agreed that if interim funding is needed to preserve UNOLS fleet capabilities for a near-future coastal/estuarine ship requirement, then that funding requirement should be pro-rated among agencies likely to use the ships (and should not be solely an NSF funding obligation).

The Council deferred any recommendations on laying up, retiring or re-assigning any specific ships, pending examination of FIC ship requirement analysis.

Status of OSPREY. The Council had been provided copies of an OSPREY status report (Appendix V). **Donn Gorsline** reported that the **OSPREY** had been re-named the **JOHN VICKERS**. **VICKERS** was in shipyard for 3-4 weeks, for hull work and installations. It was expected that the ship would be available for scientific operations by May, 1990. (They have one science project-shakedown cruise funded for 1990.) The Council noted that if USC applies

for designation as a UNOLS research vessel, the criteria of work accomplished for the federal oceanographic program and inclusion in the NSF/MARAD/ABSTECH inspection program will hold.

Status of the BERNIER. Columbia University regents and NSF had agreed to renaming BERNIER as the MAURICE EWING. The EWING was to complete shipyard conversion in May, with the first science project in June, 1990. The ship is a 239 ft. L.O.A., 2,665T displacement, general-purpose research vessel with multi-channel seismic capability, a multi-beam high resolution bathymetry system and 15,000-mile range at 12 knots. EWING will accommodate more than 30 scientists and technicians.

KNORR and MELVILLE. The KNORR was scheduled to be lifted back into the water in March, 1990; delivery from the yard was to be in June. After further contract work, outfitting and transit to Woods Hole, KNORR was scheduled for its first science operation in August, 1990. (This could easily slip.)

MELVILLE was scheduled to be lifted onto the construction pad in April, 1990 and to be delivered in January, 1991. Asbestos removal had been completed at very dear price. A change order had been accepted to provide an in-hull housing for SEA BEAM transducers. Scripps had purchased transducers. There was, as yet, no funding for SEA BEAM electronics. (KNORR had not been modified for multi-beam installation.)

Status of THOMAS G. THOMPSON (AGOR-23). As noted in Appendix VI, the THOMPSON continued under construction by Halter Marine, Inc. It was expected that the 274 ft. L.O.A., 3,250T displacement ship would be launched in July, 1990, and be available for science operations in July, 1991. After early delays, construction appeared to be progressing satisfactorily. The high-endurance, general-purpose THOMPSON will be equipped with a high-resolution multi-beam bathymetric system by Krupp-Atlas.

FLEET IMPROVEMENT

Because the 1989 draft of the UNOLS Fleet Improvement Plan, together with review comments from supporting federal agencies, were critical to the issues of Fleet Management, the Plan was advanced on the agenda. Comments on the Plan had been received from Eric Hartwig, ONR (Appendix VII).

Steve Ramberg, ONR, summarized the ONR review, noting that, from the agency point of view, it is imperative that the report provide quantitative justification and explicit recommendations for the numbers and types of large and intermediate ships to be needed. An approach to such a justification might be to relate UNOLS science mission requirements to future project/program-specific use. Then by relating the existing fleet and specific recommendations for new acquisitions to the same requirements, both quantifiable justification for the recommendations and a set of priorities can be extracted.

A comparison chart of individual ship capabilities versus established science mission requirements (by class, purpose) would greatly enhance the Plan. The Plan should also include a more thorough analysis of recent ship-use statistics to help establish fleet use patterns and on which to base recommendations for ship acquisitions.

Don Heinrichs said that the Fleet Improvement Plan generally satisfied NSF needs. He said that the Plan would be improved by a highlighted science introduction. Care should be taken that various tables (portraying the existing fleet, recommended fleet and schedules of changes to the fleet) are consistent and appropriately include all ships.

Dr. Heinrichs also noted that, currently, there are four ships in the UNOLS fleet, acquired with NSF funds, but whose titles reside with their operating institution: ATLANTIS II, CALANUS, ISELIN and WARFIELD. (This clarifies a point raised in the ONR review (Appendix VII) of the Fleet Improvement Plan.)

The ONR review had also raised the point of federal funding agency responsibilities for federally-owned ships in the UNOLS fleet relative to agency responsibilities for institution-owned UNOLS ships. (See Appendix VII, paragraph 4.) ONR, although not ruling out funding for ships owned by institutions, recognizes a clear, more direct responsibility to maintain high technical capability, material condition and operational readiness in the agency-owned ships. Part of the concern is that, with additional institution-owned ships entering the UNOLS fleet, agencies see their ship operations funding spread too thinly over too many ships in a UNOLS fleet with capacity beyond science program needs.

Donn Gorsline, Chair, FIC, completed his report on FIC's draft UNOLS Fleet Improvement Plan and on the FIC agenda for 1990.

The Fleet Improvement Committee and UNOLS had been contracted by Al Sutherland, NSF/DPP concerning input to specifications for the research vessel with ice breaking capability (RVIB) being acquired by DPP. Input was provided and two FIC members are on the Oversight Panel for the RVIB (Bob Dinsmore and Tom Royer). FIC will continue to interact with DPP concerning the ship and will monitor development for UNOLS.

During 1990-1991, the FIC will keep UNOLS Scientific Mission Requirements current, will pursue concept or preliminary designs for small and intermediate SWATH ships, will develop a compendium on small research vessels, and will formulate mission requirements for a submersible support ship. They will provide oversight for design and estimates of OCEANUS-class refits and for a concept design of an ice-capable research vessel for the western arctic and will report on present shipboard systems and desirable goals for future systems. The revised UNOLS Fleet Improvement Plan will be published. (As noted earlier in

considerations on **Fleet Management**, details on UNOLS fleet ship use over the past five years would be included in the **Fleet Improvement Plan**.

In discussing the **Fleet Management** issues raised by NSF and ONR together with management criteria implicit in the **Fleet Improvement Plan**, Council members generally agreed that recent ship usage should be critically examined to assess objectively the current match between federal science program requirements for ship use and UNOLS fleet capability and capacity. They agreed that if such an assessment indicated a chronic excess of fleet capacity then federal agencies would not be justified in continuing to support the excess. The Council also agreed on the need for objective, quantifiable justification for the sizes and numbers of ships needed to support science programs into the twenty-first century. The Council also recognized agency concern with the addition of institution-owned ships into the academic fleet, especially if they are excess to program requirements. The Council agreed to examine FIC analysis of recent fleet usage and recommendations for the **UNOLS Fleet Profile** (for the 1990's) before deciding on actions to address those fleet management issues.

GUIDANCE TO UNIVERSITIES ON EXPORT CONTROLS FOR HIGH RESOLUTION BATHYMETRY SYSTEMS. UNOLS had received copies of a draft **Guidance** whose purpose was to advise UNOLS academic institutions of their responsibilities under U.S. export laws and regulations concerning **High Resolution Bathymetry (HRB)** technology. The draft **Guidance** was from ONR, who are responsible for ensuring that their research contract funds are used in accordance with U.S. law. The draft **Guidance** asserted that HRB is on the Munitions List, published by the State Department, and is controlled under International Traffic in Arms Regulations (ITAR). Technology covered would include multi-beam sounding systems (e.g., SEA BEAM, Krupp-Atlas) and side scan systems which might have capability to provide some level of detail on bottom depths and characteristics (e.g., SeaMARC II).

Application on ITAR requires that institutions/ships using HRB equipment apply for temporary export licenses for all periods when such equipment is used outside the United States. (For the UNOLS ships employing such equipment, this would mean on virtually all deployments.) Further, the ITAR places restrictions on foreign nationals aboard the ships and on disclosures concerning the technology.

UNOLS and the UNOLS Council were highly concerned at the prospect of falling under ITAR control and the State Department export licensing process. There was concern over implications that the institutions seeking licenses were in the arms export business. The licensing process could become cumbersome and time consuming for research vessel operators. Restrictions could result to research collaboration and the publication of technical papers. There was contention that the HRB technology cited was not or

should not be on the Munitions List (and so, should not be subject to ITAR). And finally, there was concern that the precedent set by including HRB technology under ITAR could be extended to a broad range of technology commonly employed aboard research vessels. Such an extension could have unknown but potentially very severe consequences.

In an attempt to resolve the issue, George Keller, UNOLS Chair, invited representatives from the UNOLS institutions and from the various federal agencies involved to attend the Council meeting to provide information on the issue. In addition to Council members, Alexander Shor, University of Hawaii; George Shor, Scripps; Tom Cocke, Department of State; Pat Dennis, JOI/Office of the Oceanographer; Don Heinrichs, NSF/OCFS and Steve Ramberg and Keith Kaulum, ONR participated in the discussion.

The UNOLS Council and institution representatives re-iterated their concerns that the licensing procedure under ITAR would be extremely onerous to institutions affected along with their contentions that the HRB technology in question was not or should not be on the Munitions List and under ITAR. They noted how ill-suited were the licensing procedures to academic institutions and research vessel operations, and contended that applications of the licensing procedures would not be effective in protecting the technology.

Representatives from DOS, OON and ONR noted that the issue concerning ITAR control of high resolution bathymetry systems had been raised by the Department of Defense more than a year earlier. It had been established that the technology was on the Munitions List and that UNOLS research vessels were not exempt from the licensing procedures. They noted that the process to be applied by the licensing agency (Department of State's Office of Munitions Control) required only the submission of a single page form to obtain a license for a three-year period. The Office of Munitions Control stands ready to expedite licenses, providing response in 2-4 weeks. Department of State and Office of the Oceanographer representatives suggested that the licensing process should not be burdensome, and recommended that institutions employing high resolution bathymetry systems apply for licenses without delay (in advance of receipt of the final Guidance to Universities on Export Controls for High Resolution Bathymetry Systems).

The Council, with UNOLS institution and federal agency representatives, discussed the issue at length. The Council agreed that UNOLS should seek relief from the licensing provisions of ITAR. The UNOLS Council recommended that the UNOLS Chair write to federal authorities stating UNOLS concerns with inclusion of high resolution bathymetry systems under munitions control regulations and seeking exemption or other relief from licensing requirements.

In consultations after the meeting, it was determined that the letter should go to the Assistant Secretary for Politico-Military Affairs, U.S. Department of State, parent organization for the Office of Munitions Control. The letter is Appendix VIII.

STATUS OF AGOR-24. For the past several months, the priority of AGOR-24 within the Navy's shipbuilding budget process had been under scrutiny. During the same period, UNOLS had been working to hold support for AGOR-24, the second of two Navy-planned research vessels to support academic oceanography. (See Appendix IX for correspondence.) Late in 1989, informal communication had it that AGOR-24 had slipped by several years in the Navy's long-range budget planning process. In an effort to get a factual status report, the UNOLS Chair had asked the Office of the Oceanographer and the Office of Naval Research to provide representatives to brief the Council. **Pat Dennis, representing the Office of the Oceanographer, led the briefing while Steve Ramberg and Keith Kaulum, provided the ONR perspective and Don Heinrichs represented NSF.**

AGOR-24 was, in early February, 1990, still in Navy budget planning for FY-1992. The Office of the Oceanographer, however, expected changes such that neither AGOR-24 nor the Oceanographer's next ship would remain in the FY-92 budgets. Priorities in the Office of the Oceanographer were:

1. TAGS, ice-capable research vessel (for the Navy oceanographic fleet),
2. SWATH research vessel (for the Navy fleet),
3. AGOR-24 (for the academic fleet).

Those priorities would result in an AGOR-24 start in FY-1995. Pat Dennis emphasized that Navy shipbuilding budget planning was uncertain for a variety of factors but that reductions would likely defer AGOR-24.

ONR representatives noted that UNOLS support for the second research vessel had not provided sufficient objective, quantitative justification for new, large research vessels. (See earlier discussions on **Fleet Management and UNOLS Fleet Improvement Plan.**)

Don Heinrichs reported that NSF continued to support the need for AGOR-24 and that Ocean Science Division long-range plans are predicated on a second new Navy research vessel as integral to UNOLS fleet improvement in the 1990s.

The Council agreed that AGOR-24 was vital to UNOLS fleet improvement for the 1990s and urged continuing aggressive support.

METEOROLOGICAL MEASUREMENTS FROM UNOLS SHIPS. At the request of NSF, other funding agencies and UNOLS, the Fleet Improvement Committee had developed and submitted to the Council a study, **Meteorological Measurements from UNOLS Ships.** The study defines global change requirements for meteorological measurements at sea, specifies systems for sensors, data logging and real time reporting and estimates costs for outfitting individual ships and the fleet. Don Heinrichs had asked that the Council evaluate the study and recommend further action. (The study, **Meteorological Measurements from UNOLS Research Ships, September 5, 1989** was earlier distributed as Appendix III in Minutes, UNOLS Council Meeting of September 13, 1989.)

Don Heinrichs briefed the Council on the NSF position. Requirements arising from the Global Change program have raised the importance of meteorological measurements at sea. These measurements have become extremely valuable for studies of air-sea coupling, as input for weather forecasting, for atmospheric modeling and for remote sensor validation. To satisfy these requirements, data quality must be improved to meet rigid specifications and effective real time reporting must be achieved. Blue water ships in the UNOLS fleet are especially suitable platforms.

Real time reporting of meteorological variables has been identified as a need in WOCE long-term planning. NSF wants to see capability for quality measurements developed and implemented, as appropriate on ships in the NOAA fleet. A technical working group is needed to evaluate proposal(s), recommend tailoring the system to individual ships and the overall fleet (e.g., what ships should have what systems?) and devise systems for calibration and data flow.

The UNOLS Council recognized the need for improved meteorological measurements systems, endorsed the report on meteorological measurements on UNOLS ships and agreed that NSF and other agencies should move to implement a program. Since implementation would involve proposals, grants and working groups involved in specifying systems, reviewing proposals, etc., NSF should retain the lead function. UNOLS stands ready to assist NSF as appropriate.

Captain William Stubblefield, NOAA, had asked for opportunity to brief the Council on a study of NOAA ship requirements for a new generation NOAA fleet. He was leading the study, based in the Office of the Chief Scientist, NOAA.

The Study was being pursued in three phases. In the first, individual ship and fleet requirements would be developed on the basis of NOAA's and other user agencies' marine program requirements. (These program requirements would reflect the full range of NOAA programs -- oceanographic research, charting and mapping, fisheries, pollution monitoring, etc. -- as well as USGS, EPA and other-agency marine programs. The program/ship requirements

would be analagous to UNOLS Science Mission Requirements.) The second phase would be to develop ship concepts for a fleet to meet integrated program requirements. The third phase would be a plan to improve the NOAA fleet so that it could meet program requirements. The existing NOAA fleet would be the initial condition.

Target dates for the study were April 1 to complete Phase 1; June 1 for Phase 2; and August 1 for Phase 3 and the completed study.

The Council applauded the study and approach, and promised UNOLS cooperation, especially through the Fleet Improvement Committee.

MEMBERSHIP IN UNOLS

At their July, 1989 meeting, the UNOLS Council had initiated a review of UNOLS membership under the terms of the Charter as revised. Institution classified as UNOLS Members under the earlier Charter were recommended as UNOLS Members, and classed as Operators. Associate Members under the old Charter were provisionally accepted as Members, pending responses to UNOLS Office queries on their continued interest and participations in oceanographic research programs. **Sixteen of those 37 institutions had responded, all but one suggesting continued UNOLS affiliation.** The Council directed that responses be sought from the other 21 institutions before they continued their review.

Questions had been raised earlier about incorporating UNOLS and establishing a dues structure to support selected non-federal efforts. There was little enthusiasm for these suggestions on the Council.

ALVIN REVIEW COMMITTEE

Feenan Jennings, ARC Chair, reported on the status of ALVIN/ATLANTIS II operations, and ALVIN program planning.

ALVIN/ATLANTIS II had just completed a month-long project on the Mid-Atlantic Ridge. After ATLANTIS II shipyard in Jacksonville, the schedule called for two ALVIN projects in the Gulf of Mexico, transit through the Panama Canal and a full ALVIN operations schedule in the eastern Pacific (off Costa Rica, Galapagos, EPR, Guaymas, Gorda-Juan de Fuca, California basins and Fieberling Seamount). One non-ALVIN project will be conducted in the Sea of Cortez.

The ALVIN Review Committee had held a planning meeting in San Francisco in December, 1989. Twenty-two letters of interest were received for ALVIN-supported work in 1991 or beyond (Appendix X). Five notices for 60 dives were for work in the Atlantic/Gulf of Mexico, sixteen for 210 dives in the eastern Pacific, and one for

18 dives in the western Pacific. Almost two-thirds of all dives would be MG & G related, nearly half would have a biological component, less than one third include geochemical investigations and one project includes physical investigations. The interest in eastern Pacific investigations range from Gorda-Juan de Fuca, along the California coast, Guaymas Basin, the EPR (north and south of the equator), to near Antarctica.

