

UNOLS ANNUAL MEETING

8:30 A.M., Friday 22 September 2000

National Science Foundation, Room 1235

4201 Wilson Boulevard Arlington, VA

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Introduction and Welcome: The University National Oceanographic Laboratory System held their annual meeting on Friday, September 22, 2000 at the National Science Foundation, Room 125, Arlington, VA. Robert Knox, UNOLS Chair, called the meeting to order at 8:30 a.m. The items of the agenda, [Appendix I](#), were followed in the order as reported. A list of meeting participants is included as [Appendix II](#).

Dr. Knox provided a brief summary of the current issues of interest to UNOLS. There are a number of themes:

1. Quality of service to science - NSF's academic fleet review indicated that there is room for improvement in the UNOLS Fleet.
2. International Ship Management Code (ISM) - The large ships of the UNOLS fleet must be in compliance with the ISM code by July 2002. At present, ISM compliance will apply only to ships over 500 GRT, but smaller vessels of the fleet may eventually have to comply
3. Long range fleet planning - Within the next ten years the intermediate and regional ships of the fleet will approach the end of their useful life. Fleet planning is essential. The Fleet Improvement Committee (FIC) and the federal agencies are both working on this effort. The Federal Oceanographic Facilities Committee (FOFC) has been tasked by the NORLC to develop a plan.
4. Ship scheduling - This year the ship scheduling process was particularly challenging in that there is more demand than ships available. There are still a number of issues to be resolved before the schedules can be finalized.

Accept Minutes of the 1999 Annual Meeting - A Motion was made and approved to accept the 1999 Annual minutes as written.

Bob Knox reported on two other major events that occurred during the year. 1) The UNOLS Office has transferred from the University of Rhode Island (URI) to the Moss Landing Marine Laboratories (MLML) in a smooth transition. Mike Prince, the former Marine Superintendent at MLML, is the new Executive Secretary and Annette DeSilva will continue serving as the Assistant Executive Secretary, located at URI. 2) The USCG Icebreaker MICHAEL HEALY has been delivered, tested and has transited through the Northwest Passage to the ship's homeport of Seattle, Washington.

COMMITTEE REPORTS

Research Vessel Operators' Committee (RVOC) - Paul Ljunggren, Chair, reviewed the activities of RVOC for 1999-2000 and plans for the 24 - 26 October Annual RVOC meeting at Oregon State University (OSU). The 1999 RVOC Meeting was hosted by Harbor Branch Oceanographic Institution (HBOI) on 4-6 November in Ft. Pierce, Florida. Approximately 60 representatives attended the meeting including RVOC members from UNOLS institutions, representatives of federal agencies, as well as representatives from other organizations such as the SACLANT Undersea Research Center, Southampton Oceanographic Center, and the Netherlands Institute for Sea Research. In addition to presentations from the various institutions regarding operational issues, the following topics were also presented:

- Insurance and Liability.
- The Academic Fleet Review recommendations.
- The status and specifications for the new NOAA fisheries research vessel, FRV 40.
- SeaNet update.
- NOAA Shipboard Activities Logging System
- Computerized Shipboard Maintenance Systems
- Ozone technology - 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 on what steps we, as a community, can take to address this issue.

A number of other issues and activities have taken place for the RVOC and its member institutions:

- In late 1999, the UNOLS ship operators received Charter Party Agreements. There is an increase in the demand for reporting to the program manager and the operators have worked to meet these new requirements.
- The updated Research Vessel Safety Standards (RVSS) have been distributed. An index was added and they are posted on the web.
- Two group purchases have been made for the several operators that had requested similar items through the Shipboard Scientific Support Equipment proposals. Lamont-Doherty Earth Observatory (LDEO) coordinated the purchase of immersion suits. Five institutions had requested vans and it was recognized that many other vans in the fleet are old and substandard. It was decided by NSF to try to design a standardized van and make group purchases in the future. Matt Hawkins (University of Delaware) took the lead on this project and worked with the other operators to develop a standard design, get approvals where necessary and make a group purchase. This project is ongoing.
- In March 2000, seven of the ship operators representing the regional vessels, ONR and NSF program managers, and FIC members attended a regional ship planning meeting in Baltimore, MD. They addressed a variety of issues including, the Code of Federal regulations, crewing requirements, Science Mission Requirements (SMRs), and funding support for mid-life refits or ship acquisitions. The individual operators made presentations about their respective plans for ship refits or upgrades.
- Over the past year, wire issues have been addressed. In late November 1999, a Winch and Wire Workshop was held. This was followed by a meeting at Woods Hole Oceanographic Institution (WHOI) to discuss CTD wire and working load standards. A subcommittee of

Tom Althouse, Rich Findley, Theo Moniz, and Marc Willis will work on establishing the criteria for a safe working load on existing and future wires. Jon Alberts will start the process of defining the specifications for a new CTD wire.

- For a number of years a working group a group of authors has been compiling a "Small Boat Compendium" which will serve as a source of information on design, safety and operations with regards to smaller research vessels. All of the sections have been received and will be posted on the UNOLS website after they are edited. This project has been completed thanks to the perseverance of Dave Powell and Jack Bash.

The 2000 RVOC meeting will be held at Oregon State University (OSU). Paul reviewed the agenda for the meeting, which will include workshops on ISM, quality as well as crew training and retention. A presentation by a local group that conducts survival and safety training for scientists and students using OSU's small boats and research vessels is also planned. Paul concluded by saying that there would be elections for RVOC Chair and Vice Chair and that he has enjoyed his time as RVOC Chair and being a part of the Council.

DEep Submergence Science Committee (DESSC) - Patty Fryer, DESSC Chair reported on the Committees activities, 1999/2000 ATLANTIS/ALVIN/ROV operations, and equipment/instrumentation upgrades and improvements for the National Deep Submergence Facility. She reported on deep submergence operations planned for 2001 and beyond. She also reported on results of the DEveloping Submergence SCience into the Next Decade, "DESCEND" workshop held in Arlington on October 25 - 27, 1999.

