

UNOLS FLEET IMPROVEMENT COMMITTEE

Crittenton Hall
Old Dominion University
Norfolk, VA
20-21 June 1996

Meeting Report

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OPENING REMARKS - The FIC Committee met at Crittenton Hall, Commonwealth Center for Coastal Physical Oceanography of Old Dominion College in Norfolk, Virginia on 20-21 June 1996. The meeting opened at 0900 with brief remarks from the Chair, Chris Mooers who expressed gratitude to Don Heinrichs, Pat Dennis and Marty Mulhern (*in absentia*) for providing written summaries of their report in advance that improved the efficiency of the meeting. A list of participants of the meeting is included as [Appendix II](#). The Agenda, [Appendix I](#), was followed except as indicated in these minutes.

UNOLS CHAIR REPORT - Ken Johnson, UNOLS Chair, opened with remarks on the activities of UNOLS. Ken informed the committee of the recent ABC new report on the USCG's HEALY and the NSF Arctic Research Vessel. The report strongly criticized the Coast Guard for the cost of HEALY vis-à-vis the ARV and challenged its science capability. Ken further explained that UNOLS was presently setting up a committee to work with the Coast Guard to enhance the interaction of science aboard the icebreaker fleet. The committee would be called the Arctic Icebreaker Coordinating Committee (AICC) and would be chaired by Jim Swift. The full committee has yet to be named. The committee would deal with only Arctic issues as they relate to scientific work from icebreakers. The FIC may be able to assist the AICC on issues of mission requirements.

Ken reported that the CORE Ocean Partnership Act initiative was working its way through Congress. The bill could provide \$30M for the partnership activities with \$7.5M for UNOLS ship operations. Diana Josephson of NOAA testified to Congress that NOAA would be providing UNOLS \$2.6M annually. These two potential new sources of money could go a long way to alleviate some of the shortfalls in the UNOLS Fleet.

UNOLS is presently engaged in discussions with NOAA on integration plans in the event the NOAA Corps is disbanded. Jim Baker set up this committee with Alan Thomas and Ken the co-chairs. The charge of the committee, which has met once, is to investigate and evaluate all possible ways to cooperate and integrate the UNOLS/NOAA Fleet. A subcommittee was formed and has met to probe the possible options.

Ken reported that the 1997 DOD budget has a bill that would authorize \$45M for a Navy owned, academic institution operated, SWATH vessel. Because of the unplanned nature of this potential ship in the UNOLS Fleet, Ken wrote a dear Colleague letter, [Appendix III](#), to express his views on the matter.

As a final comment Ken quoted from two early UNOLS publications of 1972 and 1974 which projected the fleet into the 90's. Ken noted that the Fleet today is very close to that projection.

AGENCY REPORTS

NSF - Don Heinrichs provided the agency report for NSF. Don's report is included as [Appendix IV](#). The report included personnel changes and assignments at NSF. Don indicated that he would be the NSF liaison for the new UNOLS AICC. A budget summary is part of the report. Also included is the NSF Directorate for Geosciences (GEO) Long-Range Plan FY 1997-2001.

NAVY - Pat Dennis gave the Committee the report for the ONR, OON/CNMOC and NAVOCEANO. This report is attached as [Appendix V](#). It includes the status of the UNOLS Navy owned vessels as well as the fleet of NAVO ships. RADM Gaffney is slated to relieve as Chief of Naval Research and will be dual hatted until a replacement can be named for his CNMOC position. ONR will be the new Chair of FOFCC.

NOAA - Captain Martin Mulhern was not present, however, forwarded a report for NOAA. This report is included as [Appendix VI](#).

BRIEFING ON AUVs AND RPVs

Tom Curtin of ONR provided a comprehensive briefing on a program he is working on with Autonomous Underwater Vehicles (AUVs). His view graphs are included as [Appendix VII](#). The project is developing an Autonomous Ocean Sampling Network. The network includes both fixed (moorings) and mobile nodes (AUVs and ships). These nodes provide multiple sensors that are linked by communications, navigation, energy and software creating a potential for real-time oceanography. The entire complex is connected via satellite to virtually any point in the world. The concept is to use inexpensive off-the-shelf technology where possible.

Bob Bluth, also of ONR, followed with a presentation on Remotely Piloted Vehicles (RPVs). His presentation view graphs are included as [Appendix VIII](#). Bob works with the Center for Interdisciplinary Remotely-Piloted Aircraft System. His program is complementary with the Autonomous Ocean Sampling Network by providing an efficient and cost effective method of collecting atmospheric samples through various low cost remotely piloted vehicles.