Some ALVIN users at the meeting raised the issue that the ALVIN Review Committee had become too conservative, that scheduling had become, almost exclusively, a rotation among well-studied, logistically-convenient areas in the northeast Pacific and western Atlantic and that some portion of ALVIN time should be reserved for "high-risk" expeditions.

The ALVIN Review Committee considered these assertions/suggestions and agreed on a responsive posture: Time requests for remote deployments/"high risk" expeditions have been and will be reviewed equitably with other requests. Prudent stewardship, however, demands that logistical and operational factors be considered. Projects requiring remote deployments must be sufficiently comprehensive, well organized and of sufficient scope and scale to justify long transits and other costs. The Committee believes that it is up to the user community to generate the preliminary organization and focus to justify expeditions to remote study areas. UNOLS will establish an ALVIN.PLANNING electronic mail bulletin board to help ALVIN users plan and communicate on expeditions and cooperative projects.

SUBMERSIBLE SCIENCE FOR THE 1990's. Bruce Robison, Chair of the special study group, presented his study, **Submersible Science for the 1990's**. The study, based on extensive communication with the community of underwater facility users, depicts a large demand for various kinds of manned and unmanned submersible facilities for oceanographic research. This large and growing demand should be met by big growth in the availability and use of submersible facilities.

Lack of access to submersible facilities is the academic oceanography community's principal problem. ALVIN is the only first class submersible facility and program devoted solely to academic research. ALVIN has been, for many years, oversubscribed; demand has and will remain high, despite limitations in capability (e.g., 4,000 meters depth) and overall program support (e.g., limited to approximately 400 dives each three years).

The study includes four principal recommendations:

1. **Upgrade ALVIN.** Augment technical capability and overall program support/operation to maintain the ALVIN program as the world's best submersible science support facility.

2. **Provide access to depths greater than 4,000 meters for the academic ocean research community.** Begin immediately, through a combination of: effective use of the 60 days available on Navy's SEA CLIFF, arrangements for U.S. use of the French NAUTILE, Soviet MIR I and MIR II, and Japanese SHINKAI 6000, and begin immediately on a 6,000-10,000 meter-capable submersible.
3. **Take NURP facilities under the UNOLS umbrella, so that UNOLS mechanisms can help to assure the availability of NURP-sponsored facilities (mostly for depths of 2,000 meters and less) to a broad range of academic ocean researchers.**
4. **Establish a permanent UNOLS Submersible Science Committee with functions analogous to the ALVIN Review Committee's, for the full range of submersible facilities to support ocean research.**

The Council Chair and members discussed the study, especially the four recommendations. They agreed in principal with all of the recommendations and with UNOLS roles, explicit and implicit. The Council was cautious, however, on how some of the UNOLS roles might be implemented. A number of editorial suggestions were made concerning various parts of the draft study.

The Council commended Dr. Robison and the working committee on the draft Submersible Science for the 1990's and urged that the final report be completed without delay.

RESEARCH VESSEL OPERATOR'S COMMITTEE

Jim Williams, RVOC Chair, reported on RVOC's October, 1989 meeting and on other ship operations-related issues.

SAFETY. Safety was the central issue of the RVOC meeting. A draft UNOLS RVOC Safety Training Manual was reviewed at the meeting. The manual, in preparation under a contract through the UNOLS Office and monitored by the RVOC Safety Committee, will be about 300 pages and will be comprehensive on safety aboard research vessels. RVOC members agreed that an additional chapter (Chapter 1) should be written and published as a separate, to provide an overview for science parties (ship users). A separate training addendum should also be prepared for use as a training and orientation aid for all crew members. The Safety Committee expects that the entire **Safety Training Manual** will be completed by early 1990 and should be published during 1990.

DRUG TESTING. Coast Guard regulations on drug testing and Customs-Coast Guard Zero Tolerance Programs for marine operations were also central issues. Excellent presentations were made by Customs and Coast Guard representatives from Washington, D.C. headquarters and from Miami. Exchanges with these officials were valuable. The cooperative attitude evinced by both groups

notwithstanding, RVOC does not recommend entering negotiations with Customs to reach a special carrier agreement concerning the Zero Tolerance program. These agreements generally do little beyond establishing criteria for cooperation; since UNOLS operators are already rigorous in their efforts to comply with Zero Tolerance and Customs-Coast Guard are aware of these efforts, a formal agreement would be of little benefit.

As had been reported, two vessels in the UNOLS fleet had been placed under constructive seizure by Customs after earlier entry inspections. (One remained in that status at the end of 1989.) It appeared that in future similar incidents, research vessels in the UNOLS would be treated as are fishing vessels, and be under summons rather than seizure.

Scripps, Woods Hole and some other UNOLS institutions had implemented aspects of the Coast Guard-compliant drug testing program for crews of vessels. There have been program start-up problems, as could be expected, and the programs are expensive. To date, there have been very few positive test results throughout the fleet. (Some applicants withdraw rather than submit to testing, a healthy effect.) Speaking for Scripps, Jim Williams characterized the program as a healthy experience, viewed as a good program both by management and crew.

ALCOHOL POLICY. RVOC had resolved at their meeting to ask the UNOLS Council to adopt a mechanism whereby abuse of shipboard alcohol policies by members of scientific parties from institutions other than the ship operator, could be reported to appropriate authority. The motive for the RVOC resolution was that with the advent of new Coast Guard regulations on alcohol established in 1988, it had become imperative that UNOLS institutions severely restrict alcohol and its use aboard research vessels. Operators had found that they could enforce such policies with respect to their crews and science personnel from their own institutions, but had no leverage over science personnel from other institutions.

The RVOC Chair and the UNOLS Office had surveyed UNOLS operators and had found that all operators had policies restricting alcohol and its use which were in conformance with Coast Guard regulations.

The UNOLS Council re-iterated their position of July, 1989: Each UNOLS operator should establish its own written policy on the possession and use of alcohol aboard ships. These rules should be in accordance with Coast Guard rules in force; and, in reference to Coast Guard regulations, should include explicit notification and acknowledgement in writing for both embarking crew and scientists. The Council further emphasized that these institution rules on alcohol aboard ships should and must be strictly enforced.

The Council resolved that the UNOLS Chair should inform the UNOLS community of this policy by letter (Appendix XI).

REMARKS FROM FEDERAL FUNDING AGENCIES

Keith Kaulum reported that ONR's ocean sciences had a 1% budget cut for FY-1990. Little information had been made available on ONR's budget for FY-1991.

Austin Yeager reported that NOAA's FY-1990 budget was level for ship operations. (This means that their several ships will remain out of operation.) Their FY-1991 budget for ship operations is increased by \$12 million over the President's budget for 1989 and 1990, and \$6 million over the Congressional appropriation for each of those years.

Overall, NOAA's budget increases by \$80 million in 1991. Included are about \$7 million for new extra-mural research (by universities) and about 20% for ships. There would be increased probability of NOAA use of ships (including UNOLS ships) outside their own fleet. Details of such ship use had not been developed, but could include global climate and coastal research programs if the NOAA fleet could not accommodate field operations there.

Part of the NOAA increase would be funded by an OMB-directed harbor maintenance/cargo fee. Again, details had not been developed.

Don Heinrichs presented a series of slides on NSF's FY-1991 Congressional Budget Request, and on Ocean Science Division budgets for 1987 through 1991. Additional detail was provided for Ocean Sciences, 1989 through 1991 (requested) and on OCE long-range plans. (See Appendix XII.)

NSF's budget request for 1991 is \$2.383 billion, up 14.6% from 1990. The Geosciences Directorate would receive \$383.7 million (not including the Antarctic Program), an increase of 18.1%.

Ocean Sciences would receive \$171.0 million, an increase of 16% over 1990. Most of the 1991 increment would go toward Global Geosciences. Within Ocean Sciences, Ocean Sciences Research Support achieves the largest gain, \$15.7 million (21.5%). Oceanographic Centers and Facilities is to increase by \$5 million (11.7%) and the Ocean Drilling program increases by \$3 million (9.4%).

Detail within Oceanographic Facilities show increases in Operations from \$29.3 million in 1989 to \$29.1 million in 1990 to \$32.7 million in 1991. A combined Ship Operations, ALVIN, Aircraft, etc., was at \$25.9 million in 1989, \$25.5 million in 1990 and would rise to \$28.5 million in 1991. The combined

Infrastructure and Technology, Centers, Reserves were \$14.3 million in 1989, \$13.4 million in 1990 and \$14.7 million in 1991.

Ocean Sciences Division Long-Range Plans (1989-95) project increases from \$145.9 million in 1989 to about \$310 million in 1995. OCE Core programs increase from about \$125 million (1989) to about \$210 million (1995). Core programs decrease slightly 1989-1990. Global Science programs are projected from about \$19 million (1989) to about \$110 million (1995). During the same interval, Global Science rises from 16% to 34% of the OCE total.

The table on the next page is taken from Appendix XII for FY-1989 through 1991, combined with information of FY-1988 from NSF hand-outs in February, 1989. It illustrates the real decrease in funds for Ship Operations plus ALVIN operations from 1988 to 1990.

OCEAN SCIENCES DIVISION DETAIL

	Actual FY 1988	Actual FY 1989	Estimates FY 1990	Requested FY 1991
OCEAN SCIENCES DIVISION	\$135.3 M	\$145.9 M	\$147.4 M	\$171.0 M
Ocean Sciences Research	67.2 M	70.9 M	72.9 M	88.6 M
Ocean Drilling Program	30.9 M	31.4 M	32.0 M	35.0 M
Oceanographic Facilities	37.2 M	43.6 M	42.5 M	47.4 M

OCEANOGRAPHIC FACILITIES DETAIL

OPERATIONS	24.9 M*	24.6 M*	25.5 M*	28.5 M*
Ship Operations	2.0 M	1.3 M		
ALVIN, Aircraft, etc.	3.5 M	3.4 M	3.6 M	4.2 M
Marine Techs	30.4 M	29.3 M	29.1 M	32.7 M
INFRASTRUCTURE				
Science instruments	1.8 M	1.6 M	3.8 M	4.0 M
Shipboard Equipment	1.0 M	0.9 M		
Ships, Upgrades	2.8 M	2.8 M	2.8 M	2.6 M
UNOLS, Misc.	1.2 M	0.7 M	0.4 M	0.5 M
	6.8 M	6.0 M	7.0 M	7.1 M
TECHNOLOGY, CENTERS, RESERVES				
Technology Development	--	4.5 M	3.2 M	4.2 M
AMS Center	--	1.8 M	1.8 M	1.8 M
Cross Directorate/Reserves**	?	2.0 M	1.4 M	1.6 M
		8.3 M	6.4 M	7.6 M

* Plus \$1.5 M from ODP (1988 and 1989), \$1.3 M (1990), \$1.5 M (1991)

** Cross-directorate/Reserves previously distributed

NSF/OCFS will rewrite blue books (for preparation of proposals) for Ship Operations and for Ocean Facilities during 1990.

It was also noted that JAMSTAC was building an ocean drilling ship of 30,000 tons, capable of drilling in 4,500 meters depth.

Tom Cocke, Department of State, provided a 1989 Research Clearance Summary (Appendix XIII). Of 250 clearance requests to 50 foreign governments, ten were denied or not approved. Research was cancelled or otherwise disrupted in 22 other cases.

UNOLS BUSINESS

George Keller reviewed the status of the UNOLS solicitation of a new host institution for the UNOLS Office. Four proposals were to be evaluated: from Duke/University of North Carolina, Lamont-Doherty Geological Observatory, University of Rhode Island and Texas A&M University. A fifth proposal was received and then withdrawn. The Evaluation Committee was to review proposals and interview candidates for Executive Secretary and make their recommendation to the UNOLS Council and UNOLS during March.

The Council, in accordance with the Charter, selected, from among Elected Council members, two members for the UNOLS Executive Committee. Gary Brass, University of Miami and Worth Nowlin, TAMU were selected. They, together with George Keller and Tom Johnson, UNOLS Chair and Vice Chair are the Executive Committee for 1990.

Bob Dinsmore, former Council member provided a summary of UNOLS Cruise Assessments (Appendix XIV). Reports were received for 220 cruises of about 400 science cruises scheduled. Only three cruises were unsuccessful, but 35 were only partly successful. The Council directed that the Executive Secretary and UNOLS Office would summarize for the Council 1990 Cruise Assessments. A new form would be designed, also.

The Council set the calendar for UNOLS meetings during 1990. (The dates below were adjusted in the weeks following the meeting:

MEETING	DATES	PLACE
UNOLS Council	February 8-9	Moss Landing & Monterey, CA
" "	July 12-13	Grand Haven, MI
" "	September 20	Washington, DC
UNOLS Annual Mtg	September 21	Washington, DC
Ship Scheduling	June 25	Washington, DC
" "	September 19	Washington, DC
ALVIN Review Comm.	June 27-29	Woods Hole, MA
Fleet Improvement Comm.	March 29-30	San Antonio, TX
" " "	July 19-20	Napa, CA
" " "	October 4-5	Woods Hole, MA
RVOC	October 9-11	New Orleans, LA

There being no further business, the meeting was adjourned at 1:45 p.m., February 9.

AGENDA
UNOLS Council Meeting
February 8, 9, 1990, 8:30 a.m.
Moss Landing & Monterey, California

Note: This Council meeting is being hosted jointly by the Moss Landing Marine Laboratories and the Monterey Bay Aquarium Research Institute. The February 8 meeting will be held at the Conference Room at MBARI's Moss Landing Facility. The February 9 meeting will be held in the Ocean View Conference Room, Monterey Bay Aquarium, Monterey.

UNOLS ISSUES

1. 1990 Ship Scheduling Process. Both NSF and ONR are concerned with the way ship scheduling progressed for 1990 (see attachment 1). Agency representatives will provide additional detail, suggested changes for Council and Ship Scheduling Committee consideration. 1A. Planning/ Scheduling for CG Icebreakers. CG has asked the community for planning input for ocean research aspects of icebreaker schedules (attachment 1A). The need for UNOLS action and, if needed, what form or process is not clear. Council discussion.
2. Fleet Management. Analysis and Recommendations for intermediate and small research ships. NSF has raised the issue (as have others) of the match between program requirements and intermediate to small R/Vs in the western north Atlantic/east coast/Caribbean (attachment 2). The 1989 Fleet Improvement Plan (distributed directly to Council members by FIC) is also pertinent. Council consideration and response to NSF recommendations. The Council has before it related issues concerning criteria for designating (additional) ships into the UNOLS fleet, operating efficiency and economy, and maintaining UNOLS fleet capability. Discussion, course of action, conclusions. 2A. Status of OSPREY. Attachment 2A for Council's information. 2B. Status of THOMAS G. THOMPSON. Attachment for Council's information. 2C. Information on BERNIER and on KNORR/MELVILLE, as available.
3. AGOR-24. Recent information had it that AGOR-24 had been dropped from the Navy's FY92 budget (see correspondence, including earlier UNOLS recommendations, attachment 3). Status reports from NSF, OON, ONR, and Council - agency rep discussion. Further Council action as appropriate.
4. Meteorological Measurements from UNOLS Ships. The Council has before it an FIC report and recommendations on meteorological instrumentation and data transmission (attachment 4). NSF is prepared to take the lead to obtain joint agency support to upgrade meteorological packages on UNOLS ships. A role for UNOLS is suggested. Council consideration/action.
5. Guidance to Universities on Export Controls for High Resolution Bathymetry Systems. ONR is developing draft guidance concerning swath mapping and SeaMARC systems (attachment 5). It is understood that the issue was raised in the Office of the Oceanographer. There are several points of contention: Is any or all high resolution bathymetry equipment in fact on the Munitions list? If so, should it be? How does equipment get on the list? Note that to be included under this guidance would be most onerous to any university-operated R/V. Representatives from DOS as well as from ONR and OON will be at the meeting and may be able to provide further information. Council discussion/action.
6. Membership in UNOLS. At the Council's direction, letters were written to the 37 UNOLS Members who are not operators to see if they wanted to continue their UNOLS affiliation and, if so, requesting that they characterize their qualifications. To date, about 40% have responded, with only one suggesting they withdraw (see attachment 6). Council consideration/action.