Patty began by reporting on the 1999 December DESSC meeting. At the meeting, recommendations were made by the science community regarding upgrades to the vehicles. These recommendations were considered in the upgrade and overhaul plans for the NDSF. In 2001, the Jason II upgrade will take place as well as ALVIN's overhaul and ATLANTIS' shipyard.

Patty reported on the DESCEND workshop. The proceedings of the workshop are posted at: <http://archive.unols.org/dessc/descend/descend.htm>. The meeting identified the science directions for the future and addressed the technology needs required to meet the science directions. An executive summary has been prepared and will be published as a glossy brochure. The summary provides the findings and recommendations from the workshop. These recommendations identify the need for new assets as well as the need for additional funding. Asset needed include additional AUVs and ROVs. A follow-up technology meeting will be proposed to address the needs for employing new technical advancements in submergence science.

UNOLS ANNUAL KEYNOTE ADDRESS

The UNOLS Annual Meeting Keynote address was delivered by U.S. Congressman Sam Farr, Representing California's 17th District.

California's 17th District includes the Monterey Bay area where several Marine Science institutions have long enjoyed strong support from Sam Farr as a California State Assemblyman and as an U.S. Congressman. Representative Farr is one of the leading members of Congress on issues concerning the oceans. He is a co-chairman of the House Oceans Caucus, a bipartisan focal point for increasing House of Representatives awareness on issues of ocean policy. He coordinated the National Oceans Conference in Monterey in 1998, that was attended by the President and Vice President as well as numerous leaders in government, industry and academia. He has worked for several years toward a new, integrated national ocean policy and has seen that effort come to legislative fruition in the recently enacted Oceans Act of 2000. Additional information is available at <http://www.house.gov/farr/>.

Bob Knox introduced Congressman Farr. Congressman Farr reviewed his activities and interests related to the oceans taking place in his region of California. He noted that the Monterey area has a strong dedication to ocean research with many research institutions located within the region. Congressman Farr is aware that the UNOLS Fleet is aging and within ten years many of the ships will be requiring replacement. However, he said we have to ask where the money to increase the UNOLS fleet funding is

going to come from? There is a lot of competition for funds in an era when, as a nation, we are trying to live within a balanced budget and as a result, voting on budget issues often become very political. The UNOLS community needs strong support from the larger constituency of Congress to support their cause. One way to engage the general public is to emphasize the benefits and the challenge of ocean exploration. Congressman Farr encouraged the marine science community to build partnerships, as an example by including fisherman in our research efforts. We need to build partnerships in order to build a stronger base for the promotion of marine science and to be more effective and efficient in carrying out the research. It will also help in bringing the benefits of our research to bear on issues of importance to our society as a whole.

Congressman Farr reflected back on the fulfillment of his dream to have a national conference that would bring the highest levels of government together, including the president, to address the issues facing the oceans. Some of the eventual outcomes of the National Oceans Conference were the:

- Ocean explorations workshop,
- The Bipartisan oceans caucus,
- The passing of the Oceans Act.

The Oceans Act in turn will establish a high level commission similar to the Stratton Commission that will conduct a three year study of the future directions and needs of ocean sciences and policy. A commission such as this has the potential to focus the interest of the Congress on the critical issues facing the oceans. However, these issues will only get fiscal support if there is a large constituency for appropriating money in these areas.

Congressman Farr went on to say that the science community needs to become more savvy when it comes to seeking support for marine science. Long-range plans for ocean explorations are moving along, the UNOLS fleet is developing its replacement plans, etc, but these are all competing for the same funds. To sum up, - the ocean science community is in a great place because we are on the national agenda; however, it will be in an even better position if collaborations and partnerships can be formed that will promote a greater understanding of the importance of the oceans to our society.

The floor was open to questions. Dan Schwartz thanked the Congressman for his support of ocean issues. He noted three major areas where UNOLS supports a potentially broader community - support of the Navy, the medical field, and in public education. Dan asked how can we improve on this? Congressman Farr indicated that he has been trying for some time to get support for a sea camp similar to what NASA does with its Space Camps. He noted that NASA has strong press and public relations. This has resulted in national support for space camp and NASA programs. The science community needs to speak collaboratively and collectively. We need to develop a unified plan and articulate a mission. Education and youth ties will be important elements in generating public support for our field.

Jeff Callahan suggested that UNOLS publish the list of representatives on the House Oceans Caucus on the UNOLS website.

Lisa Woonick (Sam Farr's Sea Grant Fellow) - encouraged the membership to call his office. It is important that you call your congressional representatives and keep them informed on important issues.

In appreciation for his taking the time to speak to the UNOLS Membership, Bob Knox presented Congressman Farr with a photo of R/V POINT SUR which, is home ported in his district.

COMMITTEE REPORTS (Continued)

Fleet Improvement Committee (FIC) - Larry Atkinson, Chair, reported on FIC activities in 1999/2000 and plans for the upcoming year. He summarized the need to begin the planning process for replacement of regional and intermediate size research vessels in the near future. He outlined the purpose and process of creating a Fleet renewal plan. To gather information for the renewal plan, FIC will conduct a survey of the community. FIC is tentatively planning to meet in Miami before the Council's February meeting to work on the Fleet renewal plan and to consider input to the FOFC long range fleet plan.

Larry closed by encouraging everyone to look at the FIC Website <http://archive.unols.org/committees/fic/>. His viewgraphs are included as, *Appendix III*.

