

UNOLS ANNUAL MEETING

SUMMARY REPORT

September 20, 1994

**National Science Foundation, Room 375
4201 Wilson Boulevard
Arlington, VA**



SUMMARY REPORT

UNOLS ANNUAL MEETING 20 September 1994

**NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD, Room 375
ARLINGTON, VA**

The UNOLS Annual met on 20 September 1994 at the National Science Foundation Building at 4201 Wilson Boulevard, Arlington, VA. The meeting was called to order by Garry Brass, UNOLS Chair, at 0830 hrs. The participants are listed in *Appendix I* and the meeting agenda is included as *Appendix II*. These minutes reflect the order in which items were addressed.

APPENDICES

- I.** Attendance List
- II.** Agenda
- III.** Fleet Improvement Plan
- IV.** USCG Report
- V.** Internet through OCEANIC
- VI.** ASA Ship User Committee
- VII.** UNOLS Dues Report
- VIII.** UNOLS Council Ballot

Annual Minutes: The minutes of the 1994 Annual Council meeting were accepted as written.

COMMITTEE REPORTS

FLEET IMPROVEMENT COMMITTEE - Marcus Langseth, FIC Chair, provided the Council with a report of the Fleet Improvement Committee. He reported that there were three major activities of the FIC this past year: 1. Coastal Ocean Science Needs, 2. Arctic Research Vessel Design, and 3. Update to the Fleet Improvement Plan.

The report for Coastal Ocean Science needs is at the printers and will be distributed in the near future. Science Mission Requirements (SMR) will be developed as a follow on to this effort. In addition, the Committee will make an assessment of existing facilities and to see how these facilities meet the requirement of Coastal oceanography.

A Preliminary Design Study for the Arctic Research Vessel has been completed and mailed. The model test of this design indicates superior performance in ice. The ship is designed with 18,000 shp which will permit six knots in three feet of ice and leaves a clear channel in its wake. A stern and bow view of this design is included in *Appendix III*. A proposal has been submitted to the National Science Foundation for the contract design. Funds for construction of this ship are presently on hold awaiting budget plans at NSF.

Marcus provided view graphs of tables from the soon to be finished Fleet Improvement Plan. These are included in *Appendix III*. Table IV-1 is a comparison of FIC -90 recommendations for UNOLS fleet size and composition and the current (1994) fleet with the projected Fleet in 2000. The total cost breakdown of the fleet is reflected in a pie chart. This chart indicates the cost of the Class I/II ships use over 50% of the operating dollars. In the next view graph the total costs of the fleet are represented in both real and inflated dollars for the past nine years. The inflated chart suggests level cost expenditures during this period. Marcus provided a graph which represented the daily rate vs. percent utilization for Class I/II and Class III vessels. The graph demonstrates as utilization goes up, the day rates goes down. The recommendations of the Fleet Improvement Plan were also presented by Marcus and are included in *Appendix III*.

RESEARCH VESSEL OPERATORS COMMITTEE - Mike Prince, RVOC Chair, gave the RVOC report. In the past year the RVOC Safety Subcommittee has been reviewing the Research Vessel Safety Standards. A generic draft Oil Spill Response plan is also under development. A spill plan is required by ships over 400 gross tons by the spring of 1995.

RVOC will have its annual meeting hosted by Skidaway in Savannah, Georgia 25-27 October. The first day will be devoted to reports of the subcommittees and the federal agencies. On the second day workshops will be held on budgets, Oil Spill Response plans, Ship utilization and Medical Standards. A discussion and demonstration will be

held on new safety and fire fighting equipment. The third day will be devoted to a round table discussion by the marine superintendents on management issues.

DEEP SUBMERGENCE SCIENCE COMMITTEE - The DESSC report was presented by Jack Bash in the absence of the DESSC Chair, Jeff Fox. He reported that ALVIN had completed 131 dives to date this year with only two lost to mechanical problems. A total of 177 dives are scheduled for this year. In 1995 a total of 168 dives are planned. ALVIN will work first in the North Atlantic then the northern EPR proceeding to the Juan de Fuca area and finally back to the EPR. In 1996 ALVIN will undergo an overhaul in the first half of the year. After the marriage of ALVIN and KNORR there is planned work in the North Atlantic then both the northern and southern EPR. The schedule after this work will be driven by new proposal activity. No Juan de Fuca work is envisioned for ALVIN in 1996.

ATLANTIS II has now been equipped with the P-Code GPS which should significantly improve its navigation accuracy. ALVIN has been fitted out with a new three chip camera and new lighting. Three new pilots have been qualified for ALVIN. The sub has been certified for 4500 meters (from 4000) and the rock drill has been certified for use on ALVIN. The towed ARGO HMS system is scheduled for a 30 day dive series on the Mid Atlantic Ridge in 1994. In 1995 plans are underway for robotic arm development and in 1996 a field program in the southern EPR is being scheduled for MEDEA-JASON.

The 1994 HURL/NOAA/NURP program has been delayed until the K-O-K has completed its conversion to the PISCES handling ship. The year of 1995 is scheduled for a shake-down year with science operations are being planned for the Hawaiian Island area in 1996.

The Navy's TURTLE will be conducting 60 operating days of science dives in a cooperative program with NOAA this year. An additional 60 day program is planned for 1995.

SHIP SCHEDULING COMMITTEE - The Ship Scheduling report was provided by Ken Palfrey. Ken informed the committee that the UNOLS fleet operated about 4300 days in 1994 for a cost of approximately \$46M. SEWARD JOHNSON will be picking up the remainder of the ISELIN schedule while ISELIN is in the shipyard. In 1995 the large ships will be operating with full schedules of well over 300 days each. This is caused primarily by the needs in the Indian Ocean. The intermediate ships are showing light schedules with ISELIN not operating in 1995 and at least one other east coast intermediate with a less than optimum schedule. WECOMA will be operating with well under 200 days. The 1995 schedules, as presented at the Ship Scheduling Meeting, cost out at \$49.9M which represents a shortfall but not near what we have seen in previous years. Ken attributes this to earlier funding decisions by the Agencies.

The Ship Scheduling Committee did not meet in June of this year as was the previous procedure. The scheduling was done electronically with the Schedule Review Group meeting to evaluate the schedules presented. This seemed to have worked well and saved travel money. It is planned to continue with this procedure next year.

Ken reported that the Nominating Committee presented the names of Don Moller and Robert Hinton as Chair and Vice Chair of the Ship Scheduling Committee. No other nominations were offered. These names were presented to the UNOLS Chair for confirmation. Don Moller and Robert Hinton were confirmed by the Chair with concurrence of the Council.

RESEARCH VESSEL TECHNICAL ENHANCEMENT COMMITTEE - The RVTEC report was provided by the Chair Rich Findley. RVTEC is having their annual meeting in Miami 19-21 October. The first day will include reports of the standing subcommittees on Database Service, Technician Exchange and Data Standards. A tour of the General Oceanics Facilities is planned for the afternoon. On the second day there will be a guest speaker on NetCDF and another on Satellite Imaging Display. A presentation on CHIRP Sonar Systems will be given by John Freitag. Another guest speaker will discuss Salinity followed by a round table discussion. The Committee will discuss the replacement for OMNET and the criteria for use of 20 foot shipping containers.

KEYNOTE ADDRESS

Dr. Robert Corell was unable to attend the UNOLS Annual meeting. There was no Keynote address.

AGENCY REPORTS

OFFICE OF NAVAL RESEARCH - Jim Andrews provided the ONR report. Jim reported ONR has reorganized several times in the past year but now seems to be settling out. ONR's Ocean, Atmosphere, and Space S&T Department (32) is headed by James DeCorpo. Steve Ramberg heads up the OAS Sensing and Systems Division (321) and Richard Spinrad is Director of the OAS Modeling and Prediction Division (322). Keith Kaulum retired in August and June Keller left ONR in June. Annette DeSilva is filling in for six months and Pat Dennis will be working half time at ONR. A new position description is in the process of development.

Jim further reported on the AGOR thruster gear problem. It has been determined that MELVILLE's gears had insufficient case hardening. Investigation of the THOMPSON

gear failures has been inconclusive. The THOMPSON thruster units were repaired by installing the gears that were manufactured for AGOR 24. This will not impact the construction schedule of this ship. KNORR's Z-drive gears were inspected in August. No evidence of surface cracks were identified.

