UNOLS
Committee Reports

February 2000

Arctic Icebreaker Coordinating Committee
Deep Submergence Science Committee
Fleet Improvement Committee
Research Vessel Operators' Committee
Research Vessel Technical Enhancement Committee
Ship Scheduling Committee

UNOLS Arctic Icebreaker Coordinating Committee

Report to the UNOLS Council
January 22, 2000
James H. Swift, Chair AICC

The UNOLS Arctic Icebreaker Coordinating Committee (AICC) has been busy since the last report to Council in September, including a meeting at NSF Headquarters 11-12 January.

Announcement of the 2000 Arctic Science-of-Opportunity (SOO) cruise was made in late summer 1999 and applications were received. Because nearly all were repeats from last year's cancelled SOO, and it was going to be possible to accommodate the new requests, no compatibility/logistics review was needed from the AICC. Glenn Cota has agreed to be Chief Scientist on the 2000 SOO, expected in the western Arctic in early summer.

An informal AICC meeting was held on 19 October at Old Dominion University, with a focus on AICC-Coast Guard issues and continued efforts to provide a UNOLS-like experience to funded Arctic science users of the Coast Guard icebreakers.

At the NSF Ocean-Atmosphere-Ice Interactions All-Hands meeting in Virginia Beach, 20-22 October, AICC representation was included during a panel discussion on Arctic logistics, with focus on the upcoming western Arctic Shelf-Basin Interactions project and HEALY science planning.

AICC representation was included at the USCGC HEALY Ice Trials Meeting 27-28 October in New Orleans, the final all-hands planning meeting for the tests and trials program. A tour provided a chance to observe that the ship and laboratories looked in nearly final/completed condition.

The AICC hosted a community long-term planning workshop on Arctic icebreaker use at the 1999 Fall AGU meeting. The audience was principally concerned with understanding the planning and scheduling process, and understanding science equipment and technical support. This feedback will be valuable in guiding updates to information for prospective users. An abridged version of the present 'five year rolling plan' for US Arctic icebreaker use has been placed on the UNOLS web site. Another meeting has been arranged at the Ocean Science Meeting in San Antonio 24-28 January.

USCGC HEALY has been delivered to the Coast Guard and is expected to depart New Orleans for warm water testing 'any day now'. Departure is currently ca. two weeks later than scheduled and this may

impact future events on the schedule. The AICC is being kept up to date. At last word the Coast Guard continues to anticipate being ready for NSF funded Arctic science in CY2001.

The Coast Guard's plans for a Baltimore public relations visit by HEALY have created excitement. HEALY is presently scheduled to depart Norfolk on 19 March and transit to Baltimore. The UNOLS FIC Committee will ride the ship and hold a meeting aboard. There is room for other riders for this transit. The ship will be open Monday and Tuesday for activities. A press day is being planned. The Shelf Basin Interaction (SBI) Group is planning to meet aboard on Tuesday. Wednesday (March 22nd) will be the big event with VIPs onboard. Congressional staffers are being invited. AICC members will be on hand in the laboratories along with many posters from the community demonstrating the type of science intended to be carried out from HEALY.

There will be extensive AICC participation in Coast Guard sea trials of HEALY during 2000. The Coast Guard has been working closely with Canada, Denmark and Greenland with respect to the ice breaking and cold water science tests to be conducted in Baffin Bay. The science systems testing team will make the decision as to where it will want to work for science testing. The ship's science systems are ready for testing. Test memos for science testing are now being updated for the final in-ice science systems tests in June, and the AICC is now writing up science objectives for the Phase IV science systems testing. John Freitag has been tasked to provide the committee with his draft objectives adjusting them for realigned of test requirements recently worked out by the AICC. AICC members will be overseeing all science systems testing, and an addition to the test reports all are contributing to an executive report. At the behest of the AICC, member Kelly Falkner submitted a proposal to NSF to support having teachers aboard during the level ice and science systems testing. It is likely to be funded.

