



*The CIRPAS Twin Otter
Airplane in Flight.*

2004 Annual Report

A Message from the Chair:

As the newly elected chair of UNOLS, it is my pleasure to welcome you to the UNOLS 2004

Annual Report. This report is a summary of the past year's activities, which have been many and varied. It contains the goals and objectives for the year as well as the election results for new members of the UNOLS Council.

Today there are critical issues facing the oceanographic community, especially those of fleet renewal and ship related issues associated with the establishment of ocean observatories. The UNOLS fleet is in a state of transition that began with the development of the Academic Fleet Renewal Plan published in 2001 to modernize the aging fleet. This year the Federal Oceanographic Facilities Committee (FOFC) began a review of the plan and an updated plan will be completed in 2005. UNOLS is actively participating in that review. At the same time, funds for the operation of the current fleet have not kept pace with the need and the community is now having to deal with budget shortfalls.

Details about how the seven UNOLS standing committees have been dealing with these and other important issues are provided in their report summaries.

2004 was also the year that the recommendations of the U.S. Commission on Ocean Policy were made public and included a call for improvements to the oceanographic infrastructure that are essential for future ocean research. UNOLS has a central role in providing the leadership and advice necessary to turn the promise into reality. As has become the custom, a CD ROM with minutes of all Council and Committee meetings and copies of all the 2004 UNOLS Newsletters is enclosed with this report. Your active support for the UNOLS initiatives to see that the academic fleet and research activities are carried out successfully is needed and greatly appreciated.

Dr. Peter Wiebe
UNOLS Chair
Woods Hole Oceanographic
Institution



Forward

We are indebted to the many UNOLS committee members and those in the oceanographic community too numerous to name who were unselfish in devoting their time, energy, and enthusiasm to support the UNOLS mission of working cooperatively to improve access, scheduling, operation and capabilities of current and future academic oceanographic facilities.

This report contains the proceedings of all of the UNOLS Committee meetings beginning in October 2003 and culminating with the UNOLS Annual Meeting in October 2004. A review of this report should enlighten you regarding the many critical issues facing the oceanographic community as well as inform you of the many activities taking place in UNOLS today.

We would also like to take this opportunity to thank the Federal Agency Representatives at the National Science Foundation, the Office of Naval Research, The National Oceanic and Atmospheric Administration, U.S. Coast Guard, U.S. Geological Survey, Minerals Management Service, and the Oceanographer of the Navy for their ongoing involvement and support of the UNOLS Organization.

Mike Prince, UNOLS Executive Secretary

2004/2005 Major Objectives

Access, Scheduling & Utilization - (Ongoing Responsibilities)

- Scheduling improvements - Improve systems and results to maximize access to facilities.
- MMPA/ESA Permitting - Facilitate compliance and cruise planning.
- Outreach and Education - Bring the knowledge of ocean science research to the public along with an understanding of the facilities needed to support that research.

Continuous Improvement - (Improvements to Existing Facilities and Systems)

- Quality Improvement - Use Post-Cruise Assessments as core of quality improvement plans.
- Standards of Service - Set standards for facilities, instrumentation and service.

Plan for Future Facilities - (New Opportunities and Facilities)

- Fleet Renewal - Support the implementation of existing FOFC plan, concept designs and funding for new ship construction.
- Facilities Improvement Planning - Update the UNOLS Fleet Improvement Plan in order to assess the current and projected status of the Academic Research Fleet and other major facilities, detail the scientific facility requirements of the future based on recently published documents and make recommendations in support of the review and update of the FOFC renewal plan and for additional research vessels and facilities that may be required.
- Icebreaker renewal - Support efforts to plan for and carry out service life extensions and science system improvements for POLAR Class icebreakers in addition to continued support for improvements to HEALY support of science.
- Submergence vehicle renewal - Provide support for the development and design of vehicles and tools to enhance access for submergence science.
- Seismic Research Vessel - Support efforts to convert and begin operations of a new National Oceanographic Seismic Facility (research vessel).
- Reserch Aircraft - Develop procedures to make research aircraft more accessible to the ocean science community and publicize the capabilities of aircraft for oceanographic research



Bibliography of UNOLS 2004 Published Articles

- 1) Tim Cowles, Mike Prince. "Renewal of the Academic Research Fleet." Marine Technology Society Journal 38.2 (2004) : 55-62
- 2) John M. Bane, Robert Bluth, Charles Flagg, Carl A. Friche, Hafliði Jonsson, W. Kendall Melville, Mike Prince, Daniel Riemer. "UNOLS Establishes SCOAR to Promote Research Aircraft Facilities for U.S. Ocean Sciences." Oceanography Magazine 17.4 (2004): 176-185
- 3) John M. Bane, Robert Bluth, Charles Flagg, Hafliði Jonsson, W. Kendall Melville, Mike Prince, Daniel Riemer. "UNOLS Now Oversees Research Aircraft Facilities for Ocean Science" EOS 85.41 (2004) : 402,405

Arctic Icebreaker Coordinating Committee News

Submitted By Margo Edwards,
AICC Chair

USCGC Healy returned from her 2004 arctic field season in November, having successfully completed five scientific programs, three for the Shelf Basin Interaction (SBI) project, one mapping program for the National Oceanographic and Atmospheric Administration (NOAA), and one NOAA mooring cruise. *Healy* is scheduled to spend the winter and spring in Seattle preparing for a joint operation with the Swedish icebreaker *Oden* in 2005.

The *Polar Star* departed in November to support Deep Freeze 2005. This was scheduled to be a solo venture for *Star* as the *Polar Sea* remained tied up due to significant problems with her engines. Ice conditions in McMurdo Sound look to challenge *Polar Star*. At the time of the AICC meeting in November there were over 100 nautical miles of fast ice reported to be blocking McMurdo Sound. The NSF leased the Russian icebreaker, *Krasin* to escort supply ships through the heavy ice pack around and beyond Cape Adare. *Star* reached the edge of the ice at the end of December and *Krasin* arrived mid-January.