The construction of both AGOR 24 and 25 are well underway. AGOR 24 is scheduled for delivery in the spring of 1996. The keel laying ceremony for AGOR 25 was held in August. This ship is planned for a spring 1997 delivery. Finally, Jim reported that ONR is expecting level funding for 1995.

NATIONAL SCIENCE FOUNDATION - Don Heinrichs provided the NSF report. He reported Grant Gross will be retiring at the end of September. A national search is underway for his replacement. On the budget, Don reported that NSF requested a 10% increase, however, an increase of 2.5-4% is more likely. Increases in Global Change and Environmental Programs as well as High Performance computing are expected to get the increases while all other programs will increase only by inflation levels.

The large ships in 1995 will be heavily supporting NSF projects. The overall request for ship funds to support these schedules exceed the money expected to be available at NSF. A downward negotiation of the budgets is anticipated.

Don referred to the FIC report and the need for a capital investment for the Arctic Research Vessel. There are no funds in the 1996 budget for this project with the 1997 budget being the earliest date possible. This would have the ARV delivered in the year 2000. GAO is presently looking at the buy/buy lease/ amortization options for the ARV. They have expanded their study to look at the entire Arctic picture. The date for the study results is yet to be determined.

NSF now has a Major Research Equipment Account which is foundation wide. This differs from the past when major equipment was focused at the director level. The funding for the ARV must compete with other directorates at the Foundation. An additional review supporting the need for the ARV will be necessary to compete for these funds. The National Research Council has been asked to conduct this review.

The Rosenstiel School of Marine & Atmospheric Science has approached NSF with the possibility of submitting a proposal to upgrade ISELIN into a coastal research vessel. This would include the insurance money to repair the ship plus additional NSF money. Other options for the ship are to repair with the insurance money to its previous condition or thirdly to retire the ship without repairs. Don said that a special panel would be needed to review any proposals that would require additional money.

Don reported that the current three agency MOA for support of ALVIN and ROVs at Woods Hole's DSL will run out at the end of 1995. The three agencies (NSF, NOAA

& ONR) will meet this fall to start the work on developing a new MOA. The subject of re-competing the operations of the submersible assets will be discussed.

Don went to Mexico with Tom Cocke of the State Department and Rear Admiral Petersen of NOAA to discuss clearance problems. The trip seemed to be successful and improved clearance procedures hopefully will follow.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION - The NOAA report was presented by Captain Martin Mulhern. Marty reported that the NOAA AGOR contract has been let and the keel laying is expected in the near future. They are planning a 1997 delivery date on this ship. An RFP is out for the conversion of the first of NOAA's TAGOS ship. This conversion is expected to be completed in time to have the ship in service by January 1996. The RFP for a Repair to Extend (RTE) on the DELAWARE II is out. A contract award is expected soon.

Marty reported that the National Performance Review encouraged NOAA to investigate alternate methods for their ship needs. NOAA is presently seeking bids for a charting task in Long Island Sound. They are also writing a contract for a back-fill ship for DELAWARE II while that ship is in overhaul. Three short contracts are being investigated for NOAA's GLOBEC work. Marty reported that Rear Admiral Bill Stubblefield will be attending the International Ship Operator's meeting.

BALDRIGE is scheduled for deployment to the Indian Ocean in 1995. NOAA will be coordinating with UNOLS for possible work on the way home. NOAA has also been cooperating with UNOLS in the GLOBEC work which is truly a joint program. Marty reported that the Director of the Office of NOAA Corps Operations, Rear Admiral Sigmund Petersen will be retiring in October and that no replacement has been named to date.

On the budget picture NOAA is down-sizing its personnel by about 2000. This will be done over the next five years with a portion of the cuts coming from the Office of NOAA Corps Operations.

NOAA has established a group comprised of civilian managers from NOAA's line and program offices to review the issues raised in the recent Marine Board Study, and to develop a NOAA implementation plan. Marty has no detailed information because this group is midway through their review. He reported that the groups work should be completed in the spring.

UNITED STATES COAST GUARD - Captain Alan Summy provided the U S Coast Guard report. He informed the Council that POLAR SEA had completed a successful Arctic cruise this past summer. They entered the Arctic via the Bering Strait and departed into the North Atlantic. This will be the last funded Arctic science cruise for

the next two years. Captain Summy reported that their new icebreaker HEALY is in the final stages of design and will begin construction soon. View graphs were presented and are included as *Appendix IV*. The ship is expected to be delivered in the spring or summer of 1998. Plans for operating this icebreaker are based on anticipated use by the science community. The USCG will cover full personnel costs, 65% of maintenance costs, 40% of helo maintenance costs and 41 days of fuel. The remaining support for this ship in a 185 day operating year is to be picked up by the user (science) community. Captain Summy continued with his presentation describing the characteristics of HEALY.

UNITED STATES DEPARTMENT OF STATE - The State Department report was provided by Tom Cocks. Tom reported that a Marine Science Working Group met with Mexico to work out clearance problems with that country. Tom is optimistic that there will be an improvement in clearance processing. Both Russia and Brazil have been problem areas, however, Brazil seems to be becoming more flexible. Tom reported that clearance requests are still coming in late and repeated his plea for submissions as early as possible whether or not funding has been secured.

UNOLS ISSUES

SCHEDULES ON INTERNET - Katherine Bouton informed the Council of the capabilities of University of Delaware's Internet connection OCEANIC and its ability to present ship scheduling information. Katherine view graphs are included as *Appendix V*. Access can be made through Internet's World Wide Web using mosaic or lynx, through Gopher, Telnet or direct dial. Ship characteristics are also available with OCEANIC routing the searcher to the individual institution where expanded information can be maintained. She was available during the day for demonstrations.

ANTARCTIC SUPPORT ASSOCIATES SHIP USERS COMMITTEE - Doug Martinson of LDEO provided the membership with information about the newly formed user committee that will provide recommendations and advice to Antarctic Support Association. Doug presented view graphs which are included as *Appendix VI*. A committee of nine persons chaired by Doug plan to meet once per year in support of POLAR DUKE and NATHANIEL PALMER. They will oversee acquisition and utilization of equipment and instrumentation, shipboard computer system, ship scheduling, staffing, communications, space and other issues of concern to scientists. They plan to have a link with UNOLS.

RADIO OFFICER/GPS - Dick Pittenger reported that Congress was still working on several versions of a bill that addressed the Radio Officer issue and that the final language would be settled in conference. He was not hopeful that the need for Radio Officers would be rescinded, at least this year.

P-Code GPS is up and running on KNORR and ATLANTIS II. Both ships are very pleased with the result of the precision provided to navigation. The ships are able to dynamic position on the signals they receive. The process to get the P-Code on these ships has been slow and laborious. The University of Washington is progressing slowly for use on THOMPSON and Scripps will be starting soon. Dick suggested that it would take a while before other ships in the UNOLS fleet could avail themselves of the P-Code. DOD will have to be comfortable with the process and operation at the first three institutions before expansion would be possible.

KNORR CONVERSION - Dick Pittenger provided an update on the plans for the KNORR conversion to a support ship for submersibles and ROVs. The KNORR conversion is tied to the schedule of ATLANTIS II. Both ships are scheduled to return to Woods Hole in early 1996. ALVIN will commence a six month overhaul and ATLANTIS II will off load for cross decking certain handling gear such as the stern A frame. For personnel reasons, the delivery of AGOR 25 is also part of the matrix. This ship is scheduled for delivery in early 1997.

Conversion plans call for an off-set hangar on KNORR (to retain deck space for general oceanography). Also included will be a Dynacon traction winch and vans for a machine shop and electrical shop. They are looking at increasing the berthing capacity by 4 bunks. The ship will be equipped with P-Code GPS and dynamic positioning. ATLANTIS II remains up for sale with no serious prospects at this time.

