



# UNOLS NEWS

Volume 22, No. 1

Summer 2005

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Michael Prince

## A Message from the UNOLS Chair....

It has been a busy first half of 2005 for the UNOLS Program. Each of the major UNOLS Committees has been grappling with issues of importance to the oceanographic community. Perhaps most pressing has been the changes in funding for support of the academic fleet. In February, UNOLS received a letter from H. Lawrence Clark, Acting Director of the Division of Ocean Sciences at NSF, articulating the budget reductions at NSF in FY2005 and 2006 and the impact this was having on the allocations for UNOLS fleet operational costs. He asked UNOLS to provide "... advice on how best to implement the needed reductions beginning with the 2006 operating year." At the UNOLS Council meeting on 29/30 March, an ad hoc committee consisting of Marcia McNutt (Chair), Eileen Hofmann, and Denis Wiesenburg was appointed to formulate a response. During April to June, the ad hoc committee worked with the UNOLS Scheduling Committee, the ship operators, Program Managers from the Agencies using UNOLS ships, and the UNOLS Office to define the funding for ship operations and to explore ways to lessen the shortfall's impact. The UNOLS Council comprehensively reviewed the recommendations developed by the Committee during the summer phone conference meeting on 13/14 July 2005 and approved them for submission to Larry Clark. Among the recommendations was the acknowledgment that some Intermediate/Ocean Class ships will need to be laid up for a year and others will undergo partial lay-ups. Global Class ships will be working with somewhat reduced schedules, which will be offset by having extended maintenance periods, thus avoiding partial lay-ups. While the final results of this scheduling process is not yet completed, it is clear that the oceanographic community will see significantly less access to the sea in 2006. It is also possible that additional declines in the budgets beyond 2006 may force the retirement of some vessels before the new classes of replacements are ready for service. The full set of recommendations included in the response to Larry Clark is contained on page 5 of this issue.

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In spite of the current operational funding woes, there are positive developments in fleet renewal. The Federal Oceanographic Facilities Committee (FOFC) plan for academic fleet replacement is being realized. The performance specifications for a new class of regional vessels are being finalized and NSF is moving forward in the development of a Request for Proposals (RFP) to start the competition for a design and build team. This RFP should be released in the fall and if all goes well the first of three ships will be in service by 2009. In addition, the replacement for R/V *Cape Henlopen* operated by University of Delaware is scheduled to begin service as the R/V *Hugh R Sharp* in spring of 2006.

*Continued on page 2...*



*Message from UNOLS Chair  
(continued).*

There is also progress on the replacements of the aging Intermediate Class vessels. The Alaska Region Research Vessel (ARRV) has moved to the top of the funding list in NSF's Major Research Equipment (MRE) account for a start in 2007. With the design completed, we await the congressional funding so that construction can begin.

Last fall at the UNOLS Annual Meeting RADM Cohen of ONR presented a plan for the construction of new Ocean Class vessels. Subsequently, the UNOLS/FIC Ocean Class Steering Committee was charged to carefully evaluate three potential Ocean Class hull types, the monohull, the SWATH, and the X-Craft, in collaboration with the Naval architectural firm John J. McMullen Associates, Inc. (JJMA), and to make a recommendation as to the hull type that should be the basis for the construction of new Ocean Class vessels to replace our aging intermediate vessels. During the winter, the UNOLS Fleet Improvement Committee (FIC) and the Ocean Class Advisory Committee (OCAC) worked with JJMA on an accelerated evaluation of the different hull types. Based on a series of meetings and community inputs, and on the information developed, UNOLS reached the conclusion that the next Ocean Class ships should be monohulls. This recommendation was presented to RADM Cohen in March 2005 and was accepted. The current federal defense budget has language, if approved, that will start the process of building as many as four new Ocean Class vessels. A process similar to that being used for

construction of new Regional Class vessels will be started for the Ocean Class as early as this fall.

On the Global Class ship front, the R/V *Ewing*, the global seismic research vessel operated by Lamont-Doherty Earth Observatory (LDEO), completed its last cruise in February. Its replacement, the R/V *Marcus Langseth*, is in a refitting period to make it suitable for 3D seismic and general oceanographic research. It should enter service in mid- to late 2006. LDEO plans to request that this ship be designated a National Oceanographic Seismic Facility. In anticipation of this request, UNOLS has appointed an ad hoc committee, chaired by Marcia McNutt to develop the terms of reference for a new UNOLS standing committee (the *Marcus Langseth* Science Oversight Committee) to oversee/advise the operation of the vessel as is done by DESSC for the National Deep Submergence Facility and to recommend a slate of candidates to become the first members of the new committee. In addition, a FIC subcommittee chaired by Bruce Howe is revising the Global Class Science Mission Requirements, last prepared in 1989. An up-to-date Global SMR is needed as the R/Vs *Thompson*, *Revelle*, and *Atlantis* approach a time for mid-life refits.

The fleet is changing in other ways as well. Bermuda Biological Station for Research (BBSR), Inc. plans to acquire the R/V *Seward Johnson II* from Harbor Branch Oceanographic Institution (HBOI) and retire the R/V *Weatherbird II* from the UNOLS Fleet. The UNOLS Council approved the application by BBSR to operate the R/V *Seward Johnson II* as a UNOLS Vessel at the March Council meeting. The R/V *Gyre* will have its

final cruise in August 2005 and will then be decommissioned. Both changes will reduce the UNOLS Fleet from 27 to 25 ships.

Additional details about fleet planning are provided in the FIC report in this issue.

The National Deep Submergence Facility (NDSF) is enjoying another busy year with both DSRV *Alvin* and the ROV *Jason II* heavily booked, and the design of the replacement Human Occupied Vehicle (HOV) well underway. The Deep Submergence Science Committee (DESSC), which provides oversight into the NDSF activities, has one important new issue on the table. With the construction of a replacement HOV that will be owned by NSF (not the Navy) as well as the use of other HOVs by the community, there is a need to develop UNOLS Safety Standards for the use of Human Occupied Vehicles modeled after those that historically have been in place. A new DESSC subcommittee will be formed to address this issue once a charge to the committee is received from NSF.

The Scientific Committee for Oceanographic Aircraft Research (SCOAR), which provides oversight for the National Oceanographic Aircraft Facility at the Center for Interdisciplinary Remotely-Piloted Aircraft Studies (CIRPAS) in Monterey, CA, also has safety at the top of its agenda. At issue is the extent to which a set of safety standards for UNOLS-designated National aircraft facilities and platforms, similar to what is done for ships, is needed given the existence of other standards for federal aircraft used by GSA and the members of the Interagency Committee for Aviation Policy



(ICAP) that are now under review by ICAP.

At the March meeting of the Arctic Icebreaker Coordinating Committee (AICC) at NSF, there was discussion of the report being prepared by Booz-Allen under contract to the USCG concerning the mid-life refitting of the Polar Class icebreakers (*Polar Star* and *Polar Sea*). AICC has provided significant input into that report, which will help to determine the future of this class of icebreakers in the US fleet. Funds are being sought to make the *Polar Sea* operational so that she

may be able to support Deep Freeze operations again. The USCGC *Healy* continues to be the bright light in providing support for the Arctic research community. It is now in the process of working its way along a trans-Arctic line in collaboration with the Swedish icebreaker *Oden* and the Russian icebreaker *Fedorov*.

This issue of the newsletter has more information about the topics described above and additional items that are being discussed by the UNOLS committees. In addition, there is an article that describes

recent personnel changes of those who contribute their time and effort into seeing the work of UNOLS completed to the benefit of the entire community. A new slate of candidates to fill rotating Council slots has been prepared for election at the Annual Meeting in October. The UNOLS leadership greatly appreciates the efforts of all those who serve on the various committees.

Peter Wiebe  
UNOLS Chair

## UNOLS ANNUAL MEETING ANNOUNCEMENT

The University-National Oceanographic Laboratory System  
will hold their Annual Meeting on

**Friday, October 14, 2005**

at

**The National Science Foundation**  
**4201 Wilson Boulevard, Arlington, VA 22230**  
8:00 a.m. Coffee & Pastries, 8:30 a.m. Meeting

UNOLS invites the oceanographic community to their 2005 Annual Meeting on Friday, October 14<sup>th</sup> at the National Science Foundation, Room 1235, 4201 Wilson Boulevard, Arlington, VA. The meeting will highlight the past year's activities and achievements, as well as plans for the upcoming year. UNOLS is facing critical budgetary issues that would directly impact future fleet operations. Information on how UNOLS has evaluated these issues and made recommendations to the Federal Agencies on ways to address the budget shortfalls will be reported. Academic Fleet renewal implementation continues to be a major UNOLS focus and there have been extensive planning efforts for Regional Class and Ocean Class vessels over the past year. Updates on these activities will be provided. UNOLS top priorities for the upcoming year will be presented for discussion and elections will be held to fill positions opening on the UNOLS Council. Stay tuned for announcements regarding this year's keynote speaker.

