UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

UNOLS COUNCIL MEETING

SUMMARY REPORT

June 24-25, 1997

Grand Haven Holiday Inn
Spring Lake, MI

UNOLS Council Meeting

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June 24th

Call the Meeting - Ken Johnson, UNOLS Chair, called the UNOLS Council meeting to order at 8:30 a.m. on 24 June, 1997. The meeting agenda was followed in the order as reported here-in, see ***Appendix I***. The meeting participant list is included as ***Appendix II***.

Opening Remarks and Welcome - Dr. Theodore Moore, Director of the Center for Great Lakes and Aquatic Science, University of Michigan welcomed the UNOLS Council and meeting participants. He remarked that UNOLS is moving in the right direction by building new partnerships. Long-term partnerships are important. Efforts are also being made in the Great Lakes to build partnerships. There has been success with both EPA and NOAA.

Accept Minutes - The minutes of the January 1997 UNOLS Council meeting were accepted as written.

COMMITTEE REPORTS -

Arctic Icebreaker Coordinating Committee (AICC) - Jim Swift, AICC Chair, provided a report on the activities of the committee. A summary of his report is provided as ***Appendix III***. Jim reported that one of the goals of AICC is to increase public awareness of their work. They have made a poster describing the committee and USCG HEALY, see ***Appendix IV***. The poster is being displayed at science conferences.

Fleet Improvement Committee (FIC) - Chris Mooers, FIC Chair, reviewed the preliminary agenda for the 21-22 July meeting at the University of Rhode Island, see ***Appendix V***. On day one, reports are planned from the UNOLS Chair and the ad-hoc committee for mid-Pacific SMRs. Chris reported that he had been contacted regarding a fuel cell proposed for R/V propulsion. After further review and if appropriate, this topic may be added to the agenda. It was commented that an MOU has been prepared between NOAA, USCG and Navy to do an on-shore demonstration. The remainder of the day will be devoted to discussing FIP98 with representatives from long range planning groups. Day two will continue with discussion on FIP98. The meeting will wrap-up by identifying and assigning action items. Tom Royer commented that an OSB report addressing long range plans should be out in a year. In review of Major Ocean Programs, future work does not look promising for UNOLS.

Research Vessel Operators' Committee (RVOC) - Paul Ljunggren, RVOC Chair, reported that he is in the process of preparing the agenda for the fall RVOC meeting and expects to have a strawman out soon. The agenda will most likely include a workshop on satellite communications. In other RVOC activities, WHOI is preparing a proposal to develop an R/V Safety Video. The video will complement the safety training manual. It is estimated to take nine months to complete.

Paul continued by reporting that he had attended a Great Lakes Workshop in March on behalf of UNOLS. The meeting was attended by approximately 80 people representing marine operators, scientists and managers. There are approximately 60 research vessels under 65 feet in length in the Great Lakes. The vessels are owned by a number of different sources; federal, state, municipalities, universities, etc. Paul briefed the group on the UNOLS model. They are interested in our use of the WEB as a way of promoting communications and networking. The Council suggested having a Great Lakes representative attend one of our Council Meetings in the future when they are a bit further along in their organization.

Research Vessel Technical Enhancement Committee (RVTEC) - John Freitag, RVTEC Chair, reported on plans for the 1997 RVTEC Meeting to be held on 27-29 October at the University of Washington. The meeting will include a workshop on marine corrosion. A representative from SeaNet will make a presentation. Other potential activities include a plant tour of the Seabird facility. RVTEC is also working on a salary survey. They hope to have the results available at their next meeting.

Ship Scheduling Committee (SSC) - Don Moller, SSC Chair, reviewed the results and recommendations of the 17 June Scheduling Review Meeting held at the National Science Foundation. Don Moller, Chair; Robert Hinton, Vice Chair; Jack Bash, UNOLS; and Federal agency representatives attended. 1997 operations/conflicts were reviewed. Don reported that there could be a potential conflict between EWING and ATLANTIS operations at the North East Pacific Rise this fall. EWING will require a 40 to 60 mile radius free of other operations. Another conflict has arisen as a result of the THOMPSON Z-drive failure in June. The ship will be out of service into the fall and its cruises will need to be rescheduled. This conflict will also impact 1998 schedules.

Don continued his report with a review by the total operations days for 1998 in comparison to previous years, see ***Appendix VI***. For 1998, there are approximately 500 days less scheduled on UNOLS ships than in 1997, this includes all pending ship time. This is partially due to a high decline rate of proposals. Additionally, many of the large global field programs of previous years have wound down. Total days to be funded by NSF and ONR are down compared to 1995, 1996 and 1997 totals. Both NAVO and NOAA scheduled days are increased from previous years.

On the whole, schedules for Class IV and <IV ships are healthy. However, all Class III vessel schedules are light with OCEANUS and ENDEAVOR having duplicate schedules. For the UNOLS Class I/II vessels, there are total of 21 programs, eight in the Atlantic and thirteen in the Pacific. THOMPSON's 1997 down time will impact ATLANTIS' 1998 schedule. The large ship operators will need to convene to sort out their schedules. As a result of the light 1998 schedules, efficiency will most likely dictate a re-alignment of some cruises in addition to full or partial lay-ups of multiple ships. This year, for the first time, a ship schedule for a NOAA vessel was included in the review. NOAA's RON BROWN schedule was presented. The ship will conduct only NOAA funded work in 1998.

The Council expressed their concern regarding the decline in ship time demand. There was discussion on the future of major ocean programs. The Council also expressed concern towards the drastic decline of ONR ship time in 1998. ONR ship time in 1998 is down approximately 200 days from 1997.

DEep Submergence Science Committee (DESSC) - Mike Perfit reported on ATLANTIS, ALVIN and ROV operations in 1997 and plans for the future. His viewgraphs are included as ***Appendix VII***. The first half of this year has been a very busy. Woods Hole Oceanographic Institution (WHOI) has done a great job of getting ATLANTIS/ALVIN ready to sail on schedule after the overhaul and delivery of the new ship. The ALVIN engineering dives and recertification, which took place off Bermuda in early June, went smoothly. Science operations in 1997 for ATLANTIS is to begin with work at the Mid-Atlantic Ridge (MAR) for two dive programs; one that includes filming by the British Broadcasting Corp., another, headed by Bob Vrijenhoek of Rutgers U. that was in cooperation with U.K. BRIDGE scientists. The remainder of the 1997 ATLANTIS schedule is up in the air due to THOMPSON's Z-drive problem. (Note: Since the Council Meeting, ATLANTIS' schedule was revised. After the MAR operations, ATLANTIS heads to the eastern Pacific where it will briefly work off the California coast before heading to

the Juan de Fuca Ridge to accommodate several deep submergence research programs that were in serious jeopardy of being delayed for a year because of mechanical problems with R/V THOMPSON's Z-drive. The remainder of the year will see ALVIN/ATLANTIS on the northern EPR before ATLANTIS must undergo a Navy Post Shipyard Availability period in San Diego that will last until approximately April 1998.)

Other activities of DESSC include working with WHOI-DSF to upgrade the capabilities and data products of the vehicles, and to work on a policy and plan for archiving data from all of the DSF vehicles. Eight to ten upgrades recommended by DESSC have been completed. Additionally, WHOI successfully proposed an upgrade plan for navigation, imaging and operational equipment to the agencies which was approved for funding.

Jason, Argo-II and the DSL-120 sonar are working well. Jason was used on a science cruise (headed by P. Fryer - U. Hawaii) in the western Pacific early this year which was affected by equipment, personnel and weather problems. The full suite of ROV and tethered vehicles was then used to complete a first-of-its-kind, forensic survey program for the U.K. Dept. of Transport on the wreck of the DERBYSHIRE. That cruise was extremely successful. Next, Jason will be used in the Mediterranean for an ONR funded cruise headed by R. Ballard (WHOI). Educating users on deep submergence field program approaches using the full suite of DSF vehicles is a goal of DESSC. Susan Humphris, Dan Fornari and Mike Perfit are writing a paper for EOS on this topic.

DESSC, NSF, ONR and NOAA are close to agreement upon guidelines for the utilization and development of third-party tools for the National Deep Submergence Facility vehicles. The finalized guidelines will be posted on the DESSC homepage.

Mike continued by discussing long range plans for DESSC. They will begin to focus on topics associated with future (10-20 year) facility needs (submersible, ROV, AUV) for deep submergence science, science justifications for the facilities, and the potential fiscal impacts of various options. Planning for the next ROV design needs to begin now. There is a need for a state-of-the-art, robust, vehicle with a depth capability of at least 6000m. The DESSC also needs to explore how to best utilize decommissioned U.S. Navy deep submergence assets. The Navy plans to retire both SEACLIFF and ATV.

Next, Mike reviewed the summary of requests for ALVIN/ROV use in 1998 and beyond, see ***Appendix VII***. There is high demand for operations at Juan de Fuca, Southern East Pacific Rise and North East Pacific Rise. A world map indicating the regions of interest, shows that there is still a lot of work in the traditional areas.

Mike presented the tentative schedule for 1998. This scheduling has been very complex and has been compounded by the fact that ALVIN was in overhaul, so some programs have been waiting for it to be back in service. In addition, many scientists have been waiting for more than a year to use ATLANTIS and the deep submergence vehicles in many parts of the Atlantic and Pacific on programs that have been funded over the past two years. Arranging a schedule that meets all of

the PIs needs/schedules/desires, funding agencies priorities and fiscal constraints, as well as the requirements for the Navy PSA in early 1998, has been complex; requiring extensive communication and coordination between all parties. DESSC has worked to facilitate communication and will devote time at their July meeting to discuss scheduling issues. Mike urged the NSF Program Managers to meet and establish priorities for the funded programs.

The Council discussed the scheduling issue. Ken suggested that UNOLS needs to be more of a cheerleader for the Fleet citing DESSC's success in promoting ALVIN/ROV use. It was suggested that future ship scheduling reports should include maps showing ship time regions of interest. It was also suggested to color code the map to show funded and unfunded work. The Council needs to act as a catalyst to promote ship time.

AGENCY AND OTHER REPORTS:

United States Coast Guard - CDR. Rick Rooth announced that he would be relieved by CDR. George Dupree on 1 August 1997, however, CDR. Dupree would not be assuming his new duties until September. Rick expressed his pleasure in working with UNOLS and the AICC. He specifically sighted the most recent minutes of the AICC stating his agreement with their content. Rick reported that the U.S. Coast Guard and the Canadian Coast Guard are working closely together in an attempt to economize their efforts. They are having staff officer exchanges and planning joint operations. They are expecting some mission merging. In a cost saving effort, the Canadian icebreaker CCGS LOUIS ST. LAURENT is available on the world charter market.

Naval Oceanographic Center (NAVO)- CDR. Jim Trees provided a set of viewgraphs which are included as ***Appendix VIII.*** The first view graph explained the various programs that were completed/scheduled in 1997 with money from the National Oceans Partnership Act. Approximately $6M went for ship operations, $700K for processing and $600K for admin. Jim expressed the satisfaction NAVO had with the UNOLS work. Ship riders were pleased with the enthusiasm, cooperation and accommodations. Jim provided the programs planned for 1998 with the anticipated same level of funding. The first priority will be 180 days of gravity work in the Gulf of Alaska. This is planned for two different ships. A continuation of the Physical Oceanographic work is the second priority. Third is work in the AUTEC range. Two additional programs were on his list but unlikely to go to sea in 1998 because of funding limitations. These are work in the Bay of Bengal and a Hawaiian Ridge Study. Jim commented that this was a very efficient and effective way for NAVO to get data.

Department of State - Tom Cocke reported that clearance problems seem to be on the rise. More than 50% of the clearance requests arrive in his office late. This makes his job more difficult. In addition, Post Cruise Obligations are not being submitted on time. Only 27% were submitted on time and 18% are still outstanding. A discussion was held on how to help the process. Don Heinrichs said that the National Science Foundation is committed to pressure those scientists with late requirements. This process has been very effective in the past. Tom concluded

by informing the Council that foreign states are pushing for more participation in the cruises and he sees this trend continuing.

National Oceanographic and Atmospheric Administration (NOAA) - The NOAA report was given by CDR. Beth White. Beth reported that NOAA completed/scheduled major cruises on WECOMA, SEWARD JOHNSON, REVELLE and KNORR in 1997. On 19 July, RON BROWN will be commissioned in Charleston, SC. The first cruise for BROWN is scheduled to start 1 August. The ship will sail to San Francisco after the first cruise, arriving 1 September 1997.

A possible 5% cut to the NOAA 1998 budget has been recommended by a congressional committee. If this happens NOAA plans to lay up FERRELL, reduce BROWN ship days by 40 and reduce UNOLS "outsourcing" by $300K. Legislation is working its way through Congress to disestablish the NOAA Corps. It is not known whether or not it will survive.

Beth read a NURP update prepared by Gene Smith and Barbara Moore, see ***Appendix IX***. NOAA NURP has been officially informed by the Navy that the ATV will be decommissioned and will be available on 1 October 1998. NURP would like to hear from the scientific community to determine their interest in this vehicle. A re-invented NURP continues to progress and has been included in the 1998 President's budget request for the first time. Beginning this year all investigators seeking NURP support for ALVIN are to submit their proposals to one of the six NURP centers. Submission is open to all, not only NOAA scientists. Proposals will be competitively reviewed. Center schedules for proposals is provided in ***Appendix IX.***

National Science Foundation (NSF) - Don Heinrichs provided the NSF report. For 1998, the budget is expected to be level. There will be a new major initiative, the Knowledge and Technology Initiative (KTI). NSF will be receiving $5M in "new" money for 1998 to investigate Life in Extreme Environments (LEXEN). NSF will be coupled with NASA in studying life and earth environments.

In other items, a Committee of Visitors (COVs) is being convened and will review NSF facilities. Facilities award process will be a focus. The agencies are establishing Performance Goals. The goals include: 1) Facilities will operate efficiently through upgrades and scheduling; 2) Facilities should serve a broad spectrum; 3) Facilities should enhance science programs. NSF will need to compile Facility Performance Requirements. They will contact the UNOLS Office for Fleet statistics.

Don provided some staffing news. Lisa Rom is back in Washington. Her duties are being sorted out. Sandy Shor will remain in OCE through September.

Oceanographer of the Navy (OON) - The OON report was given by Pat Dennis. Pat praised Woods Hole for their wonderful show bringing ATLANTIS and ALVIN to Washington. It was well received. During the Year of the Ocean (1998) more tours should be planned throughout the country.

The keel will be laid for TAG 64 in August or September. The ship will be launched in about 12 months. There will be a national contest for school children (K-12) to name this ship. Details of the contest can be found on the Oceanographer's Homepage <http://oceanographer.navy.mil/contest.html>. Construction of a fifth TAG is being considered for the budget.

Pat reported that ONR has set aside $500K to support investigation and resolution of the AGOR Z-drive problems. THOMPSON will be inspecting its damaged upper gear. It may be possible to use the upper unit of ATLANTIS. (subsequent to this report it was found that a alignment difference would not make this transfer feasible).

NAVSEA was forwarded the UNOLS Science Mission Requirements for a Central Pacific research vessel. At present, there is no design money earmarked to proceed. ONR and NAVSEA are working on ways to release money for this process. The ship design will be driven by the requirements and the money available. The initial effort will be to evaluate a SWATH design. If this is not feasible within the funds available a mono-hull will be evaluated. The Navy is encouraging an accelerated acquisition process by turning industry onto the project early.

Consortium for Oceanographic Research and Education (CORE) - The CORE report was presented by Dan Schwartz. Dan has been assigned to CORE as a Policy Fellow. His viewgraphs are included as ***Appendix X***. Dan began his presentation with a review of the National Oceanographic Partnership Program (NOPP). The National Oceanographic Partnership Act was signed into law for the 1997 budget and appropriated $20.5M. Formation of a National Oceanographic Research Leadership Council is in resolution. A list of its membership is included in ***Appendix X***. It will be jointly chaired by the Secretary of the Navy and the Administer of NOAA. An Ocean Research Advisory Panel was formed to determine how the NOPP funds will be spent. A Broad Area Announcement was put out for NOPP and 220 pre-proposals were received. Fifty-five groups submitted proposals and 11 were funded. The awards for 1997 have been made and can be found on the CORE homepage. A Program Office will be selected for start up in July 1997. (Note: Since the meeting, CORE was selected as the Program Office.) Of the $20.5M appropriated in the NOPP, $7.5M was designated for NAVO use on UNOLS Vessels. This purchased nearly 400 days of ship time in 1997. SeaNet was also funded with this money. A list of the other programs funded is included on the view graphs presented by Dan that are listed in ***Appendix X.***

A NOPA 2 program is presently being worked through Congress for FY98. The same fundamental components are included and a total of $28M is sought. For FY99 and out years the agencies of NSF, NOAA and Navy will need to include the money in their budgets. Dan encouraged the UNOLS community to stay in touch with their respective state's Congressional delegation.

