

UNOLS NEWS

VOLUME 13, No. 2

September, 1996

Don't Miss the 1996 UNOLS Annual Meeting

This year's UNOLS Annual Meeting is sure to provide an interesting venue. Kenneth Johnson, UNOLS Chair, will open the meeting at 8:30 a.m. with a review of 1995/1996 activities, current issues and issues continuing into 1997. Rear Admiral Paul Gaffney, Chief of Naval Research and Commander, Naval Meteorology and Oceanography Command will provide the keynote address for the meeting (see inside story).

Following the keynote address, the UNOLS Committee Chairs will provide reports. Mike Prince, RVOC Chair, will review the activities of the past year and plans for their 22-24 October Annual RVOC meeting. Mike Perfit, DESSC Chair, will report on equipment/instrumentation upgrades and improvements for the National Deep Submergence Facility and the integration of ALVIN and ROVs with the new ATLANTIS. He will also report on the operations of ALVIN and ROVs for 1996 and those planned for 1997. Eric Firing, reporting for the FIC Chair, will provide the status of the Preliminary 1998 Fleet Improvement Plan. Don Moller, Ship Scheduling Committee Chair, will summarize the 1997 ship schedules and discuss the impact of additional shiptime provided by NOAA and the proposed NAVOCEANO use of UNOLS ships. Rich Findley, RVTEC Chair, will provide an updated report on the progress of the Committee including the plans for their annual meeting scheduled for 11-13 November in Fort Pierce, FL. Following these committee reports, the Federal Agencies will provide information on 1996 funding and forecasts for 1997 and beyond.

Other issues of interest to UNOLS members which will be introduced at the meeting include: Congressional funding for a SWATH vessel, formation of an Arctic Icebreaker Coordinating Committee, NOAA/UNOLS Cooperation and additions/deletions to the UNOLS Fleet. A membership vote will be taken for approval of Annex VI to the UNOLS Charter which will add the Arctic Icebreaker Coordinating Committee. The meeting will conclude with elections to fill UNOLS Council seats.

Mark your Calendar!**UNOLS ANNUAL MEETING****8:30 a.m. - 20 SEPTEMBER 1996****National Science Foundation, Room 1235****4201 Wilson Boulevard, Arlington, VA****Comments from the UNOLS Chair.**

UNOLS celebrates its 25th anniversary in 1996. The UNOLS Fleet has undergone an almost complete

transformation in those 25 years. UNOLS was created to provide a mechanism for ensuring access to the sea for all academic ocean scientists with Federal funding. Access to oceanographic facilities was a serious concern for scientists from institutions that did not operate ships in the 1960's. In 1971, fewer than 25% of the scientists participating in research cruises on academic vessels came from "outside" the institution that operated the vessel. This balance of "outside participation" was considered reasonable at that time (First Annual Report of UNOLS Advisory Council to Federal Funding Agencies, 1972). Today, the ratios have reversed and, in general, fewer than 25% of the scientists participating in research cruises come from the operator institution. The UNOLS Fleet truly has become a National Facility and oceanography has become a global science.

The number of ships in the UNOLS Fleet has remained relatively constant during its 25 years of existence. There were 22 ships greater than 100 feet in length in 1972 and there are 23 operating today. With the retirement of ATLANTIS II this year, only three of the original UNOLS ships remain in the Fleet (KNORR, MELVILLE and ALPHA HELIX). Both KNORR and MELVILLE have undergone extensive mid-life refits, completed in 1991, that have greatly extended their capabilities and their service life. The costs of operating the fleet have remained essentially constant, assuming a very modest 4% inflation rate, which reflects the efficiency of new ships. However, the ships now carry 40% more scientists than in 1972, they carry greatly improved instrumentation such as multibeam mapping systems, rosette-CTD samplers and GPS receivers of unparalleled accuracy and they have much improved sea-keeping capabilities. The types of oceanographic research that can be performed on these new platforms are unprecedented.