We encourage members of the oceanographic community to attend the Annual Meeting. The meeting is open to all investigators, users, operators and sponsors of university oceanographic facilities. It is a public forum for discussing the utilization and scheduling of research vessels and other facilities as well as their support and future planning. The meeting agenda and additional meeting information will be posted on the UNOLS website in the coming month. The meeting will begin at 8:30 am on October 14<sup>th</sup>, with coffee and pastries available at 8:00 am.

***Please RSVP the UNOLS Office at <[office@unols.org](mailto:office@unols.org)> if you would like to attend.***



## 2005 UNOLS Council Slate - Elections to be held at Annual Meeting -

Elections will be held at the UNOLS Annual Meeting on 14 October to fill expiring Council terms. UNOLS Nominating Committee members Bruce Corliss (Chair), Eileen Hofmann, and Denis Wiesenburg have assembled a slate of candidates for the positions to be filled. The election will be held in accordance with the UNOLS Charter as readopted October 2004. This year's slate includes the following candidates:

**OPERATOR REPRESENTATIVE - from among designated UNOLS Member Operator institutions:**

- Dr. John Diebold - Lamont-Doherty Earth Observatory
- Dr. Peter Ortner - University of Miami/Atlantic Oceanographic and Meteorological Laboratories
- Dr. Brian Taylor – University of Hawaii

**AT-LARGE REPRESENTATIVE - individual affiliated with any UNOLS Member Institution:**

- Dr. John Farrell – University of Rhode Island
- Dr. Robert Pinkel – Scripps Institution of Oceanography
- Dr. Joseph Torres – University of South Florida

Terms for each position are for three years. Additional information about each of the candidates is available on the UNOLS website at <<http://www.unols.org/meetings/2005/200510anu/200510anuag.html>>.

## New UNOLS Standing Committee to oversee National Oceanographic Seismic Facility is Proposed

At the UNOLS Annual Meeting, the membership will be asked to vote on a new UNOLS standing committee to oversee science and operations for the R/V *Marcus Langseth* as a National Oceanographic Seismic Facility. The R/V *Marcus Langseth*, is scheduled to begin service in 2006 and will provide the U.S. academic community with the resources to acquire state-of-the-art, two-dimensional (2-D) and three-dimensional (3-D) marine seismic-reflection data. No other ship in the UNOLS Fleet has the seismic acquisition capabilities of this vessel, and consequently the *Langseth* represents a unique national resource.

An ad hoc committee including Marcia McNutt (Chair), Jamie Austin, John Collins, Cindy Lee Van Dover, and Graham Kent has drafted terms of reference for the proposed standing committee. The recommended name for the committee is the *Marcus Langseth* Science Oversight Committee (MLSOC). The proposed charge for the MLSOC includes:

- Overseeing the scientific operation of the *Marcus Langseth* as a National Oceanographic Facility.
- Maintaining and enhancing *Langseth's* capabilities for general geophysical and oceanographic research
- Providing advice on the annual and long-term scheduling of the *Langseth*.
- Identifying hardware and procedure upgrades.
- Encouraging geophysical research worldwide and encouraging the advancement of cooperative international programs.

Proposed membership on the standing committee includes nine voting members with representation and expertise from general oceanography, 3-D and 2-D seismic, industry, OBS, and PASSCAL. A slate of nominees for the committee's initial membership will be presented at the Annual Meeting. Two meetings a year are recommended, with one of the meetings providing a forum for community feedback and input. The standing committee, if approved, would begin service when *Marcus Langseth* comes online.



## UNOLS Provides Recommendations on how to Address the Impact of Declining Budget Levels on Fleet Operations

As reported in the *Message from the UNOLS Chair* on page 1 of this issue, Larry Clark, Acting Director of the NSF Division of Ocean Sciences, sent a letter in February to UNOLS requesting advice on how to manage the significant budget reductions that must be realized in overall UNOLS fleet costs over the next several years. An ad hoc committee of Marcia McNutt (Chair), Eileen Hofmann, and Denis Wiesenburg was formed to address the budget concerns and formulate a response. They were tasked to provide a plan to the UNOLS Council that would provide a short-term recommendation to address the 2006 budget shortfall, as well as long-term scenarios (3 years) for ship lay-ups and retirements.

The ad hoc committee's draft recommendations were provided to the Council in July. In turn, the Council adopted a resolution on 14 July to provide the recommendations to Larry Clark. The UNOLS recommendations were provided to Larry Clark prior to the Ship Scheduling meeting held on 20 July. The outcome of the scheduling meeting and post meeting discussions are further defining specific lay-up requirements. For details about the recommendations of the Ship Scheduling meeting, please refer to the Ship Scheduling Committee News Article on page 9.

The declining budget levels for support of UNOLS fleet operations is of critical importance and its ramifications will reach the sea-going scientific community, ship crews, and shore-side support groups. The UNOLS recommendations that were provided to Larry Clark are provided in full below:

### Short term recommendations (2006 operating year):

- **Issue: How many ships should be taken out of service in 2006 to meet the budget projections?**

In the absence of additional funded work or an increase in the ship operations budget, there are not enough days next

year to fully utilize all of the ships in the UNOLS Fleet. **Ship Schedulers and Agency Program Managers should develop scheduling options that lay-up the *Alpha Helix*, one Intermediate Class vessel on the West Coast, one Intermediate Class vessel on the East Coast and one Global or Ocean Class vessel. The *Weatherbird II* (as it is being replaced by the *Seward Johnson II*) should be retired from service and current plans to retire the *Gyre* should be carried out. NSF should make a determination regarding the optimal start date for the *Marcus Langseth* operations.** Should the \$5M for UNOLS operations that is currently in the Navy budget be appropriated, it might obviate the need to lay up the one Global or Ocean Class vessel. A preliminary evaluation shows that there is little funded work for a Regional Class vessel in Alaska, about two and a half ships' worth of regional and intermediate work on the West Coast, and about four ships' worth of similar work on the East Coast. There is around five ships' worth of work for the Global and Ocean Class vessels (not including *Marcus Langseth*). The local vessels all have light schedules, but laying these up does not save significant amounts of money and would leave many projects stranded.

- **Issue: How should UNOLS deal with uncertain budgets for NOAA?**

Schedulers should be careful to create schedules that do not leave the vessel stranded in remote locations or rendered unworkable by the lack of approval for funding a particular project. All NOAA fieldwork is dependent on Congress appropriating the budget requested by NOAA for each project. In some cases, the requested budget is for an increase over the base budget for the program and is more vulnerable than the other scheduled projects. Also, care should be taken to ensure that the total cost of a scheduled NOAA project is less than or equal to the proposed budget. Given the NOAA budget

uncertainties, scheduling will need to be concluded without NOAA programs, while trying to retain some flexibility for inserting those programs at a later date when the agency's needs are certain. While this approach is not optimal for UNOLS or NOAA, it is the only fiscally responsible course of action unless the agency is willing to guarantee some level of UNOLS support.

- **Issue: Which ships should be laid-up?**

The choice of actual ships to be laid up in 2006 should be made by Agency Program Managers based on criteria that maximize the amount of field work accomplished within the budget, meet any ship specific science requirements, and fairly distribute the pain of lay-ups among operating institutions. The ship operators and schedulers working with the UNOLS Office can provide scheduling options to choose from with associated financial models and analysis of scientific impacts, taking into consideration institutional contributions to vessel support and use of the ships by organizations outside traditional groups such as NSF, ONR and NOAA. The UNOLS Council and this committee can also provide further recommendations about the relative merits or considerations for the specific options once they are developed.

- **Issue: What type of lay-up should be recommended?**

The minimum number of ships should be put into a lay-up for an entire year (as opposed to partial lay-ups for a larger number of vessels) to the extent that this can be done without creating excessive deadhead transits or overly compromising scientific objectives. Any required inspections, surveys or shipyard periods should be scheduled in the most cost-effective way possible. Crew members and technicians should be employed on other UNOLS ships to the maximum extent possible. Operators should be given the opportunity to submit



plans that provide for the most cost-effective strategy for laying-up a vessel while maintaining the regulatory certifications, etc. so that they can resume operations efficiently when scheduled. If the use of shorter lay-ups or rotating maintenance periods is considered, it should be done in such a way that the daily rate is kept at an optimal level for the remaining operating period. Lay-ups should be considered temporary cost-saving measures. Efforts should be made to retain experienced crew or technicians and maintain the research vessel and its equipment.