SCIENTIFIC OPPORTUNITIES ON NUCLEAR SUBMARINES - Garry Brass reported that the follow-on program from the PARGO cruise is well underway. Planning meetings for the first of 5 yearly cruises have been held and the 1995 submarine has been designated. In other nuclear submarine activities Garry informed the Council that UNOLS will be assisting in a workshop of scientists that will be investigating the scientific opportunities that might be attained on a nuclear submarine if that submarine could be dedicated to science and operate in the oceans of the world. The concept is to convert an attack submarine that is decommissioned by the Navy into a science platform. The workshop is scheduled for 21-22 September and the report from this workshop will be published by UNOLS.

SEA NET - A proposal is in review at NSF to bring Internet to sea. This proposal, SeaNet will be a high speed computer transfer system and would be tested in THOMPSON and EWING.

MISCELLANEOUS ISSUES - Pat Kremer of USC announced that they are looking for a new operator for VICKERS. Pat reported on administrative changes at USC. She will be the Executive Director of the Hancock Institute of Marine Studies and Tom Dickey will be named the Director. USC has joined a consortium of institutions which is named Southern California Marine Institute. This consortium represents eight California State University campuses and is dedicated to providing field and laboratory support for marine biology, oceanography and other ocean-related studies.

Otis Brown, Associate Dean at the University of Miami gave a brief summary of the COLUMBUS ISELIN grounding incident. ISELIN was on an ONR cruise on 8 August near Looe Key. After a second XBT run the ship continued at about 5.5 kts. on a course for 6 to 10 minutes traveling 1 1/8 to 1 1/4 miles onto a reef. It was about 11 PM and near high tide. Damage was experienced to both the ship and the reef. The USCG set up a command center and salvors came aboard. After off loading fuel and with assist of a tug the ship came off the reef and steamed under its own power to Key West. The ship was given a cursory inspection then proceeded to Atlantic Drydock near Jacksonville. During the incident the sewage tanks backed up into the ship causing the need for over 100,000 gallons of liquid to be treated. The ship presently awaits a decision of the scope of work to be completed. The ship is insured for hull damage and could be fined for the damage to the National Marine Sanctuary.

Peter Betzer thanked Garry Brass for his four years of service as UNOLS Chair and praised him for his aggressive and strong leadership. Peter then presented Garry with a gift as a token of appreciation for his service.

Jack Bash provided a dues status. A total of \$1900 has been collected in 1994 for dues. Two expenditures, the wine and cheese social and the farewell gift for Garry Brass, had not yet been tallied. The report is included as *Appendix VII*.

UNOLS COUNCIL SLATE - Dick Pittenger presented the UNOLS Council slate of the nominating committee which included Dick, David Karl and Bob Wall. Ken Johnson was the sole nominee for Council Chair; Peter Betzer and Tom Malone, Vice Chair; Bob Knox and Rick Jahnke, at-large candidate; Denny Hayes and Dennis Hansell, Operating representative; Greg Cutter and Cindy Lee, Non-operating representative. A sample ballot is included as *APPENDIX VIII*. Elected were: Ken Johnson, Chair; Peter Betzer, Vice Chair; Bob Knox; Denny Hayes and Cindy Lee.

The meeting was adjourned at 1500 hrs.

APPENDIX I

NAME**AFFILIATION**

| | |
|----------------------|---------------------------------|
| Tim Askew | HBOI |
| John F. Bash | UNOLS |
| Peter Betzer | U of So Florida |
| Doug Biggs | Texas A&M |
| Robert Bourke | Naval Postgraduate School |
| Garry Brass | Arctic Research Commission |
| David Brooks | Texas A&M |
| Wendell Brown | U of New Hampshire |
| Otis Brown | U of Miami |
| Andy Clark | HBOI |
| Tom Cocke | Dept. of State |
| Mary D'Andrea | UNOLS |
| Annette DeSilva | ONR |
| Richard Findley | U of Miami |
| Linda Goad | U of Michigan |
| George Grice | NMFS |
| Dennis Hansell | BBSRI |
| Dennis Hayes | LDEO |
| Don Heinrichs | NSF |
| Katharine Honrbarger | House Oceanography Subcommittee |
| Larry Jendro | USCG |
| Ken Johnson | MLML |
| David Karl | U of Hawaii |
| Robert Knox | Scripps |
| Patricia Kremer | HIMS |
| Michael Lang | Smithsonian Institution |
| Marcus Langseth | LDEO |
| Russell McDuff | U of Washington |
| Marty Mulhern | NOAA |
| Charles Nittrouer | SUNY, Stony Brook |
| Ken Palfrey | OSU |
| Tim Pfeiffer | U of Delaware |
| Dick Pittenger | WHOI |
| David Powell | U of Miami |
| Mike Prince | MLML |
| Steve Rabalais | LUMCON |
| Lisa Rom | NSF |
| Tom Royer | U of Alaska |
| Alan Summy | USCG |
| Brian Taylor | U of Hawaii |
| Joe Ustach | DUKE/UNC |
| Robert Wall | U of Maine |

Terry Whittedge
Denis Wiesenburg
Judy Wilson
Stan Winslow

U of Texas, Austin
U of So Mississippi
House Merchant Marine & Fisheries Subcommittee
U of Hawaii

APPENDIX II

AGENDA
UNOLS ANNUAL MEETING
8:30 a.m, Tuesday, 20 September 1994
NATIONAL SCIENCE FOUNDATION, Room 375
4201 WILSON BOULEVARD
ARLINGTON, VA

Introduction and Welcome: Garry Brass, UNOLS Chair, will report on 1993-1994 activities, current issues and issues continuing into 1995.

COMMITTEE REPORTS

Fleet Improvement Committee: Marcus Langseth, Chair, will report on 1993-1994 accomplishments and plans for next year. He will provide the status of the Fleet Improvement Plan update, the Arctic Research Vessel design and construction plans.

Research Vessel Operators Committee: Mike Prince, Chair, will report on 1993-1994 RVOC activities, issues and the upcoming RVOC meeting in Savannah, GA.

DEep Submergence Science Committee: Jeff Fox, Chair, will review DESSC activities for the past year. Jeff will report on ALVIN's operations in 1993-1994. He will review DESSC's recommendations for ALVIN and ROV operations in 1995 and beyond.

Ship Scheduling Committee: Ken Palfrey, Chair, will report on the scheduling process during 1994, schedules for 1995, costs balanced against expected funds and recommendations from the SSC. Ken will discuss the results of revising the scheduling process by eliminating the spring Scheduling Meeting.

Research Vessel Technical Enhancement Committee: Rich Findley, Chair, will report on the activities of RVTEC in 1993-1994 and the committee's annual meeting scheduled to be held in Miami, FL, 19-21 October.

KEYNOTE ADDRESS

**Dr. Robert Corell, Assistant Director for Geosciences, National Science Foundation,
will provide the keynote address for the 1994 UNOLS Annual Meeting.**

AGENCY REPORTS

Remarks from Federal Agencies: Information from Federal funding agencies (DOE, MMS, NOAA, NSF, ONR and USGS) on 1994 funding, forecasts for 1995 or later, ship operations and science support. Other areas of discussion will include:

- NSF will report on activities/plans for 1995 and beyond.
- ONR will report on the construction status of AGOR-24 and AGOR-25.
- ONR/NRL cost sharing arrangement to utilize UNOLS vessels will be discussed.
- NOAA will discuss their ship time use of UNOLS vessels and modernization plans for their fleet.
- NOO will discuss the activities of the Oceanographer of the Navy.
- USCG will report on the status of the construction of their Ice-Breaker HEALEY.
- Department of State/Office of Ocean Affairs - Tom Cocke, will summarize the 1993 clearance status.

12:00 - 1:00

Lunch Break

12:00 - 1:00

UNOLS ISSUES

White Submarine Workshop: Garry Brass will inform the Members of the White Submarine Workshop plans which is scheduled to be held at the AGU Building, Washington, DC, 21-22 September.

(over)

PALMER Science Committee: Douglas Martinson from LDEO will update the Membership on the progress and activities of the PALMER Science Committee.

Issues before UNOLS: Various issues of interest to UNOLS Members have arisen during the year. The UNOLS Chair will introduce these issues or elaborate on remarks made earlier:

- Arctic Research Vessel
- Radio Officer/GPS
- Admeasurement of OCEANUS Class
- NR1/TURTLE Operations
- Opportunity on Nuclear Submarine
- SeaNet Proposal for UNOLS Vessels
- UNOLS Dues Report
- KNORR Conversion

UNOLS Members may wish to raise additional issues.