UNOLS ISSUES:

FOFCC Meetings: Ken Johnson reported that Fred Saalfeld has suggested that FOFCC reinvent itself to take a broader look at facility issues. It was suggested that the committee should link with the National Oceanographic Research Leadership Council (NORLC) and be the facility input to that body. The FOFCC is scheduled to meet again on 23 October.

UNOLS/NAVO Partnership: Jim Trees' presentation was covered in the Agency reports above. Feedback from this year's operations have been very positive.

UNOLS/NOAA Cooperation: Ken Johnson reviewed the status of the NOAA(OAR)/UNOLS Memorandum of Understanding (MOU). The Council discussed the latest draft. Minor changes were suggested. A motion was made to approve the MOU subject to the incorporation of the recommended revisions.

NOAA Fishery Needs: Both Jim Meehan and Jim Coe of NOAA/NMFS provided a summary of the NMFS ship requirements. Six ships, 100% dedicated to NMFS work, would be the core of their ship requirements. These ships need not be owned or operated by NOAA/NMFS but they must be dedicated to the fisheries requirements. The ships must be acoustically quiet (only two other ships in the world have been built to these strict standards) and should be about 200 feet long. Three would be located on the east coast and three on the west coast. Conceptual design requirements for these ships are in progress. They hope to be able to acquire fully outfitted ships for under $50M each.

Jim reported that a total of 4,400 days at sea are needed to complete their mandated work. This breaks down to 1,600 days for NOAA vessels, 700 days on foreign ships and the 2,100 days would be outsourced on fishing vessels or oceanographic vessels. In the past, only a portion of the 4,400 days have been funded. NOAA is looking towards Congress for additional support. Their major need is for stock assessment. However, NMFS plans 400 to 500 days annually of fisheries oceanography. This work would be suited for UNOLS ships.

University of Alaska Replacement Plans for ALPHA HELIX - Tom Royer provided a report for the University of Alaska. ALPHA HELIX is the oldest ship in the UNOLS Fleet. The University has been increasing its emphasis on fisheries research. They have opened discussions with PMEL pursuing the idea of building a fisheries research vessel that can be used by both the University and PMEL. There is congressional interest in this effort. The three choices facing the University of Alaska are: (1) retire ALPHA HELIX without replacement; (2) move another UNOLS ship to Alaska; or (3) replacement with a new ship. The new ship option is the preferred one by Alaska. Tom recommended that the Fleet Improvement Committee develop Science Mission Requirements (SMRs) for a research vessel that is: 1) ice capable; 2) capable for fisheries research; and 3) operationally economic (low day rate).

Fisheries Discussion - Considerable discussion on fishery needs followed by the Council. The NOAA/NMFS representatives were supportive of Alaska's plan as long as it did not replace a dedicated fisheries research vessel for their needs. It was recognized that both academia and NOAA/NMFS could benefit by a partnership. It was recommended that when looking at

replacement of the intermediate vessels, consideration should be given to building in fisheries research capabilities while maintaining the general purpose capabilities. As a first step, Ken Johnson suggested that he sit down with the senior NMFS management to work out common ground on this issue.

Structure of the Council - Cindy Lee opened a discussion on the current structure of the Council and the format of the meetings. She is concerned that the meetings are unduly filled with routine reports and time is not allotted for serious policy issues and long range planning. She also was concerned that the membership of the council should be more science oriented and less operator oriented. The operator bias tends to make discussions on ship lay-ups and ship relocation near impossible. After much discussion it was decided that a review of the UNOLS Charter was in order as it dealt with these issues. Cindy was appointed to chair an ad hoc committee. Bob Knox and a yet to be named third person would also be appointed. The committee would report their progress at the September Council meeting.

Reassessing the Status of a UNOLS Research Vessel - Bob Wall has chaired an ad hoc committee investigating the UNOLS Fleet and particularly the smaller vessels doing coastal research. The concern is that there are coastal scientists that do not have the same advantages of using capable research vessels because their requirements are modest and there are not enough small research vessels in the UNOLS Fleet. However, there is concern within UNOLS that opening the fleet to a larger number of small ships would further dilute the already scarce funds available. The Council discussed the pros and cons of the addition of small ships. On the positive side, by entering the UNOLS Fleet, the operator agrees to maintain their ship to UNOLS safety standard. It was pointed out under the present scenario UNOLS welcomes small vessels into the fleet. Don Heinrichs reported that from the NSF perspective there does not seem to be pressure to make changes or add small vessels to UNOLS. After discussion it was decided to continue with the status quo.

AGOR Z-drive Thruster Status - THOMPSON, MELVILLE and KNORR have experienced Z-drive gear problems. A history of some of these problems is included as ***Appendix XI***. Bob Knox expanded on the details of the gear failures. At least two of the problems were traced to bad metallurgy in that the gears were not properly hardened. Groundings before delivery could also be contributory.

The most recent failure was to the upper gears in THOMPSON. An investigation of the lower gear box on this Z-drive was underway while the Council was meeting. The concern was that the upper gear failure may have caused damage to lower gears. Pat Dennis reported that preliminary reports from the inspection revealed no damage to the lower gear in THOMPSON. ONR is funding a study by The Glosten Associates to investigate the gear failures to ascertain what might be the problem.

UNOLS Ship Day Rate - Ken Johnson had been in several discussions concerning ship's day rate in the past months including a discussion at FOFCC and thought it appropriate to bring this topic up for Council attention. It has been claimed that day rates continue to climb even when use

increases. Additionally, ships of the same class often have different day rates even when the number of operating days remain the same. Are there management efficiencies to be uncovered? Bob Knox provided two viewgraphs, a table and a chart, showing day rates for the large ships from 1992 through 1996. The figures were taken from the NSF budgets. The figures showed that there is some variance in rates from year to year and that on the whole there was a slight trend down. Discussion followed. The consensus was that each ship was involved in a multitude of variables with respect to its operating schedule. Programmatic, labor cost and fuel cost differences cause much of the variability. Ship operators are vary conscious of the need to keep costs down. They are under both competitive pressure and scrutiny from the facilities program manager to be as efficient as possible. The problem is constantly being worked. Additionally, The Glosten Associates will be requested to study the large ship fuel efficiencies. The Council concluded that no action is necessary.

Request for ATLANTIS to become a UNOLS Vessel - WHOI has submitted an application to designate ATLANTIS as a UNOLS Vessel, see ***Appendix XIII***. The UNOLS Council voted unanimously to admit ATLANTIS as a UNOLS vessel.

Application for UNOLS Membership for Southern California Marine Institute - The Council reviewed the membership application for Southern California Marine Institute (SCMI), see ***Appendix XIV***. SCMI is a consortium of which one of its members is also a UNOLS Member. After some discussion of consortium membership while the consortium members are also UNOLS members the application was voted on and unanimously passed reserving the right to review this consortium/single institution membership arrangement in the future. SCMI's membership application will be taken up for a vote at the UNOLS Annual Meeting.

Scheduling Ad-hoc Review Group - Jack Bash reported on the implementation of the recommendations from the ad-hoc group reviewing scheduling procedures. An extensive revision to the web program for scheduling is under development. This includes a two-part ship time request form which can be filled and distributed through the web. Completing the form not only distributes the request to all concerned but posts the request on a world map in the appropriate operating area. This can be accessed by all PIs to provide better coordination between programs and to promote collaboration. It also provides a way to track cruise requests. A down loaded, printed form will substitute for the NSF 831 form traditionally sent in with a science proposal requiring ship time. Part 2 of this form is to be completed and submitted when the program is funded or when the program manager believes the submission would be important for planning.

The final part of the new procedure includes an on-line ship schedule form. This will be completed by the ship schedulers. The consistent format will allow information to be used to develop cruise tracks for those ship venturing out of their local area. These tracks will be posted on the web to facilitate planning and to permit each PI on the schedule to keep abreast of changing schedules. In addition, a "transit bank" will be set up. Deposits will be automatically made when the scheduler believes a transit can be used as a "ship of opportunity" on a not-to-interfere basis. Persons interested in withdrawing from the bank can enter the UNOLS web site where it is posted and contact the scheduler for more detail and coordination. It is anticipated

that the bank will be used by graduate students, teachers with students or possibly public relations efforts.

White Paper on Crewing Requirements - Jack Bash reported that a supplemental proposal is being funded to support a study by the Glosten Associates on crewing requirements and admeasurement rule changes as they affect new ship construction. A purchase order to fund the study is progressing through the URI system.

SEA CLIFF Retirement - Mike Perfit provided a series of viewgraphs on the retirement of SEACLIFF and the potential future uses by the deep submergence community, see ***Appendix XV***. The U.S. Navy is in the process of decommissioning its deep submergence vehicles, and have requested input from DESSC regarding the effective utilization of the SEACLIFF and the facility needs of the U.S. academic, deep submergence community. A preliminary response to these issues was provided to ONR in December 1996. In addition, DESSC developed a questionnaire and distributed it to the community. Over 400 questionnaires were mailed out in addition to a web version. The UNOLS Office received 106 responses. A specially convened Working Group met in March, 1997 to review the survey results and deliberate on these issues. A Working Group report is being finalized. This report will provide ONR with recommendations pertaining to specific options regarding the disposition of Navy assets. The main conclusions of the report are that:

- There is significant interest in having a human occupied vehicle (HOV) capable of reaching 6000m available for use by the academic science community on a regular basis,
- There are many important science questions to be answered and objectives to be met at depths greater than 4500m,
- The Navy should transfer SEACLIFF to WHOI, the National Deep Submergence Facility Operator, and use it to improve HOV facilities available to the U.S. academic community.
- The excellent HOV capabilities which now exist in ALVIN must be retained.
- The development of a remotely operated vehicle (ROV) designed for science, with at least a 6000m depth capability should begin immediately.

Interim Fleet Improvement Plan (IFIP) - Chris Mooers provided an update to the Interim Fleet Improvement Plan. The draft plan had been sent around for review and comments received. Chris reviewed the comments and integrated changes where possible, see ***Appendix XVI*** for a summary. Discussion followed. The consensus was that the plan should be tightened up to briefly state the problem and that downsizing may be necessary if funding projections are accurate. This should be followed by an outline of various downsizing options along with a summary of the impact of such reductions/modifications to the fleet. Chris will revise the plan.

Ship Inspection Program - Jack Bash reported that an RFP was sent out for the Ship Inspection Program and four qualified responses were received. A technical review group evaluated the responses and unanimously agreed on the highest rated proposal. As it turned out it was also the lowest cost. The University of Rhode Island will be officially notifying the successful proposal

now that funding has been identified. The contract was negotiated by the UNOLS Office and will be administrated by Dick West at NSF.

SeaNet Update - John Freitag provided an update of SeaNet which is included as ***Appendix XVII***. Ellen Kappel of JOI, as PI, received funding through the National Oceanographic Partnership Program to move to the operational level of SeaNet. This is an extension of the Internet to the oceanographic fleet. This funding was in the amount of $1.478M. The plan includes multiple partners and will call for the installation of five SeaNet units on UNOLS vessels utilizing Inmarsat B. The concept has been successfully tested on THOMPSON and the JOIDES RESOLUTION. A SeaNet Advisory Council will be established to provide guidance and advice to SeaNet operations including recommending ships for installation.

UNOLS Council Membership - Denny Hayes has been appointed to chair the Nominating Committee. Two other members to the committee will be selected. The Council terms of Bob Knox, Denny Hayes and Cindy Lee will expire in September. Both Cindy and Bob are eligible to run for a second term. Nominating instructions are included as ***Appendix XVIII***.

UNOLS Brochure - The Council approved the UNOLS Office's request that a new UNOLS brochure be produced replacing the nearly depleted 1991 version.

SECOR Update - Chris Mooers provided the Council an update on SECOR. A copy of his presentation is included as *Appendix XIX*. A catamaran is planned for the replacement of CALANUS. Design and building bids are being evaluated by a naval architect firm.

The MOU between Harbor Branch Oceanographic Institution and the University of Miami has been signed. In addition to ship operations, the MOU provides for cooperation in both research and education. A joint faculty oversight committee has been formed.

A SECOR Science Planning Workshop was held 21-23 April at Stennis Space Center. Forty participants from 20 Gulf state institutions plus representatives from AOML, SEFSC, NRL, CNMOC, NAVO and EPA attended. The focus of this workshop was cooperative science projects. Current core members of SECOR are: University of Miami, University of Texas and Texas A & M University. NOAA's AOML is an associate member. SECOR plans to incorporate additional members and use an Internet web page to coordinate activities.

Post Cruise Assessment Forms - Post Cruise assessment forms are now on the web accessible through the UNOLS Homepage.

Department of Commerce Fishing Vessel Buyout Program - Jack Bash reported that 19 institutions expressed interest in the fishing vessel buyout program. At least four institutions were approached by fishermen. The University of Minnesota is working out arrangements to acquire an eight year old vessel through the program. Jack reported that he visited the ship in Maine at the request of Tom Johnson and it looks like it will suite the needs of Wisconsin. The ship will operate out of Duluth, MN.

BLUE FIN Replacement Status - BLUE FIN's replacement has been funded and is in the final planning stage. Skidaway is prepared to make a presentation to FIC when appropriate. The ship will classed to ABS.

UNOLS Annual Meeting - The UNOLS Annual Meeting is scheduled for 18 September. Potential keynote speakers were discussed.

Calendar for UNOLS Meetings:

MEETING	LOCATION	DATES
DESSC	Woods Hole, MA	16-18 July 1997
Ship Scheduling Committee	Arlington, VA	15 September 1997
Schedule Review	Arlington, VA	16 September 1997
UNOLS Council	Arlington, VA	17 September 1997
UNOLS Annual	Arlington, VA	18 September 1997
RVOC	Woods Hole, MA	21-23 October 1997
RVTEC	Seattle, WA	27-29 October 1997
DESSC	San Francisco, CA	7 December 1997

The Meeting was adjourned at 4:15 p.m.

APPENDIX I

UNOLS COUNCIL MEETING
June 24-25, 1997
Grand Haven Holiday Inn
Grand Haven, MI

8:30 a.m. - Tuesday, June 24, 1997

Call the Meeting: Ken Johnson, UNOLS Chair, will call the meeting to order at 8:30 a.m. on 24 June, 1997.

Opening Remarks and Welcome: Dr. Theodore Moore, Director of the Center for Great Lakes & Aquatic Science, University of Michigan, will welcome the Council and provide opening remarks.

Accept Minutes of January 1997 Meeting.

COMMITTEE REPORTS:

DEep Submergence Science Committee - Mike Perfit, Chair, will report on the ATLANTIS/ALVIN/ROV operations and schedule. He will provide a review of plans for the upcoming DESSC meeting.

Fleet Improvement Committee - Chris Mooers, Chair, will report on plans for the upcoming FIC meeting.

Research Vessel Operators' Committee - Paul Ljunggren, Chair, will report on plans for the RVOC's 1997 Annual Meeting. He will also provide a report on the Great Lakes Research Vessel Coordination Workshop held on March 11-12, 1997.

Research Vessel Technical Enhancement Committee - John Freitag, Chair, will summarize the plans for the 1997 RVTEC Annual Meeting.

Ship Scheduling Committee - Don Moller, Chair, will provide an overview of the preliminary 1998 ship schedules and the recommendations from the Ship Scheduling Review meeting held on 17 June.

Arctic Icebreaker Coordinating Committee - Jim Swift, Chair, will report on the activities of the AICC and highlights of their spring meeting. He will provide the status of science modifications for HEALY.

AGENCY and OTHER REPORTS: Reports from agency representatives on funding outlooks, facility updates, and special projects:

Department of State - Tom Cocke
National Oceanographic and Atmospheric Administration - Beth White
National Science Foundation - Don Heinrichs
Naval Oceanographic Center - CDR Jim Trees
Oceanographer of Navy - Pat Dennis
Office of Naval Research - Sujata Millick
United States Coast Guard - CDR Rick Rooth
Consortium for Oceanographic Research and Education - Capt. Daniel Schwartz, CORE Policy Fellow

UNOLS ISSUES:

FOFCC Meetings - Ken Johnson will provide a report on the 27 February and 22 May FOFCC Meetings.

UNOLS/NAVO Partnership - CDR Trees will provide an overview of the 1997 NAVO field programs on UNOLS ships to date. He will review any issues, lessons learned, clearance requirements etc. Ken Johnson will discuss the potential of future NAVO work on UNOLS ships.

NOAA/UNOLS Cooperation - Ken Johnson will review the status of the NOAA-OAR/UNOLS Memorandum of Understanding. The draft MOU is included as **Attachment 1**.