➤ **Issue: Can the cost of operating UNOLS vessels be reduced?**

Other methods for fleet-wide cost savings should also be explored thoroughly, but it is likely that many of these trends in increasing costs are outside the control of UNOLS operators. Recent increases in the cost of fuel from commercial and Navy sources along with the costs and level of effort necessary to implement new regulations for vessel security, oil spill response, and International Safety Management (ISM) plans have caused increases in total operating costs and daily rates. Increased training and experience requirements for crew members and a competitive market for experienced crew, along with increasing costs of maintaining aging vessels to higher standards of readiness, have also contributed to these higher operating rates. Operators and the funding agencies should continue to explore methods such as group purchases, sharing crewmembers and the use of Navy fuel sources to help control costs. **NSF and UNOLS should ensure that PI's and schedulers continue to be encouraged to find ways to accomplish their objectives on the most cost-effective vessel(s). UNOLS and the Agencies should also consider a thorough examination of the costs associated with research vessel operations and maintenance to ensure that individual and fleet-wide operations are as cost-effective as possible and then work to ensure that budgets are in line with these legitimate costs.**

**Longer-term recommendations assuming level funding for next four years:**

➤ **Issue: What should be the role of early retirements for meeting near-term budget reductions?**

**UNOLS and the scientific community have consistently advocated for fleet renewal and the need to ensure that enough ships are available to meet what we believe will be an increasing demand for ship time. In the near-term it appears that budgets are not sufficient to fully operate the existing fleet and move forward with fleet renewal. NSF and ONR in conjunction with FOFC fleet renewal planning should consider retiring research vessels early based on a more thorough evaluation of past utilization trends versus projected budgets for the next few years.** Options for meeting near-term budget shortfalls could include rotating lay-ups or some early retirements. Retirement dates could be accelerated by one or two years to devote the funds saved directly to fleet renewal or short-term operational deficits. These decisions should be made only after careful examination of the impact of these retirements on the ability to meet projected near-term science demands. Once construction is complete, it will be necessary for ship operations budgets to increasingly support the operation of the future fleet.

➤ **Issue: How can UNOLS plan long term for fleet size and composition?**

Given the uncertainty from year to year in what portions of the budget are devoted to funding for ship time, research and education, and fleet renewal, long-term planning is difficult to achieve. Ideally, our most creative investigators should believe that their chances for a successful career are equal whether or not their research involves fieldwork. **UNOLS would welcome the opportunity to work with NSF to help ensure that this is both the reality and the perception.** In addition, except under unusual circumstances (such as a very remote field area or a field program using very specialized facilities), PIs should not have to wait more than a

year to execute funded field programs. At the same time that NSF is trying to balance ship operations funding with the research and education account, the proportion of the budget devoted to fleet renewal must also be considered so as to meet the future demands as vessels are retired. **UNOLS would like to continue to assist with long-term planning for fleet renewal and operations and invites NSF to provide information at a future UNOLS meeting regarding the balance between ship operation support levels and the funding for facility renewal (Alvin, Langseth, Regional Class ships, etc.). As budgets change due to changing fiscal realities, updates to fleet renewal plans should be evaluated. We recommend that the ratios between funds being set aside for current operations and renewal funding be examined.** In planning for new ships, an emphasis needs to be placed on the future day rates of the ships in order to avoid the natural tendency to want to upgrade the capabilities of each new ship regardless of the overall balance in the fleet.

➤ **Issue: What steps can UNOLS take to ensure implementation of long-term fleet plans?**

Recommendations in the U.S. Commission on Ocean Policy's report call for an increase in funding for the ocean sciences and for maintaining a capable research vessel fleet. Discussions currently ongoing at CORE and JOI are focusing on ways to advocate for Federal support to implement these recommendations and on the necessity for fleet renewal to support other major ocean research and education initiatives, such as observatories. **UNOLS should continue to work closely with these organizations and the Federal Oceanographic Facilities Committee (FOFC) to ensure coordinated long-term fleet planning and funding and should work proactively to ensure that the expertise of the UNOLS members and their sources of information are available to policy makers.**

Supporting documentation can be found on the UNOLS website at: [http://www.unols.org/projects/fleet\\_bud\\_get\\_impacts.asp](http://www.unols.org/projects/fleet_bud_get_impacts.asp).



## UNOLS Committee News

### Fleet Improvement Committee ~ Fleet Renewal and Implementation Plans Continue

By Dave Hebert, FIC Chair

Since the last newsletter, the Fleet Improvement Committee (FIC) continued to work on several different aspects of fleet renewal, including matters related to both the Regional and Ocean Class vessels. In March, the FIC met at the Dakota Creek Industries in Anacortes, Washington. We had an opportunity to tour the *Cape Henlopen* Replacement Vessel, now known as the R/V *Hugh R. Sharp*, during its construction.

**Regional Class Vessels:** Earlier this year, Naval Sea Systems Command (NAVSEA) drafted performance specifications for the Regional Class vessels. These performance specifications, based on the UNOLS Science Mission Requirements (SMRs), form the basis for the design of these new vessels. The FIC and Regional Class Advisory Committee (RCAC) had an opportunity to comment on these specifications. The draft performance specifications were also posted for community feedback on the UNOLS web page [http://www.unols.org/committees/fic/regional/rc\\_perf\\_spec\\_review.html](http://www.unols.org/committees/fic/regional/rc_perf_spec_review.html). In response, over 500 comments were received and the UNOLS Office compiled them into one document to provide to NSF. These comments were sent to NAVSEA and a revised performance specification document was produced.

The National Science Foundation (NSF) in partnership with NAVSEA intends to issue a Request for Proposals for the regional ship design/build teams soon and, hopefully, with a contract issued to two teams later this year. Following contract award, each team will have a one-year period to produce a design that best meets the performance specifications within the budget and other limitations that NSF stipulates.

Since these two teams are both competing for the construction of the Regional Class vessels, their design during this period will be confidential. This places limits on providing community input to the designs. Thus, NSF and NAVSEA established two ways for UNOLS to have representation during the ship design process and asked for UNOLS assistance in identifying individuals to serve as community advisors. The Government plans to form two separate advisory teams:

- 1) A team of two UNOLS representatives will be appointed to serve as technical advisors to the Government Technical Evaluation Review Panel (TERP) during the source selection periods.
- 2) A team of six UNOLS representatives will be formed to provide technical advice during the ship design phase.

UNOLS appointed a subcommittee of Dave Hebert, FIC Chair; Wilf Gardner, RCAC Chair; Tim Askew, Research Vessel Operators' Committee Chair; and Bill Martin, Research Vessel Technical Enhancement Committee Chair to solicit nominations and provide a recommendation for team memberships. These representatives will be very important as they represent the only non-governmental input during the Phase I selection and design stage of the Regional Class acquisition process. In April, the subcommittee announced a call for community volunteers. In response to this call, 23 individuals representing 13 different institutions responded. The subcommittee reviewed all nominations and made recommendations based on the following premises: 1) The source select team should include one sea-going scientist and one individual from ship

operations, and 2) The six-person technical advisory group should include representation from the four major science disciplines, marine superintendents, ship captains, and marine technical support groups. The UNOLS recommendations for team memberships were provided to NSF in late May.

The two advisors to the Government TERP will provide advice on deciding the two initial design teams. Once each team has developed their ship design, the advisors would meet again to advise on the selection of the final winning design. The six-person UNOLS advisory team will work to answer questions posed by the design teams and, if necessary, seek advice from the oceanographic community as long as it doesn't violate the confidentiality of the design. They are not allowed to reference the source selection team when asking a general/generic question, nor show or discuss the proposal or data to anyone outside of the source selection team.

A timeframe for selecting operators for the Regional Class ships has not been announced by NSF, but might take place soon after the design team solicitation is underway. This would allow the operator to participate early in the design/construction effort.

Additional background material about the Regional Class SMR, design and acquisition process is available at: [http://www.unols.org/committees/fic/regional/regional\\_class.html](http://www.unols.org/committees/fic/regional/regional_class.html).

**Ocean Class Vessels:** As reported in the *Message from the UNOLS Chair* (page 2 of this issue), in October, RADM Cohen of ONR asked UNOLS to help select the hull form for the Ocean Class vessels given the SMRs generated by the community and additional Navy-



based SMRs. Over a period of four months, several meetings evaluating the designs and capabilities of a monohull, SWATH and catamaran hull forms were conducted. As well, the community was asked for their feedback on these concept designs. Based on a ranking system of how well each hull form met the SMRs and the relative importance of each SMR, it was recommended that a monohull design best met the needs of the community. Attractive features of the monohull included:

- Lower cost for construction and operation.
- Access along the rail. This is important for operations such as coring, etc.
- Access to the water – reasonable freeboard
- Sea keeping
- Survivability
- Vessel draft

By-and-large, the community believes the monohull to be the most economical solution over the lifetime of the vessel. It is considered by many to be the most reliable and flexible platform for supporting evolving and innovative research programs. RADM

Cohen has accepted the UNOLS recommendation.