The AICC is moving ahead with its role in expeditionary planning. In addition to the at-least-annual town meetings, a five-year rolling plan, including status of each planning idea, will be made available to the community through the UNOLS web site. It is planned that information to be tracked will include planning ideas, proposals submitted, proposals funded and proposals scheduled, with accompanying logistics and user contact information. The funding cycle makes long range planning very difficult. It is particularly difficult to coordinate operations with foreign ships since they commit to a schedule several years in advance. There remain important details to work out but progress is being made on this important AICC and community issue.

Regarding science equipment and technical support on the Coast Guard icebreakers, the AICC is available to do informational reviews for equipment purchases, and notes that the academic community can be of assistance in providing technical support that could help with equipment purchases, equipment maintenance, training and technicians at sea. The committee discussed what process is necessary to make the services available. The Chair will alert the community that one or more institutions should consider submitting technical support proposals to NSF for HEALY services. It will be important that anyone contemplating providing such services work closely with both the Coast Guard and the users.

Seattle was selected as the next meeting place, to be scheduled near commissioning time, expected ca. August 2000.

Report to the UNOLS Council from The UNOLS DEep Submergence Science Committee

Submitted by Dr. Patricia Fryer

This report consists of three parts:

1. Report of the UNOLS DESCEND Workshop, Oct. 1999

2. Brief report of the DESSC Annual Planning Meeting, Dec. 1999

3. Draft of Revised DESSC Terms of Reference

1. Report of the UNOLS DESCEND Workshop

As part of an overarching effort to define critical scientific research objectives to be attacked in the next decade, and to ensure that the facilities exist to achieve these objectives, NSF, NOAA and ONR funded a UNOLS workshop that took place in late October of 1999. The 117 participants in this workshop addressed the future of multidisciplinary science that utilizes both deep and shallow submergence technologies (see <http://www.gso.uri.edu/unols/descend/descend.htm> for more information). The workshop provided an excellent opportunity for scientists and experts in submersible vehicle and sensor technology to meet and discuss the myriad of issues associated with future science initiatives and the technology that will be needed to address them. The workshop had three objectives: to (1) define the critical scientific research themes for oceanographic and allied sciences that require vehicle and/or observatory systems in the next decade and beyond, to (2) define strategies to ensure that the facilities exist to carry out these objectives, and thus, to (3) help to direct future upgrades of science sensors, sampling techniques, and imaging capabilities of vehicle systems funded by the federal agencies.

Participants in the workshop agreed that one of the most outstanding scientific revelations of the twentieth century is the realization that ocean processes and creation of the Earth's crust within the oceans may determine the livability of our planet in terms of climate, resources, and hazards. Discoveries made with submergence vehicles may enable us to determine even how life itself began on Earth and whether it exists on other worlds. The participants also stressed that the next critical step should be toward discovering the linkages between various phenomena and processes in the oceans and in exploring the interdependencies of these through time. The participants expressed excitement at the knowledge that technological advances in the myriad of oceanographic sensors and vehicle capabilities are escalating at a increasingly rapid pace, and have created enormous potential for opportunities to gain a scope of understanding unprecedented even a decade ago. This new knowledge will build on the unprecedented discoveries in marine sciences over the last several decades; many made possible only through advances in vehicle and sensor technology. With the rapidly escalating advances in technology, the participants agree that the time is ripe to focus efforts on understanding the connections both in terms of interdependency of phenomena at work in the world oceans and their variability through time.

Some of the major recommendations arising from the DESCEND Workshop include a concern that our nation's ability to keep pace with this growing potential is being limited by an inability to gain broad access to the full spectrum of vehicles and tools that currently exist. The future success of multidisciplinary oceanographic research in realizing the full potential of this burgeoning technology will depend critically on a new, major national investment in facilities and research funding if we are to make new vehicles, sensors and samplers readily available to the academic community. The justification for this investment lies in the certainty that we will make fundamental discoveries concerning the interplay between geological, chemical, and biological phenomena in the world oceans and the effects these processes have on the hydrosphere, atmosphere, ecosystems, and Earth's human population.