NOAA Fishery Needs - NOAA has drafted a paper outlining the history and future requirements of the agency's Fisheries Research Vessels, see **Attachment 2.** Jim Meehan, NMFS, will comment on NOAA's Fishery Needs. Ken Johnson will open a discussion on the role UNOLS might play in helping NOAA fulfill their fisheries facility requirements.

Science Mission Requirements for Central Pacific - Sujata Millick will provide the status on the Navy's plan for construction of a replacement vessel for MOANA WAVE.

Reassessing the Status of a UNOLS Research Vessel - Don Heinrichs will present NSF's views/policies on small research vessels. Bob Wall will provide an update on his subcommittee's activities. See Ken Johnson letter dated May 27, 1997 to Don Heinrichs, **Attachment 3**.

Scheduling Ad-hoc Review Group - Don Moller and Jack Bash will report on the status of implementing the recommended improvements to the UNOLS ship scheduling process.

UNOLS Ship Day Rates - NSF has expressed concern over the variance in day rates among the UNOLS ships of similar size. Don Heinrichs will review these concerns and open the topic for discussion.

AGOR Z-drive Thruster Status - Bob Knox and Dick Pittenger will review the latest status of any AGOR z-drive issues. Material reviewing the history of some of the problems is provided as **Attachment A.**

SeaNet Update - John Freitag will provide an update on the SeaNet Consortium and their planned activities.

White Paper on Crewing Requirements - Jack Bash will provide the status of the contract to The Glosten Associates for their efforts to address the impact of Coast Guard Regulations regarding crew size requirements.

SEA CLIFF Retirement - Mike Perfit will review the DESSC Working Group recommendations regarding future uses of the Navy vehicle, SEA CLIFF.

Ship Inspection Program - Jack Bash will provide the status of the UNOLS Ship Inspection program.

Interim Fleet Improvement Plan (IFIP) - Chris Mooers will present the revised Interim Fleet Improvement Plan for Council Adoption, see **Attachment B**.

SECOR Update - Chris Mooers will provide a summary of recent developments in Marine Operations at RSMAS, Joint Operations with HBOI, and SECOR, see **Attachment C**.

Post Cruise Assessments -Jack Bash will provide an update on the use of the electronic Post Cruise Assessment report.

DoC's Fishing Vessel Buy Out Program - Jack Bash will give an update on the program.

UNOLS Brochure - Should the UNOLS Brochure, *The Research Fleet*, be updated? With the addition and removal of ships from the UNOLS Fleet, the UNOLS Brochure is becoming outdated. Additionally, the UNOLS Office holds only 600 copies in stock.

Ship Construction:

ATLANTIS - Dick Pittenger will update the Council on the delivery of ATLANTIS and its post-delivery activities. He will provide a short video of highlights of the ATLANTIS visits to Washington D.C. and New York City.

BLUE FIN Replacement - Update on plans for replacement.

Application for UNOLS Membership - The Council will consider the membership application of Southern California Marine Institute (Occidental College is willing to relinquish their UNOLS membership to Southern California Marine Institute). Their application is included as **Attachment 4.**

Request for ATLANTIS to become a UNOLS Vessel - The Council will take action on the WHOI request to make ATLANTIS a UNOLS Vessel, see **Attachment 5**.

UNOLS Council Membership - Ken Johnson has appointed a Nominating Committee to be chaired by Dennis Hayes to prepare a slate for replacement of those Council members completing terms. The terms of Dennis Hayes, Bob Knox, and Cindy Lee are expiring. Knox and Lee can be nominated for second terms, see **Attachment 6**.

UNOLS Annual Meeting - The Annual Meeting has been scheduled for Thursday, 18 September. Suggestions for agenda items and Keynote Speakers will be discussed.

Calendar for UNOLS Meetings:

MEETING	LOCATION	DATES
DESSC	Woods Hole, MA	July 16-18, 1997
FIC	URI/GSO	July 21-22, 1997
Ship Scheduling Committee	Arlington, VA	15 September 1997
Scheduling Review	Arlington, VA	16 September 1997
UNOLS Council	Arlington, VA	17 September 1997
UNOLS Annual	Arlington, VA	18 September 1997
RVOC	Woods Hole, MA	21-23 October 1997
RVTEC	Seattle, WA	27-29 October 1997
DESSC	San Francisco, CA	7 December 1997

Adjournment

APPENDIX II

UNOLS Council Meeting, June 24-25, 1997

NAME	INSTITUTION	PHONE	FAX	EMAIL
Bash, Jack	UNOLS	401-874-6825	401-874-6167	unols@gso.uri.edu
Cocke, Tom	Dept of State	202-647-0240	202-647-1106	tcocke@state.gov
Coe, Jim	NOAA/NMFS	206-526-4000	206-526-4004	Jim.Coe@noaa.gov
Dennis, Patrick	USN/CORE	703-696-2161	703-696-2007	dennisp@onr.navy.mil
DeSilva, Annette	UNOLS	401-874-6825	401-874-6167	unols@gso.uri.edu
Freitag, John	URI	401-874-6579	401-874-6578	jfreitag@gso.uri.edu
Goad, Linda	U of MI	313-763-5393	313-647-2748	lgoad@umich.edu
Hansell, Dennis	BBSR	441-297-1880 x210	441-297-8143	dennis@bbsr.edu
Hayes, Dennis	LDEO	914-365-8470	914-365-8156	deph@ldeo.columbia.edu
Heinrichs, Donald	NSF	703-306-1576	703-306-0390	dheinric@nsf.gov
Johnson, Ken	MLML	408-755-8657	408-753-2826	johnson@mlml.clastate.edu
Knox, Bob	SIO/UCSD	619-534-4729	619-535-1817	rknox@ucsd.edu
Lee, Cindy	SUNY/Stonybrook	516-632-8471	516-632-8820	cindylee@cc.notes.sunysb.edu
Ljunggren, Paul	LDEO	914-365-8845	914-359-6817	marsupt@ldeo.columbia.edu
Meehan, Jim	NOAA/NMFS	301-713-2363	301-713-1875	James.Meehan@noaa.gov
Moller, Don	WHOI	508-287-2277	508-457-2185	dmoller@whoi.edu
Mooers, Chris	RSMAS	305-361-4825	305-361-4797	cmooers@rsmas.miami.edu
Moore, Ted	U of MI	313-763-3515	313-647-2748	tedmoore@umich.edu
Perfit, Mike	Univ. Florida	352-392-2128	352-392-9294	perfit@geology.ufl.edu
Pittenger, Dick	WHOI	508-289-2597	508-457-2185	rpittenger@whoi.edu
Rooth, CDR Rick	USCG	906-635-3210		rrooth@comdt.uscg.mil
Royer, Tom	ODU	757-683-5547	757-683-5550	royer@ccpo.odu.edu
Schwartz, Capt. Daniel	CORE	202-232-3900 x222	202-986-5072	dschwartz@brook.edu
Swift, Jim	UCSD/SIO	619-534-3387	619-534-7383	jswift@ucsd.edu
Trees, CDR Jim	NAVO	601-688-4370	601-688-5514	jtrees@navo.navy.mil
Wall, Bob	U of ME	207-581-1435	207-581-1426	Robert_Wall@voyager.umeres.maine.edu
White, CDR Beth	NOAA/OAR	301-713-2465 x184	301-713-0163	Elizabeth.White@noaa.gov

APPENDIX III

Notes from J. Swift presentation to UNOLS Council meeting, 24 June 1997, Grand Haven, MI:

The UNOLS Arctic Icebreaker Coordinating Committee (AICC) continues to move toward scheduling of USCG Arctic science missions in the UNOLS framework. The AICC has recommended that the Coast Guard take advantage of the on-line system, tracking, and other functions provided by the UNOLS Office. The Coast Guard icebreakers are now on the UNOLS on-line ship-time request site. The AICC expects continued incorporation into the UNOLS scheduling, notification, and tracking system. In practical terms there will be only limited opportunities for scheduled USCG Arctic science missions (i.e. other than ship-of-opportunity) until January 2000 when USCGC HEALY becomes available.

The dominant mode of operation now for USCG Arctic science support is via ship-of-opportunity (SOO) cruises. These receive no agency cost recovery because they are primarily tests of the vessel(s) and training missions for the USCG. An AICC responsibility is coordination of these SOO cruises.

The AICC functions for the 1997 (first) SOO program went well - all requests were feasible one way or another - but the cruise was canceled. (The AICC has not yet determined what priority should be given to 1997 groups for future years.) There were a number of questions and concerns from the community regarding the AICC's role in the SOO cruise planning. These were largely anticipated by the AICC. The AICC has reformulated to SOO guidelines for 1998 and these should be issued soon (hopefully by end of July 1997).

The AICC notes that SOO exploits a grey area in science support, and this will inevitably lead to problems. Namely, such cruises are fiscally advantageous to agencies, and so might be seen by some program managers as a preferred means of cruise support, but SOO cruises carry considerable risks - in fact there is no USCG commitment on SOO cruises to science support - and when these risks materialize, this may lead to disappointment on the part of agencies and investigators and image problems for the USCG. The AICC notes that dedicated science missions put the responsibility for ship support squarely upon the USCG, and so they better utilize USCG support and test USCG commitment to science missions.

The availability of USCGC HEALY brings no new dedicated ship/science funds from the agency side. The AICC hopes that via publicity and UNOLS ship scheduling that use of USCGC HEALY develops the number and type of excellent proposals envisioned by planners. The availability today of the HEALY on the UNOLS on-line request system is one step in developing that list of proposals.

The AICC has continued to build liaisons. John Freitag of RVTEC is participating in AICC business and the Coast Guard's science officer, Phil McGillivary, is attending

RVTECH functions. The AICC and the Antarctic Research Vessel Oversight Committee (ARVOC) are exchanging attendance at meetings. And the AICC email list continues to expand.

One issue of concern to the AICC - scientific clearance in foreign EEZs - has been mostly laid to rest, but the final step of having the Coast Guard play the same role as a UNOLS operator remains somewhat unclear. [Note added: At the UNOLS Council meeting, however, Rick Rooth said that the Coast Guard will adopt those procedures.] AICC questions regarding HEALY's status under Canadian regulations appear to be resolved satisfactorily.

With respect to HEALY construction, Captain Johnson reported almost all good news at the AICC meeting. Even the six-month delivery delay was positive because in exchange for this the yard agreed to complete most of the "top 10" science-related modifications requested by the AICC. (The AICC is very pleased and appreciative!) The hull may be complete at this time. Delivery is set for December 1998 with most of 1999 as shakedown and testing. The AICC plans to tour the vessel shortly after launch in late 1997. John Boaz, a senior technician at SIO, is contracted by the USCG (through NSF) for consulting on science systems.

The AICC has recommended that there be no SOO on USCGC HEALY in 1999. Instead, we ask the USCG to concentrate on tests and training. We hope to locate science groups who can use the test to their advantage, but under control of the USCG and test team. The AICC is now working to help design science system tests during HEALY ice trials. The AICC regards it as very important that procedures be worked out to provide "corporate memory" for science systems support rather than to re-train for each mission.

The next scheduled meeting of the AICC will be in New Orleans, probably in January 1998.

APPENDIX IV

UNOLS Arctic Icebreaker Coordinating Committee

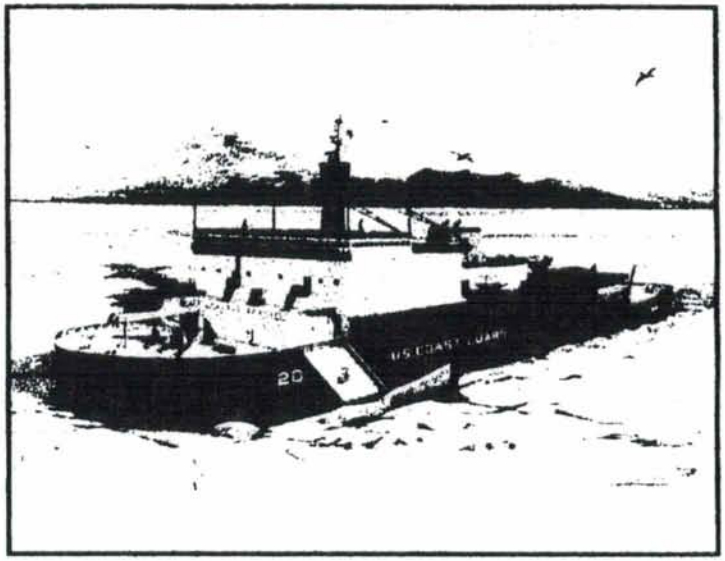
ARCTIC ICEBREAKER OPERATIONS

Scientific oversight of Arctic polar science support on US vessels
Supported by NSF and US Coast Guard
Ties to agencies supporting Arctic research from vessels
Ties to science organizations concerned with Arctic research from vessels

AICC members
Jim Swift, SIO, Chair (jswift@ucsd.edu)
Lisa Clough, East Carolina University
Joe Coburn, WHOI
Glenn Cota, Old Dominion University
Kelly Falkner, Oregon State University
Larry Lawver, University of Texas at Austin
Dan Lubin, SIO
Tom Weingartner, University of Alaska
Jack Bash, UNOLS executive secretary
Ken Johnson, UNOLS Chair

AICC Business
Ship scheduling via UNOLS Ship Time Request Form
Publicize science-of-opportunity cruises & assess logistics
"Chief Scientist" pamphlet review
Technical support assessment (equipment & expertise)
Coordinate icebreaker logistics for science missions & new initiatives

Science-of-Opportunity
Trial 1997 program to establish procedures
New 1998 program: USCGC Polar Sea; May-June 1998; western Arctic
"Not to interfere"; science not first priority
AICC will assess logistics criteria only
Coast Guard has final say; no USCG funding
Investigators to apply via form to be available from UNOLS web site



USCGC HEALY

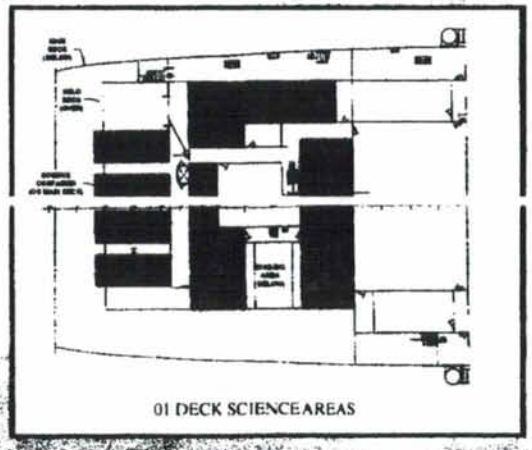
HEALY tests & trials during 1999
HEALY available for dedicated science missions beginning January, 2000

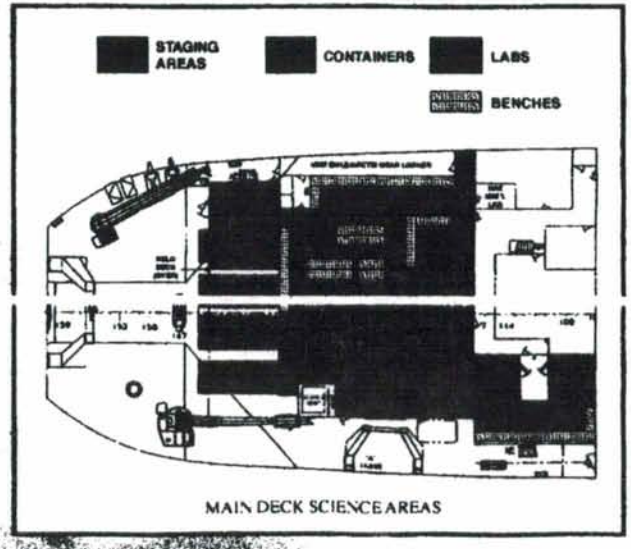
USCGC HEALY
"A modern polar research vessel designed to be operated by the US Coast Guard for the US polar science community"
420' length / 82' beam / 28' draft
15,332 tons
30,000 HP
twin screw
classic bow
4.5' ice @ 3 knots
crew of 75 (includes 14 in helo group)
Science space & outfitting similar to new AGORs; labs ca. 4000 sq. ft.; 35/50 berths

AICC Recommendations for HEALY
increase area and bench space in labs
improve traffic flow in science areas
add fantail staging area
increase choices for vans
lab temp control upgrade
seawater temp monitor/control upgrade?
add area for incubations
add bridge wings (if needed for visibility)
move discharges to port side

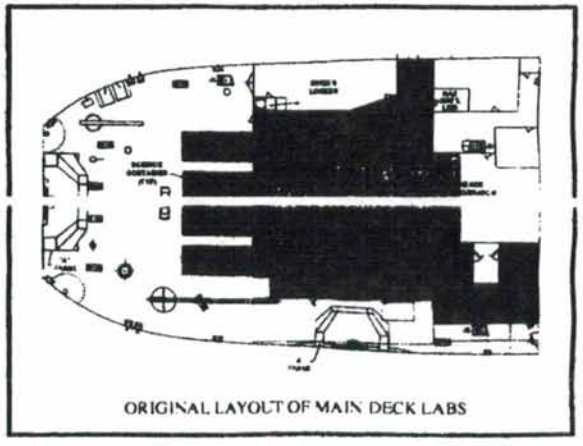
Recent improvements to HEALY consulting
Subcontract with marine operator for routine HEALY consulting, monitored by AICC
Increased access to technical expertise via UNOLS RVTECH
Better ties with community

USCGC HEALY availability to US Arctic polar science community
Submit UNOLS ship-time request form (these are being accepted *now*)
in NSP proposals indicate number of ship days, without explicit ship-cost dollars
for other agencies contact program managers
HEALY costs will be reimbursed as per applicable inter-agency agreements
Agency cost ~$20,000/day


01 DECK SCIENCE AREAS



MAIN DECK SCIENCE AREAS


ORIGINAL LAYOUT OF MAIN DECK LABS

APPENDIX V

Preliminary Agenda for FIC Meeting (21 and 22 JUL@ URI)

Day One

AM- Council Chair (status report & summary of agency reports)

- status report on mid-Pacific R/V & its SMRs (ad hoc cmte)
- (?) fuel cell proposal for R/V propulsion

PM- Dicussion on FIP98 with representatives from long range planning groups (OSB, NSF, ONR, NOAA (OAR), CORE, etc.)