The FOFC Fleet Renewal Plan calls for the construction of four Ocean Class vessels. The actual budget details for the construction of these vessels are presently unknown. ONR is considering a “design-to-build” process similar to what NSF is doing for the Regional Class. Their plan is to select the ship operator as soon as the funding becomes reality. They would like the operator to be included in the design effort early in the process.

Fleet Renewal Plans: The Federal Oceanographic Facilities Committee (FOFC) has been meeting on a regular basis since last fall as they move forward in producing a renewal plan for all of the federal research fleet, including the academic fleet. Agencies represented in the plan include the Navy, USGS, EPA, USCG, NOAA, NASA, NSF, and MMS. As in the last FOFC report, the plan only considers vessels greater than 40 meters. Since the plan now includes non-UNOLS oceanographic ships, the total number of ships considered is over 40. These include general-purpose ships, survey vessels, and USCG icebreakers. FIC

has been interacting closely with FOFC as they proceed. The portion of the FOFC plan that addresses academic fleet renewal will not be much different from the past FOFC plan with the exception of the removal of the UNOLS recommended additions. FOFC must work under the assumption that the federal budget to support oceanographic research will not be increasing for the foreseeable future. This assumption puts major constraints on the structure of the academic fleet as operation costs for the fleet continue to increase. The FOFC working group has hired a technical writer and has developed an initial draft. The report release is planned for 30 September 2005.

FIC is working on updating the 1995 UNOLS Fleet Improvement Plan (FIP). We are working closely with FOFC such that the FIP will have the FOFC plan as its basis but will address the additional resources we envision as needed to conduct the research proposed by the community. In addition to addressing ships in the FIP, we are proposing to include aircraft and deep submergence vehicles in the plan. We hope to have a draft of the FIP available for comment this fall.

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## Research Vessel Technical Enhancement Committee (RVTEC) News

*By Bill Martin, RVTEC Chair*

Oregon State University (OSU) will host the 2005 RVTEC Annual Meeting on November 8-10 at their campus in Corvallis, OR. Tours are also planned at the Hatfield Marine Science Center and NOAA facilities in Newport, OR. Tentative agenda items include technical discussions on ADCP systems, shipboard data acquisition systems, marine mammal permitting issues and seismic operations. The meeting agenda, as well as an online registration form, will be posted on the UNOLS website when available. During the afternoon of the third day, November 10th, the managers of the various Shipboard Support Groups will meet to discuss

issues affecting all of the groups. Topics for discussion will include: technician sharing and retention, coordinated acquisition and/or maintenance of standard scientific instrument systems, and options for coordinating acquisition of some of the more standard tools (e.g., CTD sensors, slip rings).

Other activities in 2005 have included the appointment of Steve Hartz from the University of Alaska as the RVTEC representative to the UNOLS Scientific Committee for Oceanographic Aircraft Research. We continue to work through the "Defined Level of Service." A standard web-based structure for presenting institutional information is

being created. It is hoped that a standard structure, used by all institutions, will make it easier for science users to find proposal writing and cruise planning information.

Planning for the INMARTECH 2006 symposium is underway. Woods Hole Oceanographic Institution will host the symposium in the fall of 2006. Agenda and events will be discussed during the 2005 RVTEC Meeting. The RVTEC membership will continue to discuss issues that will allow the science user to plan, prepare and complete scientific missions aboard our vessels.





## Ship Scheduling Committee News

By Elizabeth Brenner, Ship Scheduling Committee Co-Chair

The Ship Scheduling Committee met on 20 July 2005 at the National Science Foundation in Arlington, Virginia. The meeting began with reports from the major ship funding agencies. Larry Clark, Acting director of Ocean Sciences, provided an overview of the Geo-Sciences and Ocean Sciences budgets and the factors that have lead to the reduced budget for 2006 ship operations. He indicated that the target budget for Linda Goad, Program Director, Oceanographic Centers and Facilities, was \$37 million. This number includes lay up costs of about \$.5M per intermediate-sized vessel. For ONR, John Freitag, Research Facilities Program Officer, stated that his budget for operations was more or less unchanged from last year at around \$10M. \$5M of plus-up money has been included in the House Defense Appropriations bill for “Navy use of UNOLS ships” in 2006. It remains to pass the Senate or conference and be signed into law. ONR cannot promote or comment on this issue until appropriated at which time they would spend the money according to the intent of Congress. Beth White from NOAA indicated that the NOAA charter budget for UNOLS would be somewhere between \$6.5M and \$7.1M depending on whether they use the House or Senate mark. There would also be program dollars for ship time from the Ocean Explorations, Deep Ocean Assessment and Reporting of Tsunamis (DART) program and others for a total somewhere around \$10M. In addition, Mike Prince gave a summary of the report from the UNOLS Council to Larry Clark, which was a review of the current funding problems affecting the scheduling and operation of the UNOLS Academic Fleet in 2006.

Some time before the meeting ship schedulers had been informed of NSF’s \$37M budget. NSF had an internal review to prioritize cruises that would be considered in the 2006 scheduling process. This short list included deferred projects from previous years and very few programs that had been approved for funding this past winter. Schedules were presented at the meeting with these select funded programs.

Days before the scheduling meeting ONR advised large ship schedulers that NSF and ONR had come to an agreement to use rotating extended maintenance periods at the dock to absorb the shortfalls in the 2006 schedules for the Navy AGOR ships (*Atlantis*, *Kilo Moana*, *Knorr*, *Melville*, *Roger Revelle*, and *Thomas Thompson*). Each large ship operator was tasked to prepare a schedule with approximately 200-225 days. This number was derived by taking the number of days for approximately a 12-14 month lay-up period for an AGOR divided by the number of AGORs (six ships). The approximate number, 75 port days, was subtracted from the normal operating schedule of 275-300, with a net result of 200-225 operating days for each AGOR.

At the meeting a few of the large ship schedules were presented with more than the recommended 200-225 day schedules. This was due to the fact that concentrations of cruises in different areas of the world were condensed rather than distributed to other ships in order to save costs in wasteful transits back and forth to a homeport. The downside was that some ships were left with less than desirable schedules. During the meeting, schedules with a high number of operating days and/ or double bookings were scrutinized. The cruises were reviewed to see if

they could be distributed to other ships with lighter schedules. Arguments were made for which ship would be best suited to carry out science within the given constraints. Approximate numbers were calculated and presented to the program managers present to have them compare the value of science on the requested higher priced vessel vs. use of a smaller vessel and/or a vessel less capable for the type of work proposed. The end result was more fairly distributed schedules among the AGORS but with large transits to accomplish the distribution of work.

At the time of this writing some cruises remain double booked. The Global Class AGORs including *Atlantis*, *Knorr*, *Melville*, *Roger Revelle*, and *Thomas Thompson* are showing schedules ranging from 271-281 operating days, and *Kilo Moana* with 220 operating days. The current plan is for *Marcus Langseth* to begin the year later than planned with a shakedown and calibration cruise beginning mid August followed by science operations beginning in October of 2006.

East Coast intermediate ship schedules were reviewed with the possibility of condensing schedules and laying up one ship. The problem that became apparent once the scientific constraints were reviewed was that combining work puts cruises in undesirable time periods. It was decided to review the cost of running partial lay ups for at least two East Coast intermediates and one to two regionals. *Seward Johnson* was able add a DART mooring cruise for work in the Gulf of Mexico and Caribbean for 27 days.

On the second day of the meeting a follow-up session was held to review any unfinished business from



the day before which included discussing lay ups for the East and West Coast intermediates. At the conclusion of the meeting it was decided that no ship be fully layed-up, but in turn, institutions were required to keep daily rates down. NSF would supplement their own ships with up to \$.5M for lay up costs, with any money left over to be distributed to other intermediates with lower than normal schedules. Linda Goad calculated preliminary numbers using NSF target day rates; the result was under the NSF budget amount. However, since the meeting, schedulers have had time

to fine-tune schedules by revisiting actual number of science, transit and port days needed and the total number of days for the fleet is creeping up. If this continues for NSF-funded days coupled with the difficult task of keeping rates at the target amount due to ever increasing fuel prices, it is expected that additional NSF-funded cruises will have to be deferred. As of this writing the lay-up of a West Coast intermediate was again revisited. The process is not over, NSF program managers have not made final decisions on double booked cruises, and ship lay-ups.

The forecast for future years is not good, as news was delivered early in the meeting by Larry Clark indicating that 2007 and beyond looked no better than 2006 and stated that some in NSF management felt that there are more ships in the UNOLS Fleet than are supportable within the budgets projected. In addition to the real possibility of lay-ups for the near term, the prospect of retirement of some ships was still on the table.

## Research Vessel Operators' Committee (RVOC) News

*By Tim Askew, RVOC Chair*

This time of year traditionally represents a busy time for the RVOC membership as they carry out summer cruises. A variety of other RVOC activities are also underway. The Ocean Class vessels now have their approved Vessel Security Plans (VSP) and Facility Security Plans (FSP), where required, in place. This was a major accomplishment due to the short notice that the ships couldn't travel foreign until the VSP was approved.