Service Life Extension Program (SLEP)

The fate of the *Polar Class* icebreakers and the decision regarding whether to replace or refit them are presently undergoing discussion at the Office of Science and Technology Policy and the Office of Management and Budget. Representatives from the National Science Foundation and the U.S. Coast Guard (USCG) have been in attendance at these ongoing meetings and have advised AICC that a policy decision could be issued soon. The USCG contractor, Booz Allen Hamilton, has completed the community-input phase of their mission needs analysis report and disseminated drafts of their report to USCG and members of AICC. The UNOLS booth and a poster session entitled "Future of the Arctic Icebreaker Fleet" at the December meeting of the American Geophysical Union included the latest information regarding the USCG icebreaker fleet.

AICC continues to work with the Coast Guard and the science user community to orchestrate short and long-term science systems support for the icebreakers. Recent improvements to *Healy* include the addition of a POS-MV for improved navigation as well as an upgrade for the Ashtech sensor. High-

latitude communications were also improved during the 2004 field season with email often available 24/7 over Iridium. Seawater systems continue to be modified and improved on *Healy*; we expect this work to continue at least into the next field season. The 2005 programs will introduce new capabilities to *Healy* including towing seismic gear and a sidescan/interferometric sonar in ice-covered waters. Longer-term upgrades for *Healy* include improving the laboratory spaces and replacing the present hull-mounted multibeam sonar system.

AICC reminds the community that requests for cruises on the USCG icebreakers follow procedures identical to those for other UNOLS vessels. The proposal deadline for arctic research has recently changed to occur only once per year; proposals for arctic cruises are now due on January 24th of the year preceding a cruise. Scheduling meetings for the icebreakers are held each summer with participation from several funding agencies including NSF, NOAA, ONR and USFW. The International Polar Year will take place from March 2007 to March 2009, and AICC encourages researchers to develop innovative programs to participate in this event.

At the AICC meeting held November 18th and 19th at the USCG base in Seattle, Washington, some changes in AICC and USCG personnel were announced. AICC's newest member is Rolf Gradinger from the University of Alaska Fairbanks. Rolf replaces outgoing Chair Lisa Clough. LCDR April Brown has been replaced by LCDR Don Peltonen as the PACAREA liaison for the *Polar Sea* and *Star*. The next AICC meeting is being held March 30-31 in Arlington, VA.



DEep Submergence Science Committee News

*Submitted By Patricia Fryer,
DESSC Chair*

2004 was a busy year for *Alvin* and for the ROVs. *Alvin* completed its 4,000th dive this year. Also, *Jason II* set a record for its operations with a 72-hour dive in the water.

Patty summarized several reports available at the DESSC website and summarized the many changes taking place in the membership of the committee. Debby Kelley, University of Washington, will become the new Chair this December.

Woods Hole Oceanographic Institution (WHOI) is designing a replacement Human Occupied Vehicle (HOV) to replace *Alvin* that will be capable of going deeper and faster with new sensors and manipulators, and should be able to maintain the same bottom time. The development of this HOV will take place in two phases. Phase I will involve design and fabrication of the diving sphere. An evaluation will be made at the end of this phase based on success with key areas of risk before continuing with the Phase II of vehicle fabrication and testing. The anticipated final assembly timeframe is during 2007 with testing in early 2008 and science programs beginning mid-2008. A community oversight committee is in place and working with WHOI and NSF.

Another project taking place at WHOI is the development of a Hybrid Remotely-Operated Vehicle (HROV). This will be a very deep diving (11,000 m) vehicle that can operate in an ROV mode or AUV mode. It will have a very light fiber optic tether that can be released at depth and recovered from the surface. Development is taking place with community input over the next couple of years.

DESSC met just prior to the Fall AGU meeting in San Francisco on December 12th.



Fleet Improvement Committee News

*Submitted By Dave Hebert
FIC Chair*

The Fleet Improvement Committee (FIC) continues to have many items on its plate. Several of them are related to the present fleet renewal plan as laid out by the Federal Oceanographic Facilities Committee (FOFC). Plans for acquisition of both the Regional and Ocean Class vessels are moving forward.

Regional Class Ships - Earlier this year, the National Science Foundation (NSF) announced its plan for the construction of the Regional Class ships. Over the summer, NSF entered into an agreement with Naval Sea Systems Command (NAVSEA) to determine an acquisition procedure. In order to produce the necessary documentation for the integrated product teams, it was necessary to prioritize the Science Mission Requirements (SMRs) for this class. In late spring, the Regional Class Advisory Committee (RCAC) and FIC met several times via internet/teleconferencing to produce the prioritization list. This list was posted on the UNOLS web page http://www.unols.org/committees/fic/regional/regional_smr_priorities.html and requests for comments were sent out to the community. On July 1, the Regional Class SMR prioritization was completed. FIC and RCAC plan to stay engaged in the acquisition process with NSF and insure community input. As NAVSEA produces the operational requirements and related documentation for a request for proposals, we hope to comment on these documents and provide feedback that represents the interests of the oceanographic community.

Ocean Class - Over the summer, the Ocean Class SMR Committee and FIC had several teleconference meetings with members of the Naval architect firm John J. McMullen Associates (JJMA), NAVSEA and the Office of Naval Research (ONR) concerning the Phase II Study for the Ocean Class. We provided feedback on the concept designs of a monohull, SWATH and X-craft (high speed catamaran design). The goal of this study was to examine which SMRs could be met with each of the different hull forms. At the UNOLS Annual Meeting in October, RADM Cohen announced that he has a plan to construct the Ocean Class vessels but he needs the community to decide on the hull form quickly.