Ship Scheduling Committee (SSC) - Joe Ustach, SSC Chair, reviewed the recommendations of the September Ship Scheduling Review meeting held on 9/20/00. He summarized the UNOLS ship operation plans for 2001, but began by noting that the schedules are still a bit unsettled at this time. NSF and Navy time is up in 2001. Use by others is generally down, but this usually increases as the year goes on. Many of the smaller ships fill in their schedules with state and institutional programs. EDWIN LINK will be underutilized in 2001. The large ships on the other hand will have difficulty accommodating all of the funded work in the Pacific. The situation is complex as a result of time sensitive work, ROVs logistics, and programs planned in the far off reaches of the Western Pacific. The large ship operators will try to put together a few alternate schedules to determine who might not be accommodated according to their needs and what the best options will be. We will also look to see if any of the intermediate vessels can accommodate some of the large ship work. They hope to have schedules finalized by the end of the month. Dan Schwartz pointed out the scheduling system was restrained by the need to meet the scheduling requirements of the deep submergence assets. Perhaps if additional ROV assets were available to the community, this would not be a problem. Dolly also noted that ALVIN will be out of service in 2001 during its overhaul period and that this may be complicating the issue.

Research Vessel Technical Enhancement Committee (RVTEC) - John Freitag, RVTEC Chair, reported on RVTEC activities in 1999/2000 and plans for the RVTEC Annual Meeting scheduled for 18 - 20 October at Lamont-Doherty Earth Observatory (LDEO). The 1999 meeting was held in port Aransas Texas. The meeting included interesting presentations on Net-CDF, new applications of underway surface meteorological data (e.g., IMET), A Global Array of Profiling Floats (Argo), and LabView, a data collection system with platform versatility. Other topics of discussion included revisions to the shipboard technical support proposal, guidelines for marine technicians, internships, MATE, and advanced training for marine technicians. The recommendations from the NSF Academic Fleet Review and its potential impact on shipboard technical support were discussed. New instrumentation presentations included a report on automated nutrient analyzers and a report on the 38 kHz phased array ADCP. RVTEC voted to form a new subcommittee on fleet training. They felt that it is important to have coordination among the institutions in regard to training efforts. Tony Amos was reelected as vice chair.

In addition to the 1999 RVTEC meeting, John reported that HEALY science testing was a major part of the committee's activities this past year.

The 8 th annual RVTEC meeting will be held at Lamont-Doherty Earth Observatory (LDEO) on 18-20 October. There will be a change in the meeting format so that hands-on demonstrations will be included in the agenda. The techniques used for various wire terminations will be explored. There will also be a SeaNet demonstration. A discussion session on NOAA's science data collection system is planned. John reported that a new chair would be appointed this year.

Arctic Icebreaker Coordinating Committee (AICC) - Jim Swift, AICC Chair, reported on the activities of the AICC in 1999/2000 including the preliminary results of science and ice breaking testing for USCG Icebreaker HEALY. Jim provided a detailed written report of the committee's activities and plans that is included as *Appendix IV*. The report provides a thorough account of AICC's involvement in the HEALY science tests. Jim had very high praise for the teachers programs that was carried out aboard HEALY. The Teachers Experiencing the Arctic and Antarctic (TEAA) program was one of the best vehicles for bringing the science program to the public that he had ever witnessed because of the participants' perspective as teachers.

The Science Of Opportunity programs on the USCG icebreakers will continue and AICC will continue to advise the Coast Guard on science equipment and technical support requirements for all of its Icebreakers operating in the Arctic. Even though the major focus of the committee has been the HEALY, the POLAR STAR and POLAR SEA are used for science and have been steadily upgrading their science support facilities.

FEDERAL AGENCY and CORE REPORTS

National Science Foundation (NSF) - Mike Reeve (NSF) provided the agency's report. His viewgraphs are included as [Appendix V](#). He began by sending apologies from Mike Purdy for not being able to attend the meeting. Mike Purdy's last day at NSF will be 30 November at which time he will assume his new position at LDEO as Director. NSF will advertise widely for a new Director of Ocean Sciences.

Mike Reeve reviewed NSF budget figures. He showed the ten-year funding history by division. In terms of constant dollars, the budgets have been relatively flat. The Geo-sciences budget for 2001 was provided. The total budget request shows a 19.5 percent increase from the FY 2000 plan. The House version of the NSF appropriation included a 4.3% increase, while the Senate version was at 10.3%. Once the appropriation is out of conference, it is expected to end up between 3.5% and 10.5% and probably closer to the Senate mark. Mike showed the requested funding increases by major initiatives. The Major Research Equipment item shows an increase of \$15.6M. Mike quoted, " The committee recommends that NSF begin the design and model testing of a vessel to replace ALPHA HELIX and provides \$1.0 M for this purpose."

Areas of Ocean Science Emphasis will include earth cycles, molecular biology, sustained time series observations, data assimilation and modeling and increased grant size and duration. The FY 2001 Ocean Facilities Section (OCFS) priorities include continued support for the academic fleet, enhancement of technical and shared-use instrumentation support, continued maintenance and ship-improvement programs, and increased support for quality improvement programs.

Other activities of interest to the ocean science community are:

- The US Oceans Act of 2000, which will establish a 16-member National Ocean Commission to formulate recommendations for a national ocean policy within 18 months. This will be a Stratton-like commission (last Stratton commission resulted in NOAA formation).
- The Ocean Exploration Panel appointed by the President held a Monterey conference, Turning to the Sea. They are to report back to the president with their recommendations for a national strategy for exploring the oceans within 120 days.
- Preparation of a decadal report on the future of ocean science research. Peter Brewer and Ted Moore are synthesizing the Futures reports and will provide their findings next month (10/00).
- *Illuminating the Hidden Planet* - This is an OCE sponsored report by the Ocean Studies Board on sea floor observatories. It is available from NSF and the National Academy Press.
- NOPP Oceans.US office - US National ocean observations system. This office will be staffed by contributions from NSF, Navy, NOAA and NASA.