2. DESSC Annual Planning Meeting

UNOLS DEep Submergence Science Committee held its annual Planning Meeting in the Moscone Convention Hall, Room 220, San Francisco, CA, on Sunday, December 12, 1999. The full minutes are not yet available, however I present a summary of the meeting below:

The DESSC Chair's Report given by Patty Fryer introduced two new members Dave Mindell (replacing Jim Bellingham) and Joris Gieskes (replacing Bob Collier). (additional information: The terms of Jim Bellingham, Dan Orange and Bob Collier ended in 1999. A call for nominations was distributed from the UNOLS Office and four applications were received. The DESSC reviewed the current membership of the committee in terms of disciplinary balance and institutional representation. They felt it was important that there be a technology/engineer expert on the committee. It was also suggested that SIO should have representation on DESSC. Although the applications received were all fine candidates, they did not match the disciplinary needs required to maintain a balance among the committee. DESSC members made suggestions for replacements and of these Dave Mindell and Joris Gieskes have agreed to serve. Patty discussed planned changes to the DESSC Terms of reference (see the draft below). She reported briefly on the DESCEND Workshop (a discussion session for results of the DESCEND was planned for the

afternoon). Patty highlighted the results of the NDSF year - 12 ATLANTIS cruises, 4 cruises for the ROV systems as flyaway components and then introduced reports by PIs who had used the NDSF assets in 1999.

1999 Science Reports - Presentations given by Principal Investigators were all very favorable. Several people did note problems; however, that they hoped would be addressed. Among these were the impact of fuel problems on science, the lack of SeaBeam capability on one cruise and the lack of a back-up board for the computer on one cruise, the sinks on ATLANTIS are a general problem (because particles clog the sinks scientists are forced to do prep work on deck), the issue of small programs with few dives being "taxed" with training dives should be addressed, pull strength of wire for the ROVs is less than the retrieval pull of the instruments, bunk space is limited on complex cruises (this will be a problem as more multi-disciplinary approaches are made to submergence science), the elevators are size-limited for instruments, 24 hour science use brings scientist up against the limit for overtime for ship's crew (day rate problem).

Operations Summary - NDSF vehicle systems summary was reported by the operator (activities since the July meeting were presented). The WHOI work plans for 2000-2001 were addressed including ATLANTIS. Work done and to be done was described and community input for improvements was solicited. The ALVIN Overhaul (2001) was discussed and again community input for upgrades was solicited. An update on the SEA CLIFF Engineering Study was presented. The Jason upgrade progress so far and timing for activities in 2000-2001 were presented. The operator and the attendees discussed scheduling and coordination with ALVIN overhaul. A brief discussion of out-year planning of funded unscheduled programs was held. The operator presented the Annual Technical Proposal.

The funding Agency representatives gave brief reports.

The DESSC Terms of Reference Revision was discussed (see draft of revised Terms of Reference below).

Fryer gave a report on the UNOLS DESCEND Workshop (see above) and led a discussion of how the results of the Workshop might best be presented. The suggestion to focus on "discovery" as a unifying theme for the report was agreed to as the best. There was a brief discussion of follow-up activities for DESCEND Workshop recommendations. These include a Technology workshop and dissemination plans for the DESCEND document. It was agreed that a short brochure-style document as well as the full report should be prepared. DESSC's role in the follow-up activities was discussed. It was agreed that DESSC would be the best body to provide oversight on follow-up activities.

A suggestion was made that it would be possible to enfranchise more scientists by moving DESSC meetings to Ocean Sciences from the AGU meeting, possibly in alternate years.

The meeting adjourned at 4:30 PM.

3. Draft of revisions to DESSC Terms of Reference

Terms of Reference

DEEP SUBMERGENCE SCIENCE COMMITTEE

Revised: July 13, 1993

INTRODUCTION:

The Terms of Reference for the DEep Submergence Science Committee (DESSC) are herein revised to reflect the evolving role of this committee. The Committee retains its oversight responsibilities in the use of ALVIN and includes oversight of the use of the ROV and AUV assets of the National Deep

Submergence Facility. Incumbent in this is fulfilling an ombudsman role for the deep submergence community, insuring maximum participation in the utilization of these deep submergence assets. It is also the responsibility of the DESSC to promote new technology for ALVIN, the ROVs and AUVs and to maintain cutting edge capability for the National Facility.