UNOLS Elections: Election for the following UNOLS positions will be held. The slate of nominees is enclosed (Encl. 1):

UNOLS Council Chair, (2-year term).

UNOLS Council Vice Chair, (2-year term).

UNOLS Council Member, at large, affiliated with any Member institution (3-year term).

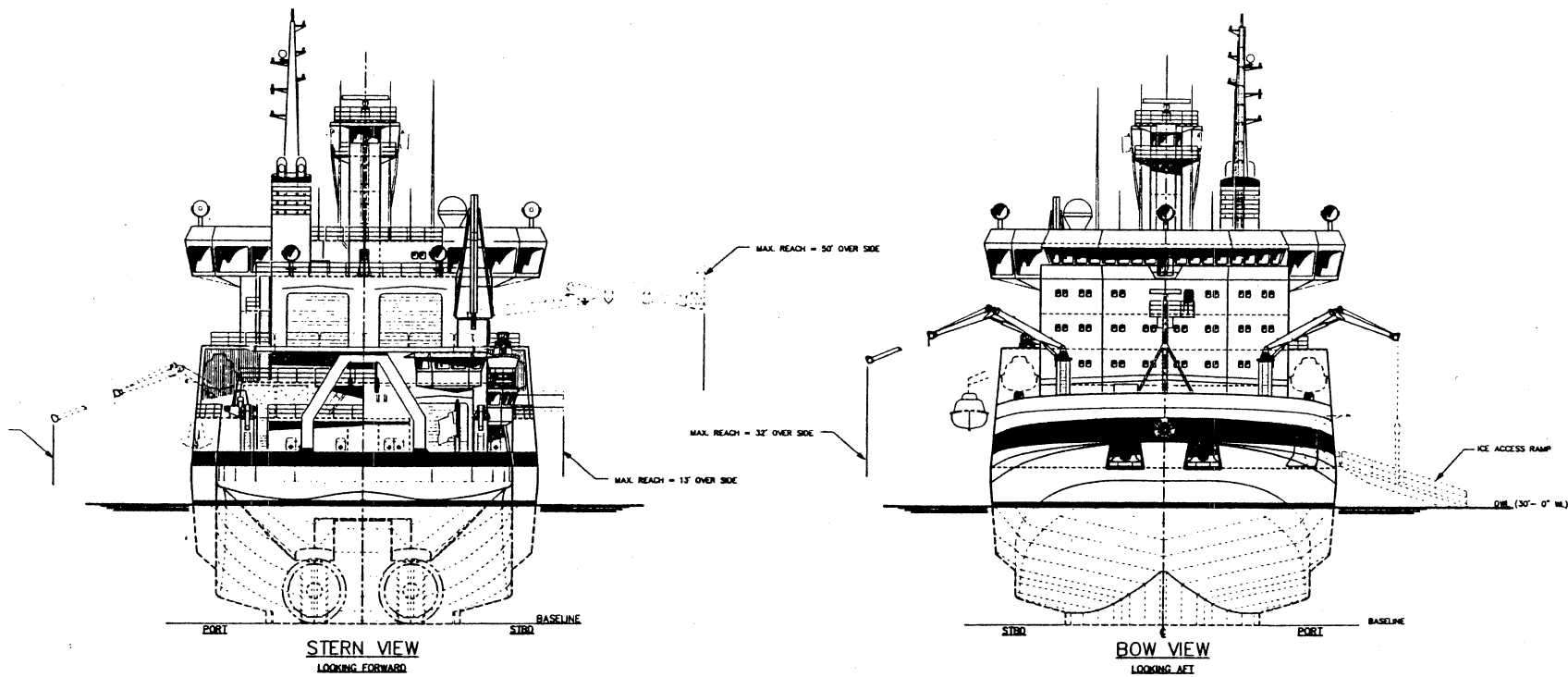
UNOLS Council Member, from among designated representatives of Member Non-Operator Institutions (3-year term).

UNOLS Council Member, from among designated representatives of UNOLS Operator Institutions (3-year term).

UNOLS Appointments to Committees: The UNOLS Chair will announce new appointments to DESSC, FIC, RVOC, and RVTEC, in accordance with the UNOLS Charter.

Other Business: Other issues, actions or recommendations as might be introduced.

APPENDIX III




| | | | |
|---|--|--|--------------------------------------|
|  | | University of Alaska/UNOLS Fairbanks, Alaska | |
| ARCTIC RESEARCH VESSEL PRELIMINARY DESIGN End Views | | THE GLOSTEN ASSOCIATES, INC. <small>CONSULTING ENGINEERS SERVING THE MARINE INDUSTRY</small> <small>600 Mutual Life Building - 600 First Avenue - Seattle, Washington 98101</small> | |
| <small>AutocAD File Name</small> 43-2-3.DWG | <small>Drawn by</small> D. Kristensen | <small>Date</small> 12-23-93 | <small>Checked by</small> D.H.K. |
| <small>Plotting Scale</small> 1=192 | <small>Scale</small> 1/16" = 1' - 0" | <small>Drawing No.</small> 9243-2 | <small>Approved by</small> D.H.K. |

Table IV-1: Comparison of FIP-90 recommendations for UNOLS Fleet size and composition and the current (1994) Fleet with the projected Fleet in 2000*.

| Class of vessel | FIP-90 | 1994 | Displ. | 2000 | Displ. |
|------------------------|------------------|------------------|----------------------|------------------|----------------------|
| CLASS I (>250') | 3 | 3 | 8,620 | 4 | 12,435 |
| CLASS II | 2 | 2 | 4,490 | 2 | 4,490 |
| CLASS III | 6 | 6 | 5,870 | 6 | 5,870 |
| CLASS IV | 8 | 8 | 3,070 | 8 | 3,070 |
| Submersible Support | 1 | 4 | 4,150 | 4 | 4,535 |
| Arctic Research Vessel | 1 | 0 | 0 | 1 | 11,000 |
| Totals | <u>21</u> | <u>23</u> | <u>26,200</u> | <u>25</u> | <u>41,400</u> |

* Ships under 100' are not included.

TOTAL COST BREAKDOWN 1993

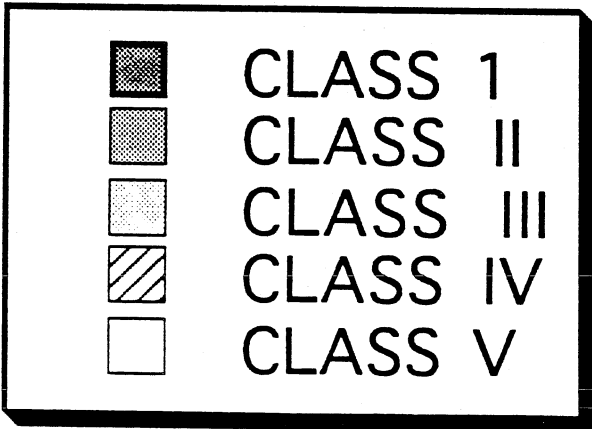
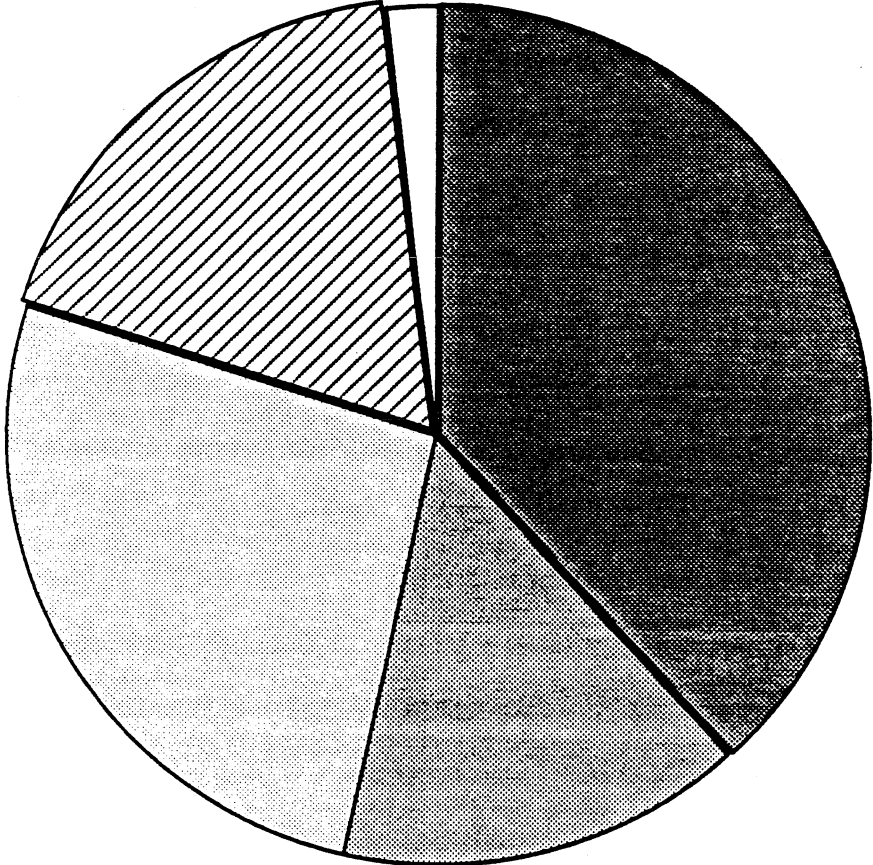