In November, members of FIC, the Ocean Class Steering Committee, JJMA, and the Navy visited the shipyard where the X-Craft is currently under construction. They had an opportunity to meet with the ship builder, Nichols Bros. Boat Builders, and the Naval Architect, Nigel Gee, Inc. A series of meetings were held in conjunction with the ship tour so that UNOLS representatives could gain a better understanding of the catamaran hull form and aluminum construction. This information was very useful as we moved forward in the hull form selection process. Information about the X-Craft vessel under construction can be found on the Nichols Bros. Website at:

http://www.nicholsboats.com/current_projects.htm.

Global Class Ships - Three of the Global Class ships are approaching the age when mid-life refits are considered. In anticipation of this time, FIC has formed a SMR Steering Committee (Chair: Bruce Howe, University of Washington) to develop SMRs using a procedure similar to that used for the Regional and Ocean Classes. That is, to develop mission scenarios, to hold a community workshop (if needed), to draft a set of requirements and desired capabilities and to solicit input and feedback from the larger science and operator community throughout the process. The result will be a SMR document similar to the other two classes. A web site http://www.unols.org/committees/fic/global/global_smr.html has been created for posting this information.

Ocean Observatory Facility Needs - FIC has started to examine the Ocean Observatory Facilities Needs for the UNOLS Fleet. As a first step, the UNOLS working group recommendations (known as the



Chave report) were incorporated into the UNOLS Fleet utilization projections. Peter Wiebe presented these projections to FOFC in April 04. FIC has initiated discussions with the ORION Office to determine their timeline and revised plans for the observatory systems. At the October FIC meeting, Ken Brink provided an initial overview of the ORION plan. At this time, they are not far enough along in their planning process to provide detail information on their needs for UNOLS ships. The two groups plan to work closely together on this item.

FOFC Fleet Renewal Plan Update - FOFC is in the process of updating the Academic Fleet Renewal Plan as well as including the plans for the other Federal research vessels operated by NOAA, EPA, USCG, etc. At the October FIC meeting, Mr. Winokur, Chair of FOFC and the keynote speaker at the UNOLS Annual Meeting, gave a brief preview of the FOFC's plan for the upcoming year. They hope to have a final report completed by fall of 2005 and plan to work closely with UNOLS on matters related to the academic fleet. The first step was to examine the retirement dates listed in the present plan.

Revised Vessel Retirement Dates - In summer 2004 the UNOLS Vessel Operators were polled to determine if the vessel retirement dates should be extended. If so, what is the Service Life Extension Program (SLEP) cost estimate for a 5 and 10-year extension. These estimates are to keep the vessels operating with present day capabilities and assuming no catastrophic failures as seen recently with the Polar Class icebreakers. Since these SLEPs would not increase the capability of the fleet, we asked the operators to compare the present capabilities to those of the Ocean Class and Regional Class SMRs, the future needs as defined by the scientists. I thank the operators for providing very detailed responses in a very short time during the busy time of ship scheduling. We have provided a preliminary report to the operators for comments and revisions before publishing the report. Some of the results are summarized below:

- Eleven UNOLS ships >40 m have retirement dates prior to 2020 and are potential candidates for a SLEP (excluding Alpha Helix and Ewing). Most of the ships (>40 m) can have their lifetimes extended 5 and possibly 10 years for an estimated cost of \$1M-\$5M per ship for a 5-year life extension. This amount is in addition to the normal maintenance costs.

- Extension of retirement dates for most vessels <40 m is not recommended. The SLEP estimates focus on maintaining the ship in an operational condition without enhancing the scientific capabilities of the platform.
- The existing Intermediate Class vessels do not meet most of the desired Ocean Class SMRs. Present Regional Class ships fall short of the Regional Class SMRs in many areas.
- Maintaining the current UNOLS Fleet vessels beyond their designed service life will significantly impede the advance of ocean science relative to that possible with new ships that meet the SMR specifications.

Update UNOLS Fleet Improvement Plan - FOFC is updating their fleet renewal plan. A major assumption in their planning process is that the Federal budget for ocean research for the next five years will remain at present levels. This assumption places limits on the size and structure of the academic fleet. While FIC will work with FOFC on this plan to produce the best fleet for the academic community, it was decided to update the 1995 UNOLS Fleet Improvement Plan (FIP). The plan will identify future science initiatives, describe fleet trends and make future fleet projections. The FIP will look at fleet expansion beyond the FOFC plan that is required to conduct the oceanographic research we envision for the future. This plan would make estimates of the construction and operating costs for these additions. Our ambitious goal is to have a draft report available by late spring for community review.

KILO MOANA Debriefs - There are several continuing topics that FIC has been involved with. Debrief interviews of the chief scientists on the RV *Kilo Moana* were started in 2002. The goals of these debriefs were twofold. First, it provided a method to monitor initial operation of a new vessel and identify recurring problems. In April 2004, FIC sent a letter to the University of Hawaii identifying *Kilo Moana* issues that require attention. Many of these have been or are being addressed. Second, this vessel is the first SWATH vessel in the fleet and there is a need to understand the advantages and disadvantages of a SWATH vessel over a monohull in conducting our research. FIC plans to continue a more focused and selective debrief process. FIC continues to be engaged in the ongoing design and construction efforts for the Alaska Region Research Vessel, the *Cape Henlopen* Replacement Vessel and the *Ewing* replacement.

Committee Membership - Finally, Chris Measures

(University of Hawaii) completed his second term. Jim Cochran (LDEO) was appointed to the committee as his replacement.

Research Vessel Operators' Committee News

*Submitted by Tim Askew,
RVOC Chair*

The Bermuda Biological Station for Research, located in Ferry Reach, St. Georges, Bermuda, hosted the 2004 RVOC Meeting on October 19-21. A big thanks to Lee Black, Marine Superintendent, Diana Scheiner, Marine Operations Coordinator, and Dr. Tony Knap, President and Director for hosting this meeting, which just happened to be 20 years since the last RVOC meeting was held in Bermuda.