Day Two

AM- Discussion of FIP98

PM- Identify and assign action items

APPENDIX VI

UNOLS FLEET CHARGE DAYS

(by Agency & Year)

		1995	1996	1997	1998
NSF	Days	3249	2738	3038	2639
	%	66.6	63.5	58.5	57.1
ONR	Days	403	454	524	316
	%	8.3	10.5	10.1	6.8
NOAA	Days	354	145	338	487
	%	7.3	3.4	6.5	10.8
NAVO	Days	0	0	398	497
	%	0	0	7.7	10.8
OTHER	Days	872	978	893	682
	%	17.9	22.6	17.2	14.8
TOTAL	Days	4877	4315	5191	4619

6/20/97 - DAM

Charge/Operating Days
(1995-1996-1997-1998)

	1995 Total	1996 Total	1997 Total	1998 Total
A-II / Atlantis	319	93 *	138 *	300
Ewing	310	315	278	209 *
Knorr	350	279	293	244
Melville	297	297	288	30 *
Revelle		80 *	289	312
Thompson	333	246	261	324
Edwin Link	175 *	186	212	138
Endeavor	228	147	191	201 * *
Gyre	122	219	148	18
Moana Wave	195	144	216	181
New Horizon	240	174 *	280	217
Oceanus	187	168	205	201 * *
Seward Johnson	271	304	284	205
Wecoma	145	198	190	193
Alpha Helix	144	73	161	171
Cape Hatteras	175	0	237	264
Cape Henlopen	198	185	203	177
Longhorn	72	130	82	100
Pelican	182	201	205	183
Pt. Sur	164	118 *	197	203
Sea Diver	180	132	89 *	22 *
Sproul	145	155	205	100
Weatherbird	154	167	150	154
Barnes	77	86	133	108
Bluefin	75	96	105	121
Calanus	48	50	107	214
Laurentian	91	72	44	57
Urraca	0	0	0	173
Days	4877	4315	5191	4619

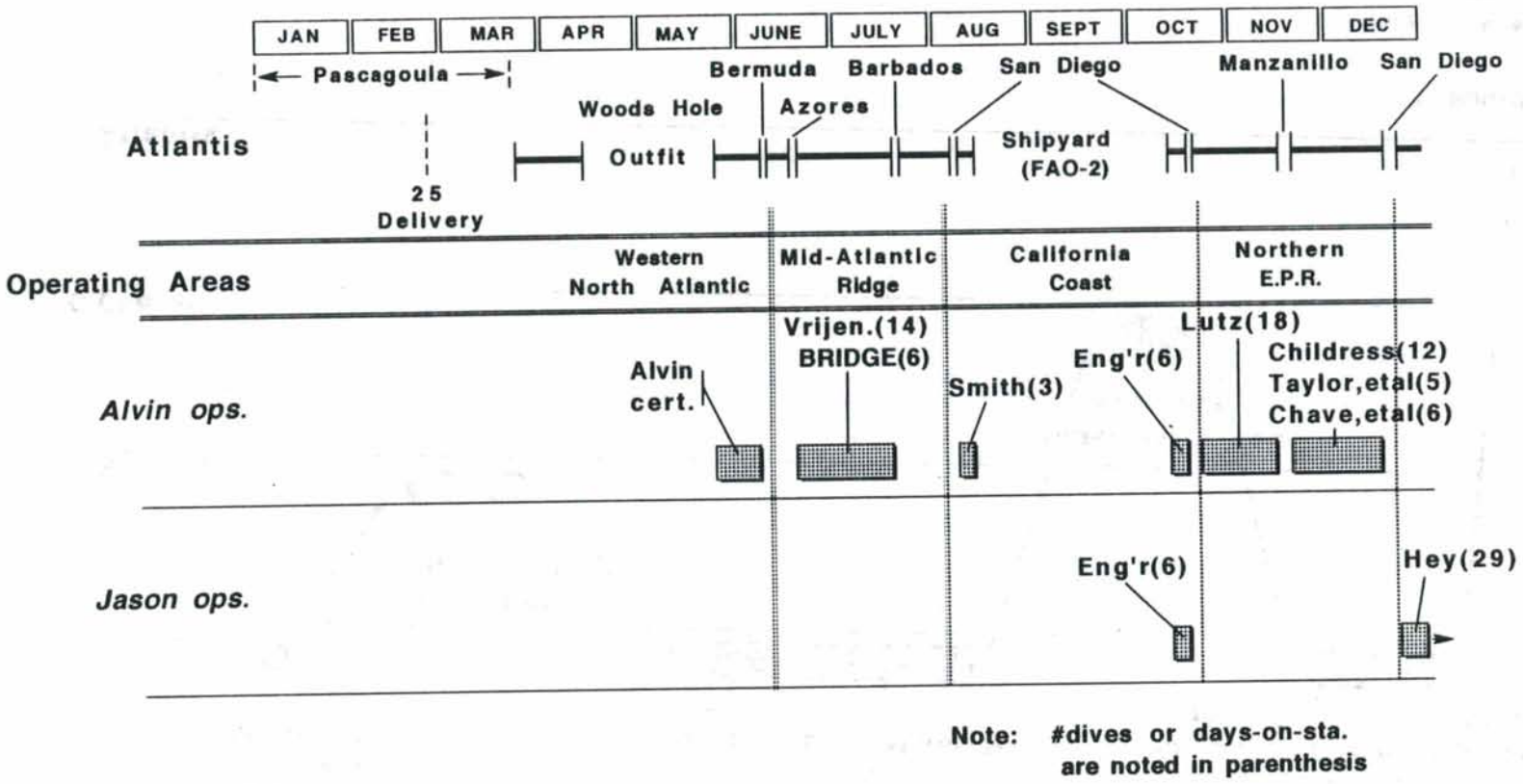
* Overhaul or partial service

* * Endeavor/Oceanus 100% double booked. One ship to lay-up.

Note: Based on data available on 19 June '97

APPENDIX VII

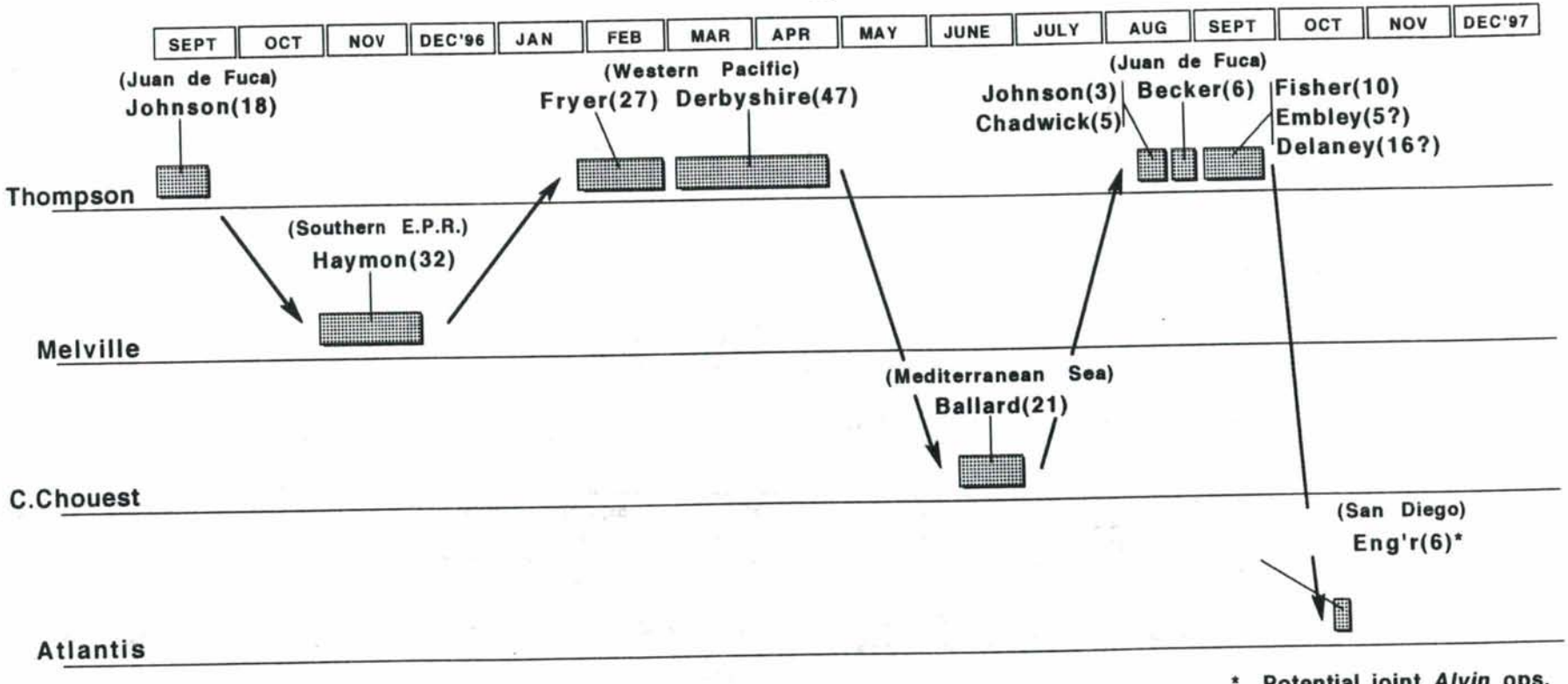
1997 R/V ATLANTIS 1997
Ship Schedule



Note: #dives or days-on-sta.
are noted in parenthesis

DAM-6/20/97

1996 & 1997
Jason/Argo/DSL-120



* Potential joint *Alvin* ops.