COMMITTEE REPORTS

7. ALVIN Review Committee. Feenan Jennings, Chair, will report on the December, 1989 ALVIN Planning Meeting, an ALVIN planning note submitted for publication in EOS and the ALVIN Flyer for work in 1991 (see attachment 7). Bruce Robison will summarize the report Submersible Science Study for the 1990s (distributed to Council earlier).
8. RVOC. Jim Williams, Chair, will report on the October, 1989 RVOC meeting in Miami. RVOC is requesting that the Council develop and endorse a protocol for reporting flagrant abuse of an institution's liquor policies. A pole of UNOLS Operator liquor policies is attachment 8. Jim will also brief the Council on the Coast Guard and Customs presentations on Zero Tolerance, Drug Testing and overall drug policy. Status of institution efforts to implement CG rules on drug policy/testing.
9. Fleet Improvement Committee. Donn Gorsline, Chair, will present the 1989 UNOLS Fleet Improvement Plan (distributed earlier to Council). FIC agenda for 1990-1991, other issues as pertinent (attachment 9).
10. Ship Scheduling Committee. Mike Rawson, Chair, will report on the process for 1990 schedules. (The Report for the September 14, 1989 Ship Scheduling meeting was distributed earlier.) The scheduling cycle for 1991 operations is just now beginning (see Issue 1 above concerning changes to procedures). Set calendar for scheduling Meetings during 1990 (mid-summer, fall, both in Washington?).

REMARKS FROM FEDERAL FUNDING AGENCIES

Information from Federal Funding Agencies (ONR, MMS, NOAA and NSF, with OON and DOS) on the status of FY 1990 funds and FY 1991 budget requests. (Representatives are anticipated from each of the above agencies.)

UNOLS BUSINESS

11. Proposals to Host UNOLS Office/Executive Secretary. Status report from George Keller, Bill Barbee. Appointment of Evaluation Committee.
12. UNOLS Executive Committee. The Executive Committee is UNOLS Chair (George Keller), Vice Chair (Tom Johnson), and two members selected by the Council from among their own Members (incumbents Art Maxwell, Bob Knox). Elect/reelect two from the Council.
13. Cruise Assessments. Bob Dinsmore has monitored UNOLS Cruise Assessments for many years. Need a new monitor.
14. UNOLS News. Need an editor from the Council.

15. UNOLS Council Calendar for 1990:

MEETING	DATES	PLACE	STATUS
UNOLS Council	February 8, 9	Moss Landing & Monterey, CA	Held
"	July 12, 13	Grand Haven, MI	Tentative dates
"	Fall	Washington, D.C.	Need to set dates
UNOLS	Fall	Washington, D.C.	Same week as U/C
Ship Scheduling	July	Washington, D.C.	Pick dates
"	Fall	Washington, D.C.	Pick dates
ALVIN Review Committee	June 20-22	Woods Hole, MA	
FIC	March 29, 30	San Antonio, TX	
"	July 9, 10	Napa, CA	
"	Week of Oct. 8-12	Northeastern U.S.	

Set as many dates as possible.

16. There will be a before-dinner social on the evening of February 8, courtesy of John Martin and Dick Barber, our co-hosts. Details at the meeting.
17. Bruce Robison will provide a demonstration of MBARI operations, including an ROV on Monterey Canyon wall with telemetry to MBARI. Scheduled for February 9, p.m.

U.S. Department
of Transportation

United States
Coast Guard



Commandant
United States Coast Guard

APPENDIX II
Washington, D.C. 20593-0001
Staff Symbol: G-NIO
Phone: (202)267-1450

File

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RECEIVED

OCT 9 1989

UNOLS OFFICE

Dr. Worth Nowlin
Texas A & M University
College Station, TX 77843

Dear Dr. Nowlin:

The U.S. polar icebreaker fleet now consists of two vessels. Over the next four years, each icebreaker will be out of service at various times for science facility upgrades, mid-life renewal and routine maintenance. Given this, there will be essentially only one ship in service at any given time. Operation of a single-ship fleet to meet missions in both polar regions will require long-range planning to ensure maximum efficiency of utilization. To accomplish this planning, the Coast Guard needs to ascertain all possible use requirements, no matter how tentative, for the years 1990 through 1994.

During the next five years, icebreaker time will be available for research projects, both in conjunction with regular logistics missions and as dedicated missions. The periods and amount of time available are indefinite, but there will probably be 30-60 ship-days available per year. The only way to achieve maximum utilization of that time is through close coordination to assure that we take full advantage of schedule opportunities. Short-range planning based on annual budgets has proven inefficient and ineffective, and results in under-utilization of the ships and missed opportunities for your valuable projects.

I intend to develop a five-year plan for icebreaker usage based on your input. At present, I have no alternative but to develop that plan within the framework of the existing reimbursement scheme. I would appreciate your comments in that regard. I ask your assistance in developing a system that will assure that I can efficiently operate these valuable resources. For example, the practice of the past two years sending an

*Copies to : UNOLS.FIC, Kelly, West, Hainds,
Karlum, Hartwig, Barber*

*All: Your suggestions and comments re. Martin's letter would
be appreciated. Worth*

icebreaker to the Antarctic for the sole purpose of McMurdo resupply operations is inefficient. In the long term, I cannot justify maintaining such an expensive resource, only to have it be so under-utilized and dedicated to a single task.

Your input and opinions in this matter would be greatly appreciated

Sincerely,

A handwritten signature in cursive script, appearing to read "G. F. Martin".

G. F. Martin
Captain, U.S. Coast Guard
Chief, Ice Operations Division
By direction of the Commandant

NATIONAL SCIENCE FOUNDATION
1800 G STREET, N.W.
WASHINGTON, D.C. 20550

1A

DIVISION OF OCEAN SCIENCES
OCEANOGRAPHIC CENTERS AND FACILITIES SECTION

October 13, 1989

Dr. Worth D. Nowlin
Department of Oceanography
Texas A&M University
College Station, TX 77843

RECEIVED
OCT 25 1989
UNOLS OFFICE

Dear Worth:

I received your note regarding suggestions and comments on the Coast Guard icebreaker letter. An identical letter has been sent to NSF as a FOFCC member. We, Ocean Sciences and Polar Programs, are in the process of developing a coordinated response. It will include an estimate of potential use by NSF grantees under yet-to-be-submitted unsolicited proposals and an analysis of the McMurdo resupply requirements. Also we are prepared to work with Captain Martin to develop a system to better communicate and plan icebreaker operations.

It is not clear to me that there are any specific issues for FIC to address. UNOLS through the ship scheduling committee might be able to provide assistance in developing a scheduling system or information link to help Coast Guard develop their plans. One problem that exists at present for outside (i.e. non-USCG) users is lack of timely information on planned operations and periods and amounts of time available for scientific use. The need for sufficient lead-time for the academic community to develop research support for projects must be addressed if full advantage is to be taken of schedule opportunities. UNOLS can speak for the research scientists on this point.

Sincerely yours,



Donald F. Heinrichs
Head

cc: G. Keller, UNOLS
W. Barbee, UNOLS Office
E. Dieter, OFS

1A

Posted: Wed, Oct 11, 1989 9:55 AM PDT
From: W.NOWLIN
To: W.Barbee, G.Keller, UNOLS.FIC
Subj: Comments on this draft, please

Msg: NGIJ-4065-3258

Dear Captain Martin
U.S. Coast Guard

Thank you for your letter stating your intent to develop a five-year plan for usage of the two U.S. Coast Guard icebreakers in support of science and logistics. I can well appreciate both your need for an operating plan which combines scientific utilization with resupply of Antarctic bases.

I would suppose the time is almost too late to obtain new commitments from other Federal sponsors for science or ship support for 1990. So, the effective planning likely could be for the years 1991 through 1995.

It is not immediately clear to me what role the UNOLS Fleet Improvement Committee can or should play in this planning. However, it seems to me that UNOLS might be able to assist in a community-wide exercise to garner expressions of interest for 30-60 days/year icebreaker time through its ship scheduling mechanism.

Dr. George Keller, as UNOLS president, is probably the correct person to contact if that approach seems useful. I have forwarded to him a copy of your letter and this letter to him.

Sincerely,
Worth D. Nowlin, Jr.

xc: G. Keller

Action?

Dr. George H. Keller
Chairman, UNOLS
Research Office
Oregon State University
Cavallis, OR 97331

Dec 26 1989

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JAN 2 1990

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UNOLS OFFICE

APPENDIX III

Dear George:

I would like the UNOLS council to include the following items on the agenda for the February meeting.

Analysis and Recommendations for East Coast intermediate and small research ships.

At present, the OCEANUS, ENDEAVOR, GYRE, ISELIN, CAPE HATTERAS, CAPE HENLOPEN, WARFIELD, and WEATHERBIRD II are operating in the western North Atlantic and adjoining bays and gulfs. In addition, the SEWARD JOHNSON and EDWIN LINK are provisionally designated as UNOLS vessels pending satisfactory inspections. Several smaller ships e.g. CALANUS, BLUE FIN, etc are also available for local operations.

For the last several years, funded research projects that require the intermediate and small ships in this region have been insufficient in number to fully utilize existing capabilities. Short operating schedules, partial lay-ups, and lay-ups have consistently impacted this group of ships.

Although we expect significant budget increases for the NSF Global Geosciences programs over the next few years, support for the disciplinary base programs is projected for modest increases. The focus of the various global science initiatives, e.g. TOGA, WOCE, JGOFS, and RIDGE will initially be in the Pacific and Indian Oceans and mainly require the large research vessels.

We request UNOLS expand on the more general analysis in the draft UNOLS Fleet Improvement Plan and provide to the federal agencies recommendations on:

- o Required numbers of ships and science capability to meet coastal oceanographic research on the U.S. east coast. Specific recommendations for work within the Chesapeake and Delaware bays should be included.
- o Number of intermediate ships, science and berthing capability, and organizational arrangements to meet science requirements in the western North Atlantic and adjacent regions. Specific attention to the relation of the intermediate ships to both the large and small ships that also operate in the region should be included.
- o Actions required, if any, to obtain an appropriate balance between ship capabilities, geographic distribution, requirements of anticipated science programs and operational requirements.

/s/ Don Heinrichs

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

Research, Graduate Studies,
and International Programs
Oregon State University
Administrative Services A312
Corvallis, OR 97331-2140
(503) 737-3467

December 28, 1989

RECEIVED

JAN 02 1990

UNOLS OFFICE

TO: Donn Gorsline
Worth Nowlin

FROM: George H. Keller *George*
Chairman

SUBJECT: Request from Don Heinrichs

I have enclosed a copy of a recent letter from Don Heinrichs that covers a number of points he would like UNOLS to consider. I believe that Worth is not available for the UNOLS Council meeting on February 8 and 9, so I would hope that Donn would come and be prepared to comment on the role of the FIC in addressing the three bullets on the second page. There may be a need for a special panel or sub-panel of the FIC to address the small vessel issue that is creating problems on the East coast.

In respect to the AGOR-24, according to Jim Baker who met with the Oceanographer last week, the AGOR-24 has not been dropped in favor of an ice capable ship, but there is a very good chance of that happening if it comes down to an either-or situation. The Admiral has said that if the AGOR-24 goes out of the FY92 budget, the requirements will be retained so the process does not go back to square one.

Enclosure

cc: W. Barbee
Tom Johnson
Art Maxwell

RECENT USE OF INTERMEDIATE AND SMALL UNOLS SHIPS, EAST COAST

	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>Est*</u> <u>1990</u>	<u>Ave.</u>
ENDEAVOR	236	209	223	259	197	225
GYRE	311	132	133	163	185	185
ISELIN	177	179	217	222	277	214
OCEANUS	217	234	230	252	187	224
CLASS TOTAL	941	754	803	896	846	
CLASS AVE.	235	188	201	224	212	212
S. JOHNSON	N/A	N/A	N/A	N/A	177	177
E. LINK	N/A	N/A	N/A	N/A	140	140
=====						
CAPE HATTERAS	170	139	198	190	171	174
CAPE HENLOPEN	150	113	57	121	65	101
WARFIELD	125	67	110	112	104	104
WEATHERBIRD**	N/A	N/A	250	237	242	243
CLASS TOTAL	445	319	615	660	582	
CLASS AVE.	148	106	154	165	145	145

* 1990 estimate as of April 1, 1990

** WEATHERBIRD has yet to be considered for designation as UNOLS vessel.
Has continuing NSF support, however.

APPENDIX V
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UNOLS OFFICE



UNIVERSITY OF SOUTHERN CALIFORNIA
Hancock Institute for Marine Studies
UNIVERSITY PARK MC 0373 • LOS ANGELES, CALIFORNIA 90089-0373
(213) 743-6840

November 27, 1989

M. Grant Gross, Ph.D.
Director
Division of Ocean Sciences
National Science Foundation
1800 G St. N.W.
Washington, D.C. 20550

Dear Grant:

While I have provided periodic updates on the status of the R/V Osprey through discussions with members of the OSF staff, UNOLS members and our proposals, I thought it might be useful to give you a more comprehensive view of her schedule. I had intended to be back there to do it in person but couldn't get away earlier. I will be in Washington in late November and will try to arrange to meet with you at that time.

Because of a series of problems this past spring and summer with the construction and operation of a full scale mock up of a submarine designed for the movie "Hunt for Red October" by Rados International, our naval architects, completion of the engineering drawings for Osprey slipped by several months. (The problems were not due to design flaws, but marginal construction procedures). This resulted in similar delays in receiving final ABS/Coast Guard plan approvals and thus shipyard scheduling, also. (The final drawings were due in April, but not received until September.)

We might have been able to force the architects to stick to their schedule but because they had been so accommodating in modifying the plans to conform to the evolving ideas of our regional ship committee without extra cost, and since our emerging schedule for CY90 appeared flexible I opted to accept the delay.

In part this worked in our favor because we have been able to accomplish a significant amount of additional plumbing, electrical and equipment installation work in house, thus effectively reducing the shipyard work list and attendant overhead costs.

We did this by creating a mini shipyard at our marine support facility, sub-contracting out projects as plans were received to ABS qualified electrical and mechanical contractors. By getting competitive bids for all materials and supplies as well as for the trained labor force to do the work we achieved very large savings over contracting with a shipyard to accomplish the same work.

The conversion schedule is attached and looks like this:

- | | |
|--|---------------------|
| 1. Work Package Sent to Shipyards | September 1989 |
| 2. Shipyard Bids Due | November 1989 |
| 3. Negotiate Shipyard Award
and Enter yard | November 1989 |
| 4. Shipyard Complete Work | February 1990 |
| 5. Dock and Sea Trials of Major
Ship systems | February/March 1990 |
| 6. Post Shipyard Completion of
Joiner Work and Scientific
Equipment Installation | April 1990 |
| 7. Ready for Scientific Cruises | April/May 1990 |

The major work to be accomplished in the yard consists of slow speed maneuvering system installation, sandblasting and painting the hull, pulling rudder and tailshaft for inspection, installation of transducer sea chests and installation of ballasting system plumbing.

The present status of the conversion is that all new structural bulkheads have been installed along with extension of the deck house to accommodate a wet and dry laboratory on the main deck and an additional scientist's cabin on the 01 deck. The 750 kw diesel generator for the slow speed propulsion system has been installed as has the new electrical switchboard and control station in the upper flats of the engine room.

The two forward fish wells have been subdivided horizontally with sewage system, refrigeration and air-conditioning plants, watermakers, HVAC system and oily water separators installed in the upper portions and the lower portions converted to fuel tanks.

The wet deck conversion is progressing rapidly with basic compartmentation accomplished and doors and port lights being installed. Wiring, plumbing and ventilation ducts are also being installed. When completed, the fixtures will be installed and finally the joiner work will complete the scientist's quarters, sick bay, dive locker, lab and conference room.

On the main deck, in addition to the deckhouse extension, the cranes and A-frame have been installed. The aluminum mast has been fabricated and will be installed in sections over the next 3 months. It takes quite a bit of time because the mast, 01 deck cabin extension 02 deck emergency generator room and main engine exhaust are all integrated into the structure.

While I had hoped to complete sea trials by the end of this year, we just couldn't make it because of the delay in getting plans and plan approval. With those in hand, however, I can foresee no other major difficulty in getting the ship ready for sea next spring, and I'm as convinced now as I was several years ago that when completed she will be a very capable and highly cost effective addition to the academic fleet.