Dolly Dieter continued the NSF report with an account of the follow-up to the recommendations made by the Academic Fleet Review. In response to the recommendation for improvements to training and equipment, NSF has been funding training for Standards of Training, Certification and Watch keeping (STCW). Many of the ship operators have submitted proposals specifically for training. These proposals can be for any kind of training, but they would need to be complete by end of the year. The training budget over a two-year period has been approximately one million dollars. After this year, requests for training support should be included in the ship operations proposal so that costs for training will be shared among all ship users. Equipment upgrades and midlife support will resume. It has been a long time since any mid-life refits have been done. NSF has been supporting more fleet wide type improvements; such as, the study to determine safe working loads for wires and standardized shipboard van designs. Matt Hawkins at the University of Delaware is leading the van effort. A group purchase of five vans is planned. Dolly indicated that NSF would like to hear from the community on what other facilities need to be improved.

Office of Naval Research (ONR) - Tim Pfeiffer reported for ONR. An ONR written report is included as [Appendix VI](#). In CY 2001, the total Navy support for fleet operations for this year is \$17.5 million. This will include \$11.5M for ONR operations, \$5M for NAVO, and \$1M for NRL. Over half of the ONR support is for applied research programs, while the rest is for basic research. FLIP has 84 days scheduled in 2001 including work planned off Hawaii in support of the HOME project. ONR's support for equipment and instrumentation investments is around \$1.7 million. The proposals received for next year are at about the same level. Over the past couple of years the technical/equipment support projects have

included a new multibeam for REVELLE, replacement of berthing vans on THOMPSON with staterooms and bow thruster improvements. ONR is working with the other agencies on the long-range plan.

The AGOR 26 construction project is ongoing. The ship is expected to be available for operations in the second quarter of 2002.

Lastly, Tim reported on staffing changes at ONR. Pat Dennis will be leaving to become the Chief of Staff at CORE.

Naval Research Laboratory (NRL) - Joan Gardner reported that NRL has 68 days of work for 2001. Of these, 16 to 17 days have not yet been scheduled as a result of the scheduling conflicts with the large ships.

National Oceanic and Atmospheric Administration (NOAA) - Beth White provided the NOAA report and introduced the three NOAA line officers attending the meeting. The NOAA funding allocation is unsettled at this time. There has been a few million dollars added in the Senate mark for GLOBEC work, employee raises, and bringing new commissioned officers in to the Corp. There is money in the budget to support construction of the new Fisheries Research Vessel (FRV). The bids for construction of the vessel have been submitted. There are also funds in the budget to convert and activate a Navy TAGOS vessel to replace the TOWNSEND CROMWELL in Hawaii. NOAA has been working on their ISM compliance plans. They are also involved with the long range planning effort with the other agencies.

NOAA National Marine Fisheries Service (NMFS) - Bonnie Penwith reported on NMFS activities and plans. Her viewgraphs on fisheries conservation and management are included as [Appendix VII](#). NOAA's data requirements are projected to grow significantly. They are predicting a doubling of the number of days at sea due to changing laws, legal challenges to data collection and new methods of fisheries management. They plan to meet their increased at-sea data requirements through:

- Dedicated FRVs
- Academic research charters
- Fishing industry charters
- Observers
- Satellites and airborne remote sensing
- Data buoys
- Commercial and recreational catch statistics.

The bid process for construction of the NOAA FRV has closed. They hope to have a contract by the end of the year. Bonnie reviewed the design specifications and FRV design drivers. Partnerships will be an essential element in meeting their growing data requirements. NMFS has benefited in the past from these partnerships. Bonnie provided examples of partnerships. There are over 75 industry, private, and non-profit partners. International partnerships are over 60. In recap, NOAA sees an increase in the number of partnerships, which is critical to the enhancement of this component of their work.

Bob Knox noted that NOAA's fisheries needs are larger than the UNOLS vessels can handle. He asked whether NMFS would use UNOLS vessels through the commercial charter process or through more traditional UNOLS means such as Oceanic and Atmospheric Research (OAR) Office and NOS does. John Evans answered that most UNOLS vessels do not meet the requirements of the surveys. Secondly, the nature of the surveys is that they need to go be conducted at certain times for large blocks of time and need to take place consistently. Jim Meehan is looking at the UNOLS vessels to determine what might meet the needs of NMFS.

Oceanographer of the Navy - CAPT(s) Dan Soper, USN gave the report for the Oceanographer's office. His viewgraphs are included as [Appendix VIII](#). He began by reporting on personnel changes within the organization. The Organization includes the Oceanographer, CNMOC and NAVO. RADM Richard West is the Oceanographer, CAPT Chris Gunderson is the Deputy, CAPT(s) Dan Soper heads Resources/Requirements and RADM(s) Tom Donaldson will relieve RADM Barber at Naval Meteorology and Oceanography Command (CNMOC) in November 00. The Oceanographer is the

Resource sponsor for new oceanographic survey and research ships. The NAVO ships include the TAGS 51 class (two ships), which are the coastal survey vessels. The TAGS 60 Class includes six ships and is the multi-mission, global survey vessels. Four of these are deployed and one was delivered in January 2000. The newest TAGS ship, MARY SEARS, will be launched on 19 October 2000 and will bring the survey fleet size to eight. The Navy research ships include the three AGOR vessels of the UNOLS fleet as well as AGOR 26 SWATH scheduled to begin construction in January 2001. It is a very modern fleet.

CAPT(s) Soper showed NAVO's historical use of the academic fleet. In 2000, use was down because of lower funding levels. Over the past four years, NAVO has used 15 different platforms with participation from 12 different institutions. The accomplishments and beneficiaries of the work aboard the UNOLS vessels between 1997 and 1999 were highlighted. CY2000 operations will total 205 ship days for a total cost of \$3 million. Operating areas this year include the Gulf of Mexico, South Florida, Onslow Bay, Narragansett Bay, Southern California, and Central California. For 2001, NAVO operations are budgeted at \$5M with 310 ship days planned. Operating areas include the Gulf of Mexico, off Florida, Hawaii, California and Onslow Bay.