The Safety Committee, chaired by Tom Althouse (SIO), has lost two members due to the recent retirements of Fred Jones (OSU) and Bill Hahn (URI). The committee will be soliciting new members prior to the next annual meeting. A big thanks goes out to Fred and Bill for their years of service on the Safety Committee and participation with the RVOC.

Mike Prince has done an amazing job of putting together the Oil Spill Response Plan and response contractor packages for all the Non - Tank Vessels over 400 gross tons. The plan is now required by the U.S. Coast Guard and the Marine Transportation Act of 2004 for Non -

Tank Vessels. The plans were required to be submitted to the USCG by 9 July so that approval would be in place by the implementation date of August 8, 2005. The National Science Foundation and Office of Naval Research are funding this for year one.

There are several group purchases in the works, Fred Jones is handling the Furuno Radars and associated equipment purchase through OSU for the R/Vs *Knorr*, *Pelican*, *Cape Hatteras*, *Point Sur*, *Savannah*, *Longhorn*, and the *Seward Johnson*. Al Suchy (WHOI) is handling the purchase of Furuno Doppler Speed Logs for the R/Vs *Knorr*, *Oceanus*, *Endeavor*, *Wecoma*, *Seward Johnson*, *Cape Hatteras*, *Pelican*, and *Blue Heron*. Al is also doing a group purchase of life rafts for WHOI, OSU, University of Washington, and Duke. Lastly, Tom Althouse is working on a group buy to have stability reviews for all vessels that have not had one in recent years. A number of the ships have not had stability tests for as many as ten years or more and are being recommended for a current review.

Van construction efforts continue. Construction of a pooled aluminum

isotope van for the East Coast pool is nearing completion. Construction of an aluminum isotope van for a URI scientist and a steel general-purpose van for a University of Delaware scientist have been completed. Work is beginning on an aluminum "hydro" van for WHOI. A 10-foot isotope van for U. Minnesota/*Blue Heron* is planned for this year.

The preliminary findings of the Load Handling System Workshop, chaired by Matt Hawkins, are now available on the UNOLS website at <http://www.unols.org/publications/reports/lhsworkshop/index.html>. The University of Delaware and University of Hawaii have issued purchase orders with Caley Ocean Systems for two new systems in accordance with the "Functional Requirements" developed by the workshop. Delivery of the systems is planned for early January 2006.

The University of Washington in Seattle will host the next RVOC annual meeting. The dates for the 2006 RVOC Meeting in Seattle are 25-27 April (Tuesday, Wednesday, and Thursday).



## Update on DEep Submergence Science Committee Activities

*By Deborah Kelley, DESSC Chair*

The Spring DESSC meeting was held on June 13-14, 2005 at Woods Hole Oceanographic Institution (WHOI). The first day included agency reports, an overview of upgrades to the National Deep Submergence Facility (NDSF), a discussion of scheduling issues, the status of the replacement Human Occupied Vehicle (HOV), and the status of Autonomous Underwater Vehicles (AUVs) at WHOI. There was significant discussion on establishing safety standards for the use of HOVs. The first afternoon ended in a closed session focused on establishing criteria for bringing new assets into the NDSF and day rates for NDSF vehicles. During this closed session, a draft of criteria for bringing in assets to the facility was completed and several recommendations regarding NDSF issues were discussed by DESSC. The committee is currently reviewing the action items (summarized below) and recommendations.

Included in first day was a discussion regarding the status of the MBARI drill. After several years of working towards bringing a rock drill into the facility, this spring saw the successful funding of a proposal for transitioning the Monterey Bay Aquarium Research Institute (MBARI) rock drill to WHOI as a Third Party Tool. The drill will be transitioned for use on *Jason 2*, with its first use occurring in September 2005. Special thanks to Maurice Tivey and Dan Fornari for submission of the proposal and for getting the drill funded.

The morning of the second meeting day included an overview of the Hybrid ROV (HROV) construction effort, a discussion about long-range planning issues, where/when the fall/winter 2005/06 DESSC meeting should occur, an overview of education/outreach/ archeology programs, ending with presentations regarding other deep submergence activities.

Action items resulting from the June 13-14 Meeting include:

- **Establish Criteria for bringing New Assets into the NDSF** – DESSC will review and comment on the latest revision of the criteria. Once the draft has been finalized, it will be circulated to the agencies, then the NDSF operator for comment. Pending revision, the draft criteria will be sent to the UNOLS Council for approval.
- **Liaison to RHOC** – The Committee will identify a DESSC member who is willing to serve as a liaison to the Replacement HOV Oversight Committee and provide the recommendation to NSF.
- **Establishing Safety Standards for the use of Human Occupied Vehicles** – A charge from NSF is anticipated to establish safety standards for HOVs. The safety standards will address certification of the vehicle, certification of the ship, and training (vehicle and ship crew). In response to NSF's charge a subcommittee will be formed.

Potential members include representation from the RVOC Safety Committee, HOV operators, and science users (DESSC). This effort might span two years.

- **Winter Meeting Strategies** - A subcommittee of Craig Young, Jennifer Reynolds, and KT Scott will recommend a strategy (forum(s) and format) for winter DESSC meetings that will better engage the deep submergence biologists.
- **DESSC/NDSF Booth** – DESSC has proposed that there be a DESSC booth at the Fall AGU meeting that would highlight the NDSF vehicles. DESSC members would help staff the booth. [Following the meeting it was decided that DESSC would participate in a UNOLS Booth.]
- **DESSC Membership** - Dave Mindell completes his 2<sup>nd</sup> term in September 2005. Nominations are needed to fill his position. Individuals associated with margins or archeology research is desired.
- **Replacement HOV Sensors/equipment** – DESSC will poll the community on scientific equipment requirements for the replacement HOV. Input on new and emerging technologies is needed.
- **Navigation** – DESSC will consider to what level navigation data should be the responsibility of the NDSF Operator.

### MEETING ANNOUNCEMENT

*The science community is invited to attend the*  
 DEep Submergence Science Committee - Annual Planning Meeting  
 Sunday, December 4, 2005  
 San Francisco, CA

The meeting room and agenda will be posted on the UNOLS website when available <<http://www.unols.org/dessc/>>

## Scientific Committee for Oceanographic Aircraft Research Committee News

By John Bane, SCOAR Chair

The Scientific Committee for Oceanographic Aircraft Research (SCOAR) met on April 6, 2005 at the Research Aviation Facility of the National Center for Atmospheric Research, located in Broomfield, CO. The meeting was held in conjunction with the one-day meeting on April 5, of the Interagency Coordinating Committee for Aircraft Geosciences Research and Activities (ICCAGRA), chaired by Cheryl Yuhas from NASA's Science Mission Directorate.

At the meeting, SCOAR welcomed its newest regular member, Dick Zimmerman. Dick is a marine biologist who, among other activities, uses aircraft remote sensing to study coastal kelp communities. He is presently Chair of the Department of Ocean, Earth and Atmospheric Sciences at Old Dominion University in Norfolk, VA. Also welcomed was Steve Hartz, a new ex-officio member who will be the liaison between SCOAR and RVTEC. Steve is the senior marine technician for the *Alpha Helix*, a UNOLS vessel operated by the University of Alaska.

Reports from NOAA (Beth White and Jim McFadden), NASA (Cheryl Yuhas), NSF (Jim Huning), ONR (Ron Ferek), UNOLS (Mike Prince) and CIRPAS (Haf Jonsson) were delivered.

The process of how to best update information on CIRPAS and SCOAR web pages was revisited, as some progress had been made since the previous SCOAR meeting. The following actions for the UNOLS Office were agreed upon, and they

have been implemented since the April meeting:

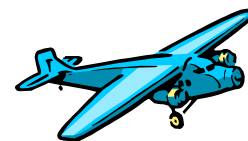
- Put aircraft (Twin Otter) into rotating ships icon on the main UNOLS web page; add other quick links to aircraft on home and scheduling pages.
- Update the presentation of information on other university and agency aircraft and update links, pages with pictures, and contact information.
- Develop a method for keeping the CIRPAS schedule and request information up-to-date.
- Link to new CIRPAS pages as appropriate.

SCOAR remains interested in determining a set of safety standards for UNOLS-designated National aircraft facilities and platforms, similar to what is done for ships. At present there is a set of such standards for federal aircraft used by GSA and the members of the Interagency Committee for Aviation Policy (ICAP). They have implemented a number of programs to share, influence, and monitor the best aviation safety practices in the federal community. The ICAP has established the Safety Standards and Training Subcommittee to oversee these programs and address emerging issues related to aviation safety. SCOAR will follow these developments and determine what needs to be done beyond what ICAP will do in setting safety standards (e.g. is there anything further that has to be done to assure safety of science party members who are aboard research aircraft that fly farther than some specified distance from shore?).