Sincerely,


Donald L. Keach
Director

cc: Don Heinrichs

Bill Barbee ✓

1989

1990

AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
--------	-----------	---------	----------	----------	---------	----------	-------	-------	-----	------

ABS
Approved Plans

Shipyard
Bid Process

Shipyard - Installation of Omithruster, Xducers, Ballasting, F.O.xfer System, Sandblast & Paint Hull, Pull Rudder & Tail Shaft

Electrical Installation

Sea Trials for Check out of Major Systems

Plumbing/Piping

Mast Construction and Installation

Modification #1 and #2 Wells with Installation of Sanitary System, Oilly Water Separator, HVAC, Refrigeration, Water Makers

Joiner Work & Installation of Fixtures

Scientific Operations

Hydraulics - A Frame, Anchor Windlass Winch

Communications and Navigation Equipment

~~25~~. RECEIVED

DEC 22 1989

UNOLS OFFICE

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

APPENDIX VI

*School of Oceanography, WB-10
Marine Superintendent*

December 21, 1989

*In reply, refer to
File:*

Distribution to Crew

Dear Crewmember:

Construction of the new R/V THOMAS G. THOMPSON is now at the half way mark. Sixteen modules (out of a total of 24) have been set on the ways and joined together, and four other modules are under construction. As you can see from the enclosed pictures, the ship is really beginning to take shape.

A total of 21 change orders for scientific enhancements of the ship have been issued to the contractor to date, and another half dozen are still under review by the Navy. I expect the R/V THOMPSON to be well equipped for a wide variety of scientific missions, and capable of operating in most of the world's oceans.

Launching is tentatively scheduled for July 9, 1990, and I am estimating delivery will be made on July 1, 1991. Based on this timetable, I anticipate that prior permanent employees who elected to go on the layoff list when we deactivated the old THOMPSON will be contacted between October and November of 1990 to determine their interest, qualifications and availability for employment aboard the ship. Hiring will be done in stages, with the Master, Chief Engineer and two others starting to work about March 1991. The remaining crew will be hired about one month prior to actual delivery.

After delivery, we plan to have the ship make a Shakedown/transit cruise of about 3-4 weeks duration, ending up on the Pacific side of the Panama Canal. Subsequently, we hope to accomplish about 4 months of research cruises, finishing up the year with arrival in Seattle about December 1, 1991.

It is my intention to send out another "news letter" right after the ship is launched next summer. In the meantime, please give a call if you have any questions.

I hope you have a happy holiday season and that 1990 is a good year for you.

Sincerely,

K. W. Jeffers

P. S. In case you have not heard, the old THOMPSON was transferred from the Bremerton Naval Inactive Ship Facility to the Mare Island Shipyard in San Francisco. She will be put back into operation under the new name of "PACIFIC ESCORT"

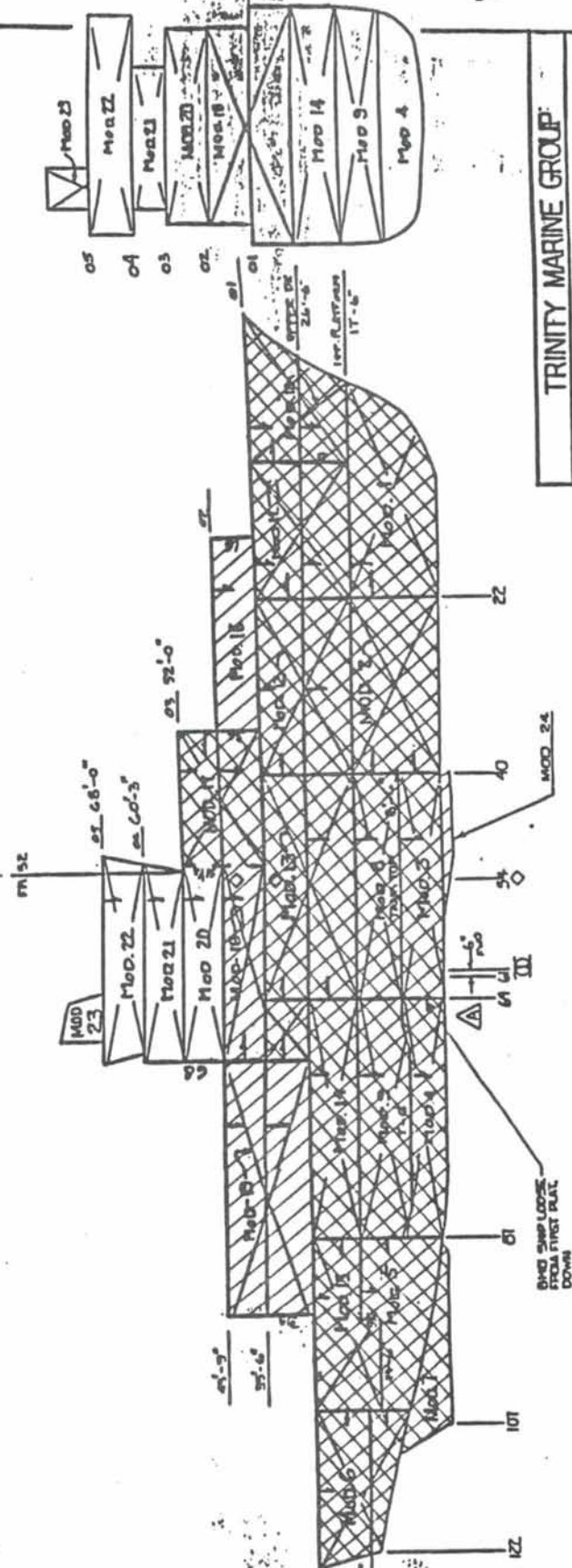
KWJ:kg

Enclosures

LEGEND

- - INDICATES END OF SEWER
- ⊖ - INDICATES MIDSUMP
- ⊖ - BMD TO GO WITH MODULE
- ▨ - Modules under construction 12/22/89
- ▩ - Modules set on shipway 12/22/89

- △ REVISED FOR 4'-0" STRETCH BETWEEN FR 64 AND FR 65, 5/12/88
- △ REVISED FOR NO. 18, WAS FR 71, REVISED FOR NO. 17, WAS FR 100, 5/18/89
- △ MODIFIED PER ECP 003, 004, 007, 013, 7/21/89



MODULE BREAKDOWN
 DATE: 10-20-85
AGOR-23

TRINITY MARINE GROUP	
AGOR 23	
MODULE BREAKDOWN	
12-14-88	REV C
DRAWN 01	



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL RESEARCH
ARLINGTON, VIRGINIA 22217-5000

IN REPLY REFER TO
5000
Ser 1121RF/03
5 February 1990

Dr. George Keller, Chairman
University-National Oceanographic Laboratory System
Research Office
Oregon State University
Corvallis, OR 97331

Dear George:

I am writing to you regarding two items to be considered at the forthcoming UNOLS Council meeting in Monterey and to raise one additional longterm issue.

The first item concerns the draft UNOLS Fleet Improvement Plan. I have reviewed the report and it has obviously been a major undertaking for the FIC. A well-done is in order for the effort. Notwithstanding this, the Plan reveals a degree of compromise and accommodation which undermines its value with regard to justification of the Plan for numbers and types of platforms. I request that the Council initiate actions to address the comments which are enclosed. Especially important is a quantitative justification for the numbers and types of platforms in the plan. Perhaps a FIC subcommittee could make the necessary revisions in a timely manner.

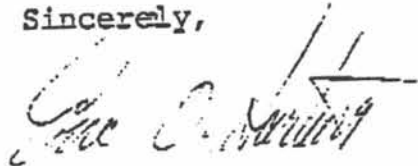
The next issue for the Council Meeting concerns the UNOLS ship scheduling process. I understand that scheduling did not go well this year. Although there were some special circumstances, the problem appears to be symptomatic of the process rather than just a one year event. We see problems with the the Scheduling Committee representative's ability to reach consensus on the most efficient schedules and to deal with lay-ups when necessary. A review of the scheduling process and it's effectiveness appears to be needed, and I request that the Council resolve this issue before the FY91 scheduling cycle begins.

The final item I would ask the Council to consider, on a longer term basis, is the growing number of non-federal ships in the UNOLS fleet which appear to be in excess of the draft Fleet Plan, and how the federal funding agencies can best meet their long-term needs and those of the scientists they fund. My first inclination is to propose a FED/UNOLS fleet consisting of the

federally owned ships with the federal funding agencies taking primary responsibility to ensure that their vessels are well maintained, have state-of-the-art technical capability and are fully utilized. This would not rule out funds for INST/UNOLS vessels, but makes responsibilities clearer. You may want to consider additional approaches. I have discussed this issue with NSF managers, and we have agreed that it must be dealt with effectively so as to avoid overcapacity and fragmentation of support for the academic fleet.

Steve Ramberg and Keith Kaulum will be attending the Council meeting in Monterey and will comment on the latest status of the AGOR-24 and other matters.

Sincerely,



ERIC O. HARTWIG
Director
Ocean Sciences Directorate

Enclosure

Copy to:
UNOLS Office
Dr. D. Heinrichs (NSF)
Dr. W. Nowlin

Jan 1990
E. Hartwig

COMMENTS ON UNOLS FLEET IMPROVEMENT PLAN

The report was obviously a major undertaking and required a great deal of effort. A well done to all involved!!

None-the-less a number of clarifications and quantifiable supporting information would greatly help its justification with respect to both the numbers and the "types" of ships.

- a) I disagree with page 6 statement that vessels purchased with federal funds are federally owned even if title is given to an institution. Wording should be changed to read that vessels are owned by whomever holds title to them - that is the legal definition and makes the federal and institution issues much clearer when dealing with ship issues. This is a serious consideration for both Feds and institutions. If there are special conditions about reversion of certain titles then these can be explicitly given, and would be part of agency planning for the vessels they own.
- b) Mission requirements (page 16) appear to be a shopping list of what exists and what is being considered. To be useful, there needs to be some quantification of the priorities given on page 17 that can be tied to each of these types of vessels, i.e., what is the measurable gain of an intermediate SWATH over a larger monohull or vice versa.
- c) The guiding precepts (page 26) are not convincing enough to fund the construction of new ships. There needs to be a quantifiable requirements criteria in hand with some sort of a cost trade off analysis to be convincing to federal managers and fiscal people. I offer some examples in the next comment.
- d) The recommended UNOLS Fleet Profile (page 28) indicates a proliferation of somewhat arbitrary ship types that only confuses the issue of how many and what types of ships we require in order to support federally-funded research programs. The report is correct in not recommending a specific number of small general purpose ships, but specific recommendations for large and intermediate ships with quantitative justifications are imperative. The ship types should reflect measurable and distinguishable capabilities that can be compared to quantifiable requirements. Let me

offer an example as a point-of-departure for Council consideration:

- Separate into two major categories: GENERAL PURPOSE and SPECIAL PURPOSE.
- Define only LARGE, INTERMEDIATE and SMALL classifications on some basis other than simply length. A combination of science berthing capacity, endurance and limiting sea state for operations ought to distinguish these "sizes" clearly and simply.
- For all ships some "grade" (e.g., LARGE grade A, B, C based on specific abilities, operating cost, etc.) of overall science capability versus a UNOLS goal for GENERAL PURPOSE capabilities would be a measure to track in fleet improvements. SPECIAL PURPOSE ships might grade lower but that would be understandable.

Given these measurable capabilities it would be possible to construct historical trends of usage and capability. We could then project future demand as a justification for fleet improvements. For example, more scientists per year at sea under the Global Change projections could justify new construction. Similarly, demands for special purpose ships may vary as well which could be used to justify those platforms. Certainly decreasing fleet "grades" will require attention. All of this is a means to measurably track both the Fleet capabilities and the agency needs. I offer these notions as a point-of-discussion for the Council.

- e) Page 33, The improvement schedule should include a fourth factor to take into account cost effective commercial or other sources for the fleet to meet science requirements.
- f) Appendix II, a completed comparison chart of ship capabilities will be an invaluable tool to both the community and the federal agencies. The technical information is especially useful as to navigation, acoustic capabilities, sea keeping, etc. It should include over the side operating ability, i.e., winches, cranes, ROV, etc. and limiting sea conditions for their operation. This would be an invaluable resource and form the basis for assigning "grades" for the overall vessel capability.

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

Research, Graduate Studies,
and International Programs
Oregon State University
Administrative Services A312
Corvallis, OR 97331-2140
(503) 737-3467

March 14, 1990

The Honorable Richard A. Clarke
Assistant Secretary for Politico-Military Affairs
PM Room 7327
U.S. Department of State
Washington, D.C. 20520

Dear Mr. Clarke:

The University National Oceanographic Laboratory System (UNOLS) is the organization of academic oceanographic institutions that carries out significant amounts of research at sea with federal funding. It is on their behalf that I am writing to you.

Officials in the Department of Defense have informed us that "High Resolution Bathymetry" equipment (including Sea Beam and SeaMARC II sea floor mapping systems), has been placed on the "Munitions List", which imposes significant restraints on mapping of the ocean floor by U.S. academic institutions. However, we have been unable to find out authoritatively whether this action is merely proposed, or has already taken place.

We are concerned with this action, for several reasons. Those of us who have read through the "Munitions List" carefully cannot find any category under which these particular items would be covered. The Office of Munitions Control has not provided us with any explanation of this reported action, and Customs officials, who are to enforce the export controls of items on the Munitions List, have no official notice of this action. Therefore, if these items are on the Munitions List, and covered by the International Traffic in Arms Regulations (ITAR) rules, it is quite possible that a great many other items carried to sea by U.S. academic research vessels are also covered, and that our members have unknowingly violated the law.

Mr. Richard A. Clarke
March 14, 1990
Page 2

It is our belief that these mapping systems, which are produced for civil use, and are in operation on oceanographic ships in the US, Australia, France, Germany, Japan, and the Soviet Union, and manufactured in the US, Germany, Finland, and Norway, do not belong on the Munitions List; they are not weapons of war, and are not used on combatant military vessels. The designation of the "Sea Beam" system built by General Instruments as a "defense article" is dubious; the designation of the "SeaMARC II" system built by the University of Hawaii is clearly outside the scope of the Munitions List.

The concerns of the institutions that operate these systems (three of which have made considerable investment of their own funds), and of the UNOLS membership in general, are quite serious. Sentiment among UNOLS institutions is that application of these rules under ITAR would impose significant undue constraints on the conduct of research in the federally-funded national oceanographic research program. Furthermore, we assert that the conditions under which we employ the equipment, for scientific investigation aboard research vessels, neither qualifies as a true export of the equipment nor constitutes a risk that the equipment will be conveyed to or be under control of a foreign entity. If the term "export" was defined in the ITAR rules as in the dictionary, there would be no significant impact on oceanographic research. Our member institutions take equipment to sea to use it; not to sell it.

We also suggest that imposition of the requirement for export licenses through the Munitions Control Office would not be an effective bar to undesirable technology transfer; multibeam technology developed and manufactured in the United States has already been exported permanently to at least four other countries. As noted above, comparable technology has been produced in other countries and made available to several countries including the Soviet Union.

Having this equipment placed on the Munitions List with the resulting severe limitations to the nation's oceanographic research efforts would clearly lead to a mediocre level program at best. We consider this issue to be extremely important and seek your assistance in gaining relief from the obligation to apply for export licenses for the use of this equipment aboard research vessels conducting oceanographic studies.

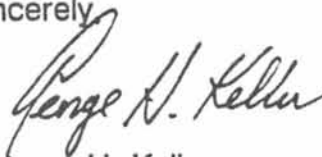
If these items must, for some reason, be placed on the Munitions List, we suggest an action by the Munitions Control Office that would alleviate the problem. The following two exemptions are suggested for addition to the ITAR rules (section 123):

Mr. Richard A. Clarke
March 14, 1990
Page 3

- "Equipment and stores aboard an oceanographic research vessel, or being sent to or from such research vessel, for use in research at sea, do not require a license, provided that control or title is not transferred to a foreign person."
- "Nothing in this chapter should be construed to restrict publication of technical data about unclassified oceanographic equipment."

We request your consideration of the issue raised here and would be pleased to have an opportunity to meet with you or your representative to discuss this matter further.

Sincerely,



George H. Keller
Chairman

GHK:mg

cc: Dr. Frederick M. Bernthal
Dr. Robert W. Corell
Rear Admiral Richard F. Pittenger
Dr. Fred E. Saalfeld

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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of university oceanographic facilities

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JAN 02 1990

UNOLS OFFICE

Research, Graduate Studies,
and International Programs
Oregon State University
Administrative Services A312
Corvallis, OR 97331-2140
(503) 737-3467

December 28, 1989

Rear Admiral Richard F. Pittinger
Oceanographer of the Navy
U.S. Naval Observatory
34th and Massachusetts Ave. NW
Washington, D.C. 20392-1800

Dear Admiral Pittinger:

The recent messages and rumors some of us have received about the AGOR-24 being dropped or being expected to be dropped from the FY92 budget prompts this letter. The subject of the AGOR-24 gives all of us in the academic oceanographic community great concern. We strongly believe that the United States needs to upgrade its research facilities to where the state-of-the-art is being utilized to obtain the most meaningful research results. Jim Baker has shared with me the results of the discussion he had with you last week, and I have also spoken to Bob Winkour to attempt to deal more with facts rather than heresay. ONR and the NSF have also shared their opinions with me.