FIRST DISCUSSION OF DRAFT 1996 INTERIM FLEET IMPROVEMENT (IFIP) PLAN - Chris Mooers tasked the committee to grapple with the IFIP by laying out a strawman plan. The Committee is to develop fleet size options for a series of funding scenarios. These range from very optimistic, optimistic, pessimistic/realistic, and very pessimistic. The report, "Projections for UNOLS' Future - Substantial Financial Challenges", was used as a project point which said that the Fleet, as presently configured with new ships coming on line, would have an \$18M shortfall by the year 2000. This viewpoint was considered as the pessimistic/realistic scenario. Chris's work provided the committee ideas to ponder for the second day's activity.

The Committee adjourned for the evening.

The Committee reconvened at 0830 on 21 June to continue the meeting.

FIC SUBCOMMITTEE REPORTS

UNOLS Fleet as Real-Time Data Platforms: Eric Firing started this report with a discussion of Shipboard Technical Upgrades. He divided them into the categories of 1) Navigation, 2) External Communications, 3) Sampling Monitoring, 4) Winches, Wire & Rigging and 5) External Networking Computing. Eric plans to broaden his questioning of ship users for more detail. The work remains in progress and will result in a paper with recommendations by late summer (in time for presentation at the September UNOLS Council Meeting).

Rich Findley followed with a report of RVTEC issues on real-time data acquisition and telecommunications. He discussed shipboard data links using MSAT (Mobile Satellite). He also included a discussion on the status of INMARSAT B and SeaNet. RVTEC will be examining fiber optic cables, both steel and KEVLAR. They see a potential for "virtual instrumentation" where the computing power is at the end of the cable. Rich continues to push for NETCDF as a fleet wide standard but the process is moving slowly.

Post Cruise Assessment Reports: Peter Betzer agreed to review the current progress of the Post Cruise Assessment Reports. The UNOLS Office will send Peter a copy of the latest version of the draft assessment report being worked on by Mike Prince and the RVOC along with the current reports for his evaluation.

MG&G Platforms for NAVO and MG&G Needs: Bob Detricks provided the Committee with three point papers relating to MG&G. These are included as [Appendix IX](#). The first paper deals with the UNOLS Fleet as MG&G platforms for NAVO; the second, MG&G Science Program Prospects and the third, Shipboard Technology Upgrades.

Science Program Prospects: Bess Ward, Tom Weingartner and Chris Mooers provided the committee with their assessment of program prospects. Bess covered JGOFS indicating there were no long range major programs on the books. Tom informed the committee of the SHEBA experiment which is beginning in the Arctic, the Shelf Basin Interaction is developing a science plan, and the Canadian Basin Section which will require an icebreaker. Tom suggested that small groups of PIs are planning process-oriented science programs. Chris addressed Coastal Ocean science prospects stating there were plans for coastal work in the Great Lakes requiring an intermediate vessel for several months in the next few years. Otherwise there is a severe shortage of special planning information. He expressed a need for the committee to discuss platform needs for the coastal oceans. This information will be expanded for the Fleet Improvement Plan.

OUTLINE FOR UNOLS-FLEET IMPROVEMENT PLAN 1998 - The committee reviewed the outline for the next FIP (see [Appendix X](#)). Tasking assignments were made for writing the plan. These were as follows:

Tom Weingartner: II B, H, I
Bess Ward: II D
Eric Firing: II C, III L
Larry Atkinson: II A
Bob Detrick: II F
Chris Mooers: II L
All: II K
Jack Bash: III B, C, F
DESSC : III H, I, J

Further assignments will follow.

INTERIM FLEET IMPROVEMENT PLAN - The remainder of the meeting was a discussion on the scenarios for the Interim Fleet Improvement Plan. Chris provided four scenarios for the committee to work with. These were "Very Optimistic", "Optimistic", "Pessimistic/Realistic" and "Very Pessimistic". The committee spent considerable time estimating the year 2000 dollars that would be available under each of these scenarios. Consensus was reached by assigning (from highest to lowest) \$80M; \$60M; \$50M and \$30M. Units were assigned to ships using the following formula: \$5M/Class I (Global) equals one unit; \$2.5M/Class III (Regional) equals two units; and \$.7M/Class IV (Coastal) equals seven units. No attempt was made to name a ship in the process but only classes of ships. The above numbers would be aggravated even more if a new ship were introduced in Hawaii.

SCENARIO I. All ships remain in the Fleet as presently configured with even the possibility of a new ship added.

II. Two Global ships are removed or one Global and two Regional ships are removed or one Global, one Regional and two/three Coastal ships are lost.

III. Two Global/four Regional/and six local ships are lost or four Global/two Regional/three Coastal ships are lost or three Global/three Regional/and four/five Coastal ships are lost.

IV. A similar spread as III. above except these would be the ships remaining versus lost.

Pros and Cons to all of the options were discussed. Further e-mail exchanges are expected so that a plan can be presented to the UNOLS Council at their 25-26 July meeting in Orlando, FL.