SCOAR is interested in fostering better and more pro-active interactions with the ocean science community. In an effort to make progress, and to obtain feedback on aircraft desires and needs within the community, the following items were decided upon:

- Draft a White Paper on how aircraft can or should support ocean sciences
- Draft a letter to the ocean science community asking for feedback on aircraft requirements and current and future uses of them
- Create a feedback questionnaire as a companion to the letter
- Develop plans for a workshop with aircraft operators and ocean science users (and perhaps other science users) and funding agencies

The place and format for the next meeting were discussed. It was asked whether or not the meeting should be a phone/web conference, as was done for the November 2004 SCOAR meeting. It was decided that it depends on the agenda and length of time needed. A suggestion was made to meet at a ship-operating institution such as Scripps Institution of Oceanography in November 2005 and include a half-day open session for local ocean scientists. Such a meeting place would allow atmospheric scientists a chance to tour a research vessel.



## Arctic Icebreaker Coordinating Committee (AICC) News

*By Margo Edwards, AICC Chair*

USCGC *Healy* is well into its 2005 field season that consists of three legs. *Healy* successfully completed the first leg, mapping and coring along the Alaska-Beaufort Margin, although ice conditions were not ideal and the ship was beset for four days of that program. The second leg was a NOAA-funded Ocean Exploration project. *Healy*'s third leg began in August and is a joint operation with the Swedish icebreaker *Oden* and the Russian icebreaker *Fedorov*.

The *Polar Star* successfully supported Deep Freeze 2005 without the assistance of her sister ship, *Polar Sea*, but with participation from the Russian icebreaker *Krasin*. *Polar Star* had a casualty on one propeller during the operation, but this damage should not preclude participation in Deep Freeze 2006. Funds may soon be allocated to fund some of the necessary repairs for *Polar Sea* so that she can again sail to support Deep Freeze operations. In the meantime, the National

Academy of Sciences Polar Research Board has convened a panel for "Assessment of US Coast Guard Polar Icebreaker Roles and Future Needs," which provisionally includes both former AICC Chair Dr. James Swift and former NSF Director Dr. Rita Colwell.

The March meeting of AICC followed on the heels of the UNOLS Council Meeting on March 30<sup>th</sup> and 31<sup>st</sup> at the National Science Foundation in Arlington. Two of the action items from that meeting have taken priority since the spring meeting. At the request of NSF's Simon Stephenson, AICC has prioritized recommendations from the 2004 *Healy* program debriefs and submitted this list of recommended changes to *Healy*'s Commanding Officer, USCG Headquarters and NSF for consideration. A new task for the AICC will include following up on these debrief recommendations to monitor how scientists' input is contributing to improvements in

*Healy*'s performance. Due to the over-the-pole operations scheduled for this field season, the other priority item from the March AICC meeting has been developing a short-term solution for providing high-resolution satellite information on ice conditions to the ship on a timely basis. At present, National Ice Center personnel are supporting this effort.

The next AICC meeting is presently planned for the week immediately following the American Geophysical Union Meeting in San Francisco. It is tentatively scheduled to take place in Seattle, Washington on December 12<sup>th</sup> and 13<sup>th</sup>. No personnel changes within AICC or the USCG have taken place since the last report.

*The AICC can be reached by writing to the Chair (margo@soest.hawaii.edu) or to the UNOLS Office (office@unols.org).*

## Call for DEep Submergence Science Committee Nominations

The UNOLS DEep Submergence Science Committee (DESSC) is seeking nominations to fill one position. To maintain uniform representation of disciplines and geographic areas, the ideal person would have a research interest in margins or marine archeology.

Committee members are appointed by the UNOLS Chair based on the recommendation of the Committee and with the concurrence of the UNOLS Council for three-year terms. A member may serve one additional three-year term. Applicants or nominees should submit a brief statement of interest in serving on DESSC along with a CV to the UNOLS Office by email to <office@unols.org>. For additional information about DESSC, visit the website at: <<http://www.unols.org/committees/dessc/>> or contact the Chair, Debbie Kelley at <kelley@ocean.washington.edu>.



## Ship Construction, Conversion, Transfers, and Retirements

### *R/V Hugh R. Sharp is Launched*



*R/V Hugh R. Sharp - Ready for Launch Ceremony.  
Photo by Dakota Creeks Industries*

Construction of University of Delaware's *Cape Henlopen* Replacement Vessel, *R/V Hugh R. Sharp*, is nearing completion at Dakota Creek Industries in Anacortes, WA. The ship was launched on July 16, 2005. Dock trials are underway and will culminate in sea trials and preliminary acoustic trials in early September. The *R/V Sharp* will be loaded aboard the delivery ship, *M/V Super Servant* (Dockwise Yacht Transport) on September 12, 2005, for

the transit to the East Coast. University of Delaware will take final acceptance of the vessel in October in Port Everglades, Florida. The ship's crew will make the delivery leg from Florida to Delaware.

Upon arrival in Lewes, Delaware the ship's crew and technicians will cross-deck various equipment from *Cape Henlopen* to the new ship. This will include all of *Cape Henlopen's* acquisition systems including the surface mapping and meteorological system, CTD, ADCPs, the deep-water echo sounder, and multibeam survey system. The ship's acquisitions systems will be brought online in order of priority based on operational demand in 2006, and at a sufficient level to prove operational readiness. The ship is fitted with a retractable keel, which allows rapid

installation of acquisition transducers without the need for divers or hauling.

The CTD handling system, laboratory outfitting, and aft deck crane will be purchased new and installed in Lewes after delivery. The CTD Handling System acquisition is under contract with Caley Ocean Systems. The laboratory outfitting, including counters, fume hoods, chemical storage cabinets, refrigerators, and freezers are modular in design.

The NSF ship inspection is tentatively planned for early March 2006 after cross-decking and final outfitting is completed. Following the successful completion of the NSF inspection, University of Delaware plans to submit a final request to the UNOLS Council for UNOLS vessel designation. The vessel's latest 2006 Letter of Intent shows operations beginning on March 28<sup>th</sup> with a tentative schedule of 198 operating days.



*The launch of R/V Hugh R. Sharp.  
Photo by Dakota Creek Industries.*



*R/V Hugh R. Sharp alongside the pier at Dakota Creek Industries. Photo by Dakota Creek Industries.*

## R/V *Marcus G. Langseth* Conversion

Information provided by Paul Ljunggren, Lamont-Doherty Earth Observatory

The recent focus for Lamont-Doherty Earth Observatory (LDEO) has been the sale of the *Maurice Ewing*. On June 8<sup>th</sup>, ownership of the *Ewing* was transferred from NSF to Columbia University in preparation for its sale. Prospective buyers included parties from Norway, UK, Chile, US, and Canada. Columbia University has signed an MOA for sale of the *Ewing*. The original proposal projected a sale of ship and equipment at \$1.5M.

The R/V *Marcus G. Langseth*, replacement for *Ewing*, is currently moored at SENESCO Marine in Quonset Point, RI with a crew of two to three on board at any one time carrying out jobs related to the conversion. These jobs have included:

- Removal and rerouting of electrical wire ways from the starboard side of the vessel in order to allow the starboard side to be opened up for over-the-side handling of equipment.
- Removal of hydraulic lines along the starboard side for the same purpose.
- Removals and rip outs of materials in the way of planned shipyard work in areas that would have consumed valuable shipyard funds.
- Installation of a new fire detection system as part of the reflagging.
- Relocation of a section of the bridge control console to permit the installation of a dynamic positioning system.

At the same time SENESCO Marine has been tasked with two projects:

- First is the removal and storage of two excess cable storage winches, one spare sections storage winch, and four gun winches. The NSF has approved all for sale and a buyer has been found.

- The second job is the rerouting and installation of removed hydraulic lines. Welding procedures have been approved by ABS and work is ongoing.

The shipyard specification package was submitted to NSF in May. Eight US shipyards and several foreign yards have expressed interest in the project. The specifications have been under review by NSF contract specialists. Once the review is completed LDEO will send the specification packages to the shipyards. We anticipate at least two months will be required for ship checks, bid submission, review of bids, requests for best and final, NSF review of the bid selection and the issuing of the purchase order.

The following re-flagging issues are being addressed:

- (a.) Structural changes - These changes will include the addition of a watertight bulkhead in the ER and seismic lab. Some of the ship's diesel oil tanks will also have to be sub-divided.
- (b.) Passageway joiner paneling - An issue of concern for the Coast Guard is the ability of construction material to withstand the spread of flames in the event of a fire. The manufacturer of the existing paneling was able to provide documentation to the Coast Guard demonstrating that material used in the manufacturing process met the Coast Guard criteria.
- (c.) Fire suppression system - The Coast Guard no longer permits the use of Halon for fire suppression. Our engine room space exceeds the maximum volume allowed by the Coast Guard for a fog mist system and the Coast Guard objected to CO<sub>2</sub>, as a result we will install an FM200 Clean Agent System.