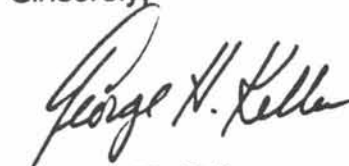
Out of all of this has come the belated realization that UNOLS has had relatively little communication with your office, an office that has taken on increased influence in the ocean community in recent years. On occasion, we have had members of your staff come to our meetings, but not on any regular basis. The ONR, NSF and NOAA do send representatives to the UNOLS Council meetings where most of the business of UNOLS is conducted.

I would like to invite you to send a representative to the Council. I do not see ONR providing the input that relates to your office, nor do we have that expectation, and because of the significant role you have in the future of ocean facilities, I would like to propose a more meaningful level of communication between UNOLS and your office.

Rear Admiral Pittinger
December 28, 1989
Page 2

The next UNOLS Council meeting will be held in Monterey, California, on February 8 and 9. I would appreciate your consideration of this invitation, and hope that this might initiate an effective communications link between us.

Sincerely,

A handwritten signature in cursive script that reads "George H. Keller". The signature is written in dark ink and is positioned above the printed name.

George H. Keller
Chairman

GHK:mg

cc: W. Barbee
Tom Johnson
Art Maxwell

Posted: Fri, Dec 29, 1989 9:54 AM PST
From: G.KELLER
To: UNOLS.Office
CC: G.Keller
Subj: Feb UNOLS Council Meeting

Msg: HGIJ-4126-7862

3

Copy of message sent to Eric Hartwig Dec. 28, 1989 --

The UNOLS Council is scheduled to meet February 8 & 9 in Monterey, and I would appreciate it if we could receive from you or your representative a briefing on the AGOR-24 situation from ONR's perspective. My understanding that the final decision on the AGOR-24 vs. the ice capable ship has not been made and won't be until sometime in January. I also understand that should the #24 drop out, that the requirements, as they stand, will be retained.

I am troubled by the lack of communication and coordination between ONR and NSF, it can only impact the country's ocean program in a negative way. This issue will certainly come up at the Council meeting. I want to assist, as do my colleagues, to create a more positive atmosphere between the agencies. Suggestions on how we can best do this are most welcome.

Action?

5

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM
FLEET IMPROVEMENT COMMITTEE

Department of Oceanography
Texas A&M University
College Station, Tx. 77843

RECEIVED

OCT 2 1989

UNOLS OFFICE

27 September 1989

Dr. Eric O. Hartwig
ONR, Code 11D
800 N. Quincy Street
Arlington, VA 22217

Dear Eric,

I am writing on behalf of UNOLS, as chairman of the Fleet Improvement Committee (FIC), to recommend that the U.S. Navy follow through with plans to construct an AGOR-24 as a large, general-purpose oceanographic research vessel for operation by a UNOLS institution for the academic ocean research community.

The recommendation of the FIC, and of the UNOLS Fleet Replacement Committee before it, is that the UNOLS fleet should include six modern large vessels, including one ship capable of deep submersible support, that meet the scientific mission requirements for high-endurance or medium-endurance. That recommendation is based on the historical makeup and usage of an academic fleet that has included six large vessels, and on the requirements for improved capabilities to carry out the projected global change programs. It is possible that these projections are optimistic considering the modest increases in scientific funding during the past few years, but in the view of UNOLS, the U.S. academic research community must strive to obtain a fleet that will meet the projected requirements.

At present, refits, new construction, and conversion of large academic research vessels are ongoing. When these projects are complete (in 1991) there should be four vessels in the U.S. academic fleet that meet the UNOLS scientific mission requirements for a new generation of high-endurance or medium-endurance, large, general-purpose vessels: AGOR-23 (THOMPSON), KNORR, MELVILLE, and BERNIER (EWING). The Navy's capability now to construct AGOR-24 represents a significant opportunity to improve the U.S. academic fleet by adding another vessel which meets these requirements, and we should not lose this opportunity.

26 September 1989
page 2

We strongly urge the Navy to move forward with the construction of the AGOR-24 to bring on line a state-of-the art vessel to increase the effectiveness of the UNOLS fleet in support of the needs of the nations' academic oceanographic research program. Moreover, UNOLS recommends that the Navy consider as an alternate design to the AGOR-23 the preliminary design recently completed for UNOLS by The Glosten Associates. UNOLS would be pleased to expand the arguments that led to the preliminary design characteristics of this large, medium-endurance vessel.

Sincerely,



Worth D. Nowlin, Jr.
Chairman, UNOLS Fleet
Improvement Committee

WDN/sm

xc: G.Keller
Fleet Improvement Committee

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM
FLEET IMPROVEMENT COMMITTEE

Department of Oceanography
Texas A&M University
College Station, Tx. 77843

RECEIVED
OCT 2 1989
UNOLS OFFICE

27 September 1989

Dr. Donald Heinrichs
OCFS Room 613
National Science Foundation
1800 G. St. NW
Washington, DC 20550

Dear Don,

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26 September 1989
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Sincerely,



Worth D. Nowlin, Jr.
Chairman, UNOLS Fleet
Improvement Committee

WDN/sm

xc: G.Keller
Fleet Improvement Committee

NATIONAL SCIENCE FOUNDATION
1800 G STREET, N.W.
WASHINGTON, D.C. 20550

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OCT 23 1989

UNOLS OFFICE

DIVISION OF OCEAN SCIENCES
OCEAN SCIENCES RESEARCH SECTION

October 18, 1989

Dr. Worth D. Nowlin
Chairman, Fleet Improvement Committee
Department of Oceanography
Texas A&M University
College Station, TX 77843

Dear Worth:

NSF strongly supports the Navy plans to construct an AGOR-24 as a large oceanographic research vessel for the academic ocean research community. As noted in the draft FIC fleet planning study, the NSF goal to strengthen ongoing discipline oriented programs and fully participate in the large-scale new initiatives in global studies of the ocean coupled with Navy intent to regain a position of leadership in oceanography require seagoing facilities of greater capability for the research fleet of the 1990s and beyond. The AGOR-24 is a key component needed to increase the effectiveness of the UNOLS fleet to meet the existing and upcoming research challenges. NSF long range planning is based on the assumption Navy will provide this capability to academic ocean sciences.

Sincerely yours,



Donald F. Heinrichs
Head

cc: G. Keller, UNOLS
B. Barbee, UNOLS Office
E. Hartwig, ONR

December 3, 1989

**Summary of ALVIN Interest
by Area**

Southern Ocean

1. Lawver	G&G	21
		<hr/> 21

Guaymas

3. Jannasch	Bio.	12
21. Simoneit	Chem.	10-12
		<hr/> 22-24

Southern EPR

18. Craig	Chem., Geo.	20
		<hr/> 20

N. Atlantic

4. Sheldon	Bio., Chem.	5
6. Lutz	Bio.	5
7. Rona	G&G	20
17. Flood	G&G	<hr/> 15-20 45-50

W. Pacific

15. Hawkins	G&G	18
		<hr/> 18

California Basins

2. Smith	Bio.	6
12. Childress	Bio.	<hr/> 12-24 18-30

Gorda Juan de Fuca

5. Lutz	Bio.	6
8. Carson	G&G	16
11. Zierenberg	G&G, Chem., Bio.	12
14. Kulm	G&G	20
16. Embley	G&G	20
20. Stakes	Geo, Chem.	8
22. Simoneit	Chem.	<hr/> 12-15 94-97

EPR (north)

5. Lutz	Bio.	6
9. Levin	Bio., Phys.	6
13. Childress	Bio.	14
		<hr/> 26

Gulf of Mexico

10. Roberts	Bio., Chem.	10
		<hr/> 10

East Eq. Pacific

19. Lonsdale	G&G	13
		<hr/> 13

Grand Total 267-289

By discipline (multipurpose projects counted for each discipline)

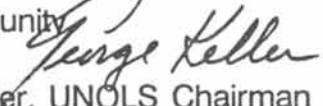
G&G	183-188
Bio.	102-114
Chem.	77- 82
Phys.	15

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

Research, Graduate Studies,
and International Programs
Oregon State University
Administrative Services A312
Corvallis, OR 97331-2140
(503) 737-3467

February 12, 1990

TO: UNOLS Community 
FROM: George H. Keller, UNOLS Chairman
SUBJ: Unauthorized consumption of alcohol aboard UNOLS vessels

All the UNOLS ship operators have established policies regarding the consumption of alcohol aboard their ships. The liability impact on the operator when there is an accident and alcohol is found to be involved can be devastating, and prompts this memorandum. The seriousness of this issue was brought to the attention of the UNOLS Council, and it is strongly committed to backing the operators in coping with this problem.

In the future, research vessel operators will insure that those going aboard their vessel(s) are informed of the institution's policy regarding the consumption of alcohol. Anyone found in violation of the policy will be reported to his/her employer and will be restricted from use of the ship another time. Whether the institution gives the individual a second chance will be its call.

The UNOLS Council has gone on record as fully supporting the above stated practice and will work closely with the operators to deal with any problem of unauthorized consumption of alcohol aboard the UNOLS vessels.

cc: W. Barbee
D. Heinrichs
K. Kaulum
J. Williams

NSF Ocean Sciences Budget

	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>Change 87-91</u>
OSRS	66.5	67.2	70.9	72.9	88.6	33.2%
OCFS	37.2	37.2	43.6	42.5	47.4	27.4%
ODP	<u>30.0</u>	<u>30.6</u>	<u>31.4</u>	<u>32.0</u>	<u>35.0</u>	<u>16.7%</u>
	133.7	135.0	145.9	147.4	171.0	27.9%

FY 1991 BUDGET INCREMENT

- Global Geosciences \$19.2 M
- Disciplinary Base \$1.4 M
- Ocean Drilling Program \$3.0 M
- \$23.6 M

FY 1991 BUDGET PROFILE

- Science \$104.6 M
- Disciplinary Science 75.4
- Global Geosciences 29.2
- Education & Human Res. (4.1)

Facilities

- Disciplinary Science \$66.4 M
- Global Geosciences 54.6
- Capital Equipment 11.8 (3.3)

NSF Ocean Sciences Budget

	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>Change 87-91</u>
OSRS	66.5	67.2	70.9	72.9	88.6	33.2%
OCFS	37.2	37.2	43.6	42.5	47.4	27.4%
ODP	30.0	30.6	31.4	32.0	35.0	16.7%
	133.7	135.0	145.9	147.4	171.0	27.9%

FY 1991 BUDGET INCREMENT

- Global Geosciences \$19.2 M
 - Disciplinary Base \$1.4 M
 - Ocean Drilling Program \$3.0 M
- \$23.6 M

FY 1991 BUDGET PROFILE

Science	\$104.6 M
• Disciplinary Science	75.4
• Global Geosciences	29.2
• Education & Human Res.	(4.1)
Facilities	\$66.4 M
• Disciplinary Science	54.6
• Global Geosciences	11.8
• Capital Equipment	(3.3)

NSF FY1991 CONGRESSIONAL BUDGET REQUEST

NSF

- Total Request is \$2.383 Billion
- Increase of \$304 Million or 14.6 % from FY1990
- Increase maintains Administration commitment to doubling the Foundation's budget
- Research and Related Activities increases by \$223 M or 13.5%
- Science and Engineering Education increases by \$48 M or 23.6%
- U.S. Antarctic Program increases by \$23 M or 15.1%

GEOSCIENCES (less Antarctic Program)

- Total Request is \$383.7 Million
- Increase of \$58.7 M or 18.1% from FY 1990
- Increases for
 - Global Geosciences 39.8 M
 - New research investigations and instrumentation 11.5 M
 - New program in Arctic social sciences 1.0 M
 - Science and Technology Centers 3.4 M
 - Education and Human Resources Activities 3.0 M

NSF FY1991 CONGRESSIONAL BUDGET REQUEST

OCEAN SCIENCES

- Total Request is \$171.0 Million
- Increase of \$23.6 Million or 16.0 % over FY 1990
- Global Geosciences increase by \$19.2 M or 88.1%
- Other programs increase by \$4.4 M or 3.5%

OCEAN SCIENCES RESEARCH SUPPORT

- Increase of \$15.7 Million or 21.5% to \$88.6 M
- Focus on Global Change and new investigations
 - implementation of WOCE with hydrographic sections in Pacific, initiation of surface drifter program, and Atlantic process experiments
 - expansion of JGOFS with Pacific equatorial biogeochemical flux program
 - initiation of RIDGE field programs
 - participation in TOGA Coupled Ocean/Atmosphere Response Experiment
 - long lead-time instrumentation and model development for GLOBEC
 - increase number of awards to new and young investigators

NSF FY1991 CONGRESSIONAL BUDGET REQUEST

OCEANOGRAPHIC CENTERS AND FACILITIES

- Increase of \$5.0 Million or 11.7% to \$47.4 M
- Focus on facilities, field operations and technological requirements of Global Geosciences program
 - ship and technical support for Global Geosciences field programs funded by research programs
 - ocean technology support for ecosystems dynamics sampling systems and operations of accelerator mass spectrometry facility
 - upgrading of scientific support equipment in academic research fleet to meet global change research needs

OCEAN DRILLING PROGRAM

- Increase of \$3.0 Million or 9.4% to \$35.0 M
- Focus on operational costs, development of crustal drilling technology, and individual investigator support
 - measurement and sampling tools for high-temperature environments
 - experiments to measure crustal deformation and fluid flow in boreholes
 - high latitude field programs to define regional geologic framework for future drilling
 - support for analysis of geochemical and geophysical logging data

OCEAN SCIENCES DIVISION DETAIL

	Actual FY 1989	Estimates FY 1990	Requested FY 1991
Ocean Sciences Division	\$ 145.9 M	\$ 147.4 M	\$ 171.0 M
Ocean Sciences Research	70.9 M	72.9 M	88.6 M
Ocean Drilling Program	31.4 M	32.0 M	35.0 M
Oceanographic Facilities	43.6 M	42.5 M	47.4 M