The DESSC will continue to work with the user community, federal sponsors and the operator of the deep submergence national facility to encourage deep submergence research in traditional areas and expeditions to remote geographic regions. Additionally, DESSC will also encourage the advancement of cooperative international programs for the enhancement of multidisciplinary submersible science throughout the academic community.

SPECIFIC TASKS FOR THE DEEP SUBMERGENCE SCIENCE COMMITTEE ARE AS FOLLOWS:

1. The UNOLS DEep Submergence Science Committee shall operate pursuant to appointment by UNOLS and in accordance with Annex II to the UNOLS Charter. In addition, each funding agency will be invited to designate an official observer to the Committee.
2. Advise Regarding Proposals for Use of National Facility Assets: Proposals for the use of the National Facility deep submergence assets are regularly submitted for peer review through the three principal funding agencies NSF, ONR and NOAA. DESSC no longer reviews proposals. DESSC will however provide advice regarding optimum use of the assets to maximize operational strategy for the deployment of these assets. Deliberations will consider whether the proposed research might be enhanced by the use of ROVs, AUVs and/or other undersea research tools, or be better accomplished using other manned or unmanned submersibles, perhaps those operated by other countries. The committee will work with agency representatives and staff from the operating institution to develop schedules that will most effectively utilize deep submergence assets.

3. Deep Submergence Assets Planning:

   A. Annual Scheduling. Ship scheduling is based on funded projects and is done in part in consultation with the DESSC at the summer DESSC meeting. A preliminary scheduling discussion is conducted in an open forum for the user community at the winter (Dec. AGU) meeting. At that time the community is provided with an indication of the potential areas in which deep submergence assets could feasibly operate well in advance of proposal submission deadlines.

   B. Global Expeditions: The DESSC will work with the user community, federal sponsors and the operator to determine the feasibility of organizing deep submergence science expeditions to remote geographic regions. DESSC will work with the federal funding agencies to provide timely information regarding funded projects so as to enable potential users to better evaluate the appropriateness of submission of proposals for work in remote areas.

4. Deep Submergence Science Tools: The DESSC will, on a continuing basis, maintain awareness of new scientific tools and the needs of the users for new sensors and equipment to address important scientific questions. DESSC should encourage development and promote acquisition of these tools by the operator or interested scientists, and encourage discussion of mechanisms whereby the supporting agencies can fund these technological developments that are essential to the maintenance of state-of-the-art capabilities for National facility assets. Workshops or special sessions during the Fall AGU meeting, as well as other National Scientific meetings may be required for this task. Technical capability of the deep submergence research assets will be formally reviewed by the DESSC, with the assistance of selected outside experts, at least once every two (2) years.

5. User Concerns: On a yearly basis, the committee will review and assess comments from scientific users of deep submergence assets and identify key areas that warrant attention by the operator and

recommend remedial actions as appropriate.

6. Undersea Technology: With regard to undersea technology in the broader sense, the DESSC should monitor and promote the development and application of appropriate new submersible technologies, both manned and unmanned, shallow and deep, for use in undersea scientific research. The DESSC should coordinate their efforts with the science user community, technology developers and facility operators. The DESSC shall advise NSF, ONR, NOAA and other federal agencies on submersible technology, its evolution and applications. Additionally, the committee shall include a representative(s) with expertise in the areas of undersea engineering and technology.

   In carrying out this task the DESSC will need to coordinate its efforts with the Academy of Engineering Marine Board and may need to organize special workshops.

7. Membership/Nomination of DESSC: The DESSC membership shall be comprised of individuals who can represent the various oceanographic disciplines required to advise on the effective use of submersible assets. The UNOLS Chair shall appoint the DESSC members from the nominations made by DESSC. Nominations for candidates to the committee shall be submitted to the DESSC for review. Nominations should include the candidate's vitae. Members of the DESSC will be appointed for three-year terms, staggered so that two or three terms begin each year. Individuals may serve not more than two consecutive terms. The operating institution may designate an ex-officio member(s) in addition to those members appointed by the UNOLS Chair. With the Council's concurrence, standing committees of UNOLS may also designate ex-officio members as appropriate to DESSC.

