UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM
(UNOLS)

ADVISORY COUNCIL REPORT
31 December 1973

SUMMARY AND RECOMMENDATIONS

The University-National Oceanographic Laboratory System (UNOLS) provides for an annual report by its Advisory Council on the utilization and support of research vessels. This is the second of such reports which are intended for the use of Federal Agencies having responsibilities for funding oceanographic research and facility usage at academic institutions. This summary consolidates the conclusions and recommendations which are presented in the text of the report.

The Federal Ocean Program

University operated ships comprise about one-third of the ships engaged in the Federal Ocean Program. Budget constraints have reduced the total capability for research at sea by as much as 20% with the severest impact on government operated ships; including the retirement of new capable ships. With the large capital investment the Government has invested, careful consideration must be given to the feasibility of replacing the older ships with some of the newer ones that are proposed to be taken out of service. This may require the trasfer of ships between government agencies or perhaps even to the academic community. The fleet should be reviewed in an overall context rather than within agency constraints.

1. *In order to achieve the most effective seagoing operations, newer, more capable ships should be kept in service rather than retired, and these ships, if necessary, should be assigned for the use of any governmental or non-governmental laboratory participating in the National Ocean Program.*

Federal Support for University Operated Ships

Budget constraints have required Federal agencies, in particular the National Science Foundation, to limit ship support to the needs of the particular agency. This is probably correct in the cases of mission-oriented agencies who should fund their proportional share of research ship operations. However the National Science Foundation has a unique role to support good science facilities in the national interest regardless of the origin or sponsorship of the research.

2. *It is recommended that NSF projects requiring ship use be assigned priority consideration for all ship time funded by the National Science Foundation.*

3. *The National Science Foundation should accept a unique responsibility to support science facilities for high quality research beyond programs of its own origin.*

4. *All Federal agencies supporting research at sea should fund their proportional share of ship costs.*

5. *The Interagency Committee for Marine Science and Engineering (ICMSE) should, as a matter of urgency, examine the need for equitable cost sharing of ship costs in Federal Research programs at sea.*

6. *It is recommended that the National Science Foundation be designated as the lead agency to plan for and coordinate academic research ship support to meet the research needs of the various Federal agencies.*

Reductions in Federal Support for Ship Operations

When the costs of oceanographic facilities exceed available support, or in the face of budget cuts, constraints become inevitable and will ultimately result in fundamental changes in the nature of the national oceanographic effort. Strategies must then be adopted to determine where available funds are best employed. These should include both holding actions for short term effects, and the elimination of certain facilities to meet longer term impacts. The following guidelines are recommended for reducing the levels of funding for oceanographic facility support.

7. *Eliminate all formal class instruction aboard major (expensive) vessels. Broaden and publicize opportunities for graduate students to participate in research cruises whether or not they are directly involved in the research to be done.*

8. *Conduct an independent financial audit on operating costs of comparable ships at different institutions for the purpose of finding areas in which savings can be made.*

9. *Urge the oceanographic community to consider alternatives to expensive vessels for obtaining data and making operations, e.g. by other vehicles (buoys, aircraft, government ships with academic scientists on board), by interinstitutional agreements and cooperation.*

10. *If ships must be "eliminated," eliminate ships now carrying weaker scientific programs. Which are the weaker ones must be decided by scientific peers, not by the operator group. High quality scientists with strong programs affected by these decisions should be given high priority for use of vessels in nearby or other appropriate institutions. It should be borne in mind that the "elimination" of the vessel at a single-vessel institution will most likely result in the demise of the oceanography program at that institution.*

11. *Large multi-ship institutions should develop plans for specific reductions of their total ship costs. They know best which ship should be laid up or which ones can be partially taken out of service temporarily. Painful as this will be, it will avoid a potentially disastrous error by a ruling from the national level.*

Ship Construction and Replacement

The current rate of replacement of university operated ships is about one ship per year. About one-third of the thirty-three ships currently in service are under ten years old, and another one-third is approaching obsolescence (30 years). Attention in the immediate future should go to the replacement of overage vessels and the fulfillment of identified needs chiefly in the area of coastal zone vessels.

12. *In FY-1975 there should be constructed at least two coastal research vessels according to the following priorities:*

    1 - Replacement of regional coastal vessels

    2 - Replacement of institutional coastal vessels

    3 - New construction of regional coastal vessels

    4 - New construction of institutional coastal vessels

13. *In FY-1976 there should be replacement funding for at least one large (over 175 ft) ship from among those now approaching obsolescence.*

14. *The replacement and future construction of conventional research vessels should be the first priority of the National Science Foundation.*

15. *The development and construction of specialized high technology ships for use by university scientists should be undertaken by the U.S. Navy. Early attention should be given to an Arctic research ship and a semi-submersible stable platform to replace or augment existing vessels of the academic fleet.*

Federal Support for Other Operations and Facilities

Other than research ships UNOLS attention during 1973 has focused on research submersibles and aircraft use in oceanography.

Submersibles

Funding for submersibles available for university investigators continues to deterioriate. Currently only two deep submersibles - ALVIN and DEEP QUEST remain operational outside the Navy. The latter has become totally unfunded and its future uncertain.

16. *Submersibles should be utilized more in university research than at present, both on an institutional basis and as National Oceanographic Facilities (including charter funding). Total support of about $2.0M in FY-1975 should be about evenly divided between ONR, NSF, and NOAA (MUS&T Office). The two latter agencies should join in supporting at least two submersibles and a submersible "charter fund" as UNOLS National Oceanographic Facilities.*

Aircraft

The UNOLS Working Group on Oceanographic Aircraft has submitted its report. Their report stresses the commonality between meteorological and oceanographic requirements for large aircraft and the potential for joint usage using Federal facilities. The Working Group recommendations endorsed by the Advisory Council include:

17. *The commonality between requirements of multi-engine meteorological and oceanographic aircraft indicates joint use of these aircraft in meeting the requirements of major programs such as CUEA, GARP, NORPAC, etc. These aircraft should be operated by existing Federal Flight Facilities.*

18. *The National Center for Atmospheric Research (NCAR) should include oceanographic research in its mission and provide flight services of high performance, well instrumented aircraft on the same basis as it now provides to meteorological research. This may require the addition of one additional aircraft which oceanographic research requirements should justify.*

19. *The NOAA-Flight Research Facility should include academic oceanographic research within its mission and its aircraft should be available to the academic community on a programmed and budgeted basis.*

20. *The Scripps aircraft (DC-3) should be continued as a National Oceanographic Facility for at least half of its flight availability. Its equipment should be upgraded to a basic suite of modern instruments.*

21. *In 1974-1975 the academic community should acquire a second twin engine aircraft which should be operated by a member institution as a National Oceanographic Facility. This facility should include a complete instrument capability and technicians.*