UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

UNOLS NEWS

December 1988
Vol. 5, No. 3

HIGHLIGHTS

NEW UNOLS CHARTER ADOPTED

The UNOLS membership, at their October 1988 meeting, adopted a new charter. The new charter provides a more consistent and straightforward organizational structure for UNOLS. It also provides a more significant role for those institutions who use but do not operate ocean facilities. The charter establishes a UNOLS Council to be both the action and governing body for UNOLS.

The charter just replaced, although modified several times, had served since UNOLS was established in September 1971.

UNOLS ELECTIONS

Elections were held October 28, 1988 for UNOLS officers. Those elected were:

UNOLS Chair:
George H. Keller
Oregon State University

UNOLS Vice Chair:
Tom Johnson
Duke/UNC Oceanographic Consortium

Advisory Council/UNOLS Council:
Larry Atkinson
Old Dominion University
Gary Brass
University of Miami
Jeff Fox
University of Rhode Island

1 Front

We thank you for being willing to serve the community, congratulate you on your election and look forward to your participation in a wide variety of UNOLS activities.

NATIONAL SCIENCE FOUNDATION, OCEAN SCIENCES DIVISION BUDGET FOR 1989

NSF's Ocean Sciences Division has released its budget for FY-1989.

NSF BUDGET ESTIMATES
September 1988

(Millions of Dollars)

	1986	1987	1988	1989
OCEAN SCIENCES DIVISION	119.5	133.7	135.3	146.5
Oceanographic Facilities Detail				
Operations				
Ship Operations	24.0	26.0[1]	25.8[2]	26.5[3]
ALVIN, Aircraft	1.6	1.8	1.8	5.6
Marine Techn.	2.5	3.1	3.1	
	$28.1	30.9	30.7	32.1
Acquisitions and Development				
Science Instruments	1.6	1.8	1.6	6.7
Shipboard Equipment	1.4	1.7	1.5	
Technology Development	1.7	2.4	2.6	
AMS Center	-	-	-	1.8
UNOLS, Ship Construction, Misc.	0.9	0.4	0.8	0.7
	$ 5.6	6.3	6.5	9.2
TOTAL	$33.7	37.2	37.2	41.3

(1) Plus $1.5M from the Ocean Drilling Program.
(2) Plus $1.3M from the Ocean Drilling Program.
(3) Plus $1.5M from the Ocean Drilling Program.

In addition, a detailed estimate of ship operations expenditures for 1988 and 1989 has been provided.

NSF
ESTIMATED SHIP OPERATIONS
FY 1989
$M

	FY 88	FY 89
OFS, OPS	$25.8	$26.5
ODP	1.3	1.5
	$27.1	$28.0
FY 1989 funds used in last quarter, CY 1988	+ 4.0	- 4.0
Available, Calendar Year	$31.1	$24.0

If NSF were to recoup to their traditional practice wherein ship operations for any calendar year are funded from appropriations of the fiscal year beginning three months earlier (e.g., funding CY 1989 operations all with FY 1989 funds), then 1989 would indeed be a lean year.

SHIP OPERATIONS, 1989

UNOLS ship operations for 1989 are projected at the lowest level of the 1980's. At their scheduling meeting of October 27, 1988, UNOLS ship operators estimated 4,207 days at a total cost of $32.654 million. This is a reduction of 11% and 16% respectively from 1988 operations of 4,731 days and $39.007 million. The essential reason for 1989's modest ship operation is that the ship demand from science projects funded by both NSF and ONR is down. Other factors are that the THOMPSON has been retired from the UNOLS fleet, both KNORR and MELVILLE will be out of service for much of 1989 and, with probable acquisition of the BERNIER, CONRAD will operate for only part of the year.

The reductions in 1989 days and dollars come from reductions in operations among the Class II ships. Indeed, totals for Class III, intermediate; Class IV, costal; and ships smaller than Class IV all increase over 1988 totals.

Schedules for 1988, as forecast in October, follow:

Alpha Helix. Scheduled for 186 days, mostly in the Bering Sea. After shipyard inspection and maintenance (January-March) the season is mainly in the Bering Sea (Ice Edge, ISHTAR, marine mammals) together with GARS in Gulf of Alaska. Two DPP funding decisions were still pending. No likely-to-be-funded projects remain unscheduled.