8. Reports of activities shall be made to UNOLS.

ANNEX II TO THE CHARTER

National Oceanographic Facilities

1. In addition to regular institutional UNOLS facilities, there may be identified National Oceanographic Facilities, defined as those facilities, specialized and otherwise, that are made available for the use of qualified scientists from any institution and the use of which shall be recommended by a UNOLS Review Committee.

2. A research vessel or other research facility may be designated a National Oceanographic Facility upon the approval of the UNOLS membership after review by the UNOLS Council, with the concurrence of the owner and operator of the facility and with reasonable assurance of support. National Oceanographic Facilities may be multi- or special-purpose facilities and may be designated for the entire annual operating period or any significant period thereof.

3. The purpose of National Oceanographic Facilities is:

   - To provide oceanographic vessel and other facility support to scientists who do not operate or have available the required facilities.

   - To provide for the support and use in academic research of specialized and unique facilities.

4. In recommending the allocation of facility time, the Review Committee acts primarily on the scientific merit of the proposed research and its compatibility with the individual facility.

5. Operational scheduling of the facility is the function of the operating institution. The time frame for scheduling generally is in accordance with Annex I of the UNOLS Charter.

6. Information and announcements advertising the availability of a National Oceanographic Facility are a joint function of the operating institution and the UNOLS Office.

7. Receipt, acknowledgment, collating and structuring of requests for facility use will be the function of the operating institution in consultation with the UNOLS Office.

8. An annual report on the use of each National Oceanographic Facility is prepared by the appropriate institution in cooperation with the Review Committee and the UNOLS Office.

9. Requests for funding the operation of the facility are the responsibility of the operating institution.

10. If a National Oceanographic Facility ceases to meet the criteria above, especially with respect to being specialized or unique, recommendation may be made by the UNOLS Council to the funding agencies that such designation be discontinued. Each National Oceanographic Facility is reviewed by the UNOLS Council at least once each three years.

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Readopted: Oct 28, 1988, Washington, DC
Readopted: Sep 15, 1989, Washington, DC
Readopted: Sep 14, 1995, Arlington, VA
Revised: July 13, 1999 in draft form

Fleet Improvement Committee Report to the UNOLS Council
February 2000

Submitted by Larry Atkinson

November meeting and a ride on the *WESTERN FLYER* - FIC met on November 9 and 10 in Moss Landing at the Monterey Bay Research Institute. In addition to a dockside tour of WESTERN FLYER on the first day MBARI graciously arranged for us to go offshore to meet FLYER on the second day and ride it back into port. With more SWATHS coming on line in the future it was more than appropriate that FIC actually ride on one. We learned more in a few hours than from days of viewgraphs!

AGOR 26 - FIC continues its occasional oversight role in the design and build of AGOR 26 (the 'Hawaii SWATH'). This has been a good test of a new mode of operation of FIC where we *ad hoc* respond to needs of institutions planning or constructing new ships.

WHOI SWATH - FIC has been kept up to date on the WHOI SWATH developments by Joe Coburn. We have written a letter to WHOI urging them to put the new ship, should it be built, in the UNOLS system.

Cape Henlopen Replacement and other issues regarding regional vessels - FIC is working with Matt Hawkins (U. Del.) and his Delaware Research Vessel Design Committee. Here again FIC is working *ad hoc* to provide community input to institutional efforts to replace ships.

FIC is also coordinating with Lee Back (BBSR) who has formed a group to address the needs of Regional class vessel upgrades and replacements. FIC Chair will stay in contact with Lee and his group.

Alaska Replacement - The Alaska replacement SMR has been delivered to U. Alaska. We will continue to work with Alaska as the process develops. When planning begins FIC will provide appropriate members to be part of the team.