Note: #dives or days-on-sta. are noted in parenthesis

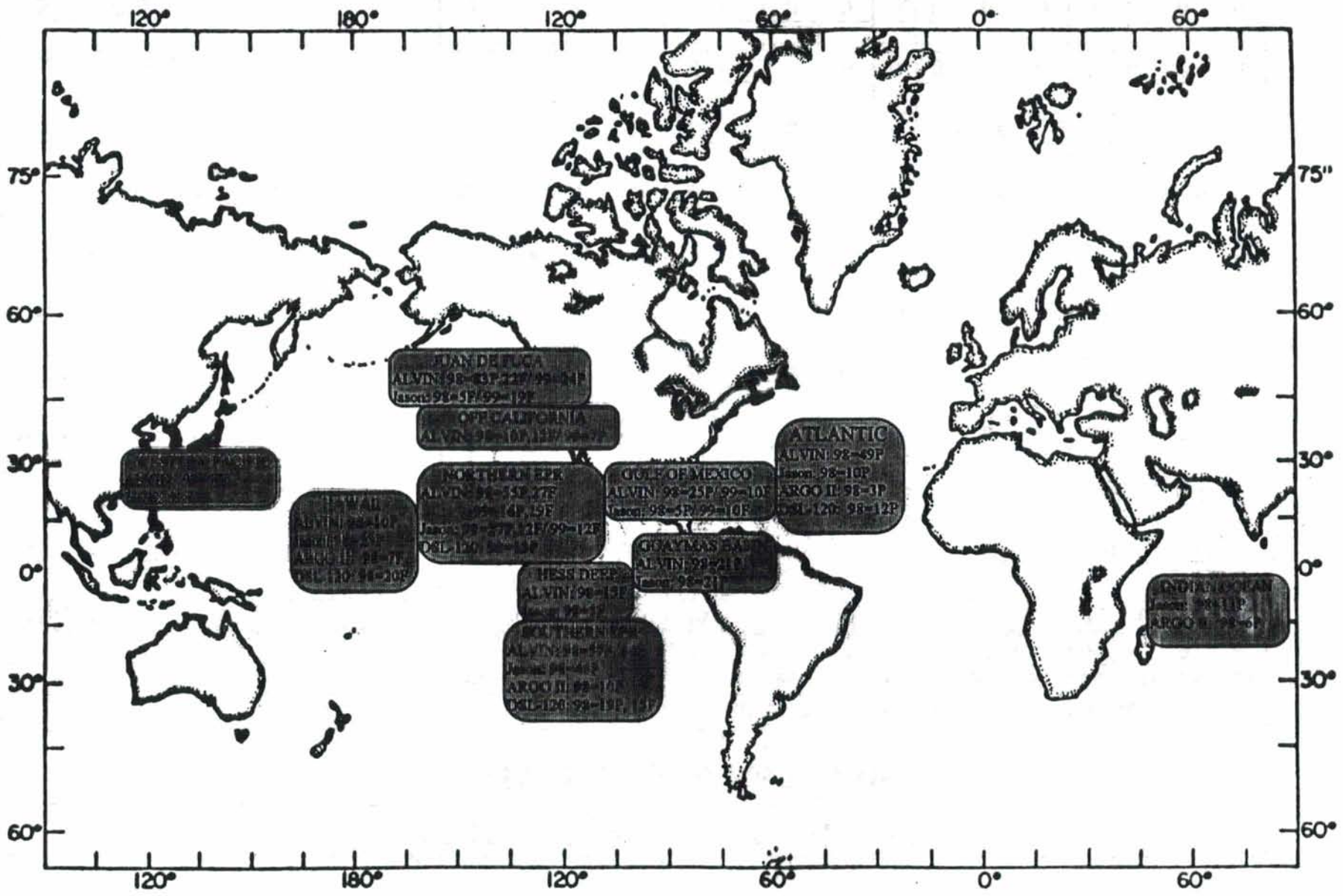
DAM-6/20/97

1998 - 1999: ALVIN and ROVs

Summary of Requests

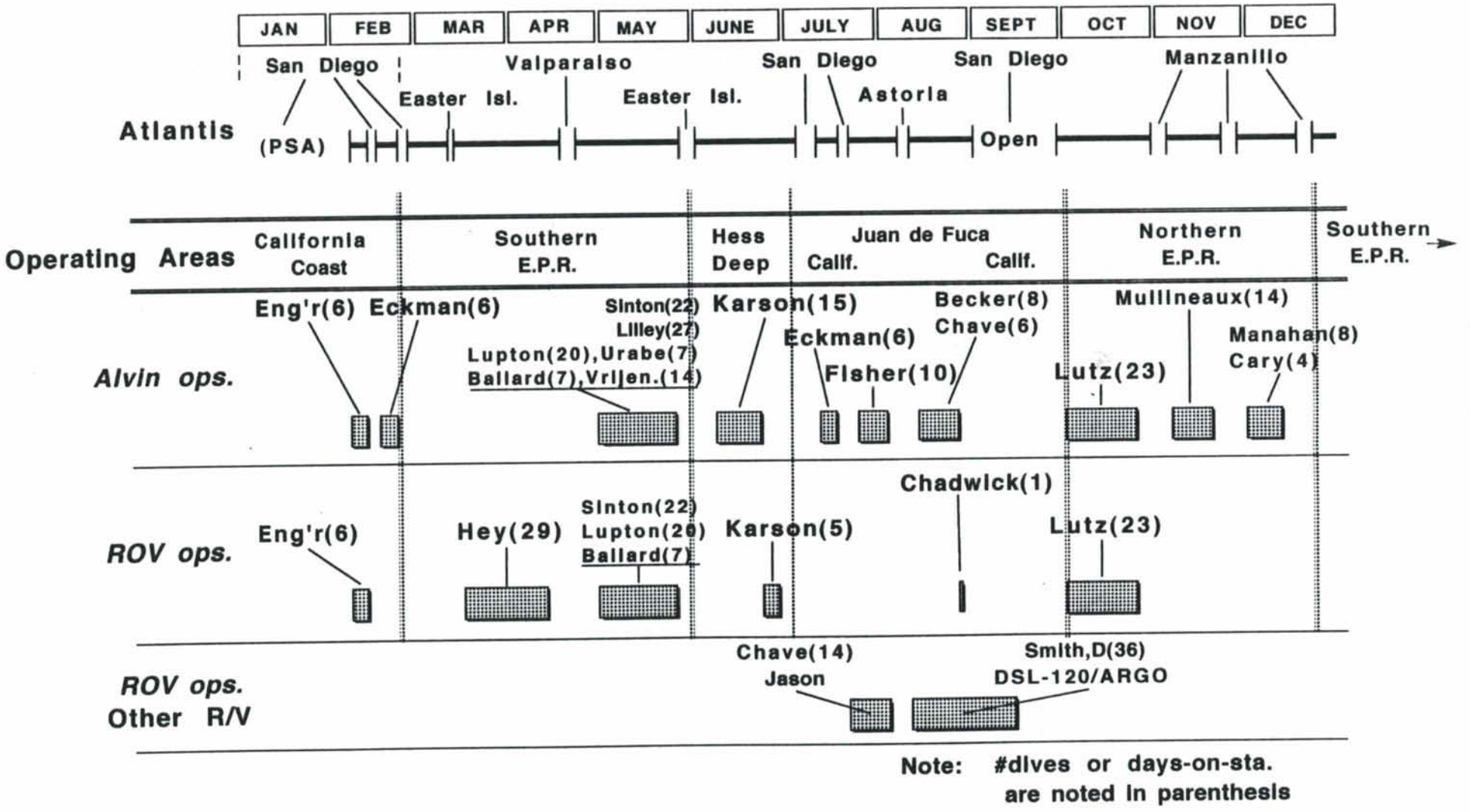
	ALVIN				JASON				ARGO II				DSL-120			
	98 P	98 F	99+ P	99+ F	98 P	98 F	99+ P	99+ F	98 P	98 F	99+ P	99+ F	98 P	98 F	99+ P	99+ F
ATLANTIC	49	0	0	0	10	0	0	0	3	0	0	0	12	0	0	0
GULF OF MEXICO	25	0	0	10	5	0	0	10	0	0	0	0	0	0	0	0
JUAN DE FUCA	83	22	24	0	0	5	0	8	0	0	0	0	0	0	0	0
OFF CALIFORNIA	10	12	7	0	0	0	0	0	0	0	0	0	0	0	0	0
NORTH EAST PACIFIC RISE	55	27	16	19	27	12	0	12	0	0	0	0	13	0	0	0
GUAYMAS BASIN	21	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0
EQUATORIAL PACIFIC	0	15	0	0	0	5	0	0	0	0	0	0	0	0	0	0
SOUTHERN EAST PACIFIC RISE	57	64	0	0	46	0	0	0	10	0	0	0	19	15	0	0
HAWAII	10	0	0	0	23	0	0	0	0	7	0	0	0	20	0	0
WESTERN PACIFIC	56	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
INDIAN OCEAN	0	0	0	0	11	0	0	0	6	0	0	0	0	0	0	0
TOTALS	366	140	47	29	148	22	0	30	19	7	0	0	44	35	0	0

SUMMARY OF ALVIN/ROV REQUESTS FOR USE: 1998 AND BEYOND



1998 R/V ATLANTIS 1998

Proposed Ship Schedule



Note: #dives or days-on-sta. are noted in parenthesis

DAM-6/20/97

APPENDIX VIII

97 OBJECTIVES

UNOLS satisfied NAVO requirements on:

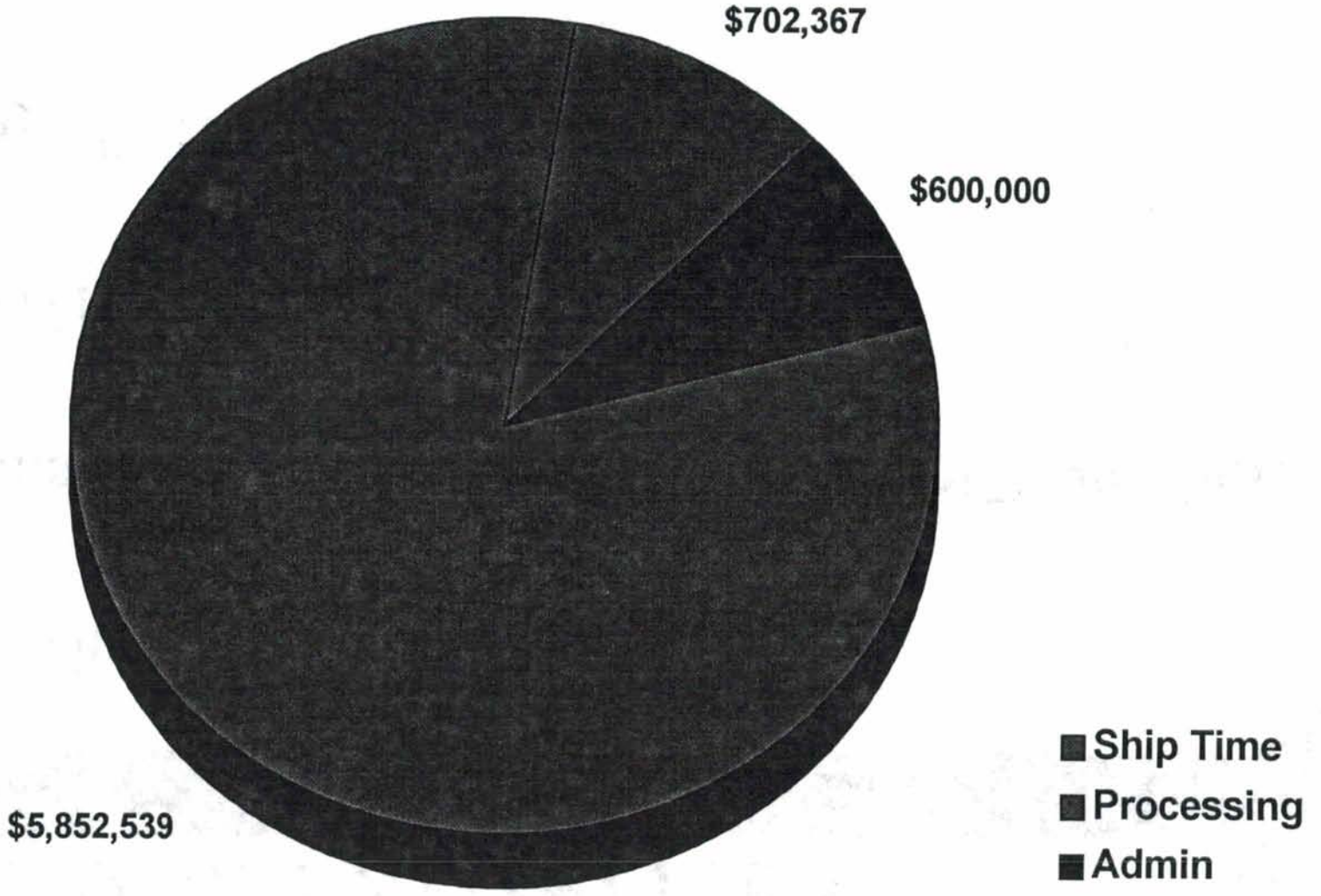
- Fleet tactical near coastal environment ☑
  - Second and Third Fleet "Train as you fight" areas required for forward deployment
  - Satisfy data requests in CONUS training areas

- Fleet special use Range (SOCAL) ☑
  - Third Fleet improved USW training (FY 99 upgrade) all units
  - Improved shallow water description (Diesel threat)
  - Improved weapons range (FY 99 upgrade)
  - Improved environmental planning

97 OBJECTIVES (cont.)

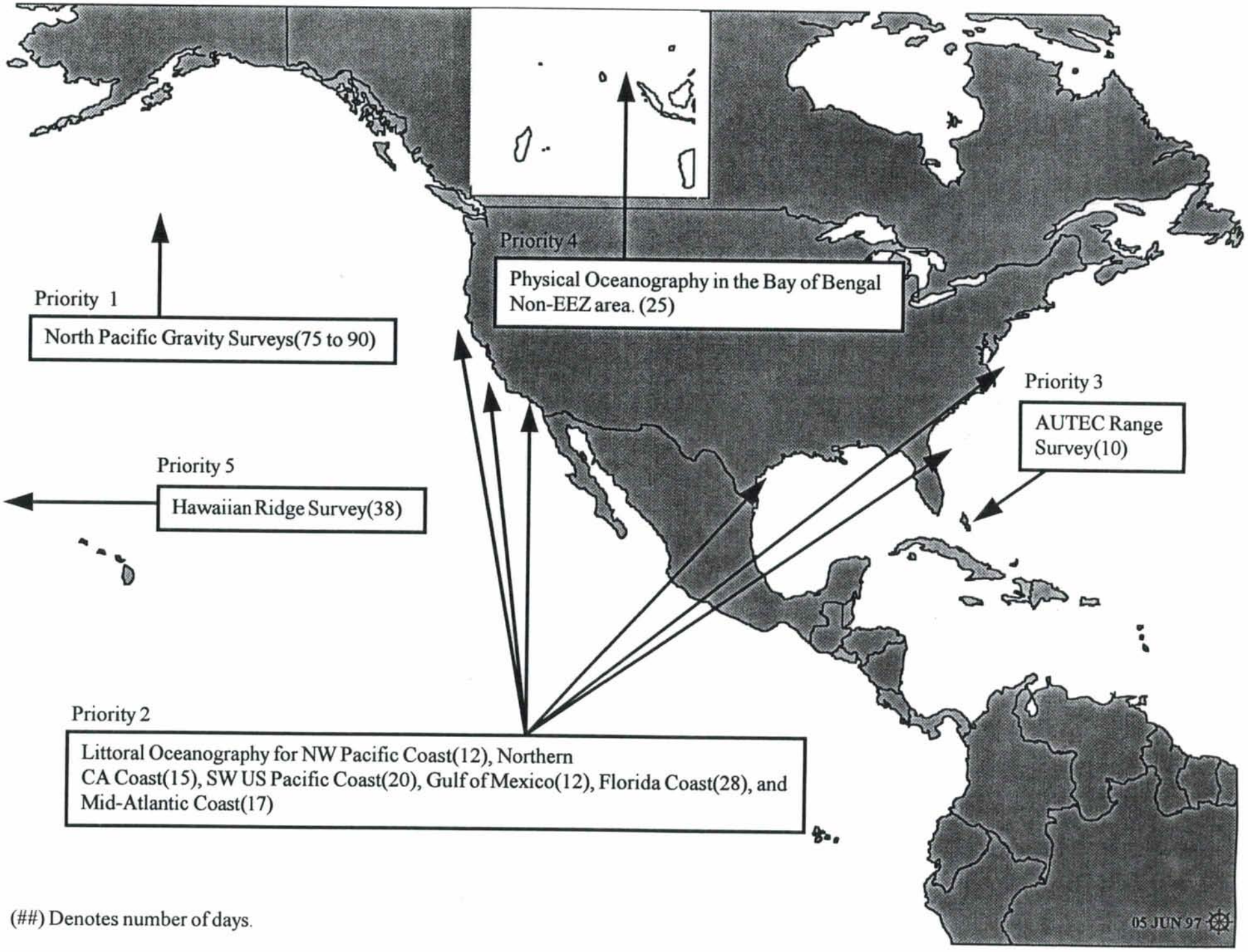
- Fleet Hull Integrity test areas
  - COMSUBLANT trial areas ☑
  - Pre-deployment training and evaluation
- Priority gravity deployment area ☐
  - USSTRATCOM deployment planning
- Fleet Submarine test area ☐
  - COMSUBPAC requirement
- Improved shallow water geophysical sensor ☐
  - Fleet requirements for wide swath, high resolution bathy
  - Acoustic backscatter imagery

97 UNOLS/NAVO Planned Operations



NAVO 98 PRIORITIES

- Gravity - 90 days each w/2ships
- Finish Physical Oceanography (begun 97) w/6 ships
- AUTEC Range
- Bay of Bengal
- Hawaiian Ridge Study



(##) Denotes number of days.

APPENDIX IX

23 June 1997

NURP Updates

1. ATV

The Navy has made it official with the letter from Admiral Krol dated 18 June 1998 that the Advanced Tethered Vehicle (ATV) will be inactivated on 1 October 1998. NOAA/NURP has sponsored most of the science dives performed by the ATV since 1992 and is very disappointed to learn that it will not be supported by the Navy on a long term basis. We had hoped that the ATV would, at least partially, cover the loss of the DSVs TURTLE and SEA CLIFF.

At this point, while other potential Navy recipients are being contacted, NOAA/NURP would like to hear an expression of interest from the science community including the projected use and the relative merits of the ATV.

Beth: As an action item for the agenda, it would be helpful if UNOLS would agree to provide a response to the funding agencies on this topic.

2. NURP Progress.

The reinvented NURP continues to progress. The six undersea research centers and Headquarters have are implementing the operational elements of the new program they have designed which includes new elements of competition and the addition of a national level advisory council. The Administration has shown its support for the new program by including it in the President's budget request for FY 1998 - the first time in 16 years. At the annual meeting of the NURP Directors, Under Secretary of Commerce Dr. Jim Baker congratulated NURP on the changes underway and expressed his support for efforts to raise future funding levels for the program.

3. ALVIN proposals.

Beginning this year all investigators seeking NURP support for ALVIN projects are to submit proposals through one of the six NURP centers. Proposals for NURP funded ALVIN dives will be competitively reviewed and dive time will be allocated on the basis of available funding and recommendations of a national level review panel.

Center Schedules: these were included in individual announcements sent out by the centers and are on their web sites.

Center	Preproposals	Proposals
North Atlantic and Great Lakes	N/A	N/A
Southeastern U.S., Gulf of Mexico	July 1	Aug 22
Mid-Atlantic	July 1	Sept 5
Caribbean	May 15	Aug 1
West Coast & Polar Regions	none	Sept 5
Ha::aii and Pacific	July 1	Aug 22

The following is from the NURP research guidance to the centers.

2.0 RESEARCH GUIDANCE

WHAT'S NEW FOR 1998

The FY 1998 NURP budget will be comprised primarily of Core funding to support center programs and a competitive fund to be allocated among centers based upon the advice of a national level panel that considers national, NOAA, and regional priorities. All proposals for research will be reviewed by each Center's review panel to ensure that proposals recommended for funding reflect high scientific standards. Proposals may be supported from Center core funding or from funds made available from the competitively-allocated fund.

Proposals for NURP support of research using DSV Alvin in 1999, the U.S. Navy deep submergence resources in 1998 and other areas of overall national interest such as research related to improving safety and diving operations, will be solicited by the Centers, where and if appropriate, in their annual announcements this year. These proposals will also be subject to competitive review.

The National Advisory Council will play an instrumental role in advising NURP regarding its commitments in future years to interagency agreements and national responsibilities for deep submergence support as well as other issues of national significance.

NATIONAL UNDERSEA RESEARCH PROGRAM CONTACTS

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Southeastern U.S., Gulf of Mexico
National Undersea Research Center
University of North Carolina - Wilmington
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Wilmington, North Carolina 28043

Robert Wicklund, Director
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Mid-Atlantic
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New Brunswick, NJ 08903

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Caribbean
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APPENDIX X

UNOLS Council June 24, 1997

CORE

Consortium for Oceanographic Research and Education

Daniel S. Schwartz

Policy Fellow

UNOLS Council Meeting

Grand Haven, Michigan, 24 June 1997

Notes

Notes

The National Oceanographic Partnership Program - Brief History, including Goals

- IPI/CORE publication of *Oceans 2000*
- House hearing on oceanographic research (Science, Resources and National Security)
  - Ballard, Lane, Alberts, Baker, Boorda, Gaffney, Frosch, Watkins (Jan. 1996)
- Bilateral introduction of NOPA Authorization
- $20.5M in PL 104-202 Defense Appropriation

CORE

Notes

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Consortium for Oceanographic Research and Education

UNOLS Council June 24, 1997

The Interagency Partnership Initiative - Recommendations

- New partnerships needed in critical areas of support for research:Data, Resources, Education
- Congress: Appropriate funds, Legislate requirement for partnering
- Agencies: High level coordination

CORE

Notes

The National Oceanographic Partnership Program - Process and Elements

- National Oceanographic Research Leadership Council
- Ocean Research Advisory Panel
- $12.5M for research and education, FY '97
  - Data center - $2M
  - Natural lab - $2M
  - Education and training - $2.5M
  - MEDEA - $1M
  - Broad-based research (infrastructure, marine mammals, Arctic, HABs,...) - $5M
- $7.5M for NAVO use of UNOLS, FY '97
- Program Office - $0.5M. Start up; July '97

CORE

Notes

The National Oceanographic Partnership Program - Process and Elements

- NORLC

SECNAV	NOAA Admin.
NSF Dir.	NASA Admin.
DEPSEC Energy	EPA Admin.
Coast Guard Comm.	USGS Dir.
MMS Dir.	DARPA Dir.
OSTP Dir.	OMB Dir.