United States Coast Guard (USCG) - Jon Berkson (USCG) reported that the USCG Icebreaker HEALY construction and testing programs have been a big success story. The sea and ice trials have demonstrated that the ship exceeded its design criteria. The vessel was delivered in November 1999. In January 2000 hull and machinery tests began in which HEALY performed well. These were followed by a series of science testing cruises (see the AICC written report, Appendix VI). During the ship's in-ice tests, they were able to break through ice ridges of 45 feet. Jon brought along a video that shows HEALY during level ice breaking as well as breaking through a 25-foot ridge. HEALY transited through the Northwest Passage over the summer and was commissioned on 21 August in Seattle, WA, the ship's homeport. Jon thanked the AICC, RVTEC, John Freitag, Jack Bash, and Mike Prince for their help in making this program a success. The initial 2001 schedule for HEALY is for research operations in the eastern Arctic.

In other Coast Guard activities, the Coast Guard is working to bring their other icebreakers, POLAR STAR and POLAR SEA more into the science network. The ships will participate in Operation Deep Freeze and will also be available for Science of Opportunity programs.

Department of State (DOS) - Tom Cocke reported that Liz Maruschak from CORE is working in his office to help process clearances. The office handles 100-150 requests for work in foreign zones. The Foreign Clearance office has implemented new software to process clearances. Foreign clearances are very important and without them the ship cannot conduct their research. Liz Maruschak is now working on the software to process foreign vessels into U.S. waters and port calls of Public Vessels. The new system reduces the amount of time required for processing. Liz will attend RVOC and will review the new software for processing clearances and how the operators can better utilize it. The new system saves time by reducing paperwork, and as a result it allows Tom more time to concentrate on working with embassies in actually obtaining clearances.

Consortium for Oceanographic Research and Education (CORE) - Bob Knox reported on CORE activities. There are a number of recent personnel changes. RADM Watkins, Bob Winokur, and Terry Schaff are leaving the organization. Pat Dennis has been hired to serve as CORE's chief of staff.

In budget news, the Defense bill has been passed with \$5 million appropriated for NAVO use of UNOLS vessels. Other budgets are not set and will likely go to continuing resolution. The NSF budget request looks optimistic. Forty-five senators have now signed on to supporting a doubling of the NSF budget within five years.

Dick Pittenger commented on the initiative to establish another Stratton-type commission. One of the primary reasons why the Stratton commission was successful was because some very knowledgeable people were involved. In the event of another commission, Dick suggested that we work with CORE to get the best people engaged.

UNOLS Election Procedures - Bob Knox reviewed proposed voting procedures for this year's elections. This year there will be three candidates on the ballot for each of the open Council positions. Because a

majority is required to determine a winner there exists a distinct possibility that one or more run-off elections will be needed. The UNOLS Charter lacks a clear procedure for conducting run-off elections. Bob Knox reviewed a suggested run-off procedure whereby UNOLS representatives would rank order their choices for Council candidates. If there were a need for a run-off in any race the ballots cast for the third place candidate would be counted according to the second ranked candidate on those ballots. The membership agreed to conduct the election in accordance with this recommended process.

Lunch Break

UNOLS Quality of Service Initiative - Tim Cowles reported on the activities of the UNOLS Council and the Quality subcommittee to address the concerns outlined in the Academic Fleet Review regarding formal quality control and improvement. At their winter 2000 meeting, the Council voted to form a subcommittee to address the Quality of Service Initiative (QSI). Tim Cowles was asked to chair the subcommittee. The group has been trying to define what the quality issue is for UNOLS. A newsletter article (*UNOLS News*, Vol 17, No.2) and the Quality of Service web site, http://archive.unols.org/issues/quality/Quality_of_Service.html, provide a good account of the quality issues facing the organization. There is still a certain amount of uncertainty about what the true definition of the problem is and how we can best determine the focus of our efforts. There is a desire to have better data about where the community sees the need for improvements. Also of concern, is the fear that efforts to achieve compliance with ISM and other regulatory mandates such as STCW would run contrary to the goals of improving service to science. Achieving a cultural change oriented to continuous quality improvement is also seen as a large challenge.

Dr. Marianne (Sam) Jelinek, NSF's Innovation and Organizational Change (IOC) Program Manager, addressed the UNOLS Council at their summer meeting. She noted that UNOLS is a complex organization and implementing a Quality Program would be a challenging task. Sam has volunteered to contact a researchers who may be interested in cooperating with UNOLS on a research project related to our Quality of Service initiative.

Another related activity was the study conducted by Europort, Ltd. Europort individuals spent a week meeting with three of the UNOLS operator institutions. They discussed ISM Code requirements, quality, and fleet efficiency. Jeff Ford of Europort reported the findings of the study at the UNOLS Council meeting on the previous day. His viewgraphs are included as part of the Council Meeting minutes, <http://archive.unols.org/meetings/2000/200009cnc/200009cncmi.html>

The RVOC Meeting in October 2000 will include a working group to discuss UNOLS quality concerns.

NSF Academic Research Fleet Review - Mike Reeve of NSF reviewed the recommendations made by the 1999 Academic Fleet Review Committee and reported on progress made to date in carrying out those recommendations. These include initiatives by NSF to increase support for training and technology upgrades and development of a long-range federal fleet plan. Mike's viewgraphs are included as [Appendix IX](#). He reviewed the eight recommendations of the Review. Item six that states that the UNOLS Office should be competed and that a Cooperative Agreement should be implemented has been done. Item seven that calls for a broad-based vision for the future of ocean science and technology requirements is being addressed by the Decadal report. It will be a synthesis of the Futures documents. Item eight recommends the development of a long-range plan for fleet modernization. This is in progress by the agency representatives of NSF, the Navy and NOAA.