The Transfer of Class Agreement with ABS is ongoing. An interim classification document has been issued. All the necessary paperwork is understood to be in place for acceptance into class.

DP System purchase proposal - A purchase proposal for a dynamic positioning (DP) system has been initiated for a "Green" DP, with one bridge wing control, and high speed and low speed track following. This system will be integrated into the seismic navigation package. The specific unit to be purchased had been used by Kongsberg Simrad as a demonstration model. This resulted in a significant cost savings. The delivered unit will have a full factory warranty.

IT - In an effort to modify existing shipboard systems, increase our knowledge with several new technologies, as well as minimize future on-site installation and implementation costs and delays, an effort is underway at LDEO by our systems engineers and shipboard technical group to organize a *Langseth* integration lab and staging facility. Specific goals include:

- Power on and self test of all new hardware.
- Configuration and testing of prototype IP LAN/WAN network.
- Configuration and testing of prototype IP PBX system.
- Configuration and testing of prototype storage area network.
- Development and test data logging server and associated software
- Development and testing of various quality control display alternatives
- Assemble, interface and test 2-D and 3-D multi-channel seismic systems with a simulated seismic sound source.
- Test backup and recovery procedures of mission critical systems.



- Configure network/directory services.
- Development of *Langseth* science operations diagrams and documentation.

Pod for the multibeam - LDEO met with ManTech and received further input on the pod design. LDEO seems to be vying with Navy to see who will do final design work of the pod first. They have had a delay much as LDEO has. LDEO has received permission to use any work that the Navy has done in design of the pod. The new pod design from the Navy includes complex curves on the leading and trailing edges. LDEO will request the shipyard bid with two different designs for the pod. The one option will use the original French design and the second option will include the Navy's redesign of the science pod. The final determination will be based on cost.

Air gun array – A principal issue was to reach a final decision on the type of air guns. The intention is to keep and use the current twenty 1500LL Bolt air guns in the future array. Since the new linear arrays will require smaller-volume guns the question is whether to use G guns or Bolt 1900LLX air guns. Current trends

in industry are toward Bolt guns, and for our needs the cost differential should be in favor of the Bolt guns. There is no real reliability issue when comparing Bolt with a G gun. There are no significant differences in the output signatures. The real issues are simplification, money, and flexibility in chamber sizes.

As a result of the July 2005 scheduling meeting we are now anticipating the beginning of *Langseth* operations with a science test cruise in mid-August 2006.

Information on the shipyard conversion plans and the R/V *Marcus G. Langseth* can be found by visiting the Office of Marine Operations website at <<http://www.ldeo.columbia.edu/res/fac/oma/index.html>>.



*R/V Marcus G. Langseth* – photo by John Diebold

## **Bermuda Biological Station for Research announces plans to acquire *Seward Johnson II* and retire *Weatherbird II***

Bermuda Biological Station for Research (BBSR) has announced plans to replace *Weatherbird II* with *Seward Johnson II*. *Seward Johnson II* is owned and operated by Harbor Branch Oceanographic Institution (HBOI). The vessel is 23 years old and 168 ft in length (*Weatherbird II* is 115 ft LOA). *Seward Johnson II* would provide a more capable platform for support of operations off Bermuda, which include maintenance of four time series programs (BATS, OFP, BTM, and Hydrostation S). *Seward Johnson II*'s larger laboratories, increased deck space, and ability to carry multiple 20-ft vans would provide enhanced support for servicing of moorings and at-sea experiments. Additional details about the acquisition status and operation plans will be provided in the next UNOLS Newsletter.

## ***R/V Gyre Retires from Service***

As this Newsletter goes to print, R/V *Gyre* will be ending its service in the UNOLS Fleet. R/V *Gyre*, a 182-foot research ship, began operations for the Department of Oceanography at Texas A&M in January 1974. After 32 years of service the research vessel, which has sailed the Gulf of Mexico, Caribbean, Atlantic and Pacific Oceans, will be withdrawn from active service. From its homeport in Galveston, the R/V *Gyre* has supported scientists whose research has ranged from climate and sea level change to the biology and chemistry around deep-sea seeps to ocean currents and circulation to underwater slumps and deep-sea storms. "The research projects conducted aboard the R/V *Gyre* have had a significant impact on our understanding of processes in the ocean and ways we can better manage marine resources in a sustainable fashion," says Wilford Gardner, head of the Department of Oceanography. A decommissioning ceremony is planned.

[Text from *Aggie Hotline* – Monday, March 17, 2005]





## Preliminary Findings from the *Load Handling System Workshop* Now Available

The preliminary findings from the Load Handling System Workshop conducted in 2004 are now available on the UNOLS Website at <http://www.unols.org/publications/reports/lhsworkshop/index.html>.

The goal of the workshop was to develop a conceptual design for the “next-generation” over-the-side load handling system for the UNOLS Fleet. It was chaired by Matthew Hawkins (University of Delaware) and members included Thomas Althouse (Scripps Institution of Oceanography), Andy Bowen (Woods Hole Oceanographic Institution), Marc Willis (Oregon State University), and Jim Holik (Raytheon Polar Services). The National Science Foundation and the Office of Naval Research jointly funded the workshop. The project focused on ship visits and field evaluations of existing systems. Ships and systems visited included RRS *DISCOVERY* (Caley), USCG *Healy* (InterOcean), R/V *Western Flyer* (Dynacon), ODIM-Spectrum, R/V *Zephyr* (Brooke-Ocean Technology, Ltd.), Japanese fisheries research vessel, *Shoyu Maru* (Dynacon), JAMSTEC’s R/V *Mirai* (Dynacon), *G.O. Sars*, and R/V *Celtic Explorer* (Triplex/Rapp-Hydema).

The information gathered by the Committee was used to draft a set of Functional Requirements for a general-purpose, over-the-side, scientific load handling system for use on research vessels in the UNOLS Fleet. The Requirements attempt to standardize certain key features of the handling system, while at the same time maintain flexibility of design for different configurations and classes of vessel. These standardized features will add utility and operational flexibility (both short and long term) for the science party and vessel operator in support of a wide variety of science missions. The

system is composed of (1) a load handling apparatus, and (2) a highly instrumented and capable “smart” winch. Detailed requirements for each are vessel dependent; however, certain elements are to be standardized as closely as possible. The “load handling apparatus” has the most potential for variation and is divided into three types or arrangements. They are:

1. “Overhead Arrangement” – for use on larger vessels that have Baltic rooms or other substantial overhead structure (either on the side or aft) capable of supporting the apparatus. Generally, space and weight is not a restriction.
2. “Side Arrangement” – for use on all classes of vessel where slewing (rotation about the vertical axis) is not needed or is impractical due to limited deck space at a particular location or little variability in how the system will be used. This system also has the potential for the least complexity and weight.
3. “Aft Deck Arrangement” – For use on all classes of vessel where a large deck area needs to be covered – generally the aft deck. It is essentially an articulated crane design (which has been widely used for a variety of applications in the UNOLS Fleet) with the standard design features added. This design gives the most utility, but is also the most complex with regard to operator inputs and system components.

Safe and effective deployment and recovery of science packages, without the use of tag lines or a significant number of personnel on deck, is the primary goal of the handling systems. Reduction of cable wear and motion-compensation are secondary goals. The handling systems are intended to deploy

and recover “moderately-sized” scientific packages over-the-side and stern. Such packages include vertical profiling instruments such as CTDs, towed instrument such as “Scanfish”® and “Triaxis”®, and ROVs, and AUV’s. These systems are not intended to replace the stern A-frame.

The documents posted on the UNOLS website include the proposed Load Handling System “Functional Requirements” and the conceptual designs. These designs and documents are not final. They represent the culmination of what the committee found during their survey, and one set of solutions for the future given current technologies and systems in use on other vessels today. These documents have been used this year to assemble a formal Request for Proposal for two actual systems; one to replace the CTD handling crane on the R/V *Kilo Moana*, and one for a new handling system on the R/V *Hugh R. Sharp*. Proposals from vendors were due at the end of May 2005. Detailed vessel requirements for each ship are included on the website to illustrate how these documents might be used in conjunction with other vessels – either new builds or retrofits. The website also includes a PowerPoint presentation that summarizes the Workshop activities and preliminary findings.