» 7 others (NAS, NAE, IoM, State Gov., Academia, Industry, TBD)

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Notes

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UNOLS Council June 24, 1997

1997 NOPA and UNOLS Shiptime

- LUMCON *Pelican* 28 days
- Moss Landing Marine Lab. *Point Sur* 11 days
- Univ of Delaware *Cape Henlopen* 42 days
- Duke / UNC *Cape Hatteras* 73 days
- Lamont-Doherty *Ewing* 58 days
- Scripps *Revelle / New Horizon / Sproul / Melville* 153 days
- Univ of Washington *Thompson* 18 days
- Woods Hole *Knorr* 28 days

Total UNOLS Shiptime: 411 Days

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Notes

The National Oceanographic Partnership Program - 1997 Milestones

- NORLC held up on legality - in resolution
- Interagency group put out BAA
  - 220 pre-proposals
  - 42 encouraged ... 55 submitted ... 11 funded
- RFP for program office (CORE proposal submitted 19 May)
- NORLC decisions at first meeting - 23 May

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Notes

FY97 NOPP Program

- $11.5M ($7.5M for UNOLS use by NAVO; $1M to MEDEA; $0.5M for program office)
- > 70 institutions involved
- 19 States

Notes

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UNOLS Council June 24, 1997

FY97 NOPP Projects

- A planning workshop for a "Virtual Data Center"
- Development of a National Littoral Ocean Observing and Predictive System
- Multi-Scale Model-Driven Sampling with Autonomous Systems at a National Littoral Laboratory
- Gulf of Mexico Ocean Monitoring System

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Notes

FY97 NOPP Projects

- Coastal and Marine Aerosol Transformation Processes
- SeaNet: Extending the Internet to the Oceanographic Research Fleet
- Monitoring the North Pacific for Improved Ocean, Weather and Climate Forecasts
- The Bridge: Marine Education Clearinghouse

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Notes

FY97 NOPP Projects

- JASON IX: Descending the Ocean Ladder
- COAST: Consortium for Oceanographic Activities for Students and Teachers
- Bringing the Ocean into the Precollege Classrooms through Field Investigations at a National Underwater Laboratory
- Enhancing K-12 Science Education via Satellite-Televised Interactive Technologies

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Notes

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UNOLS Council June 24, 1997

The National Oceanographic Partnership Program - Status

- Congress working on "NOPA 2" - FY98
  - Same fundamental components: $28.5M
  - Added element - Ocean observations $10M
- FY 99 and outyears
  - Agencies developing budgets (Navy, NSF, NOAA indications)
- Linkage to international efforts - Year of the Ocean -- Expo '98 / Lisbon

CORE

Notes

UNOLS in the process

- What has the NOPP done for the member institutions -- ship usage & science? Getting the word out.
- FY '99: Continuing NOPP
- Implement the CORE / UNOLS MOA: Staying in touch with your state's Congressional delegations.

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Notes

Concluding Thoughts

- Partnership development critical at national and regional levels
  - Visibility
  - Optimal resource utilization
  - Building stable political bases
- NOPP concepts critical to newer thinking (e.g. Press report) on national S&T, and education investments

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Notes

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H.R.1119

National Defense Authorization Act for Fiscal Year 1998 (Reported in the House)

SEC. 214. REVISIONS TO MEMBERSHIP OF AND APPOINTMENT AUTHORITY FOR NATIONAL OCEAN RESEARCH LEADERSHIP COUNCIL.

(a) MEMBERSHIP REVISIONS- Section 7902(b) of title 10, United States Code, is amended--

(1) by striking out paragraph (11); and

(2) in paragraph (17), by striking out `One member' and inserting in lieu thereof `Not more than four members'.

(b) APPOINTMENT AUTHORITY REVISIONS- Section 7902 of such title is amended--

(1) in paragraphs (14), (15), (16), and (17) of subsection (b), by striking out `chairman' each place it appears and inserting in lieu thereof `President'; and

(2) by adding at the end the following new subsection:

`(j) DELEGATION OF APPOINTMENT AUTHORITY- The President may delegate the authority to make appointments under subsection (b) to the head of a department, without authority to redelegate.'.

(c) CONFORMING AMENDMENTS- (1) Section 7902 of such title is further amended--

(A) in subsection (b), by redesignating paragraphs (12), (13), (14), (15), (16), and (17) as paragraphs (11), (12), (13), (14), (15), and (16), respectively; and

(B) in subsection (d), by striking out `(14), (15), (16), or (17)' and inserting in lieu thereof `(13), (14), (15), or (16)'.

(2) Section 282 of the National Defense Authorization Act for Fiscal Year 1997 (Public Law 104-201; 110 Stat. 2473) is amended by striking out subsection (c).

SEC. 215. MAINTENANCE AND REPAIR OF REAL PROPERTY AT AIR FORCE INSTALLATIONS.

(a) IN GENERAL- Chapter 949 of title 10, United States Code, is amended by adding at the end the following new section:

`Sec. 9782. Maintenance and repair of real property

`(a) ALLOCATION OF FUNDS- The Secretary of the Air Force shall allocate funds authorized to be appropriated by a provision described in subsection (c) and a provision described in subsection (d) for maintenance and repair of real property at military installations of the Department

S.936

National Defense Authorization Act for Fiscal Year 1998 (Placed in the Senate)

SEC. 234. RESTRUCTURING OF NATIONAL OCEANOGRAPHIC PARTNERSHIP PROGRAM ORGANIZATIONS.

(a) NATIONAL **OCEAN** RESEARCH LEADERSHIP COUNCIL- Section 7902 of title 10, United States Code, is amended--

(1) in subsection (b)--

(A) by striking out paragraphs (11), (14), (15), (16) and (17); and

(B) by redesignating paragraphs (12) and (13) as paragraphs (11) and (12), respectively;

(2) by striking out subsection (d); and

(3) by redesignating subsections (e), (f), (g), (h), and (i) as subsections (d), (e), (f), (g), and (h), respectively.

(b) **OCEAN** RESEARCH ADVISORY PANEL- (1) Section 7903(a) of such title is amended by striking out `government, academia, and industry' and inserting in lieu thereof `State governments, academia, and **ocean** industries'.

(2) Section 282(c) of the National Defense Authorization Act for Fiscal Year 1997 (Public Law 104-201; 110 Stat. 2473) is amended by striking out `January 1, 1997' and inserting in lieu thereof `January 1, 1998'.

(c) CONFORMING AMENDMENTS- Section 282 of the National Defense Authorization Act for Fiscal Year 1997 is amended--

(1) by striking out subsection (b); and

(2) by redesignating subsections (c), (d), (e), and (f) as subsections (b), (c), (d), and (e), respectively.

(d) EFFECTIVE DATE- The amendments made by subsection (a) and (b) shall be effective as of September 23, 1996, as if included in section 282 of Public Law 104-201.

TITLE III--OPERATION AND MAINTENANCE

Subtitle A--Authorization of Appropriations

that the commercial use of DOD major range and test facilities testing services is not competing with private sector testing services.

Section 233. Eligibility for the Defense Experimental Program to Stimulate Competitive Research.

The committee recommends a provision that would amend section 257 of the National Defense Authorization Act for Fiscal Year 1995 (Public Law 103–337) to ensure the eligibility of the Commonwealth of Puerto Rico and other U.S. territories to participate in the Defense experimental program to stimulate competitive research.

Section 234. Restructuring of National Oceanographic Partnership Program organizations.

Section 282 of the National Defense Authorization Act for Fiscal Year 1997 (Public Law 104–201) added chapter 665, National Oceanographic Partnership Program, to title 10 of the United States Code. Section 7902 of chapter 665 provided for the establishment for the National Ocean Leadership Council, whose duty it would be to coordinate national oceanography programs, partnerships and facilities, and to coordinate policy efforts of all Federal activities involved in oceanographic surveys and research.

The National Ocean Leadership Council was to be made up of the Secretary of the Navy, who would serve as chairman for the first two years, and 17 officers representing: eleven federal agencies with significant roles in oceanographic research; the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine; and representatives, appointed by the chairman, to represent the interests of State government, academia, and ocean industries.

In signing the National Defense Authorization Act for Fiscal Year 1997, the President issued a statement that the statute's method for the appointment of certain members of the National Ocean Leadership Council would violate the Appointments Clause of the Constitution. Although the statement provided that the Council should not exercise significant governmental authority, the administration allowed the Council to be convened with the 12 members whose appointment did not raise any constitutional issue, pending the enactment of corrective legislation.

The committee recommends a provision that would amend section 7902(b) revising the membership of the Council to remove the members whose appointment would raise constitutional questions. The National Oceans Leadership Council would remain as currently established by the administration, with members representing the 12 Federal agencies with significant oceanographic interest. The committee recommends that the membership of the Council's advisory panel be expanded to include representatives from the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine, as well as government, academia, and the oceans industry.

Power electronic building blocks

The committee recommends an increase of $6.0 million in PE 62121N to accelerate the development of power electronic building block (PEBB) technology through virtual prototyping. The committee supports PEBB and its contribution to meeting the goals of the Department of Defense and the Navy to reduce manning, reduce cost, and enhance survivability for future shipboard architectures.

Materials technology

The committee recommends a decrease of 4.0 million in PE 62234N in the vacuum electronics in order to balance the investment strategy for vacuum electronics and solid state technologies.

Second source for carbon fibers

In fiscal year 1997, Congress added $3.0 million in PE 62234N for the qualification of new processes for aviation platforms and the development of a second source for carbon fibers. The budget request for fiscal year 1998 did not include the funds necessary to complete this qualification process. The committee supports the Navy's increased efforts to address science and technology materials development in support of Naval platform affordability, supportability, and mission performance. The committee recommends an increase of $2.0 million in PE 62234N to complete the qualification of new processes, such as resin transfer molding, and the establishment of a second source for carbon fibers and prepreg systems.

Titanium processing technology

The committee recommends an increase of $2.0 million in PE 62234N to support the development of the plasma quench process for use in the production of ultra-fine titanium powder and in the injection molding process. The committee believes the plasma quench process offers the defense and aerospace industries a cost-effective and environmentally sound means of meeting growing titanium requirements while ensuring that domestic sources of titanium metal remain viable into the future. The committee directs that all applicable competitive procedures be used in the award of contracts or other agreements under this program, and that cost-sharing requirements for non-federal participants be utilized where appropriate.

National oceanographic partnership program

The National Oceanographic Partnership Program (NOPP), was established in the National Defense Authorization Act for Fiscal Year 1997, for the purpose of leveraging all U.S. oceanographic efforts in the Navy, in industry, and in academia to benefit national security. The President's fiscal year 1998 budget request included $5.0 million in the Navy's Oceanographic and Atmospheric Technology program (PE 62435N) for NOPP. The committee recommends an increase of $16.0 million in PE 62435N to fully fund NOPP in fiscal year 1998 at $21.0 million. The committee expects other Federal agencies involved with NOPP to begin budgeting for this program in fiscal year 1999. The committee recommends that the partnership focus the additional funding in the following areas:

global observation; training programs and career guidance for ocean scientists; scientific utilization of military data; and marine information data basing and networking; and partnership among federal agencies, academia, industry and other members of the oceanographic scientific community.

Global observation of ocean processes is recognized as the foundation for forecasting environmental conditions in support of forward-deployed Naval operations. The committee recommends that $10.0 million be used for ocean observation systems in order to establish the means for continuous, high resolution measurements of oceanic physical, biological, chemical and geological processes. Focus should be placed on exploitation of existing military observational systems (including the Integrated Undersea Surveillance System), development of networking sensors, real-time data transmission/assimilation and broad accessibility to data.

Emphasis should be placed on the education of civilian and military oceanography students and future scientists. The committee recommends that $2.5 million be used to develop training programs and career guidance for ocean scientists, primarily within the graduate research community, emphasizing career sectors of interest to the Navy. Participation in such programs shall be determined using a merit-based, competitive selection process.

Support is required for oversight groups, such as the government-industry MEDEA Ocean panel, to continue defining the best mechanism for declassifying Navy data holdings as well as access to operational systems for a broad range of educational and research activities. The committee recommends that $1.0 million be used to further scientific utilization of military data.

Current technologies provide a range of applications that could facilitate the transmission of existing information on the oceans. The need for this network is supported by national security concerns regarding an array of marine-related issues, such as coastal hazard mitigation and safe harbor navigation. The committee recommends that $2.5 million be used to support marine information databasing and networking.

The committee recommends that $5.0 million be used for partnerships among Federal agencies, academia, industry, and other members of the oceanographic scientific community to strengthen the coordination of oceanographic research and development activities and Navy operational requirements.

The committee directs that all applicable competitive procedures be used in the award of contracts or other agreements under this program, and that cost-sharing requirements for non- federal participants be utilized where appropriate.

Undersea weapons technology

The committee recommends an increase of $4.0 million in PE 62633N to accelerate technology leading to the development of a quick reaction anti-submarine/anti-torpedo weapon needed for close-range engagements and for the protection of surface ships and submarines from torpedo attack. The additional funding should be used to mature hydrodynamics and propulsion technologies for the 6.25″ Torpedo vehicle and expand guidance and control technologies to accelerate fleet introduction of this versatile weapon.

APPENDIX XI

Z-Drive Issues and Questions

R. A. Knox, June 1997; with help from
T. Althouse, R. Pittenger, J. Coburn

1. 6 ships, all Lips units (also 5 (?) Navy TAGS)

2. Significant differences:

Knorr/Melville	AGOR 23,4,5,6
1500 hp motors	3000 hp motors
1350 hp thrusters (overtorque)	4000 hp thrusters
port/starboard same	p/s different
shrouded props	open props

3. *Melville:*

1993 broken tooth, lower - bad metallurgy.

Subsequent inspections (2) OK

Tooth contact good

4. *Knorr:*

1997 spalled tooth, lower unit

Replacement gear to be installed at Halifax in July.

Broken gear will be analyzed like *Melville* gear in 1993.

5. *Knorr/Melville*

No upper gear problems to date

One lower gear casualty has a probable, fixable cause

IF spalled *Knorr* gear indicates bad metallurgy, obtain a full set of spare lower gears

IF NOT, revisit spares question after study

No evidence of groundings or collisions to date

Propeller shrouds may afford some protection

6. *Thompson:*

Two lower gears failed in 1994. Bad metallurgy probable; bad contact possible

Replacements used *Revelle* gears

Lips evidence that HMI may have grounded ship

Dubai 1996 repair - port side bolts sheared

Recent *Thompson* failure is in upper gears; first upper gear problem. (Upper gear torques much less)

Examine for possible bad metallurgy, etc.

Anecdotal evidence of suboptimal upper gear tooth contacts; investigate

Tooth contacts not load tested prior to failures (u or l).

7. *Revelle:*

Obtained testing of lower gear tooth contact under load for AGOR 24 class units; good contact

June 97 inspection of lower units - no problems

Upper gear tooth contact under load not previously tested

Revisit depending on results of *Thompson* upper gear failure analysis

***Revelle* probably grounded at HMI, but gently. Deplorable as shipbuilding practice, but no clear adverse impact on this particular ship.**

8. *Atlantis*:

Initial lower gear installation/testing similar to *Revelle*.

No subsequent issues arising.

Grounded by HMI at New Orleans sufficiently to overload the SCR drives.

9. ***Brown*: no experience; too new.**

CONCLUSIONS; FUTURE ACTIONS

a. Regular oil and vibration checks

b. Inspect lower units regularly, budget/plan/schedule for gear replacement at end of expected life

c. More extensive future inspections/tests of upper units, depending on investigation of *Thompson* failure.

d. Study (Glosten, subcontract to SIO, funded by NAVSEA via ONR) problems to date, operation/inspection protocols, etc., consider any recommendations arising.

e. If *Knorr* failure implicates bad metallurgy procure spare lower set, and possibly do so in any event

f. AGOR 23/4/5/6 spare lower sets are funded, in shipment to SIO as custodian, for all ships.

g. Hold open question of upper gear spares (no *Knorr/Melville* failures, one AGOR failure with cause still unknown); revisit later after study (d) is complete.

h. Keep careful records of any groundings or collisions that could impact thrusters.

i. Premature to move toward more drastic remedies (whole drive system changes, etc.)

Z-Drive Issues and Questions

R. A. Knox, June 1997; with help from T. Althouse, R. Pittenger, J. Coburn

1. 6 ships have Z-drive propulsion, powered by electric motors: *Knorr, Melville, Thompson, Revelle, Atlantis, Brown*. All Z-drives are Lips units. In addition several (5?) Navy TAGS ships have similar Lips Z-drive systems.