Long Range Academic Fleet Plan and Replacement - Mike Reeve continued by reporting on the status of the Fleet Plan. The plan is to be a blueprint of the fleet for the next 20 years. It is to provide a federal interagency policy for the long-term management of the fleet. The plan will need to be approved by NOPP NORLC via FOFC. The Oceanographer of the Navy, NOAA/OAR, NOAA/NMFS, ONR, and NSF have met and have drafted a plan. They look forward to seeing the recommendations from Tim Cowles summer workshop. The goals of the plan are to:

- Distribute fleet resources geographically to best support science needs and optimize access to perform ocean research.

- Provide state of the art surface ships.
- Maintain an efficient fleet capable of meeting future science demands.
- Improve Ship Utilization Rates and Quality Control

The time frame for development of the plan is to present a draft to the first meeting of FOFC in November 2000. Next, they will circulate the draft for comments within the ocean science community. The plan would be ready for presentation to NOPP NORLC for approval at their spring meeting 2001.

The discussion continued with Bob Knox's question to Tim Cowles asking what the future science needs will be. Tim reported that the FIC has been reviewing fleet utilization trends and projected use trends to alert the rest of the community of the prompt action needed for replacement. This effort is linked to the process that the agencies have undertaken. In addition to these efforts, we need to know what the science drivers will be. What are the vessel capabilities that will be needed to meet future research efforts? The Futures documents and the Brewer/Moore synthesis document have been considered. What approaches will be used scientifically in the future? Tim reviewed the goals and finding of the NSF-sponsored workshop that was held in August at Oregon State University. Tim's viewgraphs are included as [Appendix X](#). The workshop was titled, "Assessment of Future Science Needs in the Context of the Academic Oceanographic Fleet." The workshop goals were to:

- Provide science "needs" framework to inform the vessel replacement process
- Identify approaches that may be used to address science questions over next two decades
- Identify platform capabilities required to meet science needs
- Examine role of vessels and trends in vessel use in context of other observational platforms

Various major science themes were identified and included:

- Better observations in selected environments
- Interdisciplinary studies
- Perturbation experiments
- Fixed location observations/experiments

The Scientific Needs that were identified in the workshop included:

- Remove observation systems. Ships will be needed to service these systems.
- Deployment/recovery/service for moorings, drifters and vehicles.
- Observational and experimental platforms
- Vessel that can meet the expanded needs of the marine geology community
- High bandwidth communications. This need was emphasized throughout the workshop.
- Rapid response capability.

Throughout the workshop, expected trends and implications became apparent. New tools such as AUVs will extend the reach of the fleet, but will not replace or reduce the fleet. There may be a need for specialized ships. This might include an acoustically quiet ship with transducers to communicate with numerous vehicles. Another example would be ships to deploy small delicate vehicles. Dan Schwartz pointed out that fisheries capabilities should be also be considered.

Dick Pittenger commented that community input is important. The agencies have indicated that there will be community distribution of their plan. Mike Reeve re-emphasized that the agency long-range plan will be a 15-page document; it is an initial step. FIC will also engage the community into their planning process. A first step in FIC's fleet renewal process is to broadly announce the initiation of the plan. This will likely be followed by a user survey.

Winch and Wire Symposium - Mike Prince summarized the results of the Winch and Wire Symposium held in New Orleans November 30 and December 1, 1999. The workshop was well represented by the ship operators and industry. Only a few scientists were in attendance, but they well represented the larger community. The workshop included very interested discussions. As follow-up to the symposium, safe working loads of wires are now being studied. An ad hoc committee has been formed to address this

topic. The committee members include Tom Althouse, Scripps Institution of Oceanography (SIO); Theo Moniz, WHOI; Marc Willis, OSU; and Rich Findley, U.Miami/HBOI. In a parallel effort, Jon Alberts (WHOI) is beginning to look for the next generation cable with more specifications. Another outcome of the symposium will be a third revision of the Winch and Wire handbook. Jack Bash continues to get feedback from the authors.

U.S. Marine Seismic Reflection Acquisition Needs for the Next Decade - Tom Shipley reported on the results and recommendations of a workshop held at SIO in October 1999 to address seismic reflection acquisition needs. Tom's viewgraphs are included as [Appendix XI](#). The workshop was held to look at the seismic needs for the next decade. Presently, seismic work is relatively low and activity levels remain stagnant. Spending levels are approximately \$1.2M for acquisitions (7 total months per year) with approximately \$3M for the associated ship support. Ten groups operate thirteen seismic systems. Table 6 (see Appendix XI) shows projected seismic acquisition needs for the next decade. Present activity levels are shown at the bottom of the table. This is the right time to reevaluate needs as new work demands could produce a potential six to eight time increase over present levels of activities. The Integrated Ocean Drilling Program (IODP) riser drilling as well as the MARGINS program, both project high seismic needs in the next decades.

The recommendations from the workshop are to:

- Establish facilities to improve performance, quality, and access.
- Create a seismic data center facility to enfranchise more scientists.
- Support a multi-national program for commercial-level MCS.
- Plan for a new UNOLS seismic vessel post 2010.

Tom also discussed innovations to improve quality and access to the seismic facilities and data. The recommendations of the workshop are all before NSF.

SeaNet Update - Andy Maffei (WHOI) submitted a written SeaNet status report prior to the meeting. It is included as [Appendix XII](#). SeaNet is now installed on six UNOLS vessels: ATLANTIS, EWING, MELVILLE, PELICAN, SEWARD JOHNSON and KNORR. The SeaNet system is used by scientific projects that need Internet access to/from research vessels. A table of usage during 1999 and 2000, by ship, is found in the written report. Present examples of SeaNet use have included both ship-shore and ship-ship scientific collaboration between scientists, education and public outreach support via mirrored ship to shore websites, electronic mail support, satellite imagery delivery, delivery of video and other large files to/from ships/shore and provision of full Internet access for computers on shipboard LANs to/from shore. The SeaNet project recently received an NSF award to cover operations expenses through August 2001. Goals for the coming year include adding at least three more vessels into the SeaNet network, improving and increasing communications with both the scientific users and the ship operators about what SeaNet is and how it can be used, providing an alternative email delivery system for those operators interested in using it, and helping UNOLS/NSF to determine the best direction for providing Internet access for research vessels beyond August 2001. There have been some changes in the SeaNet organization, service, and billing practices. These are detailed in Andy's report.