Biennial Review - FIC is creating a WWW based document that will take the place of the five year planning document. The outline of the Review follows along with authors. If you know of someone who might author one of the sections please let me know.

Future Research Requirements – Chairs of NSF Ocean Discipline review committees.

> This chapter will summarize the results of the NSF review of the future of ocean science so the following discussion of facilities is in the context of science requirements. It will answer the question "What are the new areas of research that oceanography will study in the coming decades?"

Future Observing Systems –

> This chapter would summarize the reality of what we will need in the future with what is possible. Discussion could range from maintenance of ocean observatories to high sea state observations from new hull designs. This chapter will answer the question "What new observing systems may become available that scientists will want to use?" Of course, we must note that new tools may change the scientific questions that are asked.

General Information on the UNOLS Fleet

State of the Fleet and Trends in Fleet Use- Larry Atkinson (Old Dominion University), Annette DeSilva, Jack Bash and Mike Prince (UNOLS)

> What is the state of the fleet and what have been the trends in fleet use? This chapter will present the state of the fleet in terms of size and capability of the ships. The chapter will also look at trends in fleet use including the waxing and waning of large programs, the issue of more bunks per cruise, lab space, and sea state capabilities.

Historical Perspective of Fleet Replacement and Expansion – UNOLS office and past chairs

> How did we get to where we are? In the past how did fleet expansions occur? What has caused change in the fleet over time?

New Assets - Chris Measures (University of Hawaii)

> This chapter will present the ships that are now in the planning or construction phase. This would include the Hawaii SWATH, Savannah, WHOI coastal SWATH, etc. Because of the nature of the chapter it would require updating regularly.

Specific Topics – New types of vessels

Icebreakers - Jim Swift (Scripps Institution of Oceanography)

> This chapter will review the status of ice strengthened hulls for ocean research. Also considered will be: vessel needs in the Arctic and Antarctic, critical issues in research (polynas, etc.).

Seismic Vessels – Paul Ljunggren and John Diebold (Columbia University)

> This chapter will review the status and trends in vessels specialized for seismic observations. Special note will be made of the progress made in the petroleum industry.

SWATH Vessels – Joe Coburn (Woods Hole Oceanographic Institution)

SWATH vessels offer the oceanographic community the opportunity to work at sea in higher sea states than previously possible on small vessels. This chapter will review the successes and failures of SWATH vessels. The chapter will educate the reader on the attributes of SWATH designs. The status of SWATH vessels worldwide will be reviewed as well as the future in the US.

Remote Operated Vehicles - Author(s) yet to be identified

Remotely Operated Vehicles present a new way of observing the ocean and place new requirements on the ships for deployment, retrieval and maintenance. This chapter will review ROV technology and the special requirements it places on ships.

Autonomous Underwater Vehicles - Author(s) yet to be identified

Autonomous underwater vehicles present a new way of observing the ocean and place new requirements on the ships for deployment, retrieval and maintenance. This chapter will review AUV technology and the special requirements it places on ships.

Ocean Observatories - Author(s) yet to be identified

The ability to leave instruments at remote undersea locations for months and years is changing the character of oceanography. What are the classes of observatories and what special demands to they put on the research fleet?

Fisheries and Hydrographic Surveying

Fisheries Surveys - Author(s) yet to be identified

NOAA has the responsibility of assessing the state of the nations fisheries stock. NOAA is in the process of developing a new fleet of fisheries survey ships. How will this affect the research fleet and can research fleet be adapted to perform some of the NOAA required surveys?

Hydrographic Surveys – Sam DeBow

Hydrographic surveying used to be done solely by NOAA but is now being contracted out at an ever increasing rate. How is this process affecting the UNOLS fleet and are there any opportunities there?

Technical Issues

New Regulations – Joe Coburn (Woods Hole Oceanographic Institution)

Regulations are ever changing but recent and newly adopted rulings may well make fundamental changes in the way scientists work at sea.

Shore Side and Shipboard Technical Support - John Freitag (University of Rhode Island)

The support of technical experts at research ship home ports and at other institutions has grown to be an expected and valuable part of research ship operations. What have been the trends in this support and what may affect it in the future?