A special presentation by Dr. Maureen Conte (WHOI) on findings from the BATS station off Bermuda during the passage of hurricane "Fabian" in September 2003 was very enlightening and demonstrated the role that UNOLS vessels play in supporting science both regional and worldwide. Committee reports included presentations by Mike Prince, UNOLS Executive Secretary, on the Council and Annual Meetings held the previous week with an emphasis on fleet renewal issues. Mike also covered the ship scheduling process and discussed the advantage of web conferencing and how well it worked. It was also noted by Linda Goad (NSF), that all schedules were set by late September. Tom Althouse (SIO) Chair of the Safety Committee discussed the status of Research Vessel Safety Standards (RVSS) indicating a total rewrite is necessary using a new format to standardize the chapters. Dan Schwartz (UW) discussed ship security and he noted that all the large vessels had met the December 2004 and July 2004 deadlines and are now operating under approved vessel security plans. Al Suchy (WHOI) RVOC Representative to the Fleet Improvement Committee (FIC) reported on the *Ewing* replacement (*Western Legend*) and the Alaska Region Research Vessel (ARRV) progress, as well as the Regional and Ocean Class vessel replacement outlook. Al also reported on the Service Life Extension Program (SLEP) developed over the summer where each operator was asked to estimate a cost to extend the life of their respective vessels five and ten years.

Mike Prince reported on DESSC and said that *Alvin* hit the 4000- dive milestone in 2004. He also said that funds were in place to design and build a new deep diving Human Occupied Vessel (HOV) to be operational in 2008. Other changes were Debbie Kelley (UW) who is replacing Patty Fryer (UH) as DESSC Chair.

The Artic Icebreaker Coordinating Committee (AICC) representative from RVOC, Dan Schwartz (UW), gave a report on 2004 icebreaker activities and Alice Doyle (Raytheon Polar Services) reported on stability issues with R/V *Palmer* and science cruises on R/V *Gould* in 2005. She also discussed Polar Research Vessel (PRV) replacement plans and that the process has started with science committees. Tim Askew (HBOI) reported on the Ship Operations Cooperative Program (SOCP). He stated that their meeting agenda and other valuable information to operators is available on their website www.socp.org. A DVD titled, "No Room for Error", was viewed during the round table discussion. Maureen Reap (TA&M) said that SOCP has contracts with commercial companies for updated safety products, which are available to the members.



Ship reports were presented by Al Suchy (WHOI) who gave an update on their new 60-foot R/V *Tioga*, which is capable of an 18-knot transit speed. Jim Meehan (NMFS) stated that the FSV *Oscar Dyson* was launched last year and will begin field operations in February 2005 off Alaska. The second FSV *Henry Bigelow* is scheduled for launch in March 2005 and delivery in January 2006. Tom Smith (UAK) discussed the Alaska Region Research Vessel status and said that the contract design would be finished in November. Matt Hawkins (UDEL) talked about the shipyard progress of the *Cape Henlopen* replacement. She is expected to be delivered in October 2005. Jonathan Berkson (USCG) discussed the present status of the USCGC's *Polar Sea* and the *Polar Star*. Both vessels are in dire need of major overhaul. He also said that one of the Ocean Commission recommendations was to replace both Polar icebreakers. Beth White (NOAA) emphasized the need for the FOFC plan and the UNOLS plan for vessel replacement to be in unison. She also said that nine T-AGOS vessels have been transferred from the Navy to NOAA and one TAG and one torpedo test vessel were also transferred. NOAA's older ships are actively being replaced with

converted T-AGOS vessels. NOAA will be disposing of the *Ferrel*, *McArthur* and *Whiting*.

Dennis Nixon, Esq. (URI) presented his annual vessel P&I insurance cost comparison and discussed other areas of possible liability for operators. One area of concern is persons other than crew who may fall under the "unseaworthiness" doctrine if they spend more than 30% of time at sea. Proof of health insurance for all members of the science party as well as release forms must be in place on all cruises. Dennis also raised the Autonomous Underwater Vehicle (AUV) legal issues. Since an AUV possesses many vessel-like attributes and are becoming more frequently used, who is responsible if damage is caused? He said that NATO believes that an AUV should be considered like a ship's boat, which is part of the ship's equipment and should display submarine lights when on surface.

Several special reports were given. Matt Hawkins (UDEL) brought everyone up to date on the van pool, group purchases, and van standards. Matt also gave a presentation on the "Load Handling System" workshop. Al Suchy provided a brief discussion on the "Long Core System" being designed for R/V *Knorr*. One of the interesting

aspects is the 2.24" diameter synthetic rope with break strength of 355,000 lbs. Estimated core pull out is 100,000 lbs.

Mike Prince presented an update on "Winch and Wire" safe working loads, specifications, inventory and fiber optic cable. The problem is there is no clear cut replacement for .322 em wire. There are no clear decisions on prescribed safe working load (SWL) and operational restrictions are being used as the primary safety net. "Computerized Maintenance Management System" (CMMS) was discussed by Bill Hahn (URI) and Dan Schwartz (UW), the general feeling is that the operators using the system are pleased however field engineering support is extremely expensive at \$900.00/day and implementation is most costly and time consuming.

Vessel operators from foreign institutions included Ian Sage (NATO) Supreme Allied Commander Transformation (SACT). They operate R/V *Alliance* and R/V *Leonardo*. Ian said they were experiencing severe budget cuts this year and next and were looking for ways to develop charter

income. Marieke Rietveld (NIOZ) Netherlands Institute for Sea Research discussed the new ship construction in the European scientific community. She also said that the Europeans are developing a Marine Research Consortium similar to UNOLS.