The life-cycle of a research vessel is about 30 years. As UNOLS approaches this age, many of the early concerns are becoming current again. The First Annual Report of UNOLS stated, "The coastal zone area has been identified as bearing the greatest need for new and replacement vessels." As a result of these concerns, both the OCEANUS and CAPE Class vessels were constructed for coastal ocean research. This issue is again with us. Excellent large Class I ships (> 250') are available as a result of the recent building program supported by the U.S. Navy and acquisition of EWING by NSF. However, all of the Federally owned Class III (150'-200') and Class IV (100'-150') ships in the UNOLS Fleet and the Class II (200'-250') MOANA WAVE, are projected to reach the end of their useful life in the next decade. Hence, the 1995 Fleet Improvement Plan focuses on this segment of the Fleet. We must begin to actively work on acquisition of a new generation of vessels for this work.

UNOLS and the Fleet will continue to evolve. NOAA has committed to using greater amounts of time on UNOLS ships in the future. We are currently discussing mechanisms to allow greater participation of NOAA sea-going scientists in the UNOLS ship scheduling and planning processes. Ultimately, we may see joint scheduling of UNOLS and NOAA oceanographic research vessels. We are also discussing mechanisms for interaction with the U.S. Naval Oceanographic Office. This would allow them to conduct oceanographic surveys from UNOLS vessels when they are in the appropriate areas. UNOLS is working closely with the U.S. Coast Guard to form an Arctic Icebreaker Coordinating Committee. Jim Swift has agreed to chair it, and it will have its first meeting on September 11 and 12.

The past 25 years have been an exciting time for UNOLS and the oceanographic community. We are confident that the future will continue to be as bright.

Sincerely yours,
Kenneth S. Johnson
UNOLS Chair

Rear Admiral Paul G. Gaffney, II to Deliver Keynote Address at the UNOLS Annual Meeting

On 20 September, Rear Admiral Gaffney will deliver the keynote address to the UNOLS membership at their Annual Meeting. Rear Admiral Paul G. Gaffney, II, became the 19th Chief of Naval Research, commanding the Office of Naval Research (ONR) on July 12, 1996.

In addition to his new position as the Chief of Naval Research, RADM Gaffney will continue as Commander of the Naval Meteorology and Oceanography Command. Accordingly, he will divide his time between ONR headquarters in Arlington, Virginia, and the Naval Meteorology and Oceanography Command headquarters at Stennis Space Center, Mississippi.

RADM Gaffney is a 1968 graduate of the U.S. Naval Academy, was selected for immediate graduate education and received a master's degree in Ocean Engineering from Catholic University of America in Washington, DC. He completed a year as a student and advanced research fellow at the Naval War College graduating with highest distinction. He completed an MBA at Jacksonville University.

His distinguished military career has spanned nearly three decades and includes duty at sea, overseas and ashore in executive and command positions. His duties have included tours as:

- Operations Officer in USS WHIPPOORWILL, a minesweeper;
- Advisor to the Vietnamese Navy Combat Hydrographic Survey Team;
- Executive Assistant to the Oceanographer of the Navy;
- Commanding Officer of Oceanographic Unit Four conducting hydrographic surveys in the Republic of Indonesia;
- Military assistant to the Assistant Secretary of Defense;
- Commanding Officer of the Naval Oceanographic Command Facility, Jacksonville, Florida;
- Assistant Chief of Naval Research in Washington, DC; and,
- Commanding Officer of the Naval Research Laboratory in Washington ,DC.

We look forward to hearing from him on the 20th.

Information provided by the Office of Naval Research

UNOLS Council Elections

At this year's Annual Meeting, four Council seats will be up for election including the Chair and Vice Chair. A slate has been prepared and is as follows:

UNOLS CHAIR (2 year term):

Ken Johnson Moss Landing Marine Laboratory

UNOLS VICE-CHAIR (2 year term):

Tom Malone University of Maryland

Tom Royer University of Alaska

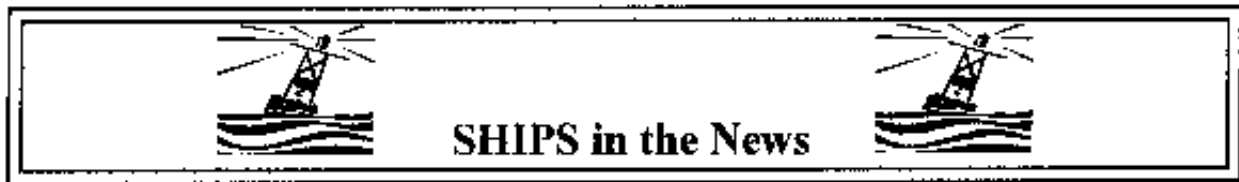
AT-LARGE (3 year term) - individual affiliated with any UNOLS Member Institution:

Richard Feely PMEL/University of Washington

Clare Reimers Rutgers University

OPERATOR REPRESENTATIVE (3 year term) - from among designated representatives of Member Operator Institutions:

Dennis Hansell Bermuda Biological Station for Research Inc.