Fig. I-2

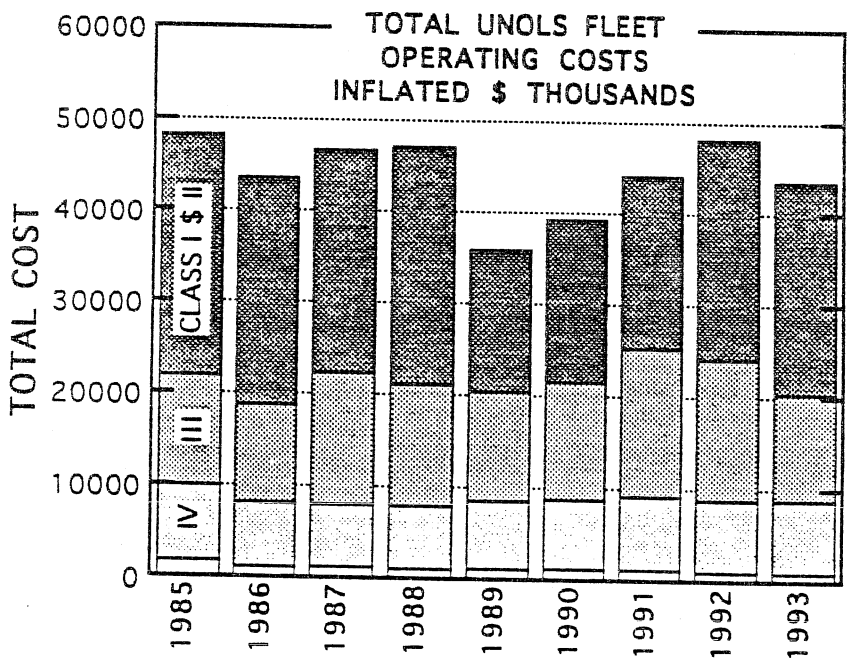
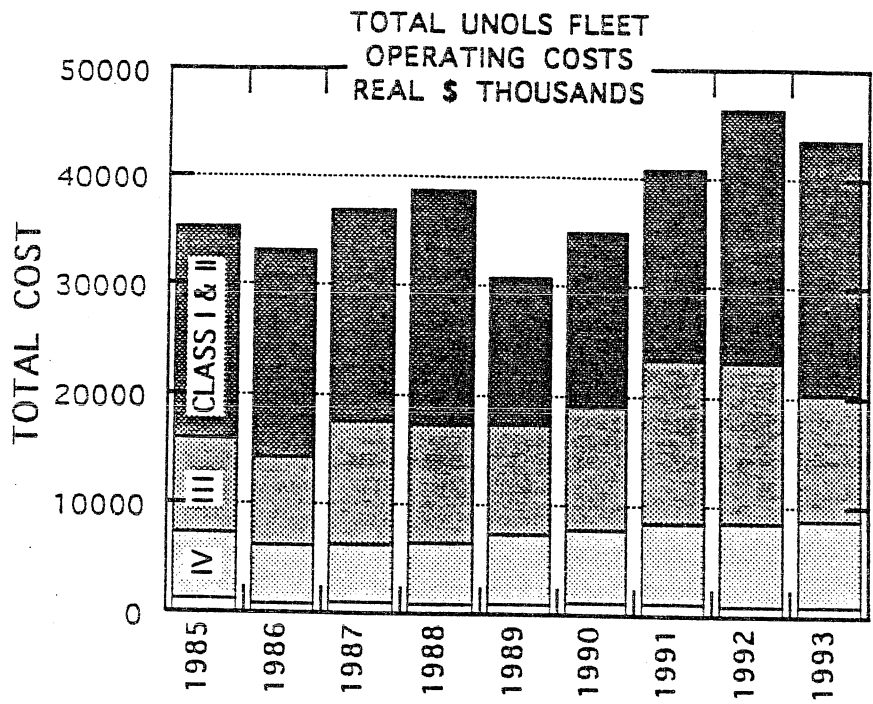


Fig. I-3 Total costs of UNOLS Fleet in real and inflated dollars for the past nine years.

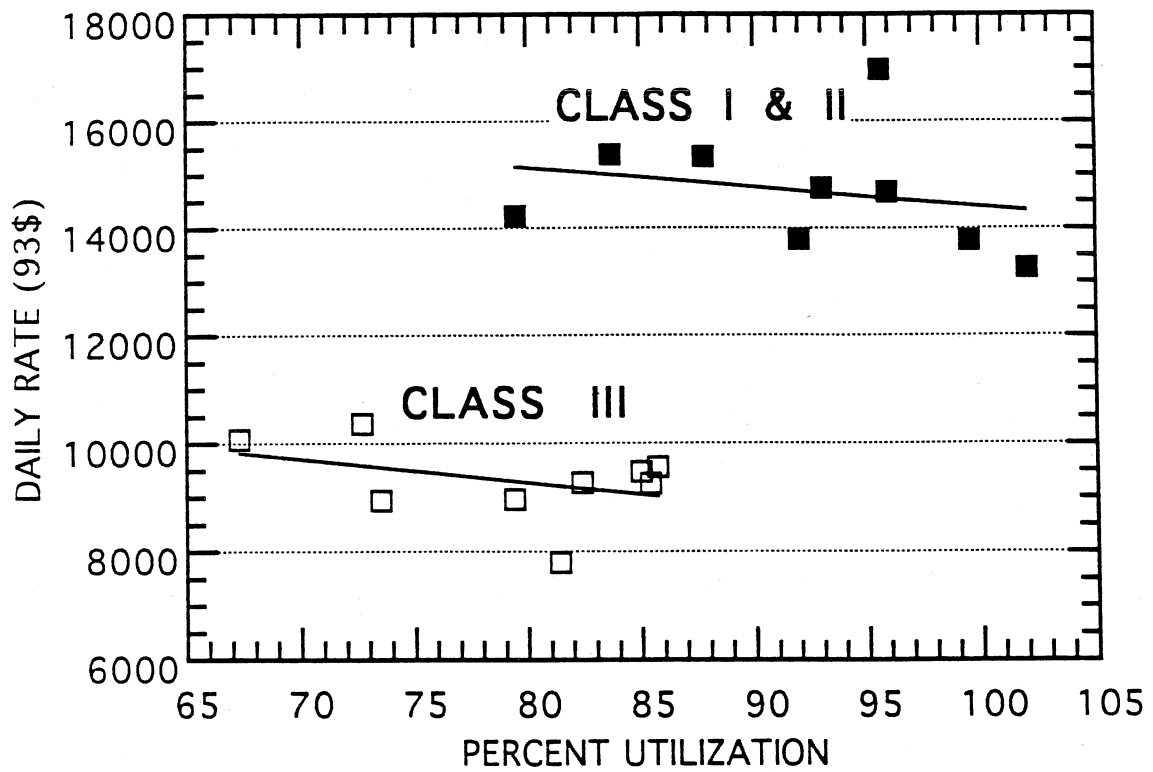


Fig. I-5 Daily rate vs. percent utilization for Class I & II and Class III vessels.