Invited speakers covered several important topics. Bill Mahaffey with MedAire (formerly Medical Advisory Systems) provided an overview of their services. The company's telephone contact numbers are the same and are routed through Maryland to the new headquarters in Arizona. One benefit to the UNOLS Fleet is the new company has global coverage on land and can provide assistance for foreign medical evacuation. Dirk Kristensen with Glosten Associates, Inc. talked about weight and stability management for research vessels as well as tonnage (regulatory vs. convention) and its impact on the Ocean Class vessels since the ISPS regulations use convention tonnage for the Vessel Security Plan (VSP) compliance. This year's meeting schedule provided the opportunity to have a workshop session on the second day. The group broke up into four sessions each with a facilitator. Topics were: "Load Handling System Design Standards", Matt Hawkins (UDEL); "Safety", Tom Althouse (SIO); "Uniformity of Fees", Dan Schwartz (UW); and "Security Plans", Tim Askew (HBOI). Each facilitator provided a summary at the end of the day. Since RVOC hasn't had workshops for the last few sessions, everyone felt that it was a very productive way to share ideas and information and develop more uniformity among all the vessel operations. The final day of the meeting was devoted to the round table discussion in the morning session and the business meeting in the afternoon. Topics of discussion included the X-Craft, which resulted in a RVOC letter to FIC on the positive and negative aspects of the hull design as an Ocean Class research vessel. Also discussed were the Post Cruise Assessment (PCA) results and safety statistics, the winch training program (vendor visits) by Markey and Dynacon, medical standards for new hires, training requirements for AIS, vessel P&I insurance, proposal deadlines, future group purchases, and ISM. The business meeting resulted in numerous suggestions for the next meeting agenda as well as a review of action items. In addition, the membership voted to transition the annual meetings to an earlier date so as not be in conflict with other meetings and proposal deadlines. Dan Schwartz at the University of Washington, in Seattle will be the host in April 2006.

Research Vessel Technical Enhancement Committee News

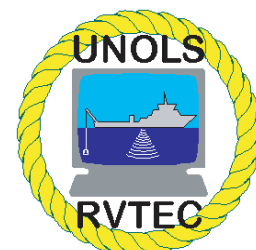
*Submitted by Steve Poulos,
RVTEC V-Chair*

RVTEC met on November 3-5, 2004. The meeting was hosted by Florida Institute of Oceanography on the campus of the University of South Florida - College of Marine Science, St. Petersburg, FL. Dale Chayes presided over the meeting. The meeting included reports by Agency representatives and UNOLS Committee liaisons. A variety of issues were discussed. Progress on the defined Levels of Technician/Instrumentation support was reported. The meeting also included a variety of technical sessions:

- ADCP Survey and Performance Assessment
- Fleet Wide Assessment of Towed Systems
- Organizational Excellence Driven by Customer Satisfaction
- Foreign Clearances for Working in EEZ Waters
- Moving Vessel Profilers
- System Backup and Restoration, Data Dissemination to Scientists.

FIO and USF personnel provided presentations on institution programs including the Alliance for Coastal Technologies (ACT), Coastal Ocean Monitoring and Prediction System (COMPS), and the Ocean Technology Center. Facility tours were provided to the RVTEC meeting participants. Reports and the status on various technical efforts were reported. These included the High-Resolution Marine Meteorology workshop, SeaNet, HighSeasNet, Seawave, VSAT, dragging for a mooring in 4200 meters of water, Radio Frequency Spectrum, RIDGE 2000 and MARGINS cruise metadata requirements, and Healy Communications. Plans for INMARTECH 2006 were discussed, as the meeting will be hosted in the US.

Elections were held for the RVTEC Chair position. Dale Chayes was completing his second term as Chair. The RVTEC membership nominated Bill Martin, (University of Washington) to serve as the new RVTEC Chair. We thank Dale for his service and leadership to RVTEC.



Ship Scheduling Committee News

Submitted by Liz Brenner,
SSC Co-Chair

In September the UNOLS Scheduling Committee reviewed proposed 2005 schedules during a web-conference. Also present were agency representatives from NSF, ONR, and NOAA. The new agency criterion for Global Class ships mandated that schedules would be held at under 300 days, and preferably closer to 270 days, with down time in home ports for maintenance. During this meeting NOAA requested that all NOAA-sponsored cruises be listed as "pending" until a budget was approved by Congress. The flow of cruises for all ships was accepted and the UNOLS operators had the foundation for their impending NSF operating proposals. This will be the first funding cycle in which external merit review of ship operation proposals will take place. The proposal deadline of November 1, along with panel reviews in December should result in January NSF awards. Subsequently, it became apparent to NOAA OAR that they had over committed on ship time for VENTS, FOCI, and DART notwithstanding Congressional approval, by over 50%. NOAA OAR had scheduled roughly \$3.5M in ships days (excluding technicians and other vehicle charges like *ROPOS* or *Jason*), and at the time of this writing, Congress had reduced their appropriations to \$1.5M. This discovery and eventual re-traction of DART left *Melville* stranded in Hawaii, and will affect *Alpha Helix*, *Kilo Moana*, *Thompson* and *Wecoma* schedules for 2005. The definition of "pending" and the prospects of a "cancellation" penalty open the debate about when is liability applied. Changes to planned schedules have occurred in the past by all agencies because of budget shortfalls, clearance problems, and more recently due to marine mammal compliance. Once an agency affects the flow of cruises by maneuvering schedules during the regular scheduling process in such a way as to accommodate a pending request (say for seasonal or location considerations), then later withdraws the cruise, should there be any fiscal responsibility? In addition, if a withdrawn cruise produces the unintended affect of leaving a ship stranded from home port without the possibility of picking up work, who should pay for a transit home or onward to the following port? A case in point occurred in 2003 when LWAD withdrew a cruise scheduled in the South China Sea less than six weeks before it was scheduled to start. ONR paid for transits and down time that resulted from