R/V ROGER REVELLE Arrives at Scripps
By Robert Knox, Scripps Associate Director for Ship Operations

R/V ROGER REVELLE (AGOR 24) departed Pascagoula, Mississippi in driving rain and gusty wind on July 8, and arrived in San Diego on the beautiful, calm sunny morning of July 31. On the way she moved smoothly through the Panama Canal and the waters off the central Pacific coast of Mexico just days in advance of hurricanes in both places. May this sequence of meteorological coups be an omen for the ship's future. The voyage to San Diego, intended (a) to deliver the ship to home port and (b) to test major ship and science systems en route, proved successful enough to obtain some scientifically meaningful observations to boot. Of major, show-stopping problems there were none. The SeaBeam 2112 system, after a period of intensive software work by SIO and SeaBeam personnel on the Atlantic side, operated essentially without a break on the Pacific side. It yielded a long swath roughly along the Middle America Trench system on the entire track, with a couple of small-area detailed surveys and diversions added on. Preliminary indications are that the flush hull mounting of the multibeam system is acoustically rather quiet. The 3.5/12 kHz system works smoothly once a number of default parameter settings are manually changed, and it produces excellent subbottom records at 3.5 kHz. The hydrographic and CTD winches (identical units) both made test lowerings without incident, and the Sea Bird CTD performed as expected. The main trawl winch suffered a control system problem on the voyage, but has since been reworked and retested in sea trials off San Diego. It runs smoothly and swiftly, winding both 9/16 dredge wire and 0.680 in. EM wire without problems. Dynamic positioning is in hand and working well, driven by P-code GPS or, if need be, by acoustic transponders. We planned and sustained an average transit speed of 12.5 knots.

The ship is comfortable, spacious, and quiet. At the extreme forward end of the open main deck, starboard, there is a zone of elevated noise when the engine room fans are at full speed. But for most station work it will be possible to run these fans at low speed, in which case the noise is markedly reduced and verbal communication in the waist working area is quite reasonable. There are a few noisy fans elsewhere, but generally not near working or living areas, and there are plans in progress to cut down some of these noise sources further. The labs are remarkably quiet. The air conditioning is plentiful, with the exception of one group of crew staterooms, where the deficiency is being corrected. The labs will be able to keep lots of instruments (and bodies) cool or even chilly, as we found out. The new permanent quarters for scientists on the 03 level (the full scientific complement of 37 is in permanent quarters, without berthing vans) are not large but are comfortable, quiet and functional.

From Pascagoula to Panama the ship was nearly full, with representatives from the shipyard, SeaBeam, NSWC/Carderock, WHOI, the French Navy Hydrographic Service, and others. Ellen Revelle Eckis, the ship sponsor, and her daughter Mary Paci also sailed with us on this part of the voyage, a delight for all hands aboard. After Panama, the science party was reduced to about half of maximum, and included Mexican colleagues from UNAM and INEGE, as well as a NOAA representative.

Arrival on July 31 was marked by a goodly turnout of "old hands" to see the ship make her ETA at precisely 0800 as advertised. Then on August 2 a larger afternoon ceremony gave the wider SIO community a chance to see and appreciate their new ship. Several hundred people turned out. Steve

Ramberg of ONR and Ellen Revelle Eckis were featured speakers, in addition to Ed Frieman in one of his final official appearances as SIO Director. The Navy band played, a ribbon was cut, and suddenly the ship was jammed with people. Those who had not seen any of the AGOR ships previously were awestruck at the available space and capability of the vessel. It was a great day for SIO, and for the UNOLS fleet.

Retirement of R/V ATLANTIS II Marks the End of An Era

After a 33-year career and countless contributions to ocean sciences, ATLANTIS II (also known as A-II) is being retired from the national academic research fleet. The ship, support vessel for the submersible ALVIN since 1984, departed Woods Hole on July 23rd for the last time.