RECOMMENDATIONS

Funding of the future UNOLS Fleet

- We strongly encourage agencies to require long-range (5-10) year facilities projections from their existing and ongoing programs. We recommend tht SFOFC or its successor periodically (2 to 3 years) bring together such projections based on the best available information. This assessment should include needs of the oceanographic research components of NOAA, Navy and other federal agencies that operate oceanographic facilities.

Arctic Research Facilities

- The Arctic Research Vessel be the highest priority new acquisition for oceanographic research, and that it be operated by a UNOLS institution. The Arctic Research Vessel should be built only if sufficient funds are available for its construction, operation and science missions.

Coastal Oceanography Needs

- The FIC recommends that Scientific Mission Requirements be established and a conceptual design study be carried out for a shallow-water high capability coastal research vessel, together with a study of the applicability of current assets to developing coastal programs.
- Funding agencies should encourage regional or national arrangements to share certain expensive equipment and facilities used by coastal oceanographers. Coastal oceanographers should develop commonality between institutions for routine and widely used instrumentation, instrument calibrations, technician training, and computer applications.

Inter-Agency Cooperation

- FIC recommends that federal and academic scientists who depend on ships and other seagoing facilities for their research continue to examine ways to improve cooperation via the mechanisms described above.

Modes of Operation

- UNOLS vessels, operated by universities and academic research institutions, continue to be the primary source of seagoing facilities for the academic oceanographic community. collaboration that preserves the distributed operation of oceanographic facilities, and recommends against central management of the U.S. research fleet by the federal government or private industry.

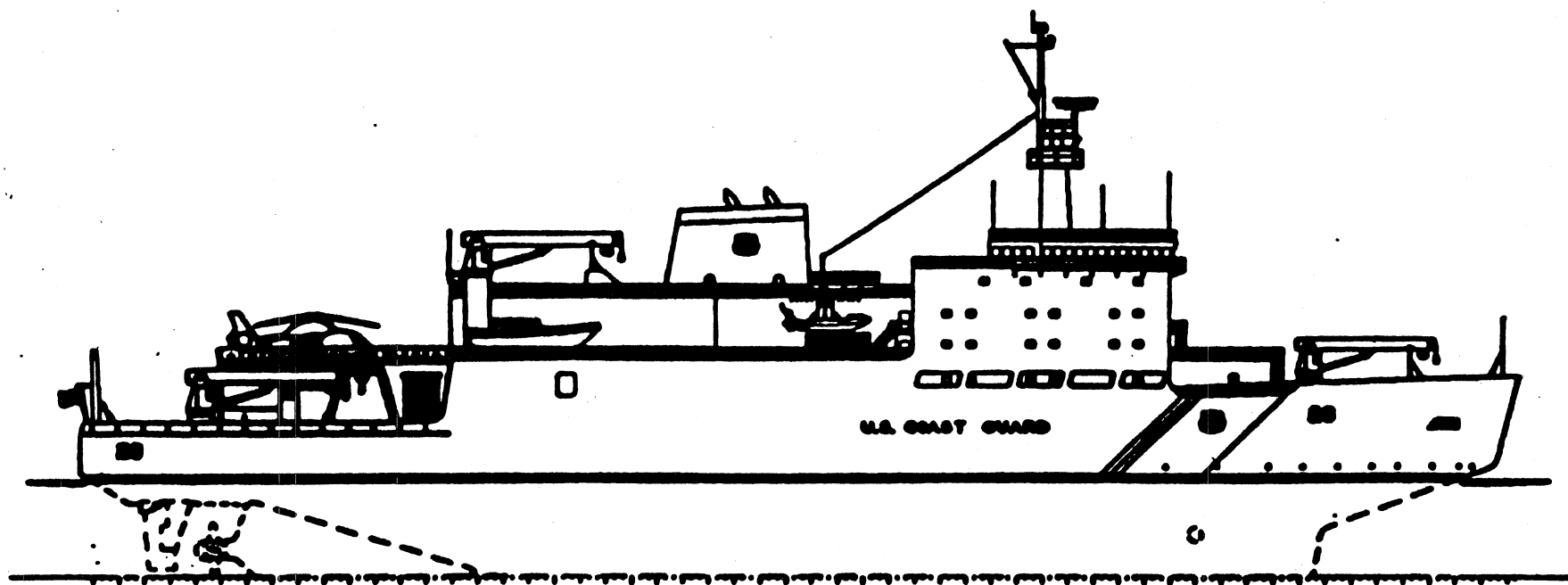
Distribution of the Fleet:

- Agencies that support the UNOLS research ships should evaluate the projected geographical distribution of the year 2000 UNOLS Fleet. They should assign existing and/or new ships to maintain a balance among operating institutions that best serves the U.S. oceanographic community as a whole.

APPENDIX IV

POLAR ICEBREAKER - WAGB 20

OUTBOARD PROFILE



USCG ICEBREAKER REIMBURSEMENT COSTS - METHODS

| EXPENSE ITEM | FUNDING SOURCE | |
|--------------------|----------------|-------------|
| | <u>USCG</u> | <u>USER</u> |
| PERSONNEL | 100% | |
| VESSEL MAINTENANCE | 65% | 35% |
| HELO MAINTENANCE | 40% | 60% |
| FUEL | 41 DAYS | 144 DAYS |

DAYS BASED ON 1990 PRESIDENTIAL REPORT

COST DISTRIBUTION BASED ON 1987 ICEBREAKER AGREEMENT

POLAR ICEBREAKER - WAGB 20

420, 400 & 269 WAGB SHIP CHARACTERISTICS

| | <u>HEALY</u> | <u>POLAR</u> | <u>WIND</u> |
|-----------------------------|---|--|--------------------------------|
| LENGTH (OVERALL) | 420' | 400' | 269' |
| BEAM (EXTREME) | 82' | 78 | 63' 6" |
| DRAFT (FULL LOAD) | 29' (MAX) | 28' | 29' |
| DISPLACEMENT (FULL LOAD) | 16303 TONS | 12,200 TONS | 6,500 TONS |
| TYPE PROPULSION | DIESEL ELECTRIC (AC - AC CYCLO CONVERTER) | GAS TURBINE OR DIESEL / ELECTRIC (AC - DC) | DIESEL / ELECTRIC (DC - DC) |
| SHAFT HP / NO. SCREWS | 30,000 / 2 | 60,000 / 3 (GT) 18,000 / 3 (D / E) | 10,000 / 2 |
| SPEED (SUSTAINED) | 12.5 KNOTS | 12.5 KNOTS | 12.0 KNOTS |
| ENDURANCE | 16,000 NM AT 12.5 KT | 28,000 NM AT 12.0 KT | 38,000 NM AT 10.0 KT |
| ICEBREAKING | 4.5FT AT 3 KT | 6FT AT 3 KT | 3FT AT 3 KT |
| SCIENTISTS | 35 + 15 | 20 | 10 |
| CREW + AVDET | <u>75</u> | <u>152</u> | <u>180</u> |
| ACCOMMODATIONS | 110 + 15 | 172 | 190 |

POLAR ICE BREAKER - WAGB 20 SERVICES

ACCOMMODATIONS

ALL IN FORWARD SUPERSTRUCTURE

BLOCKS FOR ACCESS

35 SCIENTISTS

15 SCIENTISTS (SURGE)

22 OFFICERS & CPO'S

54 E-6 & BELOW

SCIENCE LIBRARY CONFERENCE ROOM FOR 50

COMMUNICATION ROOM

MESSING SIMILAR TO NAVOCEANO SHIPS

STORES FOR 180 DAYS

ENDURANCE PROFILE

POLAR ICEBREAKER - WAGB 20 ICEBREAKING

REQUIREMENTS:

4.5 FEET LEVEL ICE AT 3 KNOTS

8 FEET LEVEL ICE BACK AND RAM

ICE FLEXURE STRENGTH: 100PSI (706 KPA) ICE

NOT LESS THAN 30,000 SHP INSTALLED

CONVENTIONAL HULL FORM

EXTENSIVE VALIDATION

METHODS OF KEINONNEN AND LEWIS

VALIDATED TIME SIMULATIONS

MODEL TESTS

CONSERVATIVE ASSUMPTIONS

USCGC HEALY (WAGB 20) SCIENCE SPACES

| <u>DESCRIPTION</u> | <u>AREA (SQFT)</u> |
|--------------------------|--------------------|
| MAIN LAB | 2000 |
| WET LAB | 400 |
| BIO/CHEM LAB | 300 |
| ELECTRONICS/COMPUTER LAB | 600 |
| STAGING AREA | 300 |
| CLIMATE CONTROLLED ROOM | 100 |
| FREEZER | 100 |
| AFT DECK WORK AREA | 3000 |
| SCIENCE CARGO | 20,000 CUFT |

USCGC HEALY (WAGB 20) SCIENCE EQUIPMENT

WINCHES:

- o 1/4" WIRE ROPE**
- o 3/8" 3 CONDUCTOR CABLE**
- o 9/16" TRAWLING CABLE**

VANS: 8 TOTAL

- o 4 VANS - ACCESS FROM INSIDE SHIP**
- o 2 VANS - AFT WEATHER DECK**
- o 2 VANS - FORECASTLE**

ACOUSTICAL SYSTEMS:

- o 12 and 3.5 kHz ECHO SOUNDING**
- o DOPPLER SPEED LOG**
- o 150 and 300 kHz ADCP**
- o 2 SPARE 30" TRANSDUCER WELLS**

APPENDIX V

Research Ship Schedules and Characteristics Information

**College of Marine Studies
University of Delaware
Lewes, De**

Access:

- **World Wide Web**
 - Mosaic - workstations (v. 2.2)
 - PC win (v. a6r1)
 - Mac (v. 2.0.0.a6)
 - Lynx etc.
- **Gopher (v. 2.0.14)**
- **Telnet (ascii)**
- **Direct dial**

We provide:

- **7 x 24 hours a day access to**

- **up-to-date and**

- **searchable**

**ship schedule and characteristics
information.**

Ship schedules are entered into a database with standardized

- geographic and**
- research discipline fields.**

For example:

**N. W. Atlantic for Gulf of Maine
phys oc for CTD casts**

We

- **u p d a t e**
- **m o d i f y a n d**
- **a d d**

**schedule information when
received by e-mail or post from
the ship contacts (UNOLS).**

**The schedule information is
searchable by:**

- **ship name**
- **date**
- **geographic area**
- **research discipline**
- **or combinations of the above**

We will continue to:

- **update and add information**
- **add graphics**
- **expand Web information**
- **provide support to users**

The future:

- **Search on other fields? Ship characteristics?**
- **Schedule entry form?**
- **Post cruise tracks?**
- **Post ARGOS (?) updates?**

The ship information and schedule databases on OCEANIC

The University of Delaware maintains several on-line databases related to US and foreign research ships. These are accessible on OCEANIC (OCEAN Network Information Center) through several systems, but primarily through the Internet. We summarize our past and present thinking here to encourage a discussion of future options.

History

The original reasons for our involvement were twofold.

1. An interest by a consortium of International Ship Operators (ISOM), of which NSF was a major member, in having a single source for the cruise plans of the ships of their consortium. This would help them in using resources efficiently and help PIs to locate ships planning to work in areas in which they were interested.
2. Our perceived need for a searchable database of ship schedules world-wide that would help in planning expeditions, in particular the World Ocean Circulation Experiment (WOCE) for which we maintain the Data Information Unit.

We get the following information.

1. Ship schedules as posted on OMNET by UNOLS and by NOAA. We seek scheduling information from the US Agencies that do not post their cruises.
2. Updates on the cruise plans in other countries. We write to members of the ISOM group and others, about every half-year. Some operators now automatically provide us with new information as it appears.
3. A database of structural and operating characteristics of research and fisheries ships. We receive this annually from the Fisheries Industries Division of FAO. This database is the current equivalent to the old publication "Oceanographic Ships of the World" (without pictures) that some may remember from long ago. It also includes information previously published by the Naval Oceanographic Office as RP34- National Oceanographic Fleet Operating Schedules.
4. Deck plans, profiles, and photos of the ships. We usually collect these from operators.

What we make available on-line are:

1. ship schedule files to which we have added information to make them more easily searchable. In particular we add a "general ocean area" entry for which we use a small number of keywords. Examples are Equ Pacific or Caribbean, also a "discipline" such as Phys Oc. or Bio.

A search is possible on most fields. The result is a display of all cruises satisfying the search criteria. This search is at present carried out only on current and future cruises.

2. the annual schedules by ship name, agency, institution or country. This is much like what is available on OMNET.
3. sub-sets of the FAO ship characteristics data that are also searchable by name, agency, institution and country. A sample is in the appendix.
4. computer images of the pictures we have acquired.
5. an option to search for text strings in the files as supplied to us. We list the names of those in which matching text or image is found. There is the option then to read each file in detail.

We make the information accessible by

1. World Wide Web (WWW). This is a versatile and increasingly used part of the Internet that greatly simplifies the access to files on other computers. We have optimized our files for use by the widely available Mosaic Browser software on work-stations. We do check on the adequacy of the display by other browsers and other machines such as MACs and PCs.
2. Gopher. This is another system on the Internet developed before WWW that provides a simple menu search. It has some text search capability and there is the opportunity to download images for display off-line.
3. the "original" OCEANIC. This is a menu system developed in-house that has limited imaging capability but has a good text search for identifying cruises.

Recent Developments

The growth of the World Wide Web over the Internet has given us the ability to present information in different ways. Importantly, it gives us the opportunity to interact more readily with others. A few examples follow:

Several institutions now operate Web servers that contain sections on ships they operate. They often list the latest versions of the schedules they operate. We can link directly to that information and also incorporate the schedules in our database.

The Ocean Research Institute in Japan provides schedules for its ships thru' 1998. This is well beyond dates we have obtained by going to central contact points in different countries. The later cruises may be less certain in terms of funding or confirmation but their inclusion helps achieve an early goal of OCEANIC in assisting forward collaborative planning.

The UK Research Vessel Base has started a section on its WEB server that includes the cruise plans of current cruises. It also has twice weekly updates from the Masters of the ships on ships movements. OCEANIC provides direct links to this information.

The Future

Our aim of providing research scientists, ship operators, and program managers with timely, accurate, and useful information on research ships worldwide gets more attainable day by day.

We plan to adapt to new resources. A user will find that parts of the system change daily. We will also maintain limited functionality for less sophisticated systems.

One of our data sources is from the schedules as posted on the OMNET bulletin boards. We get this information directly from those posting to the bulletin boards. The significantly decreased use of OMNET this year may pose some problems unless we are ready for them. The immediate fix would be to ensure that all postings currently sent to OMNET continue to come to us. Item 1 of the "accessibility" section above would then provide backup.

Queries and suggestions

1. Can the information and methods of access to it be augmented to make it more useful in the scheduling process?

This process itself is an interactive one between scientists, operators, and program managers. Sometimes it extends to barter arrangements with foreign operators. It would surprise us if there was not scope to organize the data in additional ways that will help this process.

2. Should we maintain a base of cruises actually carried out? If so, who has the information, and who wants it?

At present the concentration in OCEANIC is on future cruises and the planning process.

James Crease, Katherine Bouton
College of Marine Studies
University of Delaware

August 26, 1994

OCEANIC ACCESS INSTRUCTIONS:

If you would like to see the ship schedule information online you can access OCEANIC by three different methods over the Internet.

- A) % **telnet delocn.udel.edu** (or 128.175.24.1)
 Username: **INFO**
 Password: **none required**
 Then choose menu item **5. Research SHIP SCHEDULES and Information**

For further information finger **oceanic@delocn.udel.edu**

- B) If you have gopher available to you then
 gopher diu.cms.udel.edu
 and select menu item **5. Research SHIP SCHEDULES and Information**

For further information finger **oceanic@diu.cms.udel.edu**

- C) If you have access to the World Wide Web (WWW) via Mosaic, Lynx, Cello etc:
 open URL **http://www.cms.udel.edu**
 then choose **Research Ship Information and Cruise Schedules**

For further information finger **oceanic@diu.cms.udel.edu**

You can also access OCEANIC via Omnet (and pay the Omnet connect charge):

Type **Backdoor** at the *Where* prompt or at the *Command* prompt. Then choose the OCEANIC option and give your ID. No password is required.