2. Significant differences:

Knorr/Melville	AGOR 23,4,5,6
1500 hp motors	3000 hp motors
1350 hp thrusters	4000 hp thrusters
port/starboard same	port/stbd different
shrouded props	open props

It is thus possible in principle to overtorque thrusters in *Knorr/Melville*, not AGORs. Controls limit the motors to prevent this. INSURV procedures to prevent overtorque while still accomplishing required quick reversal demonstrations are being worked out.

3. *Melville:* Broken gear tooth casualty on starboard lower unit in 1993, almost certainly bad metallurgy (insufficient case hardening depth, and some plain bad metal). Since then, lower gears have been inspected during casualty repair, and twice since, most recently this year in Melbourne. Tooth contact patterns are good. Dye penetrant tests reveal no cracks. No adverse indications from oil analysis or vibration data.

4. *Knorr:* Spalled tooth on port lower unit found in March 1997 drydock. No prior noise or other obvious indications of failure or impending failure. Replacement gear due to be installed at Halifax in July. Broken gear will be analyzed by Diehl as was done for *Melville* gear in 1993.

5. For *Knorr/Melville* there is thus far no indication of any upper gear problems, and one of the two lower gear casualties has a very probable, fixable cause. Should the tests of the broken *Knorr* gear indicate bad metallurgy, it would be crucial to obtain a full set of spare lower gears, since there is no demonstrable manufacturing difference between the gears that have broken and the original gears that still survive. Since all 4 units (2 per ship) are identical, one complete lower gear set is the prudent spares inventory. If the cause of the recent *Knorr* failure is not bad metallurgy, a spare set might still be valuable; should discuss then.

For *Knorr/Melville* there is no clear evidence of any groundings or collisions with objects that could have shocked the gears. The propeller shrouds may afford some protection in this regard.

6. *Thompson:* Two lower gears failed in 1994; replacements were made with gears originally intended for *Revelle*. Metallurgy was the prime suspect, although insufficient tooth contact was pointed to by some (Diehl). Lips produced credible evidence at that time that the gears could have been overstressed by grounding the ship while HMI was moving it.

1996 drydock in Dubai to fix thruster oil leak also disclosed sheared heads on half the bolts fastening the port thruster to the foundation. Again, HMI grounding is a possible cause.

Recent *Thompson* failure is to the upper gears; this is the first upper gear problem in any of the ships. Torques on the upper gears are intrinsically much less than on lower gears. This raises the question of observation, alignment testing, etc. for upper units generally, heretofore thought not to be as critical a matter as on lower gears. Clearly, the broken gears should be thoroughly examined for possible bad metallurgy, etc. There is anecdotal evidence (Diehl comment to Althouse), but not hard data, to suggest that the upper gear tooth contacts may not have been optimum. This possibility should be investigated.

Neither upper nor lower gears on *Thompson* had been load-tested for tooth contact prior to their failures.

7. *Revelle:* In the wake of the *Thompson* lower unit failure in 1994 and the redirection of *Revelle* gears to *Thompson*, SIO successfully pressed NAVSEA to test lower gear tooth contact under load for AGOR 24 units. These tests showed good contact. Inspection of the lower units in the shipyard this week shows good conditions and good tooth contacts in both units. Upper gear tooth contact under load has not heretofore been tested, because the loads (torques) were presumed to be small, but depending on results of the *Thompson* upper gear failure analysis, this view could change.

Revelle probably contacted ground while still at HMI, but rather gently. There is no evidence of a severe grounding/collision that may have shocked the gears, and the inspections of last week lend credibility to the notion that the HMI groundings, while deplorable as shipbuilding practice, have not yet led to a major adverse effect on this particular ship.

8. *Atlantis*: Initial lower gear installation was tested under load, similar to *Revelle.* No subsequent issues arising. It is worth noting that *Atlantis* was grounded by HMI at New Orleans sufficiently to overload the SCR drives.

9. *Brown*: no experience; too new.

10. Future course of action:

a. Continue regular oil and vibration checks

b. Continue regular inspections of lower units, to establish tooth contact patterns under load. Budget/plan/schedule for gear replacement at end of expected life, with good margin of safety.

c. Consider more extensive inspections/tests of upper units in future, depending on results of investigation into recent *Thompson* failure.

d. Pursue study (Glosten, subcontract to SIO, funded by NAVSEA via ONR) to do a review of problems to date, operation/inspection protocols, etc., consider any resultant recommendations.

e. If *Knorr* failure proves traceable to bad metallurgy in whole or in part, procure spare lower set, and possibly do this procurement in any event

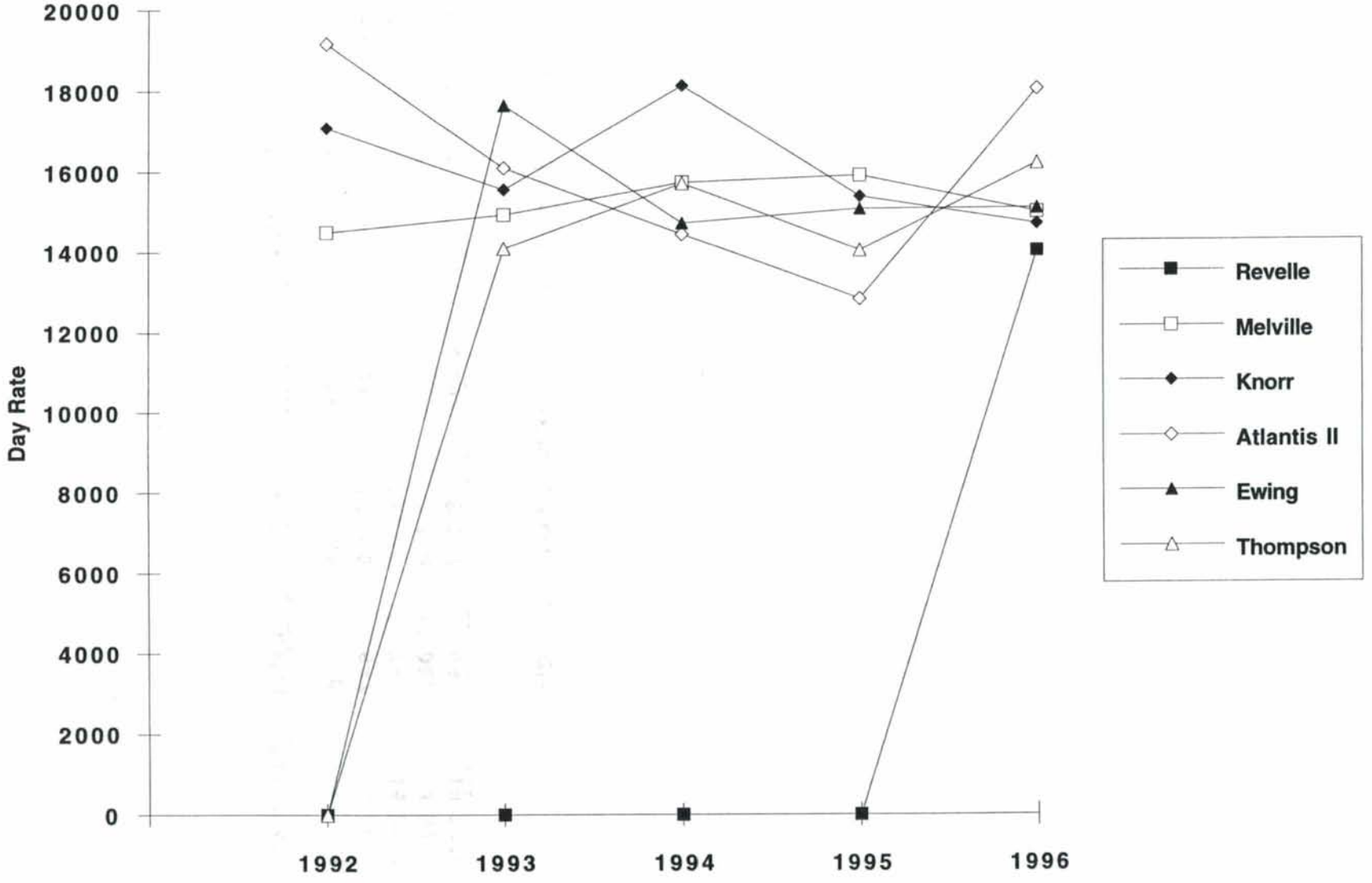
f. AGOR 23/4/5/6 spare lower sets are funded, and in shipment to SIO as custodian, for all ships.

g. It is probably too early to consider upper gear spares (no *Knorr/Melville* failures, one AGOR failure with cause still unknown); revisit later after study (d) is complete.

h. Keep careful records of any groundings or collisions that could impact thrusters.

i. Premature to move toward more drastic remedies (whole drive system changes, etc.)

APPENDIX XII


20000
18000
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4000
2000
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Day Rate
1992
1993
1994
1995
1996
Revelle
Melville
Knorr
Atlantis II
Ewing
Thompson

	Revelle	Melville	Knorr	Atlantis II	Ewing	Thompson
1992	0	14,489	17,079	19,167	0	0
1993	0	14,929	15,549	16,090	17,647	14,091
1994	0	15,730	18,131	14,440	14,726	15,701
1995	0	15,893	15,375	12,830	15,068	14,032
1996	14,021	14,997	14,703	18,044	15,097	16,208

Actual (prior years) day rates, NSF budget sec. 7, incl. OH

APPENDIX XIII

Woods Hole Oceanographic Institution
Woods Hole, MA 02543
Phone: (508) 548-1400
Telex: 951679

February 11, 1997

Mr. John F. Bash, Executive Secretary
UNOLS
P.O. Box 392
Saunderstown, RI 02874

Dear Jack:

Woods Hole Oceanographic Institution (WHOI), the operating institution of *R/V Atlantis* (AGOR 25), formally requests that UNOLS designate this ship as a UNOLS vessel, operated by WHOI. Conditions for such designation are given in the UNOLS document "Guidelines for Requesting/Becoming UNOLS vessel", part 6. In answer to those conditions, the following information is provided:

6a. WHOI intends to operate the vessel for research purposes, as evidenced by the 1991 proposal to the Office of Naval Research which resulted in competitive selection of WHOI as the operating institution. If needed, a copy of this document can be provided.

6b. The continuing record of WHOI in successfully operating other UNOLS vessels from the inception of UNOLS to the present satisfies this requirement.

6c. WHOI routinely submits NSF ship operations proposals in the standard format, including projection of user charges, and has already incorporated *R/V Atlantis* day rates into its NSF proposal for CY 1997.

6d. The vessel successfully completed Navy INSURV acceptance trials in November 1996. Residual deficiencies are being corrected. None of them compromise the capability of the ship to carry out broad-spectrum oceanographic research planned for June 1997, and the conclusion of INSURV was that the Navy should accept the ship from the shipbuilder in February 1997. INSURV inspection of Final Contract Trials will be scheduled by ONR.

6e. The ship has been designed and equipped to all applicable UNOLS and other safety standards, and will be so operated.

6f. The vessel will be available to all federally-funded users, as are existing WHOI-operated UNOLS vessels.

6g. The vessel will be maintained at a high standard of readiness and scientific support capability, as are existing WHOI-operated UNOLS vessels.

6h. WHOI has always participated fully in the UNOLS scheduling process since inception of UNOLS, and will continue to do so, including receipt and acknowledgment of requests for use, and close cooperation with the UNOLS Office on scheduling issues.

6i. WHOI already submits such reports in accordance with UNOLS practice for existing vessels, and *R/V Atlantis* will be included in this reporting.

6j. WHOI already adheres to UNOLS cost accounting and performance standards for existing WHOI-operated UNOLS vessels, and will treat R/V Atlantis similarly.

6k. WHOI has requested funds for 1997 operation of the vessel and will and will continue to submit proposals in accordance with NSF and ONR guidelines.

6l. This letter constitutes the required written application.

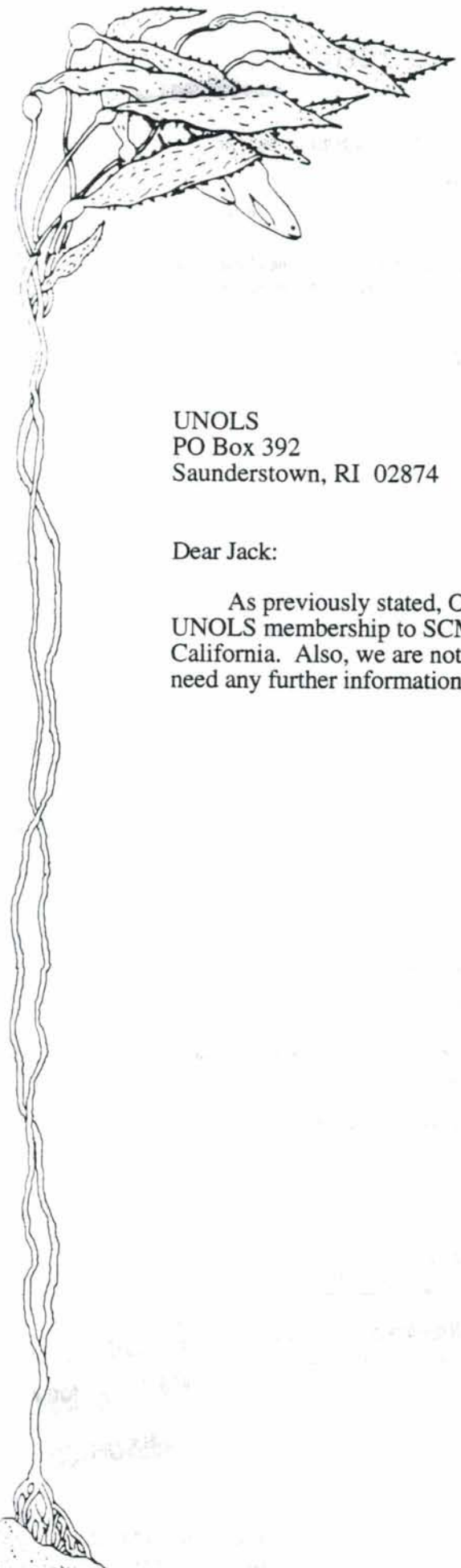
If any further information is required, please do not hesitate to contact me.

Sincerely,

Richard F. Pittenger
Associate Director for
Marine Operations

cc: Sujata S. Millick
Dolly Dieter
Ken Johnson

APPENDIX XIV



SOUTHERN CALIFORNIA MARINE INSTITUTE

May 2, 1997

UNOLS
PO Box 392
Saunderstown, RI 02874

Dear Jack:

As previously stated, Occidental college is willing to relinquish or reassign their UNOLS membership to SCMI, so there will be no net gain in memberships in Southern California. Also, we are not requesting vessel operator status at this time. Should you need any further information or require clarification, please feel free to call.

Sincerely,

Don Newman
Associate Director

RECEIVED
MAY 6 1997
UNOLS OFFICE

820 S. Seaside Ave., Terminal Island, CA 90731 • (310) 519-3172 • FAX (310) 519-1054

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

APPLICATION FOR MEMBERSHIP

Revised 4/97

Pursuant to the UNOLS Charter the below named organization hereby submits application for membership in the University-National Oceanographic Laboratory System. In doing so the applicant understands and agrees to work for the objectives set forth in the UNOLS Charter (Attached).

Name of Institution: Southern California Marine Institute

Name of person delegated to act as representative to UNOLS:

Name: Donald L. Newman

Title: Associate Director

Address: 820 South Seaside Ave.

Terminal Island, CA 90731

Telephone Number: (310) 519-3172

Fax Number: (310) 519-1054

E-mail: SCMI@csulb.edu

General information on oceanographic, Sea Grant and other marine science programs:

No. Professional Personnel 16 No Graduate Students 8

Approximate Annual Budget $ 1.5 million

List of research vessel(s) owned or operated:

NAME	SIZE
R/V Yellowfin	76'x 28'
R/V SeaWatch	65'x 26'
R/V Vantuna	85'x 28'

NOTE: Please attach a brief list of the names and addresses of key individuals to whom the following information sent out by UNOLS would apply. (Note: The UNOLS Institution Representative receives all information.)

Ship user information - research ship schedules, ship availabilities, etc. (intended for scientists and ship users).