Few vessels have covered as much of the ocean as ATLANTIS II. During its career the ship sailed more than one million miles (1,006,912) on 468 cruises and spent 8,115 days at sea in every ocean of the world conducting marine research and engineering projects. ATLANTIS II visited 112 ports in 78 nations and hosted thousands of visitors from many nations, from school students and local residents to scientists and government officials at all levels, including Vice President Hubert Humphrey in 1967 and Japan's former Crown Prince and now Emperor Akihito in 1987 during a visit to Tokyo.

ATLANTIS II was built by the Maryland Shipbuilding and Drydock Company in Baltimore, MD under a \$5 million grant from the National Science Foundation. The ship was launched September 8, 1962 and was christened by biologist Dr. Mary Sears of WHOI. Principal speaker at the launch ceremony was National Science Foundation Director Dr. Alan Waterman. ATLANTIS II arrived in Woods Hole on February 1, 1963 from Baltimore and was officially turned over to WHOI that day. Three weeks later it went into service for science with a cruise to Bermuda and back. At the time it was considered the first ship in the modern fleet of oceanographic research vessels built to serve the United States academic community. Its design and planning process served as the model for a generation of research vessels to follow.

A-II's second voyage, intended to be a routine biology cruise in the Gulf of Maine, departed Woods Hole on April 5, 1963 but was interrupted with the news that the U.S. nuclear submarine THRESHER had sunk 220 miles east of Cape Cod in 8,000 feet of water. A-II was asked to proceed to the scene to assist in the search. The ship collected the first photographic evidence of the sub's remains, receiving a commendation from the U.S. Navy for its work.

There are many "firsts" and notable events in the ship's career. It was one of the first research vessels to take women scientists to sea routinely, and one of the first to employ female officers and crew. In October 1975, the ship departed Woods Hole for what was to become the longest voyage, by miles, of any Institution vessel, a 573-day trip over almost 80,000 miles around the world with a return to Woods Hole in May 1977. In 1986, the vessel visited the wreck of the R.M.S. TITANIC in the North Atlantic Ocean.

During its first twenty years of operation, A-II conducted cruises in all disciplines as a general purpose global research vessel. The original steam propulsion system was replaced by diesel in 1979 to reduce operating costs and increase the range of ports in other nations. In 1983, the vessel underwent a mid-life refit and was converted to support sea-going operations for ALVIN, which needed a more capable support vessel. Much of the ship's work since 1984 has focused on exploration of the Mid-Ocean Ridge in the Atlantic and Pacific for biological, geological and geochemical studies with ALVIN.

The ship is named for WHOI's first research vessel, a 142-foot steel-hulled ketch named ATLANTIS which sailed from 1931 until it was retired in 1964 after a remarkable 33-year career. In recognition of the contributions of that vessel to science, NASA named its space shuttle ATLANTIS after the

Institution's first ship.

ATLANTIS II departed Woods Hole for the last time on July 23rd for a Louisiana shipyard, where the stern A-frame for submersible launch/recovery will be taken off the ship. With NSF approval, the ship has been sold to a private U.S. firm which intends to use it for fisheries research in the Pacific and Gulf of Alaska.

Information provided by Woods Hole Oceanographic Institution News Office.

Atlantis II Publications

A summary of Atlantis II's life and times published for WHOI's farewell to the ship is available to members of the UNOLS community on request. The 24-page publication summarizes the ship's service to the oceanographic community, outlines the process of designing a ship specifically for science, and includes about 40 photographs. Please direct requests to Jane Hopewood (email: jhopewood@whoi.edu, phone: 508-289-3516, mail: Jane Hopewood, WHOI - MS #5, Woods Hole, MA 02543).

New SeaBeam System used on R/V KNORR

by Peter Lemmond and Barrie Walden, Woods Hole Oceanographic Institution

During February and March of 1996, the new SeaBeam 2100/12 Multibeam Bathymetric Sonar System installed on R/V KNORR completed its first extensive scientific mission. The cruise, under the direction of co-chief scientists Nancy Grindlay of the University of Puerto Rico and John Madsen of the University of Delaware, accomplished 48 days of surveying on the Southwest Indian Ridge. Nearly 170,000 square kilometers (over 60,000 square miles, roughly the size of the six New England states) of seafloor was surveyed, with bathymetric accuracies of 20 to 40 meters. Using an original SeaBeam system (as installed on R/V ATLANTIS II, R/V CONRAD, and R/V WASHINGTON), an expedition of such magnitude would have taken over seven months to complete.