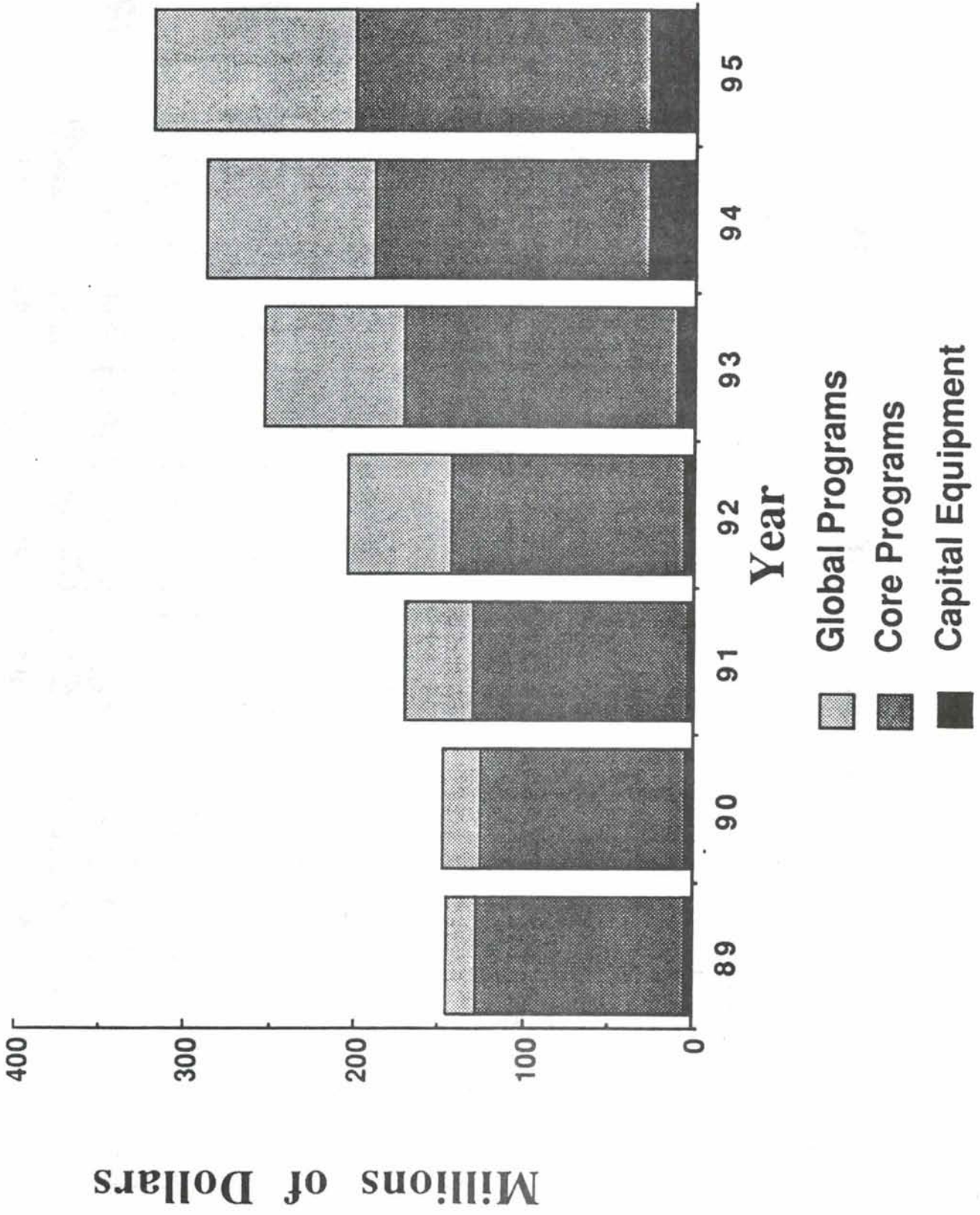
OCEANOGRAPHIC FACILITIES DETAIL

Operations	24.6 M*	25.5 M*	28.5 M*
Ship operations	1.3 M		
ALVIN, Aircraft, etc.	3.4 M	3.6 M	4.2 M
Marine Techs	29.3 M	29.1 M	32.7 M
Infrastructure	1.6 M	3.8 M	4.0 M
Science instruments	0.9 M		
Shipboard Equipment	2.8 M	2.8 M	2.6 M
Ships, Upgrades	0.7 M	0.4 M	0.5 M
UNOLS, Misc.	6.0 M	7.0 M	7.1 M
Technology, Centers, Reserves	4.5 M	3.2 M	4.2 M
Technology Development	1.8 M	1.8 M	1.8 M
AMS Center	2.0 M	1.4 M	1.6 M
Cross Directorate/Reserves**	8.3 M	6.4 M	7.6 M

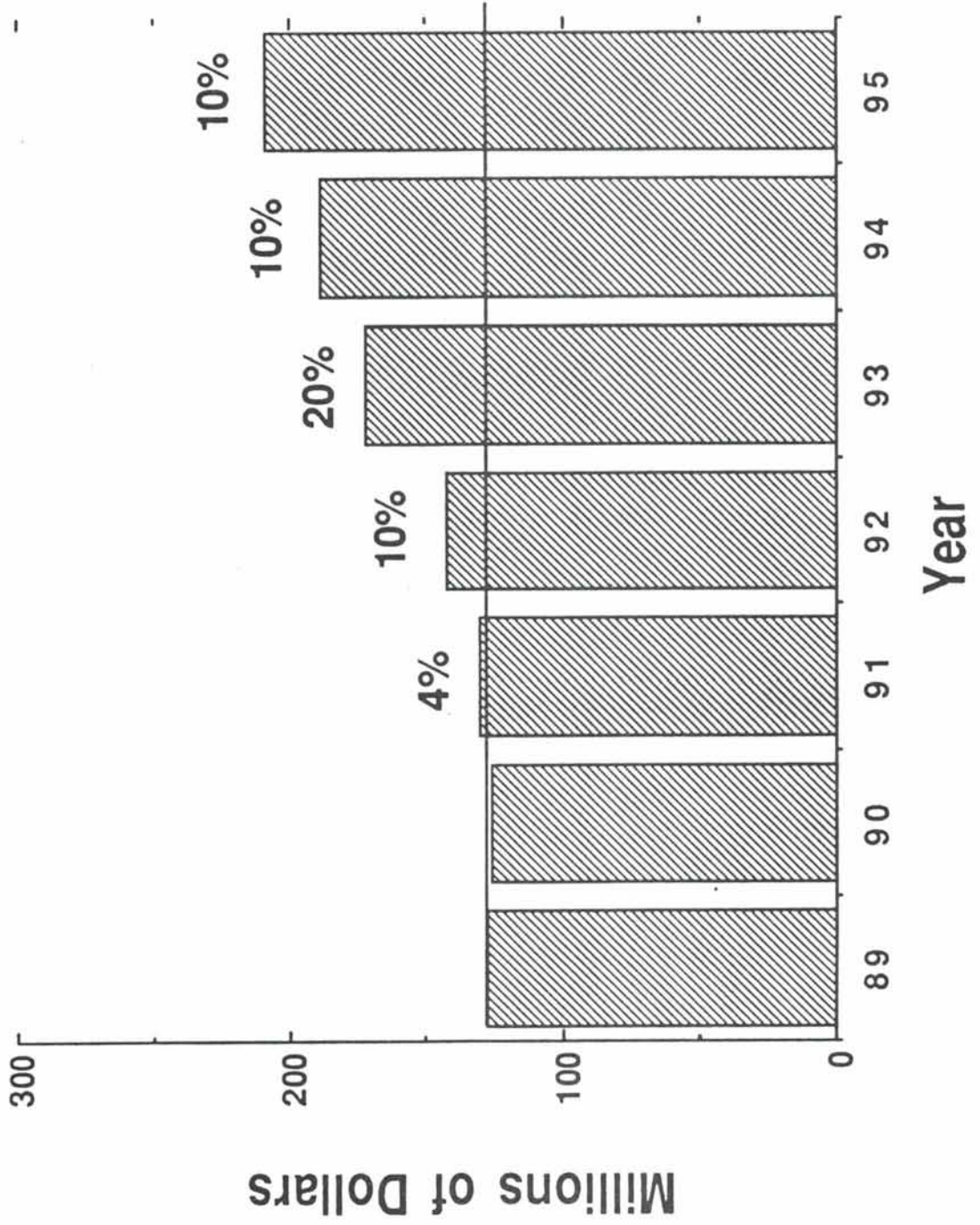
* Plus \$1.5 M from ODP (1989), \$1.3M (1990), \$1.5 M (1991)

** Cross-directorate/Reserves previously distributed

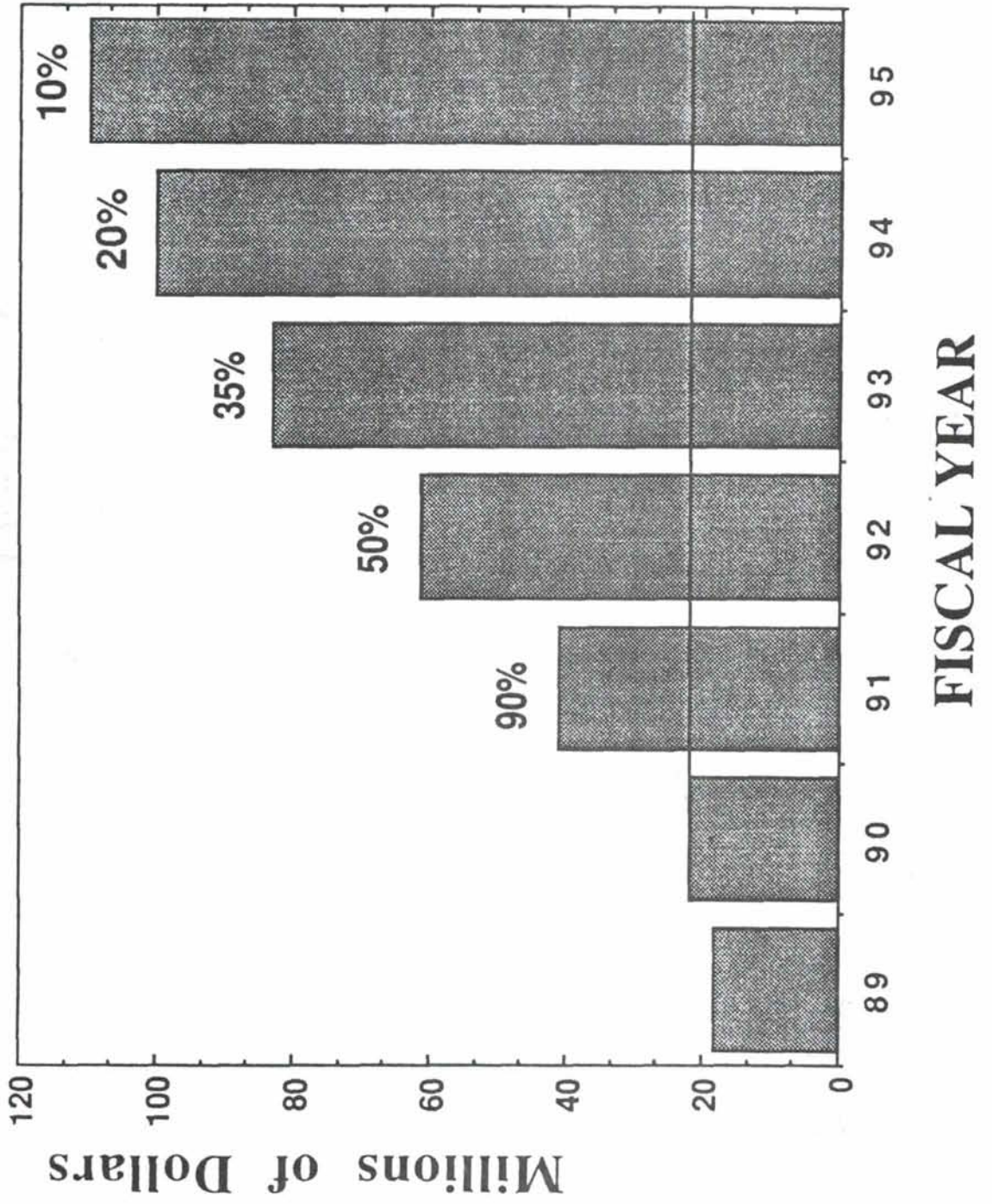
OCE Long-Range Plans (1989-95)



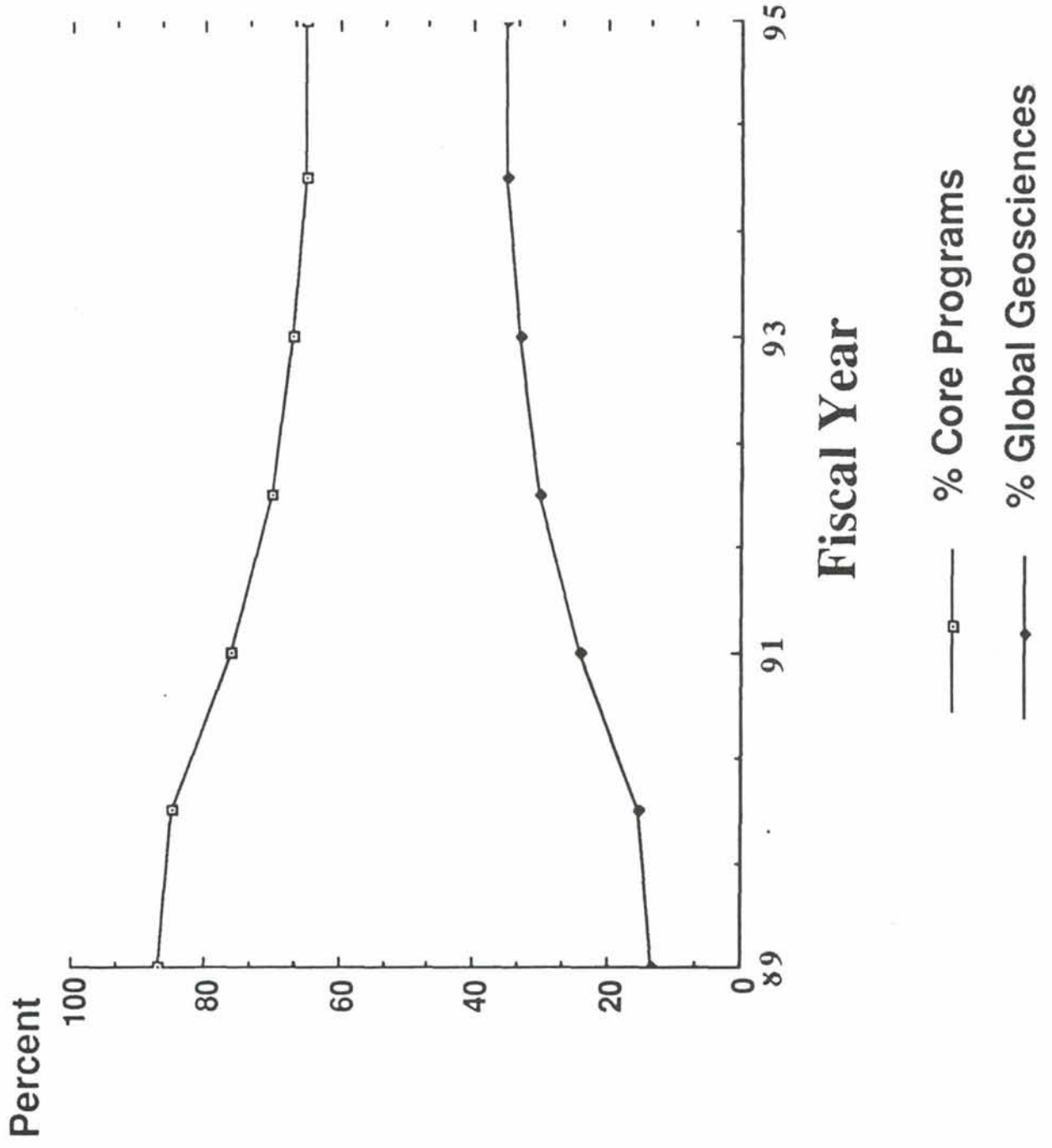
OCE Core Program Projections (1989-1995)



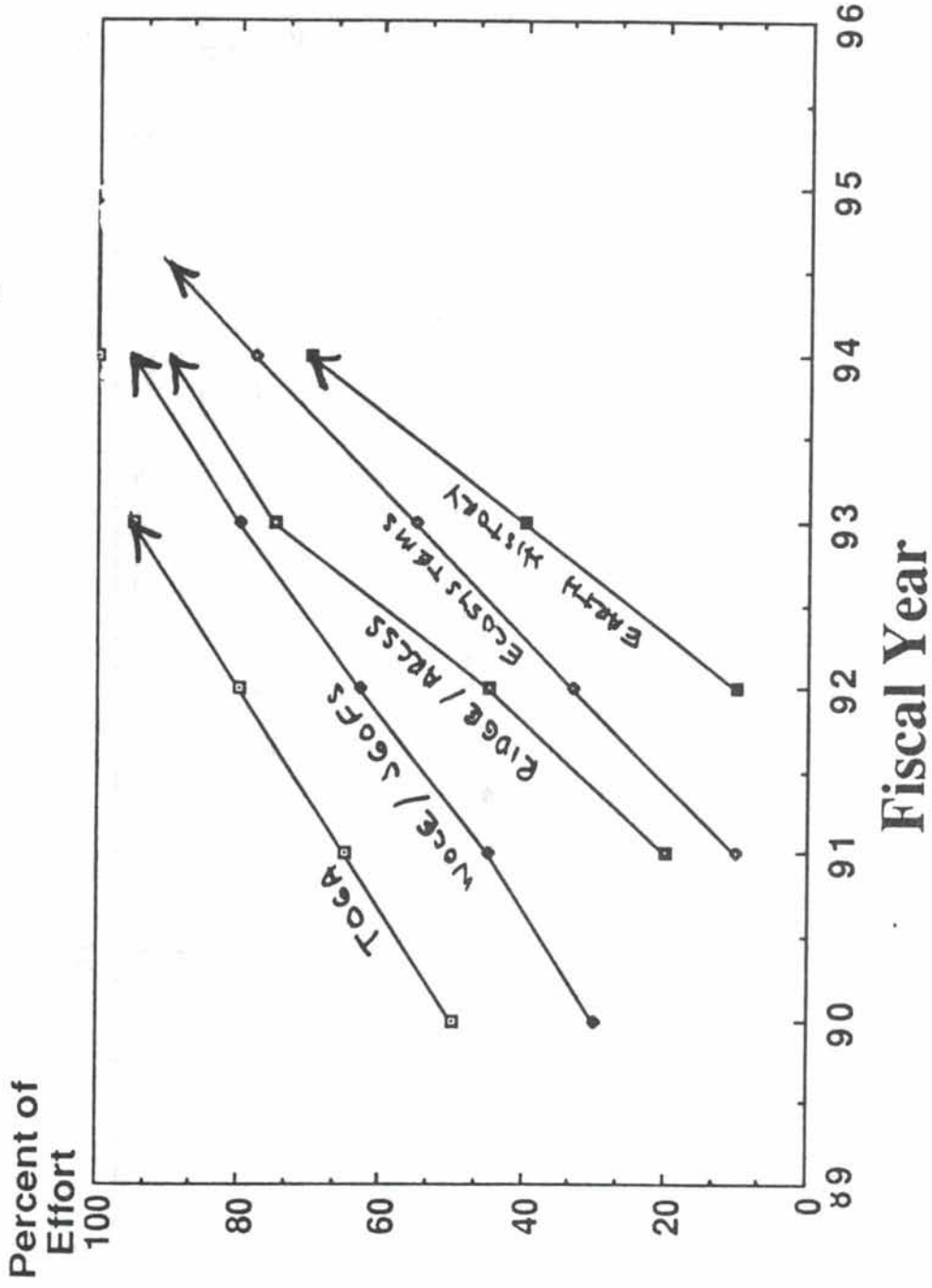
OCE Global Geoscience Projections 1990-1995