On board ships we have evolved from expecting merely depth and location to CTD’s,

ADCP's, meteorological and internet communications. What is supported at present and what will be needed in the future? How will these demands affect costs?

RVOC Report
UNOLS Council Meeting
2-3 February 2000

Submitted by Paul Ljunggren, RVOC Chair

The 1999 RVOC Meeting was hosted by Harbor Branch Oceanographic Institution on 4-6 November in Ft. Pierce, FL. The meeting was attended by approximately 60 representatives from UNOLS institutions, representatives of federal agencies, as well as representatives from the SACLANT Undersea Research Center, Southampton Oceanographic Centre, Netherlands Institute for Sea Research. In addition to presentations from the various operating institutions regarding operational issues, the following topics were presented:

- Dennis Nixon UNOLS Risk Manager discussed Insurance and Liability.
- Dolly Dieter of NSF provided an overview of the Academic Fleet Review.
- Jim Meehan of the National Marine Fisheries Service discussed the status and planned capabilities of the new fisheries research vessel, FRV 40.
- Susan Kubany, Bob Heinmiller and Andy Maffei provided an update on SeaNet.
- Bill Hermann of NOAA gave a presentation on the Shipboard Activities Logging System used on board NOAA vessels.
- Jack Ringelberg and Blake Powell from Jamestown Marine provided an overview of four Computerized Shipboard Maintenance Systems currently available.
- Ken Hughes of Delta Marine International gave a presentation on ozone technology describing its current and potential applications on board ships
- An open discussion was held on the issue of "Quality" as identified in the Academic Fleet Review and what steps, we as a community, can take to address this issue. This is not just an issue for the vessel operators, but an issue to be addressed by operators, technicians, as well as the scientific users.

One issue discussed at the Marine Superintendents Round Table which resulted in a follow up and exchange of email with the NSF related to the Cooperative Agreement used to fund vessel operations. A draft of a revised cooperative agreement was sent out a little over a week before the RVOC Meeting. The use of Cooperative Agreements for funding vessel operations was implemented for 1997. Use of the Cooperative Agreement results in increased reporting requirements for operators and thus greater accountability. As a result of the dialogue the NSF has taken steps to clarify several of the issues identified during this discussion, while retaining the established reporting requirements.

The year 2000 meeting of the RVOC will be hosted by Oregon State University at their Marine Facility in Newport, OR from 24-26 October 2000. The University of Rhode Island was selected to host the 2001 meeting. The RVOC and RVTEC are planning a concurrent meeting with some joint sessions for 2001.

All sections of the Small Research Vessel Primer have now been received from the contributing authors. Jack Bash will prepare the introduction and Paul Pelletier of UNH, Dan Schwartz of UW, and Fred Jones of OSU have agreed to review the document.

The new RVOC Safety Standards have been printed and distributed. If copies were not received the UNOLS office should be contacted to request copies.

RVTEC Report to UNOLS Council for Winter UNOLS meeting

The RVTEC annual meeting was hosted by the University of Texas Marine Science Institute in Port Aransas, TX from 20 to 22 October.

The meeting opened with introductions and reading of the minutes. Reports were heard from the Federal funding agencies and the activities of other UNOLS committees for the remainder of the morning.

There followed a report on the status of the SeaNet project and a discussion led by Dale Chayes of LDEO. SeaNet installations have been completed on five UNOLS vessels in a variety of classes. There is still some question of how SeaNet will ultimately be utilized by the fleet. At the present, aside from some specific experimental uses involving SEAS educational program and the Jason Project for three shore-side web sites and a shore based investigator, the majority of traffic is still e-mail related. There is still a question of how charging and billing will be worked out and it is hoped by many operators that this function could be handled centrally, greatly reducing the present mish mash of charging and billing that various operators are using. There are many science related projects and uses for the SeaNet concept and there appear to be funding opportunities available for many of these projects.