this cancellation. It can be argued that if some penalty is not assessed then other funding agencies are left with the burden of subsidizing the offending agency because of the need to re-distribute transit costs and absorb elevated daily ships rates.¹ The complexity with the current scheduling cycle lies with the different fiscal phases for the various federal agencies that use UNOLS ships. The UNOLS scheduling process coincides with NSF's funding cycle (NSF supports roughly 65% of all sea-going projects) and is based on a calendar year, and works well with ONR's less structured federal fiscal year. NOAA's funding is much less certain during the two UNOLS scheduling meetings (generally held in July and September) and is subject to drastic cuts during the appropriations process in Congress. Waiting until after they have a clear vision of what they can afford would shut them out of the scheduling process. Working outside the parameters of the UNOLS scheduling process would end up costing more in transit costs because of the financial benefits realized from efficiently stringing together cruises that are regionally concentrated, and would necessitate them settling for less than desirable weather windows. This is a dilemma that will need to be addressed so that ship operators and funding agencies can feel confident all needs will be met, and as stated in the UNOLS Charter: "*with the understanding that UNOLS and UNOLS operating institutions shall make serious efforts to assure that ships and facilities are fully available to all federally-funded users. To assure that ships and facilities are broadly available and that their use is effectively scheduled and coordinated,*" In the meantime, the UNOLS Scheduling Committee will react to NOAA's fallout as expeditiously as possible in order to start 2005 with concrete schedules. For next year's scheduling we are hoping to have a better assessment of how projected schedules and costs fit within the planned budgets for all agencies.

1 - NSF (OCE, OPP, ODP, BE) anticipates spending \$46M for sea going operations in 2005. If the daily rate is increased because of the fallout of one agency's anticipated commitment then the number of days NSF can afford must be reduced to fit within their budget.



Scientific Committee for Oceanographic Aircraft

Research News

*Submitted by John Bane,
SCOAR Chair*

SCOAR met on Nov 12, 2004 via web/telephone conference. John Bane, SCOAR Chair, led the meeting. The meeting included reports by CIRPAS representatives and Federal agency representatives. There were two major agenda items discussed during the meeting: 1) National Oceanographic Aircraft Facility (NOAF) Safety Regulations & Inspections, and 2) Guidelines for Becoming a NOAF. These items will continue to be a focus for the coming year. The status of some of the

SCOAR activities and projects that were carried out over the past year were reviewed. A CIRPAS Aircraft Request Form has been developed and is now available on the UNOLS website. The form is modeled after the UNOLS ship time request form. Scheduling and funding mechanisms were addressed by the SCOAR. The committee is also working to define a basic instrument suite for UNOLS ocean science aircraft. A major objective of SCOAR over the past year was in the area of outreach. They worked to educate the community on the availability and capabilities of the aircraft supporting ocean sciences. Two articles were published, one EOS (Oct 12, 2004) and the other in *Oceanography* (Vol. 17, No. 4). SCOAR will continue in their efforts to promote the National facility.



UNOLS COUNCIL AND COMMITTEES

UNOLS COUNCIL (UC)

The UNOLS Council represents and acts on behalf of the UNOLS membership as the operating and governing body of UNOLS. It monitors UNOLS activities, giving attention to the effective use of available oceanographic facilities and determining the performance of UNOLS Institutions in providing access to federally supported facilities for scientists from other institutions. It evaluates the need for replacement and additional facilities and assesses whether facilities are outmoded or in excess of current needs. It considers and makes recommendations to funding agencies regarding the needs for specialized facilities or new concepts in facilities and the balance between facilities and funded research programs. It accepts charges from funding agencies for special studies and reviews, and shall make recommendations based on its findings. It assists funding agencies in efforts to obtain adequate and uniform financial data and post-cruise reporting of ship operations. It counsels in the formation of and appointments to UNOLS committees, and provides oversight to them. The UNOLS Council shall report fully and faithfully to the UNOLS membership and to sponsoring agencies on its actions, activities and plans. Reports shall include an annual summary report delivered at the annual UNOLS meeting, reports of Council meetings and special reports on important actions or activities.

Peter Wiebe, WHOI, (Chair) (Executive Cmte.)	09/02-10/06
Marcia McNutt, MBARI, (Ch-Elect) (Executive Cmte.)	10/04-10/06
Tim Cowles, OSU, (Immediate Past Chair)	09/98-10/06
Denis Wiesenburg, UAK-Fairbanks, (At-Large Rep.)	09/99-09/05
Curtis Collins, Naval Postgraduate School, (Op. Rep.)	09/00-09/06
Bruce Corliss, DUKE, (At-Large Rep.)	11/01-10/07
Peter Ortner, RSMAS-Univ. of Miami, (Operator Rep.)	09/02-09/05
Wilford Gardner, TAMU, (At-Large Rep) (Executive Cmte.)	09/00-09/06
Cindy Lee Van Dover, Coll. of Wm. & Mary/VIMS, (Non-Op Rep)	09/03-09/06
Eileen Hofmann, ODU, (Non-Op Rep.)	10/04-10/07
Margo Edwards, UH, (Chair, AICC)	01/04-01/07
Deborah Kelley, UW, (Chair, DESSC) (Executive Cmte.)	09/02-10/07
Dave Hebert, URI, (Chair, FIC)	09/99-10/06
Elizabeth Brenner/Rose Dufour, SIO, (Co-Chair, SSC)	09/03-09/05
Tim Askew, HBOI, (Chair, RVOC)	10/00-10/06
Bill Martin, UW, (Chair, RVTEC)	10/04-10/06
John Bane, UNC, (Chair, SCOAR)	08/03-08/06

ARCTIC ICEBREAKER COORDINATING COMMITTEE (AICC)

The purpose of the AICC is to provide polar science projects with planning assistance and to liaise and facilitate communications between scientists, funding agencies and facility providers. Specifically, the AICC is to provide oversight and advice to the U.S. Coast Guard for the purpose of enhancing facilities and science aboard their icebreaker fleet. Incumbent in this is the requirement that AICC solicit, synthesize and present the needs of the arctic science community to the Coast Guard, fulfilling an ombudsman role when necessary, to facilitate efficient and effective utilization of U.S. icebreakers. It is also the responsibility of the AICC to promote new technology for arctic assets in order to maintain cutting edge capability for these facilities.