Research ship operations and maintenance - for Marine Superintendents and Port Captains

UNOLS Rep. only

SUBMITTED:

Signature Donald L. Newman

Name: Donald L. Newman
Title: Associate Director
Date: 5/2/97

RECEIVED
MAY 6 1997
UNOLS OFFICE

Send to:

P.O. Box 392
Saunderstown, RI 02874

Phone: (401) 874-6825
Fax: (401) 874-6167
E-mail: unols@gsosun1.gso.uri.edu

Scientists and Ship Users

Dr. Larry Allen
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(818) 885-3340/3356
FAX: (818) 885-2034
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Dr. Keith Arnold
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Dr. Richard Bray
Program Director
Biological Sciences
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FAX: (760) 750-4111
E-mail: rbray_@csusm.edu

Dr. Ivan Colburn
Geological Sciences
(213) 343-2413/2400
FAX: (213) 343-2435
E-mail: None

Mr. George Engelke
Mechanical Engineering
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FAX: (714) 773-3426
E-mail: rseapy@fullerton.edu

Dr. David Sigurdson, Chair
Earth Sciences
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FAX: (310) 516-4268
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Dr. Jon Sloan
Geological Sciences
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FAX: (818) 885-2820
E-mail : jsloan@huey.csun.edu

Dr. Susan Williams
Biological Sciences
(619) 594-2738
FAX: (619) 594-5676
E-mail: swilliams@sunstroke.sdsu.edu

APPENDIX XV

DSV SEACLIFF
UPDATES

- DESSC has developed a survey questionnaire to poll the scientific community on future reqmts for vehicles and research directions.
- Report due by April 1997 to ONR, NSF, and NOAA

- WHOI is evaluating last 5 options. Will begin detailed engineering evaluation of the options this summer.
- Portsmouth Naval Shipyard will assist in the evaluation
- Analysis is due to be completed by Sept of 97, with report due to the agencies by Oct 97.
- Agencies will evaluate options, and make final decision by Dec 97.

DSV SEACLIFF & TURTLE BACKGROUND

- Navy (N873) intends to de-activate DSV TURTLE at the end of FY 97 and DSV SEACLIFF at the end of FY 98.

- The FOFCC FOCUS group convened in Sept 96 and decided to focus primarily on whether DSV SEACLIFF should be incorporated into the current capability.

- List of 8 possible options was generated by the Co-ordination Board.

- The Board requested UNOLS to evaluate the scientific need for such an asset, and WHOI (current ALVIN operator) to evaluate the technical feasibility of the options.

OPTIONS DISCUSSED

OPTION	ORGANIZATION	DECISION	OPTIONS	IMPACT/COST
1.	N873	Deactivate	scrap long-term storage museum (Navy)	N873
2.	N873	Transfer	FOFCC commercial (U.S.) foreign MARAD Other Fed agency civil sector (museum)	unknown
3.	Federal Agencies	Decline SEACLIFF	N873 retain	deactivate/transfer to others
4.	Federal Agencies	Accept SEACLIFF	retire ALVIN	1 for 1 replacement
5.	Federal Agencies	Accept SEACLIFF	retain ALVIN	operational costs for addn'l DSV (platform, shore facility, crew costs)
6.	Federal Agencies	Accept SEACLIFF	operate ALVIN on interim basis	Costs for maintaining 2 half-time vehicles
7.	Federal Agencies	Accept SEACLIFF	modify SEACLIFF using ALVIN equipment	alteration costs
8.	Federal Agencies	Accept SEACLIFF	Modify ALVIN using SEACLIFF sphere & equipment	alteration costs

SUMMARY OF WORKING GROUP DISCUSSION AND RESPONSE TO ONR OPTIONS

ONR OPTION	Response
1. Deactivate SEACLIFF.	Unwise use of facility
2. Transfer to other than WHOI.	No
3. Decline SEACLIFF.	No
4. Accept SEACLIFF, retire ALVIN.	No
5. Accept SEACLIFF, retain ALVIN.	No - cannot support additional platform/crew
6. Accept SEACLIFF, operate ALVIN	No Waste of efforts and interim basis. impractical use of funds
7. Modify SEACLIFF using ALVIN equipment.	Serious reservations, Probably No. Major modifications to ATLANTIS required. Lose ALVIN capabilities. Substantial costs involved with little benefit. 18-24 m
8. Modify ALVIN using SEACLIFF sphere and equipment.	Possibly, but requires further investigation of technical feasibility and impact on current ALVIN capabilities. 8 mo Heavier sphere, batteries, major structural upgrade required.

WHOI OPTION	Response
8A. Improve ALVIN with SEACLIFF components, excluding sphere keep sphere for future upgrade	Yes-- enhances sensors and operational equipment available for ALVIN and preserves ONR option 8.
9. Redesign of a new submersible	Possibly, requires further

APPENDIX XVI

IFIP97

I. Status

-strongly revised

-audience is federal agency R/V managers

-focused on options for downsizing and needs for new construction

-needs Dick Pittenger's coverage graphics

II. Comments received and "incorporated"

-Ken Johnson (detailed; regional ?)

-Denny Hayes (very detailed; value ?)

III. Recommendation

To provide an approved database for future planning, the Council should establish an annually updated summary of Fleet operating costs and projections as a consensus document, including NSF, ONR, NAVO (?), and NOAA(?) participation.

APPENDIX XVII

SeaNet Report to UNOLS Council

SeaNet was conceived in 1990 by Andy Maffei of WHOI and Bob Heinmiller also of WHOI and later OMNET. The SeaNet concept is essentially the implementation of Internet at sea and has operated experimentally on the Joides Resolution and the R/V THOMPSON for the past 18 months. Although, by this time, most of the UNOLS vessels are offering E-mail and some are able to offer access to the net on a real time basis, the major limitations at the present time are cost and the lack of a common implementation. The cost issue remains unsolved because the funding agencies have chosen not to fund e-mail services for the science parties through the ship support grants and scientists have resisted having these services charged to them directly. Costs vary widely, those ships requiring an INMARSAT Std A connection pay in the neighborhood of $6.50 per minute of 4,800 Baud connect time. Cellular connect and services such as Sky-Cell are cheaper but suffer from limited geographic availability. A proposal authored by Ellen Kappel, Andy Maffei, et al has been funded by the Navy through NOPP which addresses the implementation problem. In the words of the proposal abstract "[to develop] the common underlying infrastructure necessary to integrate the Oceanographic Research ships and [to] implement some production units optimized for intermittent Internet connection [at sea]". The proposal was funded for approximately $1.5M. A contract has been negotiated with the Omnet organization to coordinate the operational aspects of the system during the experimental period. To this end OMNET will operate a SeaNet operations center and undertake the billing for services provided. During the experimental period no actual charges will be assessed to users, however, billings will be made on a memo basis in order to inform the user community of what charges they would have been responsible for in an unsubsidized situation. According to Susan Kubany of OMNET, the system will use an extensive caching scheme to minimize time actually on the circuit. The stated goal is to improve shipboard e-mail service and provide some subset of Internet service at sea. The present implementation will use INMARSAT Std B data service which is less expensive and much faster than INMARSAT Std A. Andy Maffei of WHOI will be responsible for development of the shipboard communications node, Rex Budenberg of Naval Postgraduate School, Monterey is in charge of Technology planning and shipboard implementation, Dale Chayes, LDEO is responsible for Procurement and installation of the Inmarsat B hardware The shoreside connection to the internet and communication firewall will be provided by MCI while the satellite connection will be the responsibility of COMSAT corporation. The hardware is under development and will be provided by Magnaphone

Ellen also voiced her intention of an advisory panel with representatives from UNOLS, NavOceano, ONR, NSF and NOAA to deal with these issues.

APPENDIX XVIII

UNOLS COUNCIL NOMINATING INSTRUCTIONS

UNOLS COUNCIL MEMBERSHIP CHANGES:

Terms Expiring:

Member	Position	Term Length	Status
Dennis Hayes	Operator Representative	3-years	Ineligible for Re-election
Robert Knox	At-large Representative	3-years	Eligible for Re-election
Cindy Lee	Non-Operator Representative	3-years	Eligible for Re-election

NOMINATING COMMITTEE:

The UNOLS Chair will appoint and announce the Nominating Committee. The committee will consist of three members, two from operator institutions and one from an institution other than an operator.

NOMINATING COMMITTEE DUTIES:

The Nominating Committee will issue a call for nominations enumerating the positions to be filled and summarizing the qualifications required for each position. Nominations for the slate may be submitted by anyone affiliated with a UNOLS institution, in writing, to the UNOLS Office or the Nominating Committee. In forming the slate, the Nominating Committee shall give due consideration to the qualifications required for each position as well as for maintaining appropriate balance among institutions from different regions having different facilities. Individuals should be chosen to achieve a balance among scientific user disciplines. Nominations of additional candidates may also be made form the floor during the meetings. Such nominations may be made only by designated representatives of UNOLS institutions, and must be accompanied by the nominee's concurrence and qualifications.

A slate of candidates will be prepared for distribution at least 30 days in advance of elections consisting of at least two candidates for each position being considered.

UNOLS DIRECTORY (with designated representatives)

Operator Institutions in **BOLD**

Rev. 4/97

ALABAMA MARINE ENVIRONMENTAL SCIENCES CONSORTIUM
Dr. George F. Crozier

UNIVERSITY OF ALASKA Dr. Thomas Weingartner

BERMUDA BIOLOGICAL STATION for RESEARCH, Inc. Dr. Dennis Hansell

BIGELOW LABORATORY FOR OCEAN SCIENCES
Dr. David Townsend

BROOKHAVEN NATIONAL LABORATORY Dr. Creighton D. Wirick

UNIVERSITY OF CALIFORNIA, SAN DIEGO, SCRIPPS INSTITUTION OF OCEANOGRAPHY
Dr. Robert Knox

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
Dr. James P. Kennett

CAPE FEAR COMMUNITY COLLEGE Mr.Raymond P. Brandi

COLUMBIA UNIVERSITY, LAMONT-DOHERTY EARTH OBSERVATORY Dr. Dennis Hayes

UNIVERSITY OF CONNECTICUT Capt. Lawrence Burch

UNIVERSITY OF DELAWARE Dr. Carolyn A. Thoroughgood

DUKE UNIVERSITY/UNIVERSITY OF NORTH CAROLINA Dr. Daniel B. Albert

FLORIDA INSTITUTE FOR OCEANOGRAPHY Dr. John C. Ogden

FLORIDA INSTITUTE OF TECHNOLOGY Dr. Richard Gerlick

FLORIDA STATE UNIVERSITY Dr. William C. Burnett

HARBOR BRANCH OCEANOGRAPHIC INSTITUTION
Mr. Richard Herman

HARVARD UNIVERSITY Dr. Michael B. McElroy

UNIVERSITY OF HAWAII Dr. Brian Taylor

HOBART & WILLIAM SMITH COLLEGES Dr. Donald L. Woodrow

THE JOHNS HOPKINS UNIVERSITY Dr. Stephen L. Root

LEHIGH UNIVERSITY Dr. Bobb Carson

LOUISIANA UNIVERSITIES MARINE CONSORTIUM
Dr. Michael Dagg

UNIVERSITY OF MAINE Dr. Robert E. Wall

THE MARINE SCIENCE CONSORTIUM Dr. Darlene Richardson

UNIVERSITY OF MARYLAND Dr. Tom Malone

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Dr. John M. Edmond

UNIVERSITY OF MIAMI, ROSENSTIEL SCHOOL OF MARINE & ATMOSPHERIC SCIENCES
Dr. Otis Brown

UNIVERSITY OF MICHIGAN, CENTER FOR GREAT LAKES & AQUATIC SCIENCES Dr. Theodore C. Moore, Jr.

MONTEREY BAY AQUARIUM RESEARCH INSTITUTE
Dr. Bruce Robison

MOSS LANDING MARINE LABORATORIES
Dr. Kenneth Johnson

NAVAL POSTGRADUATE SCHOOL Dr. Robert Bourke

UNIVERSITY OF NEW HAMPSHIRE
Dr. Wendell Brown

STATE UNIVERSITY OF NEW YORK AT STONY BROOK
Dr. Charles A. Nittrouer

UNIVERSITY OF NORTH CAROLINA AT WILMINGTON
Mr. Robert I. Wicklund

NOVA UNIVERSITY Dr. Julian P. McCreary

OCCIDENTAL COLLEGE Dr. John S. Stephens, Jr.

OLD DOMINION UNIVERSITY Dr. Larry Atkinson

OREGON STATE UNIVERSITY Dr. G. Brent Dalrymple

UNIVERSITY OF PUERTO RICO Dr. M.L. Hernandez-Avila

UNIVERSITY OF RHODE ISLAND Dr. Jeffrey E. Callahan

RUTGERS UNIVERSITY Dr. Clare Reimers

SAN DIEGO STATE UNIVERSITY Dr. Clive Dorman

SEA EDUCATION ASSOCIATION Capt. Philip Sacks

SMITHSONIAN TROPICAL RESEARCH INSTITUTE
Mr. Howard Barnes

UNIVERSITY OF SOUTH CAROLINA Dr. Robert Thunell

UNIVERSITY OF SOUTH FLORIDA Dr. Peter R. Betzer

UNIVERSITY OF SOUTHERN CALIFORNIA Dr. Douglas Hammond

UNIVERSITY OF SOUTHERN MISSISSIPPI Dr. Denis Wiesenburg

UNIVERSITY SYSTEM OF GEORGIA, SKIDAWAY INSTITUTE OF OCEANOGRAPHY Dr. Richard Jahnke

UNIVERSITY OF TEXAS Dr. Terry E. Whitledge

TEXAS A&M UNIVERSITY Dr. Ed Shaar, Jr.

VIRGINIA INSTITUTE OF MARINE SCIENCE Dr. L. Donelson Wright

UNIVERSITY OF WASHINGTON Dr. Arthur Nowell

UNIVERSITY OF WISCONSIN AT MADISON Dr. Anders W. Andren

UNIVERSITY OF WISCONSIN AT MILWAUKEE
Dr. David E. Edgington

UNIVERSITY OF WISCONSIN AT SUPERIOR Dr. Mary Balcer

WOODS HOLE OCEANOGRAPHIC INSTITUTION
RADM Richard Pittenger

APPENDIX XIX

Status of RSMAS Mar-Ops/ RSMAS-HBOI Joint Ops/SECOR

I. RSMAS Mar-Ops

-proceeding toward construction of a catamaran as replacement for R/V Calanus

II. RSMAS-HBOI Joint Ops

-advancing

-broad MOU signed

-joint faculty oversight committee beginning to function

III. SECOR

-science planning workshop completed

-report under revision (USM lead)

-follow-up not fully defined; however, homepage for shared technical resources and marine technicians is being developed at LSU

DRAFT

Summary of Recent Developments in Marine Operations at RSMAS, Joint Operations w/HBOI, and SECOR

(Revised by Prof. Chris Mooers, 12JUN97)

I. UM/RSMAS

-R/V Columbus Iselin: sold to Mexican corporation, Nov 96, for $1.335M; 10% commission paid to broker, left a net of $1.2M; $0.5M dedicated as match for a private donation dedicated to R/V construction; $0.7M currently available for outfitting or matching

-R/V Calanus: dry docked 4/97, strong schedule demand for FY98 (222 days requested; 140 days funded)

-ca. 80 foot catamaran (R/V Calanus replacement):

- design/build bids being evaluated by naval architect firm
- selection of builder pending bid evaluation
- NASON Foundation funds of $0.5M for R/V construction have been stabilized, contingent upon timely progress
- RSMAS Advancement Office seeking $2M donation to complete R/V construction and outfit R/V
- AOML letter-of-intent received for 60 days per annum for 5 years

- decision to construct pending finalization of financials
- NSF proposal for Major Research Instrumentation for replacement R/V was rejected but will be re-submitted next year

-Dodge Island space being relocated to another building

II. RSMAS/HBOI joint ship operations

-broad MOU signed (covers more than ship ops)

-Ship Users Advisory Committee (SUAC) established and functioning, Chair Dr. Tom Lee/RSMAS and Vice-Chair Dr. Craig Young/HBOI

-Cooperative Marine Operations (CMOP) continue

-HBOI Marine Operations Building completed, RSMAS Marine Technology Group lab set up there

-one RSMAS marine technician (plan to hire another one) based at HBOI; three based at RSMAS

III. SECOR

-MOU operative

-core members: RSMAS, TAMU, and U/T (Austin)

-associate member: AOML

-science workshop held 21 to 23APR, Stennis Space Center; USM host

- ca. 40 participants from ca. 20 institutions from the five Gulf states were present, plus AOML, SEFSC, NRL, CNMOC, NAVO, and EPA

- CORE and SAML were represented but not UNOLS
- focus on advocacy, partnering, cooperative research, and effective (shared) use of facilities and personnel
- interest in SECOR Web homepage development established (w/LSU lead)
- three science themes adopted
    - -Gulf of Mexico large marine ecosystem, with real-time network of continental shelf stations
    - -Intra-Americas Sea transport pathways and eddy variability applied to climate variability, fisheries recruitment, and pollutant transport
    - -sustainability of marine habitats: corals, seagrasses, and mangroves
- report due in JUN

-follow-up (and fallout) from science workshop yet to be determined; however, two working groups have already been formed: one to propose a set of SECOR by-laws, and the other to propose a real-time network of Gulf of Mexico shelf stations