UNOLS Membership Votes: Membership votes were taken on a proposed revision to the UNOLS Charter and to fill UNOLS Council seats.

UNOLS Charter Revision: Bob Knox reviewed proposed revisions to the UNOLS Charter. The changes are in regard to filling unexpired terms of Council members. These changes are being proposed to clarify and include in the charter procedures that have been used to fill vacated positions on the council. It also includes a provision to conduct business by correspondence when necessary. Another proposed change is in regard to the number of UNOLS meetings to be held annually. This proposed change allows UNOLS to respond to budgetary restraints on the number of meetings and to allow for additional meetings when funded without violating the terms of the charter. ([Appendix XIII](#))

A motion was made to approve the proposed changes as presented. The motion passed unanimously. The currently approved charter is located at:

<http://archive.unols.org/info/ucharter.html>

UNOLS Elections: Elections to fill expiring UNOLS Council terms were held. The slate of nominees is included as [Appendix XIV](#). The results of the election are as follows:

- Robert Knox (SIO) - UNOLS Council Chair, (2-year term) At-large, affiliated with any Member Institution.
- Tim Cowles (OSU) - UNOLS Council Vice-Chair, (2-year term) At-large, affiliated with any Member Institution.
- Wilford Gardner (Texas A&M) - UNOLS Council Member, (3-year term) At-large, affiliated with any Member Institution.
- Curtis Collins (Naval Postgraduate School) - UNOLS Council Member, (3-year term) Non-Operator representative, from among designated UNOLS Non-Operator Institutions.
- Thomas Shipley (University of Texas) - UNOLS Council Member, (3-year term) Operator representative, from among designated UNOLS Operator Institutions.

Bob Knox thanked the nominating committee for the great job in putting together the ballot. Additionally he thanked all of the candidates for their willingness to serve on the Council.

Issues before UNOLS: Various issues of interest to UNOLS Members have arisen during the year. Bob Knox introduced each item and provided an update if the item had not already been addressed earlier in the meeting:

- **New UNOLS Office** - As reported earlier, the UNOLS Office has transferred from the University of Rhode Island to Moss Landing Marine Laboratory. Mike Prince is the new Executive Secretary and Annette DeSilva (URI) remains as the Assistant Executive Secretary.
- **New UNOLS Website** - UNOLS has registered their domain name, <unols.org>. The new website, <http://archive.unols.org> is up and running. It includes the latest UNOLS information including meeting minutes, the charter, membership directory, travel guidelines and committee activities. Ship schedules and requests can be accessed through the new site. The databases for ship scheduling and ship time requests still reside on the URI computer.
- **UNOLS Dues Accounting** - Mike Prince provided an accounting of the UNOLS dues budget and expenditures. The current balance in the UNOLS dues account is \$510.22.
- **NOAA's Fishery Research Vessel Construction** - The status of the NOAA FRV was included in the NOAA reports and in Appendix VII.
- **UNOLS/NOAA- Memorandum Of Understanding (MOU)** - The two separate UNOLS MOUs, one with OAR and the other with NMFS will be joined under one umbrella MOU that will be reviewed and signed at a later date.
- **New Ship Construction:**

AGOR 26 - The AGOR 26 construction project is ongoing. Delivery has slipped to 26 January 2002, which will be followed by one month of mission trials. The ship is expected to be available for operations in the second quarter of 2002. The science party would be between 30-32.

BLUE FIN Replacement/SAVANNAH (Skidaway) - The replacement ship, SAVANNAH was designed by Rodney E. Lay & Assoc. of Jacksonville, Florida and is now under construction at the Washburn & Doughty Shipyard of East Booth Bay, Maine. The yard is expected to complete their contract by July 1, 2001 at which time the ship will be sailed to Skidaway Institute of Oceanography (SkIO) in Savannah. The science labs will then be finished out and much equipment and electronics will be moved over from the R/V BLUE FIN. This work will be completed by SkIO staff with hopes of having the ship up and operational by the fall of 2001. Presently the Washburn & Doughty Shipyard is working a double crew on the R/V SAVANNAH and is ahead of schedule with much of the steel work completed, the engines are set on their beds and the generators are also set in place. If this pace continues, they may be a couple of months ahead of the schedule. The estimated cost of the ship now stands at \$ 3.4 million. Basic specifications are:

- LOA 91' 6"
- Beam 27'

- Draft 8'
- Horsepower 900
- Gross Tonnage ~300
- Cruise speed 12 knots
- Main Engines two Caterpillar model 3406E 450 hp @ 1800rpm
- Bow Thruster a 16" American Bow Thruster TRAC Series with 65hp hydraulic motor

CAPE HENLOPEN replacement - The University of Delaware has received the comments on the Preliminary Science Mission Requirements (SMRs) from FIC and they have been incorporated into the final SMRs without difficulty. The Delaware Research Vessel Committee (DRVC) has provided their comments. Delaware plans to finalize the SMRs and begin development of the concept design in October and have it completed by April or May 2001.