The purpose of AICC is also to promote the best utilization of arctic icebreaker facilities, provide sufficient lead time for planning purposes, and provide information to the scientific community to organize research projects. The AICC shall work with the user community, Federal sponsors and the operators of other polar facilities to encourage expeditions using U.S. Coast Guard icebreakers in a phased manner that meets the needs of a wide spectrum of arctic scientists. Additionally, the AICC shall encourage the advancement of cooperative international programs for the enhancement of multidisciplinary arctic science throughout the academic community

Margo Edwards, U Hawaii, (Chair)	09/01-01/07
Peter Minnett, RSMAS	09/01-09/04
Robert Bourke, NPS	09/01-09/04
Henrietta Edmonds, UT Austin, (Co-V/Chair)	05/02-05/05
Carin Ashjian, WHOI, (Co-V/Chair)	02/03-02/06
Bernard Coakley, UAF	11/03-11/06
Rebecca Woodgate, UW	11/03-11/06
Rolf Gradinger, UAF	09/04-09/07
Dan Schwartz, U Washington, (ex-officio)	01/01-XXXX
Dale Chayes, LDEO, (ex-officio)	01/01-XXXX

DEEP SUBMERGENCE SCIENCE COMMITTEE (DESSC)

The DEep Submergence Science Committee provides oversight responsibilities in the use of ALVIN and the ROV 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 and the ROVs to maintain cutting edge capability for the National Facility.

The DESSC shall 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 shall also encourage the advancement of cooperative international programs for the enhancement of multidisciplinary submersible science throughout the academic community.

Deborah Kelley, UW, (Chair, DESSC)	09/02-10/07
Henrietta Edmonds, UT Austin	09/02-09/05
David Mindell, MIT	09/99-09/05
Mark Chaffey, MBARI	04/03-04/06
Jeffrey Karson, Duke	10/04-10/07
Kathleen Scott, U So. FL	10/04-10/07
Jennifer Reynolds, UAF	10/04-10/07
Craig Young, UO	10/04-10/07
William Chadwick, OSU	10/04-10/07
Timothy Mitchell Shank, WHOI, (ex-officio)	10/01-XXXX
Robert Detrick, WHOI, (ex-officio)	07/92-XXXX
Maurice Tivey, WHOI, (ex-officio)	07/04-XXXX

FLEET IMPROVEMENT COMMITTEE (FIC)

The Fleet Improvement Committee works to assure the continuing excellence of the UNOLS fleet, to improve the capability and effectiveness of individual ships and to assure that the number, mix and overall capability of ships in the UNOLS fleet match the science requirements of academic oceanography in the U.S.

Dave Hebert, URI, (Chair)	09/99-10/06
James Cochran, LDEO	10/04-10/07
Niall C. Slowey, TAMU	02/02-02/05
Clare E. Reimers, OSU	01/03-01/06
Ron Benner, U So.Carolina	01/03-01/06
James Bauer, VIMS	09/03-09/06
Newell "Toby" Garfield, Romberg-Tiburon Center/SFSU	09/03-09/06
Marc Willis, OSU, (ex-officio, RVTEC Liaison)	06/03-XXXX
Al Suchy, WHOI, (ex-officio, RVOC Liaison)	10/03-XXXX

RESEARCH VESSEL OPERATORS' COMMITTEE (RVOC)

The purpose of the Research Vessel Operator's Committee shall be to promote cooperation, fleet standards, marine safety, efficiency, and quality of service among marine science research and educational institutions. The RVOC provides members a forum to address issues of interest such as federal regulations, security, technology, procedures, and public relations as those affect their research fleets.

Tim Askew, HBOI, (Chair)	10/00-10/06
Matt Hawkins, UDel, (V-Chair)	10/03-10/06

RESEARCH VESSEL TECHNICAL ENHANCEMENT COMMITTEE (RVTEC)

The purpose of the Research Vessel Technical Enhancement Committee (RVTEC) shall be to promote the scientific productivity of research programs that make use of research vessels and oceanographic facilities and to foster activities that enhance technical support for sea-going scientific programs

Bill Martin, UW, (Chair)	10/04-10/06
Steve Poulos, U Hawaii, (V-Chair)	10/01-10/05



SCIENTIFIC COMMITTEE FOR OCEANOGRAPHIC AIRCRAFT RESEARCH (SCOAR)

This Committee shall provide advice and recommendations to facility managers and supporting federal agencies on aspects of operations, sensor development, fleet composition, utilization and data services as appropriate. In addition, SCOAR and the UNOLS Office shall provide the ocean science user community with valuable information and advice concerning experiment design, facility usage, scheduling and capabilities.

The Committee shall promote collaborations and cooperation between facility operators, funding agencies and the scientific community to improve the availability, capabilities and quality of aircraft facilities supporting the ocean sciences. By promoting collaboration between the ocean science community, the atmospheric science community and other science communities using aircraft in support of their research the committee shall work to improve utilization and capabilities for all of these communities.

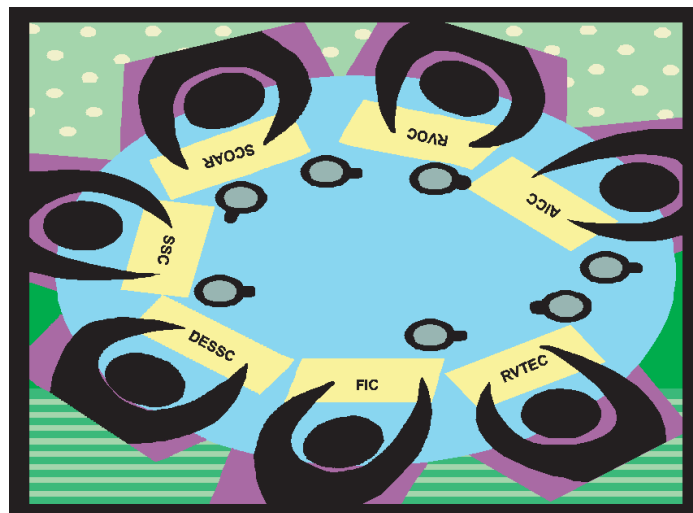
The SCOAR shall also recommend the designation of aircraft facilities as National Oceanographic Facilities to the UNOLS Council and membership under Annex II of the UNOLS Charter.