PROGRAM BALANCE

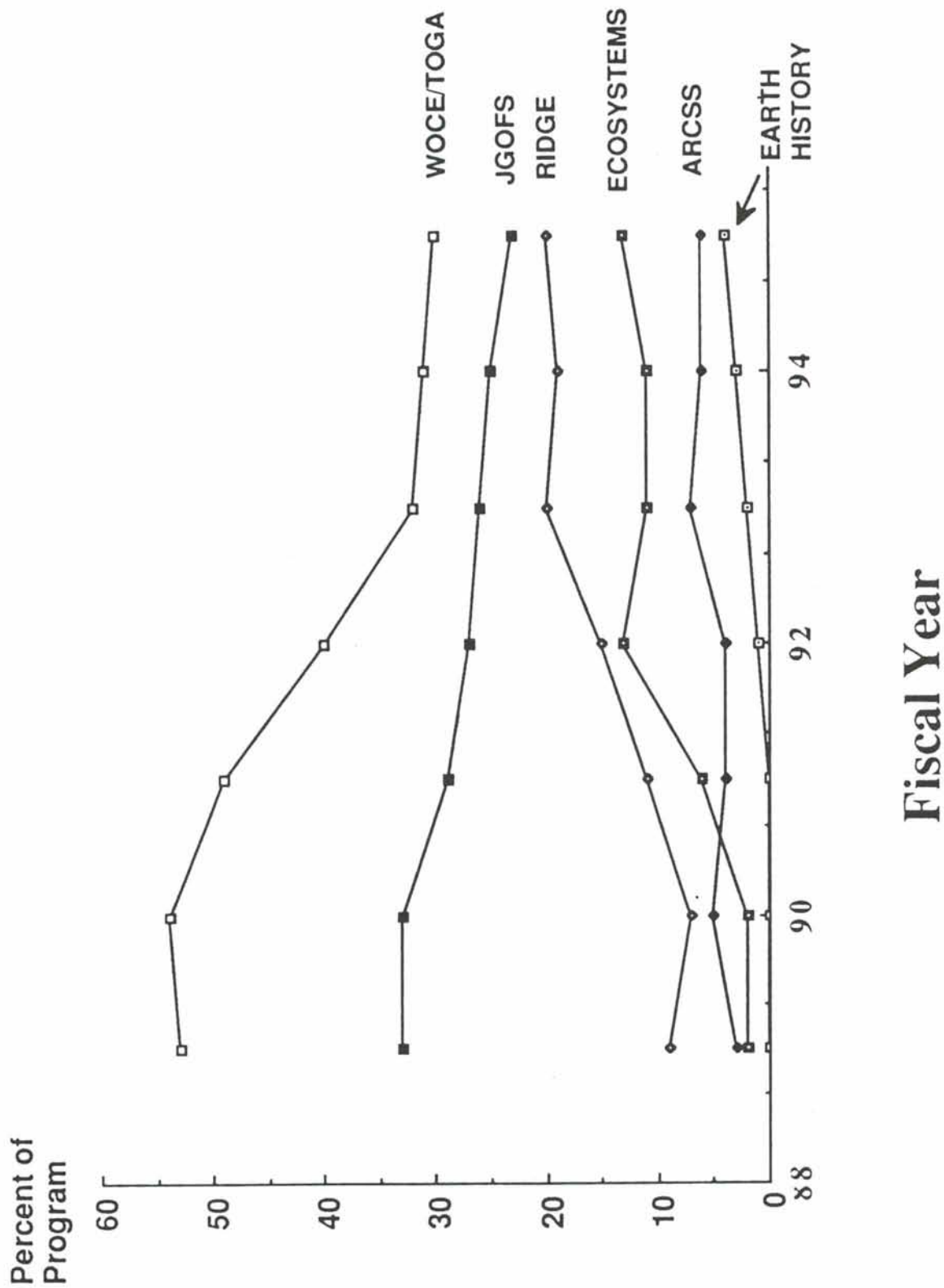


Global Geoscience Time Phasing



- TOGA
- WOCE/JGOFS
- ARCSS/RIDGE
- ECOSYSTEMS
- EARTH HISTORY

Global Geosciences Program Balance



1989 RESEARCH CLEARANCE SUMMARY -1

88-85	POLAR DUKE	Chile Argentina ¹	1 Jan - 1 Feb
88-115	Dr. Turner (Collection Permit)	Mexico ²	1 Jan - 31 Mar
89-06	DELAWARE II	Canada ³	3-14 Jan
88-56	OCEANUS	Brazil	5 Jan - 20 Feb
88-62	OCEANUS	France (Fr. Guiana) Barbados	5-28 Jan
88-69	CHAUVENET	Somalia Djibouti ⁴ Ethiopia ⁵	9 Jan - 30 Jun 90
88-39	WECOMA	Mexico ⁶	10 Jan - 9 Feb
88-89	CONRAD ⁷	Venezuela	10 Jan - 4 Feb
88-81	MELVILLE	South Africa U.K. (Falklands) Argentina (Malvinas) Uruguay	17 Jan - 1 Mar
88-99	THOMAS WASHINGTON	France (Wallis & Fortuna Is.) Western Samoa Tonga Fiji ⁸	25 Jan - 3 Mar

¹Major problem regarding Argentine participation disrupted ship schedule.

²Request not approved. Mexican Foreign Ministry asked Turner to reschedule.

³Request made by U.S. after ship sailed. Cleared by Canada within 24 hours.

⁴Original request revised to include hydrographic surveys off Djibouti.

⁵Request to extend hydrographic surveys into Ethiopia discouraged by State Dept. owing to political problems.

⁶Port call problems encountered.

⁷Research cancelled due to lack of funding.

⁸Fiji requested ship to conduct additional research (seismic survey). Survey was conducted at researcher's expense.

1989 RESEARCH CLEARANCE SUMMARY -2

88-33	Dr. Cole (Collection Permit)	Mexico ⁹	1-28 Feb
88-104	MOANA WAVE	Philippines Rep. of Palau Fed. St. of Micronesia Marshall Is. France (Clipperton Is.) Costa Rica	5 Feb - 8 May
88-64	ALBATROSS IV ¹⁰	Bahamas Barbados Trinidad-Tobago Suriname France (Fr. Guiana) Brazil	6 Feb - 17 Mar
88-67	CORWITH CRAMER	Bahamas Haiti Jamaica ¹¹ Colombia ¹² Honduras Mexico ¹³	8 Feb - 22 Mar
88-77	DESTEIGUER	Mexico ¹⁴	10 Feb - 9 Mar

⁹Approval given 2 days after proposed start of research.

¹⁰Last-minute change of vessels from NOAA Ship MALCOLM BALDRIGE to DELAWARE II caused problems with several coastal states.

¹¹No response received from Jamaica, despite repeated requests.

¹²Major problem regarding Colombian participation involved excessive time and expense by ship.

¹³Mexican clearance received more than a month after start of research cruise.

¹⁴Request not approved by Mexico. Foreign Ministry asked Navy to reschedule. Research cancelled.

1989 RESEARCH CLEARANCE SUMMARY -3

88-94	CONRAD ¹⁵	Brazil	10 Feb - 12 Mar
88-101	DISCOVERER ¹⁶	Chile(Easter Is.) U.K.(Pitcairn Is.) France(Clipperton Is. & Fr. Polynesia)	11 Feb - 31 Mar
88-88	SEDCO/BP 471	Japan ¹⁷	18 Feb - 18 Dec
88-74	OCEANUS	Senegal ¹⁸ France(Fr. Guiana)	21 Feb - 20 Mar
88-113	THOMAS WASHINGTON	Cook Is. France(Fr. Polynesia) ¹⁹ Kiribati	26 Feb - 15 Mar
89-08	DELAWARE II	Canada	27 Feb - 12 Apr
89-03	NOAA SHIPS ²⁰	Canada	Mar - (open-ended)
88-95	GECO MY (Charter)	Mexico ²¹	Mar - Jul
89-05	LYNCH	Venezuela	Mar - Jun
88-47	ENDEAVOR	Bermuda	1-12 Mar

¹⁵Owing to numerous schedule changes, Brazilian approval not received until just before ship sailed.

¹⁶Major revision to original request involved changing vessels from NOAA Ship OCEANOGRAPHER to DISCOVERER, several schedule changes and cancelling requests to France and the UK.

¹⁷Clearance process was exceedingly difficult and time-consuming, considering Japan is a member of the Ocean Drilling Program.

¹⁸Senegalese participants required payment of per diem at the rate of \$50/day. Since stations in Senegalese waters were essential to a major project, per diem was paid on a one-time-only basis.

¹⁹French approval never received.

²⁰NOAA requested blanket approval for XBT's during transits in Canadian waters. Canada agreed to approve requests on short notice (72 hours).

²¹Request denied by Mexico.

1989 RESEARCH CLEARANCE SUMMARY -4

88-61	Ms. Baynes (Marine Research)	Mexico	1 Mar - 28 Oct
88-118	ENDEAVOR	Canada	1-12 Mar
88-108	NOAA AIRCRAFT (CEAREX Proj)	Norway	4 Mar - 20 Apr
88-106	MELVILLE	Uruguay	7 Mar - 15 Apr
89-09	NOAA/NOS SURVEY (St. Marys River)	Canada	15 Mar - 20 Nov
88-124	SEWARD JOHNSON	U.K. (Montserrat) France (Martinique & Guadeloupe) Dominica St. Lucia St. Vincent Grenada Barbados	23 Mar - 12 Jul
88-102	MALCOLM BALDRIGE ²²	Kiribati Tuvalu Fiji Tonga Western Samoa Cook Is. France (Fr. Polynesia)	29 Mar - 17 May
88-122	CORWITH CRAMER	Bahamas Bermuda	31 Mar - 12 May
88-27	MARSYS RESOLUTE	U.K. (Turks & Caicos) Bahamas Dominican Rep.	Apr 89 - Jul 90
88-87	EDWIN LINK ²³	U.K. (Montserrat) France (Martinique & Guadeloupe) Dominica St. Lucia St. Vincent Grenada Barbados	4-29 Apr

²²Research cancelled by NOAA.

²³After major revisions involving vessels and several schedule changes, Harbor Branch cancelled research. State Dept. was not notified until after research was to have been completed.

1989 RESEARCH CLEARANCE SUMMARY -5

88-121	WESTWARD	Bahamas Bermuda	4 Apr - 16 May
89-21	OCEANUS	Bermuda Canada	5-23 Apr
89-22	ATLANTIS II	Iceland ²⁴	10-14 Apr
89-04	CAPE HATTERAS	Bermuda	11-28 Apr
89-26	OCEANUS	Bermuda	4-22 May
89-11	MALCOLM BALDRIGE	Kiribati France(Fr. Polynesia)	8 May - 28 Jun
88-126	CAPE HATTERAS	France(Martinique & Guadeloupe) Dominica U.K.(Montserrat) Netherlands Antilles Antigua	13-27 May
89-25	RHONDA DENISE (Charter)	Canada	19-26 May
88-92	MELVILLE	Bermuda	20 May - 20 Jun
88-123	CORWITH CRAMER	Bermuda Canada	23 May - 3 Jul
89-23	MCARTHUR	Canada	30 May - 10 Jun
88-125	SHANA RAE(Charter)	Mexico ²⁵	5-13 Jun
89-12	ATLANTIS II	Portugal(Azores)	12 Jun - 6 Jul

²⁴Notification only. Request not required for research outside 200-mile EEZ.

²⁵Mexican permit not received until 9 June 1989 owing to the fact that name of contract charter vessel was not known and reported to Mexican Foreign Ministry until 12 May 1989.

1989 RESEARCH CLEARANCE SUMMARY -6

89-20	FARNELLA(Charter)	Canada	14 Jun 11 Jul
88-93	MOANA WAVE ²⁶	Haiti Dominican Rep. Bahamas U.K.(Turks & Caicos)	19 Jun - 21 Jul
89-24	OSPREY(Charter)	Bahamas	26 Jun - 4 Aug
89-19	WESTWARD	Canada	29 Jun - 27 Aug
89-37	CHAPMAN	Canada	30 Jun - 14 Jul
89-28	LAURENTIAN	Canada	6-21 Jul
88-119	ENDEAVOR	Norway ²⁷ Iceland ²⁸ Denmark(Greenland & Faroe Is.)	10-31 Jul
89-27	CAPE HATTERAS	Bermuda	10-30 Jul
89-13	CORWITH CRAMER	Canada France(Miquelon & St. Pierre Is.)	14 Jul - 25 Aug
89-01	SPROUL	Mexico ²⁹	15 Jul - 11 Aug
89-43	MILLER FREEMAN	Canada	17 Jul - 25 Aug
89-46	CHAPMAN	Canada	17-28 Jul
88-114	COLUMBUS ISELIN	Brazil	24 Jul - 4 Sep
89-29	WECOMA	Canada	24 Jul - 6 Aug

²⁶Ship's schedule was revised 4 times, however, all clearances but Haiti were received.

²⁷Norway requires notification only, for research in EEZ.

²⁸Iceland clearance not required.

²⁹Mexican approval received 3 days prior to start of research.

1989 RESEARCH CLEARANCE SUMMARY -7

89-51	CHARLES DARWIN(U.K.)	Colombia ³⁰ Dominican Rep. ³¹	24 Jul - 1 Aug
89-36	OREGON II	Canada	25 Jul - 9 Aug
89-17	MOANA WAVE	U.K.(Cayman Is.) Jamaica Colombia Honduras	26 Jul - 26 Aug
89-44	DISCOVERER	Canada	27 Jul - 29 Sep
89-07	DAVID STARR JORDAN MCARTHUR	Mexico Guatemala Costa Rica Panama ³² France(Clipperton Is.) Colombia Ecuador Peru	29 Jul - 7 Dec
89-47	NEREID(Charter)	Canada	29 Jul - 22 Oct
89-30	NOAA AIRCRAFT ³³	Mexico	1 Aug - 31 Oct
89-41	CHAPMAN	Canada	1-12 Aug
88-120	ENDEAVOR	Norway(Jan Mayen) ³⁴ Denmark(Greenland)	3 Aug - 13 Sep
89-52	SEWARD JOHNSON	Canada	8-15 Aug
89-47	LUCKY SEVEN (Charter)	Canada	10 Aug - 24 Sep

³⁰State Dept. assistance requested by U.S. chief scientist when UK had problem with clearance.

³¹Clearance for the Dominican Republic was sought at the last minute as a fallback should Colombia not approve research. Colombian approval received so Dominican approval not required.

³²Request could not be made owing to political problems with Panama.

³³Request for waiver of prior notice required for landing clearances.

³⁴Norway requires notification only for research in EEZ.