- **Fleet Additions/Retirements (WALTON SMITH replaces CALANUS)** - At the UNOLS Council meeting, the findings from the report of inspection on the WALTON SMITH were reviewed. The vessel was found to be in compliance with UNOLS standards. The Council passed a motion to make the WALTON SMITH a UNOLS Vessel.
- **Alaskan SMRs and Future Plans** - Plans are well underway for the Alaska Regional Research Vessel (ARRV). The University of Alaska (U.Alaska) is being funded for work on the preliminary design. They recently held a preliminary design meeting. The plan is to have the concept design completed in the spring and then begin the preliminary design phase. Funds for modeling are not currently in the budget. WHOI is involved in this design process, as this may be a model for future intermediate vessels capable of operating in high latitudes, supporting fisheries research and acoustically quiet operation.
- **Regional Ship Replacement Activities** - A two day meeting was held in Baltimore, Maryland on the 22nd and 23rd of March to provide a forum for planning the midlife work on the regional research vessels. The following topics were discussed:
 - Impact of Code of Federal Regulations (CFR) and other regulations on regional research vessels. Focus was on tonnage laws and crewing requirements.
 - Developments in the revision of the 1988 Science Mission Requirements (SMR) for regional research vessels. We went over the 1988 SMR line by line.
 - Scope of proposed midlife work to enhance the SMR capabilities of regional research vessels.
 - Funding support for midlife work.
 - Overview, by individual operators, of proposed midlife refit work for their regional research vessels.
 - Three to five year plan for proposed midlife work on regional research vessels.
 - The possible need for an independent midlife survey of regional research vessels.
- **UNOLS Standard Van Design** - Over the past year, five institutions requested vans. Many of the vans in the fleet are old and substandard. It was decided by NSF to try to design a standardized van and make a group purchase. Matt Hawkins (University of Delaware) took the lead on this project. Draft specifications for UNOLS standard portable laboratory vans have been developed. They were developed by combining input and ideas from five operating institutions. The intent was to develop a standard design that met the current safety standards for portable labs, was not "ship specific", and could be economically transported as containerized cargo. The hope is that this will facilitate bulk purchase of laboratory vans, improve van safety and quality of construction, and make certain design elements standard to the ultimate benefit of the scientific community. The draft van specifications are posted on the UNOLS website at <http://archive.unols.org/committees/rvoc/vanspec.html>. A status report on the van design and purchase effort is included as [Appendix XV](#).
- **Research Vessel Clearance Requests** - Bob Knox reported on the resolution of some sensitive clearance issues with regards to the ASIA-EX program. The use of a Taiwan Research Vessel will relieve some of the potential problems in the South China Sea and clearances in the East China Sea will probably proceed as in the past with Japanese and Chinese approvals.

Another clearance issue surrounds the planned cruises for the Littoral Warfare Advanced Development (LWAD). LWAD clearance issues for next year involve work in the Exclusive

Economic Zone (EEZ) of Japanese waters. This was reviewed at the State Department on September 20 and it was determined that in this case there is very little probability of problems from Japan if any UNOLS vessels take part in this exercise with out a research vessel clearance.

- **Research Permits for Acoustic Work or Work in Sensitive Geographic Areas** - The UNOLS Office has created a "Permit and Permission Resources" web page, <http://archive.unols.org/committees/ssc/permits/permits.html>. The page has been put together to help PI's, schedulers and ship operators determine if permits and/or special permission is needed for research cruises and if so how to apply.
- **Outreach from UNOLS vessels by Internet** - At the UNOLS Council meeting, Dan Fornari (WHOI) made a presentation on the Dive and Discover program the was funded by the Awards for Geosciences Education (AFGE) program at NSF with cost sharing from WHOI. The web address for the program is <www.divediscover.who.edu>. Dive and Discover is web-based expeditions to the seafloor. Some of the criteria for the program were that it had to be real time, it had to be stimulating with good graphics and it had to be clear for the lay audience. Plans are to conduct this program on a variety of cruises over the next couple of years with three cruises this year and three cruises next year. The Webmaster for the program is developing template pages that could be used by other vessels when they are completed for similar outreach web pages. By the end of next year they should be able to provide the code that forms the framework for the Dive and Discover pages. SeaNet was instrumental in making this program a success.

Another recent outreach activity is the Teachers Experiencing Antarctic or Arctic (TEAA) program on the HEALY. This program was very successful because the teachers were on board and wrote the text that was sent ashore with pictures for their web sites. This took the workload off the science party.

- **UNOLS Brochure** - The UNOLS brochure has been published and is distributed. To receive additional copies, contact the UNOLS Office.
- **SEACLIFF Engineering Study Results** - Dick Pittenger provided a brief report summarizing the recommendations of WHOI's SEACLIFF engineering study. The summary report can be viewed on the web at, <<http://www.marine.who.edu/ships/SeaCliff/report.htm>>. This study was initiated to determine the best manner to utilize SEACLIFF. The options considered ranged from use of SEACLIFF without modification, modifications to SEACLIFF, modifications to ALVIN, and, finally, construction of an entirely new submersible. The recommendation of the study is to build a new deep submergence vehicle. This would have the greatest chance of meeting the deep submergence science community's requirements while maintaining operating costs at acceptable levels. A new 6000+ meter manned submersible will provide U.S. scientists with access to an additional 35 % of the ocean floor. They will have a more comfortable vehicle with a larger interior and better able to handle the burgeoning scientific equipment requirements. The estimated cost for a new submersible is approximately \$14 million. Dick presented viewgraphs showing vehicle profiles, a comparison chart, and costs. It would take approximately three years to construct a new sub once the funds are available.

UNOLS Appointments to Committees: Bob Knox announced new appointments to the Executive Committee, AICC, DESSC, FIC, RVOC, RVTEC, and SSC.

- DESSC - David Mindell (MIT), Joris Gieskes (SIO), Mark Chaffey (MBARI)
- FIC - Terry Whitlege (U. Alaska)

Bob Knox thanked all of the UNOLS Committee members and Chairs who have completed their terms for their dedication to UNOLS.

Announce meeting [Calendar for 2001](#) - Mike Prince addressed the 2001 UNOLS meeting calendar. To minimize travel expenses, we would like to reduce the number of the meetings held over the year if possible. This will require input from the Committee Chairs. We hope to have all of the meetings for 2001 scheduled by the end of this year.

UNOLS Membership Lists - [Appendix XVI](#) includes lists of UNOLS Member Institutions, the Council and Committees, Operators, and Schedulers.

Meeting Adjourned