As installed on KNORR, the new SeaBeam 2100/12 system consists of underhull projectors and diver-replaceable hydrophones yielding a two degree by two degree beam pattern, a single 19" electronics rack, an operator's workstation, and peripherals. In addition to the SeaBeam system itself, two additional workstations have been installed on KNORR, along with a complete, documented suite of software, to allow the science party to fully post-process bathymetry and side-scan data while onboard. The SeaBeam system generates 121 bathymetric points and 2000 co-located sidescan pixels for every ping cycle. Various displays show the system status and operational parameters, along with graphical displays of bathymetry and sidescan. Scientists must closely monitor the system to insure good performance, but such monitoring is well within the realm of normal, shipboard watchstanding duties.

As with many new sonar systems, the SeaBeam on KNORR still presents some challenges for both the manufacturer and the operator. At present, the system is not quite as reliable as needed for continuous use. While a serious system problem has yet to occur, the goal of uninterrupted operation for days and weeks on end has yet to be reached. The total swath width, expected to be 150 degrees to depths up to 1.5 km, has yet to be seen, though in deeper water, from 1.5 to 6.0 km, the expected swath widths of 120 degrees are regularly achieved. In addition, the system needs to be able to ping cycle ten to fifteen percent faster in order to achieve better along-track resolution. There are also numerous small problems with many of the display and monitoring functions, though these have not had a serious impact on operations.

In addition to KNORR, similar systems are installed and becoming operational on NATHANIEL B.

PALMER, ROGER REVELLE, and will be delivered on ATLANTIS in 1997.

NEW HORIZON Completes Mid -Life Refit

NEW HORIZON returned to service on May 1, 1996 after a five month mid-life refit. All major work was completed on schedule and no significant unplanned work was discovered during the refit. Resolution of the long-term stability condition caused by tank arrangements was accomplished. The ship is now capable of missions of up to 40 days with significant science loads as compared to 22 day missions with the same load previously.

Additional major items in the refit were replacement of the under-powered, retractable bow thruster with a more powerful tunnel thruster, habitability improvements, installation of an MSD, lab modifications and extensive overhaul of the ship's equipment.

The ship has been in continuous service since completion of the refit. All users to date have made favorable comments on the results of the refit.

Two New Ships Enter UNOLS Fleet

At the July UNOLS Council Meeting, R/V ROGER REVELLE operated by Scripps Institution of Oceanography and R/V URRACA operated by the Smithsonian Tropical Research Institute were designated as UNOLS vessels. Welcome to the Fleet!

1997 UNOLS Ship Scheduling

Ship scheduling for 1997 has proven to be quite a challenge. However, with the fall scheduling meeting upon us, it looks as if schedules are falling in place. Operation requests in the North Atlantic and the large ship operations in the Pacific presented most of the scheduling challenges. Both of the scheduling areas have the problem of heavy early year commitments and very little late year requirements.

In the North Atlantic, it was necessary to adjust schedules in order to adequately cover all GLOBEC and CMO cruises on appropriate vessels. This necessitated some shifting of cruises to other ships to assure the proper timing of cruises required by the experiments. The Pacific cruise schedules were driven by several requirements that had to be met, such as recovery cruises. The recommended schedules appear to fill all of the scientific requirements as known.

On a very positive note, the Naval Oceanographic Center (NAVO) is planning cruises for UNOLS ships that will total over 500 days in 1997. Class I/II ships are needed for 280 days and the remainder will be for Class III/IV ships. Work is divided between the East Coast/Gulf and West Coast. Some of the work is survey and the remainder general oceanography.