1989 RESEARCH CLEARANCE SUMMARY -8

89-02	SPROUL	Mexico ³⁵	11-21 Aug
89-70	ATLANTIS II/ALVIN	Bermuda	12-16 Aug
89-38	ATLANTIS II/ALVIN	Bermuda	16-25 Aug
89-45	BARNES	Canada	21-26 Aug
89-10	MALCOLM BALDRIGE	Bahamas U.K. (Turks & Caicos) Dominican Rep. Haiti ³⁶ Trinidad-Tobago Barbados Guyana Suriname ³⁷ France (Fr. Guiana) Brazil St. Lucia Dominica St. Vincent Grenada Netherlands Antilles Antigua & Barbuda St. Kitts/Nevis	22 Aug - 21 Sep
89-15	SPROUL	Mexico ³⁸	23 Aug - 2 Sep
89-40	THOMAS WASHINGTON	Ecuador France (Clipperton Is.) Mexico ³⁹	28 Aug - 2 Oct

³⁵Mexican approval received one day prior to scheduled start of research.

³⁶No response from Haiti despite repeated requests.

³⁷Not approved by Suriname despite repeated requests.

³⁸Research cancelled.

³⁹Port call request only. Vessel had problems despite Mexican Foreign Ministry assurances that request was approved.

1989 RESEARCH CLEARANCE SUMMARY -9

89-75	GYRE	Mexico ⁴⁰	30 Aug - 12 Sep
89-35	MOANA WAVE	Costa Rica	3-18 Sep
88-117	COLUMBUS ISELIN	Bahamas U.K. (Turks & Caicos) Dominican Rep. Haiti ⁴¹ St. Kitts/Nevis ⁴² Netherlands Antilles ⁴³ France (Martinique & Guadeloupe) ⁴⁴ Dominica ⁴⁵ St. Lucia ⁴⁶ St. Vincent ⁴⁷ Grenada ⁴⁸	10 Sep - 1 Oct
89-42	CAPE HATTERAS	Canada	10-30 Sep
89-57	DELAWARE II	Canada	11 Sep - 27 Oct
89-79	HAKON MOSBY (Charter-Norwegian)	Denmark (Greenland)	12 Sep - 5 Oct
89-18	JONATHON MICHAEL	Mexico ⁴⁹	19 Sep - 9 Oct

⁴⁰Clearance arranged by Mexican Navy in cooperation with Texas A & M University.

⁴¹No response received from Haiti despite repeated requests.

⁴²Request cancelled owing to major revision in proposed research.

⁴³Request cancelled as above.

⁴⁴Request cancelled as above.

⁴⁵Request cancelled as above.

⁴⁶Request cancelled as above.

⁴⁷Request cancelled as above.

⁴⁸Request cancelled as above.

⁴⁹Despite the fact that request was submitted 6 months in advance, because the name of contract charter vessel was given to Mexican Foreign Ministry only 6 weeks prior to scheduled start of research, permit was not received until 2 weeks after proposed start of research.

1989 RESEARCH CLEARANCE SUMMARY -10

89-39	OCEANUS	Bermuda	20 Sep - 9 Oct
89-53	PAT SAN MARIE GOLDEN FLEECE (Charters)	Canada	20 Sep - 15 Oct
89-55	BARTLETT	Norway ⁵⁰	1-14 Oct
89-31	ATLANTIS II/ALVIN	Bermuda	2-24 Oct
89-47	BRUNSWICK MARINER (Charter)	Canada	2-15 Oct
89-63	CAPE HATTERAS	Canada	2-11 Oct
89-14	THOMAS WASHINGTON	Mexico ⁵¹	6 Oct - 7 Nov
89-33	WESTWARD	Bermuda St. Kitts/Nevis Antigua & Barbuda ⁵² U.K. (Montserrat) France (Martinique & Guadeloupe) Dominica St. Lucia St. Vincent Grenada	10 Oct - 20 Nov
89-68	DISCOVERER	France (Clipperton)	10 Oct - 11 Dec
89-26	OCEANUS	Bermuda	11-24 Oct
89-32	CORWITH CRAMER	Bermuda Antigua & Barbuda ⁵³ France (Martinique & Guadeloupe) Dominica St. Lucia St. Vincent	11 Oct - 21 Nov

⁵⁰Norway requires prior approval for naval vessels.

⁵¹Ship had port call problems despite Mexican Foreign Ministry assurances of clearance.

⁵²Because of disruptions by hurricane damage in Antigua, approval not received until ship arrived in port.

⁵³Specific approval not received from Antigua because of disruption caused by hurricane damage. However, State Dept. advised ship to conduct research based on previous approvals of similar research by the same ship.

1989 RESEARCH CLEARANCE SUMMARY -11

89-69	GYRE	Bahamas	15-29 Oct
89-66	CAPE HATTERAS	Bermuda Canada	22 Oct - 9 Nov
89-16	ENDEAVOR	Brazil ⁵⁴ France(Fr. Guiana)	29 Oct - 15 Nov
89-59	DELAWARE II	Canada	30 Oct - 10 Nov
89-86	OCEANUS	Canada	2-22 Nov
89-87	DELAWARE II	Canada	13-22 Nov
89-77	CAPE HATTERAS	Bahamas	16-30 Nov
89-60	DELAWARE II	Canada	27 Nov - 19 Dec
89-49	WESTWARD	Netherlands Antilles St. Kitts/Nevis U.K. (Montserrat & Cayman Is.) France (Martinique & Guadeloupe) Dominica St. Lucia St. Vincent Grenada Dominican Rep. Haiti Jamaica Colombia ⁵⁵ Mexico ⁵⁶	28 Nov 89 - 8 Jan 90

⁵⁴Ship was held up two days awaiting arrival of Brazilian Naval Officer, resulting in the requirement for a revision to the research proposal, which was later denied by Brazil.

⁵⁵Colombian approval was not received until ten days after ship sailed, resulting in a situation where it was very difficult to arrange participation by the Colombian scientist.

⁵⁶Mexican approval was not received until a week after ship sailed.

1989 RESEARCH CLEARANCE SUMMARY -12

89-76	MOANA WAVE	Kiribati ⁵⁷	28 Nov - 22 Dec
89-48	CORWITH CRAMER	U.K. (Montserrat) St. Kitts/Nevis France (Martinique & Guadeloupe) ⁵⁸ Netherlands Antilles Dominica St. Lucia St. Vincent ⁵⁹ Grenada Dominican Rep. ⁶⁰ Haiti ⁶¹ Jamaica Colombia ⁶² Honduras ⁶³ Mexico ⁶⁴	30 Nov 89 - 10 Jan 90
89-91	OCEANUS	Bermuda	30 Nov - 13 Dec

⁵⁷Clearance was not received from the Republic of Kiribati until over a week after ship sailed. Dept. of State, however, advised ship to conduct research on schedule based on assurances that the approval would be forthcoming.

⁵⁸French approval was not received until the day the ship sailed.

⁵⁹St. Vincent and the Grenadines did not approve research until the day the ship sailed.

⁶⁰Dominican Republic did not approve research until two weeks after ship sailed.

⁶¹Haiti never responded to request, despite repeated attempts.

⁶²Colombian approval was not received until two weeks after ship sailed. When told it was too late to arrange participation, Colombia threatened to deny request. Embassy intervened, and research was allowed.

⁶³Verbal approval was received the day before ship entered Honduran waters.

⁶⁴Mexican approval was not received until two weeks after ship sailed.

1989 RESEARCH CLEARANCE SUMMARY -13

Canada - 34	Bermuda - 18	Djibouti - 1
Mexico - 19	Bahamas - 11	Senegal - 1
Costa Rica - 3	Dominica - 9	Somalia - 1
Honduras - 3	St. Lucia - 8	So. Africa - 1
Guatemala - 1	St. Vincent - 8	
	Dominican Republic - 7	Kiribati - 4
Brazil - 6	Grenada - 7	Cook Is. - 2
Colombia - 6	Haiti - 6	Fiji - 2
Argentina - 2	Antigua & Barbuda - 4	Tonga - 2
Chile - 2	Barbados - 4	W. Samoa - 2
Ecuador - 2	Jamaica - 4	FSM - 1
Suriname - 2	Netherlands Antilles - 4	Japan - 1
Uruguay - 2	St. Kitts & Nevis - 4	Marshall Is. - 1
Venezuela - 2	Trinidad & Tobago - 2	Palau - 1
Guyana - 1		Philippines - 1
Peru - 1	France - 23	Tuvalu - 1
	United Kingdom - 13	
	Norway - 4	
	Denmark - 3	
	Iceland - 2	
	Portugal - 1	

The Department of State received a total of 110 research clearance requests during the period 1988-1989, which were proposed or conducted during calendar year 1989. They represent 250 requests to 50 foreign governments for U.S. research during 1989.

Ten clearance requests were denied or otherwise not approved. Research was cancelled, delayed or otherwise disrupted in 22 others, owing to untimely approvals or onerous requirements by the foreign government. This indicates problems with 12.8 % of the clearances. This is the lowest percentage since 1986, with 12.7 % problems. There were 17.6 % problems in 1987, and 22.0 % in 1988. In the ten years prior to 1986, the percentage of problems was consistently lower than 10 %.

In addition, 33 requests were received from 8 foreign governments for research in U.S. waters during 1989. All were approved, except as noted in the summary on the following pages.

FOREIGN CLEARANCES

JOHN P. TULLY	Canada ⁶⁵	9-20 Jan
JOHN P. TULLY	Canada	23 Jan - 3 Feb
MORSKOY GEOFIZIK	USSR	25 Jan - 25 Feb
ALFRED NEEDLER	Canada	20 Feb - 9 Mar
MYS BABUSHKINA	USSR	Mar - Jun
CANADIAN HYDROGRAPHIC SERVICE (St. Lawrence R.)		1 Apr - 31 Oct
OPARIN	USSR ⁶⁶	15 Apr - 30 May
KEIFU MARU	Japan	26 May - 21 Jun
JOHN P. TULLY	Canada	8-22 May
TSUNE MARU NO. 31	Japan	18 May - 17 Sep
SCOTIA PROVIDER	Canada ⁶⁷	19-26 May
CHARLES DARWIN	UK ⁶⁸	25 May - 20 Jun
ARCTIC PROWLER	Canada ⁶⁹	27 May - 2 Jun
J. L. HART	Canada	29 May - 16 Jun
XIANGYANGHONG NO. 14	PRC ⁷⁰	31 May - 3 Jun
UNITED VENTURER	Australia ⁷¹	Jun - Sep

⁶⁵Notification only (U.S. approval not required).

⁶⁶Soviets requested research near Hawaii, U.S. Line Islands and American Samoa. Research near Hawaii was denied for security reasons. However, the research in the other areas was approved and conducted in cooperation with U.S. scientists.

⁶⁷U.S. research aboard Canadian charter vessel.

⁶⁸Port calls only. Research outside U.S. jurisdiction.

⁶⁹U.S. research aboard Canadian charter vessel.

⁷⁰Port call only.

⁷¹Research was cancelled.

FOREIGN CLEARANCES

RUBEZHNOE	USSR	10 Jun - 24 Jul
HAIYANG IV	PRC ⁷²	30 Jun - 20 Nov
SHUNYO MARU	Japan	8 Jul - 13 Aug
LADY HAMMOND	Canada	10-28 Jul
VECTOR	Canada	10-14 Jul
SEIJU MARU	Japan	20 Jul - 15 Oct
CHARLES DARWIN	UK ⁷³	4-6 Aug
VULKANOLOG	USSR ⁷⁴	18-30 Aug
JUSTO SIERRA	Mexico ⁷⁵	18 Sep - 26 Oct
XIANGYANGHONG NO. 14	PRC ⁷⁶	Oct - Dec
JOHN P. TULLY	Canada	23 Oct - 3 Nov
E.- E. PRINCE	Canada	23 Oct - 9 Nov
LADY HAMMOND	Canada ⁷⁷	23 Oct - 10 Nov
CANADIAN HYDROGRAPHIC SERVICE (Lake Ontario)		30 Oct - 3 Dec
DAWSON	Canada	8-30 Nov

⁷²Port calls only.

⁷³Port call only.

⁷⁴Late request. Denied for security reasons.

⁷⁵Late request. U.S. requested vessel to remain outside territorial sea (12 nm) because there was insufficient time to obtain U.S. agency approvals for research proposed inside territorial sea.

⁷⁶Port calls only.

⁷⁷Notification only. Research outside U.S. jurisdiction.

1989 RESEARCH CLEARANCE SUMMARY -16

FOREIGN CLEARANCES

ALFRED NEEDLER

Canada

4-15 Dec

SUROIT

France⁷⁸

14-15 Dec

⁷⁸port call only.



3 February 1990

Mr. William D. Barbee
 UNOLS Office
 University of Washington
 Seattle, WA 98195

Dear Bill:

Attached herewith is my report of the Cruise Assessments for 1989. As you can see, we got a total of 220 Reports out of a total of 447 cruises. This is down from 1988 which saw 256 reports from 408 cruises. The '89 figures may not be as poor as they look; some cruises may have been transits, and several were legs served by a single report. Nevertheless, the reporting does appear to have dropped off and something ought to be done about it.

In terms of problem areas, the following were the chief troublemakers:

- . Winches - 11 reports - continue as the lead problem. This includes inadequate number on board, and too slow; but mostly breakdowns.
- . Machinery - 7 reports - more than in past; mostly main engine troubles.
- . Personnel - 5 reports - this is increasing complaint; perhaps from a greater awareness. Ranged from no techs assigned to missing crewpersons to science party too small! Compliments far outnumbered criticisms.
- . Cruise Planning - 5 reports - mostly complaints over equipment not aboard which was promised.
- . Three reports each over wire & cable (diminished from prior years); echo sounding; and lab ventilation/ air conditioning.

Forty three cruises were affected by weather (defined as the loss of one or more cruise days). This is up from past years. While not directly a ship problem, it could signify poor seakeeping or the use of a smaller ship than required.

I certainly believe that the reports should be continued. As you know I recommend that a copy should go to the operator, and that the operator should reply to the reporting Chief Scientist. The form itself is still a good one and only needs minor tidying up.

Regards,

Bob
 Bob Dinsmore

Encl:

PROFILE OF UNOLS CRUISE ASSESSMENT REPORTS

2/1/90
R.P.Dinsmore

1989

Ship	Number of Cruises	Reports Submitted	Successfulness				Weather Problems			Problem Areas & Comments
			Fully Successful	Part. Successful	Marg. Successful	Unsuccessful	Problems with Ship or Personnel	Problems with Science Equipment	Problems with	
ATLANTIS II	14	4	2	1	0	1	1	1	Winch; Cable; XBT; Technicians; ^{Engine} ALVIN;	
MELVILLE	11	5	4	1	0	1	1	3	Engine; Ger.Botts; GPS; Echo Sounder	
KNORR	0	(Undergoing Refit)								
CONRAD	6	5	4	1	0	0	0	1	Dynamometer	
WASHINGTON	10	6	6	0	0	2	0	1	Camera Strobe	
MOANA WAVE	13	10	7	3	0	1	2	3	Wire; Seismic System (2), Planning; <u>Maneuvering</u>	
OCEANUS	16	8	7	1	0	1	2	1	Navigation; No Techs; ADCP	
ENDEAVOR	15	5	4	1	0	2	3	0	Winch; Freezer; Instruments in prop.	
WECOMA	13	12	12	0	0	0	1	0	Wire	
ISELIN	15	8	4	4	0	2	5	3	Short Crew; Anchor; Winch(2); CTD; Engine (2); Block; Water Samplers	
NEW HORIZON	16	11	9	2	0	5	3	1	Sci.Liaison; Winch (2); RUM; Loran	
GYRE	11	11	8	3	0	6	4	3	Winch (2); Salinometer; Magnetometer; Wire; Nets; No Computer	
POINT SUR	48	23	17	5	0	1	3	2	Winch; Net in prop.; Engine; Too small science party; Sonobuoys	
CAPE HATTERAS	14	14	12	2	0	7	3	1	Science Liaison (2); Corer; Winch Poor Wet Lab; Ventilation	
ALPHA HELIX	16	0								
CAPE HENLOPEN	17	0								
SPROUL	22	11	9	2	0	5	1	2	Winch; Station keeping; Echo Sound.	
WARFIELD	38	41?	35	5	0	5	2	2	Engine; Generator; Towed Fish; Moorings	
PELICAN	19	8	6	2	0	2	3	1	Short Crew; Air.Cond.(2); CTD (2); Comms; Science Storage	
LAURENTIAN	0	0								
BLUE FIN	62	26	26	0	0	0	0	0		
CALANUS	17	12	10	2	0	2	3	1	Echo Sounder; Freezer; Centrifuge; Generator; Cruise Planning	
BARNES	54	0								
All	447	220	182	35	0	43	37	26		
Class IV up		49%	83%	16%	1%	19%	17%	12%		
		52%	percent of reports recvd.							

(Note: Figures give the number of cruises where problems occurred.)

Numbers in () indicate frequency of occurrence, otherwise one.