John Bane, UNC, (Chair)	08/03-08/06
Ken Melville, SIO/MPL	02/03-02/06
Charles Flagg, SUNY	02/03-02/06
Daniel Riemer, RSMAS	02/03-02/06
Richard Zimmerman, ODU	11/04-11/07
Bob Bluth, NPS, (ex-officio)	01/03-XXXX
Haflidi Jonsson, NPS, (ex-officio)	01/03-XXXX
John H. Seinfeld, Caltech, (ex-officio)	01/03-XXXX

SHIP SCHEDULING COMMITTEE (SSC)

The purpose of the Committee is to serve as a mechanism for the development and coordination of ship schedules in order to assure the most effective, efficient and economic utilization of ships and associated facilities.

Elizabeth Brenner/Rose Dufour, SIO, (Co-Chair)	09/03-09/05
Lee Black, BBSR (Vice-Chair)	06/04-09/05



UNOLS Vision

A healthy and vigorous United States research and education program in the ocean sciences requires broad access to the best possible mix of modern, capable and well-operated research vessels, aircraft, submersibles and other major shared-use facilities.

UNOLS Mission

UNOLS provides a primary forum through which the ocean science research and education community, research facility operators and the supporting Federal agencies can work cooperatively to improve access, scheduling, operation and capabilities of current and future academic oceanographic facilities.



2004 UNOLS Elections held in October 2004

At the Annual Meeting, outgoing UNOLS Chair, Tim Cowles (Oregon State University) moved into the position of Immediate Past Chair. In turn, Peter Wiebe (Woods Hole Oceanographic Institution) became the new UNOLS Chair.

The following persons were elected to terms on the UNOLS Council:

- ➔ **Dr. Marcia McNutt**, Monterey Bay Aquarium Institute - Elected as Chair-Elect

- ➔ **Dr. Eileen Hofmann**, Old Dominion University - Elected to three-year term as Non-Operator Representative

- ➔ **Dr. Bruce Corliss**, Duke University - Elected to second three-year term as At-Large Representative

**The UNOLS Office would like to acknowledge
the continued support of the following
U.S. Federal Government Agencies:**

**The National Science Foundation
The Office of Naval Research
The National Oceanic and Atmospheric Administration
U.S. Geological Survey
U.S. Coast Guard
Minerals Management Service**



Visit UNOLS on the Web at

www.unols.org

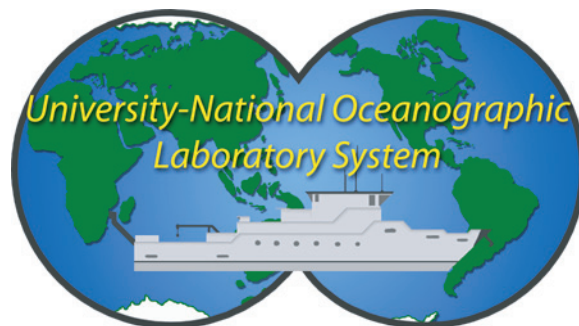


TABLE OF CONTENTS

Meeting Minutes and Reports – October 2003 – October 2004

October 2003

Research Vessel Operators Committee – Annual Meeting - U MN, Large Lakes Observatory, Duluth, MN
Scientific Committee for Oceanographic Aircraft Research - Ocean. US Offices - Arlington, VA

November 2003

Arctic Icebreaker Coordinating Committee – Fall Meeting – USCG Base, Seattle, WA
Research Vessel Technical Enhancement Committee – Annual Meeting – USCG Base, Seattle, WA

January 2004

Deep Submergence Science Committee – Winter Meeting – AGU Ocean Sciences Mtg. - Portland, OR

March 2004

Fleet Improvement Committee – Winter Meeting – HBOI, Ft. Pierce, FL
UNOLS Council – Winter Meeting - HBOI, Ft. Pierce, FL
Arctic Icebreaker Coordinating Committee – Winter Meeting – NSF, Arlington, VA
Scientific Committee for Oceanographic Aircraft Research – Spring Meeting – CIRPAS, Marina, CA

May 2004

Deep Submergence Science Committee – Spring Meeting – WHOI, Woods Hole, MA

July 2004

UNOLS Council – Summer Meeting – Held via Teleconference
Ship Scheduling Committee – Summer Meeting – NSF, Arlington, VA

September 2004

Ship Scheduling Committee – Schedule Review Meeting – Held via Teleconference

October 2004

Fleet Improvement Committee – Fall Meeting – NSF, Arlington, VA
UNOLS Council – Fall Meeting - NSF, Arlington, VA
UNOLS Annual Meeting – NSF, Arlington, VA

2004 Newsletters

UNOLS News - Spring 2004 - Volume 21, No. 1
UNOLS News - Winter 2004 - Volume 21, No. 2

Other Items of Interest

Message from the UNOLS Chair – Dr. Peter Wiebe, Woods Hole Oceanographic Institution
Forward – Mike Prince, UNOLS Executive Secretary, Moss Landing Marine Laboratories
Regional Class SMR Prioritization - Phase III
JJMA Ocean Class Study - Phase II
Bibliography of UNOLS 2004 Published Articles
UNOLS Committee News
Current UNOLS Charter
UNOLS Council and Committee Members
Contact Lists and Ship Information: Marine Ops., Ship Scheduling, and RVTEC Point of Contacts