COMMITTEE NEWS

An Interim Fleet Improvement Plan by Chris Mooers, Fleet Improvement Committee Chair

The 1996 Interim Fleet Improvement Plan (IFIP) is presently under review by the Fleet Improvement Committee (FIC) and the Council. It is a brief plan focused on options and guidelines for the Fleet in

the next few years of reduced operating funds, expanding Fleet capability, and reduced demand due to diminished research funding, large scale programs ending, and changing research priorities. The 1996 IFIP builds upon the facts and concepts contained in the report of last year, "Projections for UNOLS' Future - Substantial Financial Challenges," (also referred to as the Betzer Report), and the guidelines espoused in the 1995 Fleet Improvement Plan. A central FIC concern is seeing beyond the uncertainty of the next few years in order to envisage the Fleet of 2010, because, with all the ship retirements planned in the next 15 years, new construction needs to begin soon but will probably not occur until the UNOLS Fleet inventory better matches supply-and-demand dynamics. FIC plans to meet with representatives from each of the four major regions (NE,SE,SW,&NW) over the course of the next 18 months or so to discuss mission requirements, etc. for the Fleet of 2010.

Arctic Icebreaker Coordinating Committee to be Established

The U.S. Coast Guard, NSF and UNOLS have agreed to establish a UNOLS Committee that will address research support for U.S. academic science investigators carrying out Arctic research aboard U.S. Coast Guard icebreakers. Particular concerns of this Committee are the USCG icebreakers POLAR SEA, POLAR STAR and HEALY. It is envisioned that these vessels will represent the major focus of the Committee.

The purpose of the AICC is to provide polar science projects with planning and scheduling assistance, facilitate communications between scientists, science funders and facility providers. It 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 fulfilling an ombudsman role for the arctic science community, and insuring efficient and effective utilization of U.S. icebreakers. It is also the responsibility of the AICC to promote new technology for arctic assets and to maintain cutting edge capability for these facilities.

The Charter is intended to promote the best utilization of arctic facilities on a global scale. Past methods of planning had the effect of discouraging scientific expeditions because they did not provide sufficient lead time for planning purposes, nor did they provide incentives for the scientific community to organize the needed critical mass of research projects. The AICC will 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 will encourage the advancement of cooperative international programs for the enhancement of multidisciplinary arctic science throughout the academic community.

The Committee will include seven arctic scientists with diverse disciplines serving three year terms. Representatives from the USCG, NSF, ONR, NOAA and the Arctic Research Commission will be expected to participate in the committee's meetings and activities. The Chair of this Committee will be an ex-officio member of the UNOLS Council and will keep the Council and the UNOLS membership informed of its activities.

1996 RVOC Annual Meeting

This year's RVOC Annual Meeting will be hosted by Florida Institute of Oceanography and the University of South Florida in St. Petersburg, Florida on 22-24 October. A full agenda is planned. The first day will cover old and new business, committee and liaison reports, and agency reports. There will also be reports from representatives from other countries and organizations. Special reports will be provided on REVELLE, ATLANTIS, University of Connecticut's planned vessel, new vessel plans for Skidaway, diving safety issues and Maritime Health Services. Dennis Nixon will report on liability and

insurance issues. Day two will begin with George Ireland reporting on any regulatory issues. The remainder of the day will be devoted to workshops and other presentations. Some suggestions for topics include:

- *A workshop on physical standards.*
- *Inmarsat B and SEANET. What does it have to offer us?*
- *ECDIS, equipment demonstrations if possible.*
- *Marine insurance program for research vessels*
- *The possibility of UNOLS vessels engaging in fisheries research, mapping and other non-traditional types of work.*
- *Strategies for working with other Federal, state and private agencies while still maintaining the support for traditional users of the UNOLS Fleet.*
- *Strategies for maintaining a healthy and productive UNOLS Fleet in an era of challenging budgets. How do we measure the effectiveness of the Fleet?*
- *The future of the National Weather Service and the effects on marine forecasts.*
- *Post cruise evaluations of research vessels*
- *Crew training programs*
- *Orientation/Safety video for scientists*

On the third meeting day, a round table discussion and business meeting will be held.

*Summary of May DESSC Meeting and Status of Deep Submergence Facilities
by Mike Perfit, DESSC Chair*

The current status and future potential of U.S. deep submergence science continues to be positive. Several factors have contributed to this favorable outlook. They include: 1] the completion of the new deep submergence support ship R/V ATLANTIS (expected in early 1997), 2] major overhaul of ALVIN which will be completed in Spring, 1997, and 3] excellent capabilities and greater demand for the ROV Jason, ARGO-II and the 120 kHz sonar which have a full operating schedule into 1997 and funded work into 1998. The integration of the UNOLS deep submergence facilities and expanded capabilities afforded by submersible, fiber optic-based ROV and tethered vehicles have placed U.S. deep submergence research on the threshold of a new era of scientific discovery.