Bob Gauer of CODA Technologies gave a presentation of the various software and processing options available in the expanding marketplace of shallow sediment profiling and swath mapping Sonar systems becoming available. The presentation looked at the various options available and highlighted the questions we as users should be asking the vendors.

Sandy Shor, NSF, reported on the status of the fleet review report and its potential impact on UNOLS technical service organizations.

The majority of the second day was spent on an interactive presentation of NetCDF and its application to the UNOLS fleet. RVTEC has been wrestling with the question of data product commonality since the FIC made a recommendation for a move in that direction about three years ago. The move has been made toward a common media, the CDROM, and has been largely successful. This effort is aimed at the commonality of data product and the inclusion of metadata in what is disseminated by UNOLS vessels. The feedback to date indicates that movement is finally beginning to occur in this direction. Dale Chayes, LDEO, agreed to lead a sub-committee to address common issues and stimulate communication between technical support groups as they progress to NetCDF. In a related issue, several institutions have requested copies of NOAA SCS data logging software. RVTEC is acting as a clearinghouse for the distribution and tech support for SCS and will convene a users group in conjunction with next years meeting should there be sufficient interest in adopting the system on UNOLS vessels.

There were two presentations by representatives of science programs, briefing RVTEC about relevant aspects of their projects. Shawn Smith from FSU gave details on the utilization of Meteorological data, completeness of data sets and the impact on the larger picture. Brian Guest of Woods Hole Oceanographic Institution briefed the group on ARGO, a global array of floats to map ocean circulation, which is in the ramp up stage and likely to be implemented from UNOLS vessels. Dale Chayes gave an update on the SICEX submarine program and its implications for future research in the Arctic.

There were technical presentations led by Rich Findley. Rich had a rep from Lab-View, who produce data logging and display software and showed various applications using the "smart" Keithley modules Rich introduced at last year’s meeting.

There followed a discussion of the MATE program which is discussed in a separate document.

On the final day the salary survey issue was revisited and it was basically decided to table the survey until new interest resurfaces at a later date.

Elections were held for Vice Chair. The nominating committee reported one candidate, Tony Amos, the incumbent. After requesting nominations from the floor a motion was made to retain Tony in the position. The motion passed without dissent.

The meeting location was set for next year at Lamont-Doherty in Palisades, NY to allow some

participants desiring to attend the INMARTECH 2000 in the Netherlands to combine both events in one trip.

In other RVTEC activity, the role of coordination in HEALY trials is progressing and active participation will begin with the Warm Water Trials set for mid February. Nearly all parties participating are under contract and prepared to depart. As has been stated previously, the goal of the ice trials is to test the major scientific systems under conditions which simulate as closely as possible the conditions of an actual science program.

Submitted,
John S. Freitag
RVTEC Chair

UNOLS Ship Scheduling Committee Report

Submitted by Joe Ustach

The major problems still to be resolved for CY 2000 center around the THOMPSON's schedule. It hinges on the success or failure of the PROD Drill trial cruise(s). Dan Schwartz has three cruise scenarios available depending upon the success or failure of the trials. The results of these trials will also affect KNORR's schedule, because the ship has a 19 day PROD cruise scheduled in July. In addition, there are still at least four conflicts among PI's wanting the same brief weather window on Juan de Fuca, as well as continuing conflicts over the same Endeavor seamount station utilization by ALVIN, JASON, THOMPSON, ATLANTIS, and SONNE. Dan is hoping to get some resolutions at the Ocean Sciences Meetings this week. I hope to bring word of them to the Council Meeting. With that said and assuming a successful Prod Drill trial, the total days scheduled for CY 2000 is similar to those in CY 1999: 5321 in 2000 vs. 5243 in 1999. On the East/Gulf Coasts, OCEANUS will have open periods at the beginning and end of the year.

All schedulers that Dan and I contacted want to continue with the Letter of Intent concept. The only complaint about last year's attempt was that all thought the Letter was too complex, that it called for too much information. What is the least amount of information that the funding agencies need that should be included in these letters? A second area of concern is what's going to happen to NAVO in the future. Since that is already on the agenda, that should be covered.