The committee would appreciate comments regarding the proposed Load Handling System “Functional Requirements” and the conceptual designs. All comments, concerns, and suggestions should be directed to Matt Hawkins at [hawkins@udel.edu](mailto:hawkins@udel.edu). Comments will be reviewed by the full committee and sponsors. They will be acted upon or incorporated as deemed appropriate. [Information provided by material from Matt Hawkins]



## ROV-based Rock Drilling System Now Available for Jason2

By Maurice Tivey and Daniel Fornari (WHOI)

The National Science Foundation has recently awarded a grant to Tivey and Fornari at WHOI to provide operational oversight and coordination of the use of a ROV-based drilling system on Jason2 for the US science community (NSF-OCE-0531466). The drill system was developed and operated for the last decade by the Monterey Bay Aquarium Research Institute (MBARI) and has now been transferred to WHOI through a purchase made possible by NSF funding. MBARI is collaborating in the transfer of the drill technology and operational expertise required to use it. The management and operation of the drilling equipment will be done within the scope of the Third Party Tool guidelines established by the UNOLS Deep Submergence Science Committee (DESSC) (e.g., <<http://www.unols.org/committees/dessc/3rdpartytool.html>>), in close collaboration with members of the National Deep Submergence Facility (NDSF) and with regular reporting to the DESSC and federal agency sponsors of NDSF.

This notice is meant to provide basic information to potential science users of the ROV Drill System and to encourage users to submit proposals for its use. More detailed information on the ROV Drill System is posted at the following URL:

<<http://www.who.edu/sites/rovdrill>>

An ROV provides all control, navigation and power infrastructure needed to operate a small seafloor drilling system, plus state-of-the-art real-time visual imaging. The ROV platform provides a tremendous opportunity to link exploratory missions with superb sampling capabilities. The limitation with ROV-based drilling is the lack of deep penetration into the seafloor. However, obtaining multiple high-quality samples in the form of short (~2-100 cm) cores, where and

when they are needed provides a major leap forward in our ability to sample and document the seafloor and to test hypotheses related to the formation and evolution of the ocean crust and the microbial habitats that reside therein. Routine ROV-based drilling also provides excellent opportunities for emplacement of instruments in a wide range of seafloor environments and outcrops that are important for time-series measurements of chemical, biological and geophysical processes. Having a drill system that can be used routinely on a ROV cruise provides the advantage of being able to accomplish both traditional mapping and sampling as well as deployment of corehole-based instruments during the same cruise.

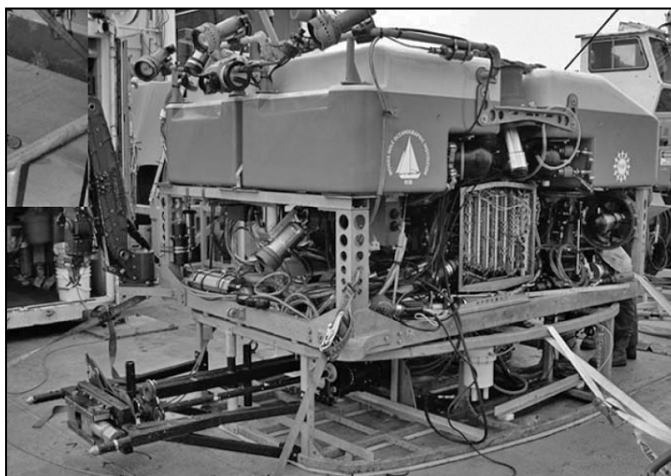
Tivey and Fornari will manage the drill system and ensure its availability and scheduling, and will oversee ongoing maintenance using engineers and technicians skilled in operations and servicing of deep submergence instrumentation. Management and scheduling will include periodic and good communications with the DESSC, UNOLS, Federal Agency program managers, and the WHOI NDSF and Marine Operations.

When the system is scheduled for use during a field program, the field

costs associated with that usage (e.g., technician time, expendables, shipping and travel, etc.) would be borne by the science proposal. This will have been budgeted for as a result of our pre-proposal planning with prospective PIs, and the easy access to technical and budgetary information related to the drill system provided by the drill system's web page <<http://www.who.edu/sites/rovdrill>>.

Routine maintenance costs for the first few years of operation have been budgeted in order to keep the system properly staged for field use, as well as ensuring that it is integrated with the current ROV Jason2 mechanical, electrical and telemetry systems. For example, we estimate that the cost to a P.I. for using the ROV Drill System for a four week cruise on the Juan De Fuca Ridge based out of Seattle, WA will be on order the of \$25-30K, depending on logistics and cruise duration.

Requests for information regarding the ROV Drill System should be sent to Maurice Tivey <[mtivey@who.edu](mailto:mtivey@who.edu)> and Dan Fornari <[dfornari@who.edu](mailto:dfornari@who.edu)>.



*ROV Jason2 shown with MBARI ROV Drill tool sled mounted under the vehicle as configured for drilling at Main Endeavour Field hydrothermal vents in 2003 for experiments led by D. Kelley, U. Washington (Photo by D. Kelley- UW).*

## People in the News

### Welcome Aboard ...

The Duke/University of North Carolina Oceanographic Consortium is pleased to announce the appointment of Captain **John D. Wilder**, NOAA (ret), as Marine Superintendent of R/V *Cape Hatteras* following a nationwide search. Captain Wilder is the former Captain of the *Ronald H. Brown*, a 274' NOAA oceanographic research vessel. He served in the NOAA Commissioned Corps for more than 28 years, during which time he served as Chief of the Navigation Services Division, Chief of the Hydrographic Operations Branch, Deputy Chief of the Pacific Marine Center Operations Division, and Captain of the 165' NOAA hydrographic survey vessel *Whiting*. John received a B.S. in Marine Science from the University of South Carolina and a M.S. in Hydrographic Science from the U.S. Naval Postgraduate School. With his extensive hydrographic and oceanographic background and distinguished career at NOAA, John has the expertise and experience to oversee and manage the operations of the *Cape Hatteras* and to contribute to and participate in UNOLS fleet activities. John assumed the position of Marine Superintendent March 1, 2005.

**Todd Chlaupke** has been appointed as the new Marine Superintendent for R/V *Endeavor* at the Graduate School of Oceanography, University of Rhode Island (URI). He has a military and commercial sailing background as both an engineer and on deck. Todd had served as Chief Mate and Relief Master on the *Endeavor* for the last two years.

Peter Zerr, formerly the R/V *Wecoma* Port Engineer, has been appointed as the new Marine Superintendent for Oregon State University. Peter is a Kings Point Graduate and Chief Engineer – Unlimited. He came to OSU from MBARI.

### Farewells...

In early 2005, **Jack Bash** retired from the University of Rhode Island. Jack's service at URI included a position as Marine Superintendent for R/V *Endeavor* for many years. Jack also served as Executive Secretary for UNOLS from 1991 to 2000. He was always ready and willing to share his knowledge on research vessel operations, management and design.

In June 2005, **Bill Hahn** retired as the Marine Superintendent for *Endeavor* at URI. Bill had a lengthy career at URI that spanned 36 years. Prior to Bill's position as Marine Superintendent, he served as Manager of the Marine Technicians group for R/V *Endeavor*. Also retiring in the spring was **Fred Jones** as Oregon State University's Marine Superintendent for *Wecoma*. Both Fred and Bill were active members of the Research Vessel Operators' Committee and served on the Research Vessel Safety Committee. Their dedication to the Fleet will be missed.

**Tom Pyle** has announced his plans to leave NSF Arctic Sciences Section. He retired from NSF and the Federal government at the end of August. Tom had been with the NSF Arctic program since its inception 10 years ago.

We thank these individuals for their dedication to UNOLS and the Academic Oceanographic community. We wish them well in their future endeavors.



## UNOLS Booth at AGU Fall Meeting

The community is invited to visit the UNOLS Booth at the Fall AGU Meeting in San Francisco, CA. UNOLS representatives will be on hand to discuss the latest fleet issues and answer questions. Information about Committee activities and Fleet Renewal Plans will be available. The booth will include displays featuring our National Oceanographic Facilities including deep submergence assets and oceanographic aircraft. The UNOLS Booth can be visited on December 6 – 10, 2005.



## 2005 UNOLS CALENDAR OF MEETINGS

Committee	Meeting	Dates	Location/Notes
Ship Scheduling Committee	Scheduling Review	Sept 12	Phone/Web Conference
Fleet Improvement Committee	Fall Meeting	Oct 5	NSF – Room 320, Arlington, VA
Council	Fall Meeting	Oct 13	NSF – Room 1235, Arlington, VA
UNOLS	Annual Meeting	Oct 14	NSF – Room 1235, Arlington, VA
SCOAR	Fall Meeting	Oct-Nov	TBD
RVTEC	Annual Meeting	Nov 8-10	OSU, Corvallis, OR
DESSC	Winter Meeting	Dec 4	San Francisco, CA
UNOLS Booth	2005 AGU Fall Meeting	Dec 6-9	San Francisco, CA
AICC	Fall Meeting	Tentative date Dec 12-13	Seattle, WA

*I would like to thank all who contributed information and articles for this issue of UNOLS News. Articles are always welcome and encouraged. Copy can be submitted via mail, FAX or e-mail. Thank you, Annette DeSilva - Editor, UNOLS News*

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