Many of the details of the ATLANTIS delivery and ALVIN overhaul were recently discussed at the DESSC meeting held at Woods Hole on May 28-29. The minutes of the meeting are available on the UNOLS WWW site (<http://www.gso.uri.edu/unols/unols.html>). In order to facilitate access to the DESSC and deep submergence information, in the future the community will be notified electronically when the minutes or other important new items are posted on the UNOLS Web Site. Hard copy will be available only upon request to the UNOLS Office.

R/V ATLANTIS is well on its way toward completion and is expected to be delivered to WHOI at the end of the first quarter of 1997. The conversion to support the launching and recovery of the national deep submergence facility vehicles will already have been implemented on delivery. I had the opportunity to see ATLANTIS (and REVELLE) in the shipyard in March and was very impressed with the shipboard facilities. ATLANTI II was retired from service in early July and sold. The proceeds from the sale will be used by the Federal Agencies and WHOI to help defray the costs of the ATLANTIS conversion. Atlantis II will sail to a shipyard in the Gulf of Mexico in late July for crossdecking the stern frame and other equipment. ALVIN was off loaded at WHOI in preparation for a major overhaul that will commence in the Fall of 1996 and continue into the Spring of 1997. WHOI expects that ALVIN will be loaded on ATLANTIS after a short certification period, and will be ready for science trials in June, 1997. The time for the integration of the ROV systems into the new

ATLANTIS is still uncertain because of the busy ROV schedule projected for spring and summer of 1997, however, WHOI, DESSC and the Federal funding agencies recognize the importance of fully integrating the systems, and an effort is being made to work out the logistics so that ALVIN and the tethered systems can be operated from R/V ATLANTIS in the Summer/Fall of 1997. The ALVIN schedule for 1996 was very light with only 49 dives and 93 operating days. This resulted from a variety of factors including: budgetary constraints, declines of field proposals, the requirement to take A-II out of service in order to avoid further costs in maintaining the vessel to ABS standards, and to coordinate the cross-decking of various pieces of ALVIN related handling equipment (e.g. A-frame) from A-II to R/V ATLANTIS.

ROV Jason and tethered vehicles have three funded field programs that will be carried out in calendar 1996. Another five programs are very likely to be funded for 1997-1998 and a few additional programs remain under consideration. DESSC had hoped that the ROVs could be integrated with ALVIN as early as next summer during engineering tests, but due to heavy science usage this may not occur until later in 1997. We will continue to support the integration of the deep submergence systems at the earliest possible time. For the meantime, the ROV and tethered vehicles will remain in a "fly-away" mode for use on appropriate UNOLS vessels. ROV Jason, ARGO-II and the 120 kHz sonar systems were recently used during a KNORR cruise to the Lucky Strike hydrothermal site on the Mid-Atlantic Ridge near 37° N. Scientists on board felt that all the systems functioned very well and that the initial data are of excellent quality and resolution. In addition, Jason was very successful at sampling hot (>300°C) hydrothermal fluids, various biological specimens and basalt and sulfide samples. The cruise report is posted on the WHOI-DSOG web site (<http://dsogserv.who.edu/>).

The DESSC has worked with the operator and the community to define a priority list for ALVIN upgrades and a final list should be soon be available to the community. Top priorities include upgrades of the power system and of the datalogging and video systems for the vehicle. WHOI-DSOG is currently testing different batteries which seem highly promising and it appears likely that new batteries and battery monitors will be installed during the next overhaul. The final work to be completed as part of the ALVIN Imaging Upgrade Proposal funded two years ago will be to install a pan-and-tilt unit, and new 1- and 3-chip color cameras during the ALVIN overhaul. These new cameras will provide compatibility and expanded sparing of imaging systems for both ALVIN and Jason. New navigation software (Pelagos WinFrog) for LBL and SBL navigation has been purchased and is being implemented by WHOI-DSOG.