Then choose menu item **5. Research SHIP SCHEDULES and Information**

APPENDIX VI

Antarctic Support Associates Ship Users Committee

Membership

Douglas Martinson (Physical Oceanography)
Columbia/Lamont-Doherty

Martin Jeffries (Sea Ice)
University of Alaska

David Karl (Marine Biology)
University of Hawaii

Amy Leventer (Marine Geology)
Ohio State University

Marcia McNutt (Marine Geophysics)
MIT

James Morison (Physical Oceanography)
University of Washington

Carol Raymond (Marine Geology)
JPL/Cal Tech.

Bruce Robison (Marine Biology)
Monterey Bay Aquarium Research Institute

Ray Weiss (Marine Chemistry)
UCSD/Scripps

Antarctic Support Associates
Ship Users Committee

Charge

Recommendations and advice on:

- ▶ acquisition and utilization of equipment and instrumentation;
- ▶ shipboard computer system;
- ▶ ship scheduling;
- ▶ staffing, communications, space, etc.

Antarctic Support Associates Ship Users Committee

Membership

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Ohio State University

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MIT

James Morison (Physical Oceanography)
University of Washington

Carol Raymond (Marine Geology)
JPL/Cal Tech.

Bruce Robison (Marine Biology)
Monterey Bay Aquarium Research Institute

Ray Weiss (Marine Chemistry)
UCSD/Scripps

Antarctic Support Associates
Ship Users Committee

Charge

Recommendations and advice on:

- ▶ acquisition and utilization of equipment and instrumentation;
- ▶ shipboard computer system;
- ▶ ship scheduling;
- ▶ staffing, communications, space, etc.

APPENDIX VII

UNOLS DUES STATUS

| | |
|----------------------------|----------------|
| OPERATING INSTITUTIONS | \$1,350 |
| NON-OPERATING INSTITUTIONS | \$550 |
| TOTAL DUES RECEIVED | <u>\$1,900</u> |
| EXPENDITURES: | \$0 |
| TOTAL FUNDS AVAILABLE | <u>\$1,900</u> |

APPENDIX VIII

BALLOT

UNOLS COUNCIL ELECTIONS

September 20, 1994

The UNOLS Nominating Committee has assembled the following slate of candidates for the UNOLS Council positions to be filled at the 1994 Annual Meeting. This election will be held in accordance with the UNOLS Charter as adopted September, 1992. One representative from each UNOLS institution is eligible to vote. Please vote for only one candidate to fill each position. Vitae is included on backside.

UNOLS COUNCIL SLATE

UNOLS CHAIR (2-year term) - individual affiliated with any UNOLS Member Operator institutions:

Ken Johnson
Moss Landing Marine Laboratory

Write-in nomination from the floor

UNOLS VICE-CHAIR (2-year term) - individual affiliated with any UNOLS Member Institution:

Peter Betzer
University of South Florida

Tom Malone
University of Maryland

AT-LARGE (3-year term) individual affiliated with any UNOLS Member Institution:

Robert Knox
Scripps, University of California

Richard Jahnke
Skidaway Institution of Oceanography

OPERATING REPRESENTATIVE (3-year term) - from among designated representatives of Member Operator institutions:

Dennis Hayes
Lamont-Doherty Earth Observatory

Dennis Hansell
Bermuda Biological Station for
Research, Inc.

NON-OPERATING REPRESENTATIVE (3-year term) - from among designated representatives of Member Non-Operator institutions:

Greg Cutter
Old Dominion University

Cindy Lee
SUNY - Stony Brook

VITAE

- Ken Johnson** Professor of Chemical Oceanography, Moss Landing Marine Laboratories
Chemical Oceanography; Development of analytical tools for trace metal and
in situ chemical analyses in seawater, application of these tools to
studies of chemical processes in hydrothermal vents, sediments and the
oceanic water column.
- Peter Betzer** Professor and Chair, Department of Marine Science, University of South
Florida
Geochemistry; Analytical Chemistry, Particle-solute interactions,
sedimentology, atmospheric transport, phytoplankton, mineralogy.
- Tom Malone** Professor and Director, EPA Multiscale Experimental Ecosystem Research
Center, The University of Maryland System Center for Environmental
and Estuarine Studies
Biological Oceanography; Dynamics of coastal ecosystems; phytoplankton
ecology; eutrophication.
- Robert Knox** Associate Director, SIO Ship Operations and Marine Technical Support
Research Oceanographer, Physical Oceanography Research Division, Scripps
Institution of Oceanography, University of California, San Diego
Physical Oceanography; Global and equatorial ocean circulation and acoustic
remote sensing.
- Richard Jahnke** Professor of Oceanography, Skidaway Institute of Oceanography, Savannah,
Georgia
Geochemistry; Seafloor Processes
- Dennis Hayes** Associate Director, Lamont-Doherty Earth Observatory of Columbia University,
Palisades, NY
Marine Geology; Bathymetry, Topography, High latitude Geology.
- Dennis Hansell** Associate Research Scientist, Bermuda Biological Station for Research, Inc.
Chemical Oceanography; Carbon and nitrogen biogeochemistry.
- Greg Cutter** Assistant Chairman and Graduate Program Director, Department of
Oceanography, Old Dominion University
Chemical Oceanography; Processes affecting trace element speciation and
distributions in natural waters and sediments; air-sea transport and
exchange of gases and trace elements; analytical methods for aquatic
chemistry; computer modeling of geochemical processes.
- Cindy Lee** Professor, Marine Sciences Research Center, State University of New York,
Stony Brook
Chemical Oceanography; Marine organic geochemistry; production and
decomposition of biogenic organic matter; organic nitrogen cycle
biogeochemistry; analytical chemistry of amino acids and amines.

UNOLS COUNCIL ELECTIONS

September 20, 1994

The UNOLS Nominating Committee has assembled the following slate of candidates for the UNOLS Council positions to be filled at the 1994 Annual Meeting. This election will be held in accordance with the UNOLS Charter as readopted September 1992. The current membership of the Council and a UNOLS Directory are attached.

Nominations are invited from the floor during the Annual Meeting. Such nominations may be made only by designated representatives of UNOLS institutions, and must be accompanied by the nominee's concurrence and qualifications. The nominee must meet the requirements of the UNOLS Council position he/she is nominated to fill.

UNOLS COUNCIL SLATE

UNOLS CHAIR (2 year term):

Ken Johnson

Moss Landing Marine Laboratory

UNOLS VICE-CHAIR (2 year term):

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University of South Florida

Tom Malone

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Bermuda Biological Station for Research, Inc.

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Greg Cutter

Old Dominion University

Cindy Lee

SUNY - Stony Brook

UNOLS COUNCIL

1993-1994

| <u>Member</u> | <u>Term</u> |
|----------------------------------|-----------------------|
| G.W. Brass, U/Miami, Chair | 10/90-10/94 |
| P. Betzer, U/So FI, V-Chair | 10/90-10/94 |
| D.E. Hayes, L-DEO | 10/91-10/94 |
| R. Janke, Skidaway | 10/91-10/94 |
| D. M. Karl, U/Hawaii | 10/90-10/96 |
| T. C. Royer | 10/93-10/96 |
| C.A. Nittrouer, SUNY Stony Brook | 10/91-10/94 |
| R. Pittenger, WHOI | 10/92-10/95 |
| R. Wall, U/Maine | 10/92-10/95 |
| R. Findley, U/Miami, ex-officio | 10/92-10/9X RVTEC CH |
| P.J. Fox, URI, ex-officio | 07/92- 10/9X DESSC CH |
| M.G. Langseth, L-DEO, ex-officio | 10/90-10/9X FIC CH |
| K.P. Palfrey, OSU, ex-officio | 10/90-10/9X SSC CH |
| M. Prince, MLML, ex-officio | 10/88-10/9X RVOC CH |

Terms Expiring:

Garry Brass
Peter Betzer
Dennis Hayes
Richard Jahnke
Charles Nittrouer