The DESSC is working with the operator to structure an upgrade proposal that provides for commencing and implementing as many of the high-priority upgrades as possible during the 1996-1997 overhaul period, and completing them in 1997-1998 as permitted by funding and engineering time. Additional upgrade items relating to vehicle systems (e.g. variable ballast system for ALVIN) and science sensors are being prioritized for the funding agencies so that they can consider them and plan for them appropriately. In addition, DESSC will continue to work on upgrades for Jason and in long-range planning for technology upgrades that will continue to improve the capabilities of the National Deep Submergence Facilities.

Long-range planning for deep submergence research is essential if we are to take the vehicles to distant parts of the ocean. A group of ALVIN and tethered vehicle proposals for research along the southern EPR near 17°S has now been funded and it appears fairly certain that R/V ATLANTIS will be in the southeast Pacific during the late fall - winter of 1997-98. ATLANTIS must return to San Diego for post shakedown availability and final contract trials between in the spring of 1998. After that time period, work in the traditional operating areas of the Juan de Fuca Ridge, California Borderlands and the northern EPR is most likely. Operational plans beyond late 1998 are uncertain and will be dictated by proposal pressure. However, both WHOI-DSOG and the Federal Funding Agencies are

supportive of expeditions to the Hawaiian Islands and the western Pacific in the near future.

The DESSC will work with WHOI-DSOG, the Federal funding agencies, and the community to try to coordinate work in other remote areas so that they can be effectively planned for. This includes alerting the community to logistical opportunities for future work, and trying to organize planning meetings/workshops to foster coordinated proposal efforts outside the traditional operating areas of the Juan de Fuca Ridge, northern EPR and Mid Atlantic Ridge, that could take place over the next five to ten years. Patty Fryer (new DESSC member) participated in a workshop in Japan in late July that explored the possibility of joint U.S.-Japan deep submergence research in the Izu-Bonin-Marianas arcs. Patty has agreed to act as the contact person for coordinating and promoting research plans for the western Pacific. Marv Lilley (new DESSC member) has agreed to act as the contact person for promoting deep submergence research in the southeastern Pacific. The DESSC has decided to reestablish Coordinating Subgroups to help with global expedition efforts. Assignments to lead these groups were: Southern EPR, Marv Lilley; Indian Ocean, Cindy Van Dover; Mediterranean, Dan Fornari; Polar regions, Dan Orange.

Proposal pressure to use the National Facility Deep Submergence Vehicles remains a top priority in order to keep the schedule for work as robust as possible, within the constraints of available funding. I ask all of you interested in deep submergence research to be aggressive in terms of planning your future field work and making the most of the new integrated deep submergence facilities available to the community. DESSC and WHOI-DSOG are committed to assisting proponents as much as possible in regards to providing technical and logistical information that can be used for planning purposes. Alternate sources of funding for deep submergence work (i.e. outside the primary U.S. Federal funding agencies) are also being sought. WHOI has worked closely with the Federal funding agencies and the DESSC to bring to fruition some external funding for applied deep submergence work in 1997 for Jason and the tethered vehicles. A meeting between WHOI operators, Federal agency representatives (including program managers) and some DESSC members is planned for September prior to the UNOLS annual meeting to discuss future management issues, new deep submergence facilities and scheduling for 1997-1998. I encourage all of you who have been waiting for the expanded capabilities of the new support ship and vehicle facilities to come on-line, to start submitting research proposals for field programs in the coming years and into the next century at the earliest possible time.

Oceans '96 MTS/IEEE

UNOLS should be well represented at the annual Oceans '96 conference this year. The conference will be held in Fort Lauderdale, Florida on 23-26 September. Chris Mooers (UNOLS Fleet Improvement Committee Chair) is the Technical Program Chairman and promises an interesting set of papers. Jack Bash (UNOLS Executive Secretary) will be chairing the Oceanographic Ship's session which is planning five papers on new developments in ship design and function.

UNOLS 1996 Meetings Calendar

MEETING	LOCATION	DATES
UNOLS Council	Arlington, VA	19 September 1996
UNOLS Annual	Arlington, VA	20 September 1996
RVOC	St Petersburg, FL	22-24 October 1996
RVTEC	Fort Pierce, FL	11-13 November 1996
FIC	TBD	TBD
DESSC	San Francisco, CA	14 December 1996