ATLANTIS II. Scheduled for 202 days, beginning with North Atlantic JGOFS sections and buoy deployment (March-June), ALVIN refit trials and certification (July), then ALVIN investigations on MAR and northeast continental margin (August, September). Biannual shipyard overhaul

October, November. Minimal ALVIN operations because of very modest request pressure and general science funding strictures.

BARNES. Scheduled for 140 days operation, all in Puget Sound or nearshore Washington, Oregon. Short-duration projects may be fit in as they arise throughout the year.

BLUE FIN. Scheduled to operate primarily as a day boat off the southeast coast. The 1989 schedule is for 130 days (NSF 75, DOE 55) with the decision still pending on 7 NSF days.

CALANUS. Scheduled for 205 days, January-December, all in Caribbean Islands, Florida Strait and off Jacksonville. Funding not secure for 30 of 116 NSF days.

CAPE HATTERAS. Scheduled for about 190 days, Carolina Shelf to Sargasso Sea and Gulf of Maine. Funded by NSF 95% and state 5%. Open periods January-March and December.

CAPE HENLOPEN. Scheduled for 156 days, in Delaware Bay, off mid-Atlantic coast, Chesapeake Bay and Gulf of Maine. Open period in April. Funding uncertain for 2 projects within NSF's 102 days.

CONRAD. Scheduled for 103 days, in equatorial and north Atlantic, on SEA BEAM, MCS and dredging. Funding 57% NSF, 40% NRL. (CONRAD schedule was abbreviated for April return to L-DGO for lay-up after preliminary decision to acquire BERNIER.)

ENDEAVOR. Scheduled for 254 days, in western Atlantic, Greenland Sea, near the Azores, equatorial Atlantic and through the northwest Atlantic. Funding NSF 193 days, ONR 40, DOE 21. The very full high-latitude weather window makes schedule timing critical.

GYRE. Scheduled for 121 days, funded by NSF and state. General oceanography in Gulf of Mexico, Caribbean and western Atlantic. Openings throughout year.

ISELIN. Schedule is based on 232 days funded by NSF (180) and ONR (52). Work is in the Caribbean and Sargasso (February-July), project AMASED (July-September) and Caribbean, Sargasso and Gulf of Mexico (September-December).

KNORR. Will be in shipyard renovation at least through September. No science operations scheduled.

LAURENTIAN. Scheduled for 70 days (April-September), funded by NSF (50) and state (20), mostly in Lake Michigan.

MELVILLE. Scheduled for 172 days, January-June, funded by NSF (155), ONR (16) and JOI (1). Work begins in south Atlantic (SAVE) and ends near Bermuda prior to shipyard renovation.

MOANA WAVE. Scheduled for 269 days, all NSF. After maintenance and transit to western Pacific, physical transect at 10N (January-May), Sea

4 Pages

Marc in Caribbean (June-August), then in south central Pacific (September-October). Regional work after return to Hawaii.

FRED H. MOORE. Operable but out of service in 1989.

NEW HORIZON. Schedule has been refined to 215 days, NSF 84, ONR 31, NOAA 31, state 69. Work is California-regional except for RUM vehicle work in north central Pacific (May).

OCEANUS. Scheduled for a strong 262-day schedule, beginning in the tropical Atlantic (January-March) northward to north Atlantic and Newfoundland Basin (April-June), Sargasso Sea, regional projects and SYNOP (July-September). After overhaul (September-October) projects near Bermuda and Sargasso Sea (October-November). December open. NSF 221 days, ONR 41 days.

OSPREY. Has funding to finish conversion in 1989. Scheduled 30 days operation/operational shakedown in northeast Pacific.

POINT SUR. Scheduled for 162 funded days: NPS 71 days, NSF 53 days, ONR 17 days, MLML 15 days and MBARI 6 days. General oceanography in California region. Overhaul in July.

ROBERT G. SPROUL. Scheduled for 144 days regional general oceanography. Funding from NSF 86, UC 15, ONR 13 and JPL 10. Open for additional regional projects.

THOMAS G. THOMPSON. Will be retired from the UNOLS fleet in late 1988.

RIDGELY WARFIELD. Scheduled for 135 days, (NSF 134) in Chesapeake Bay and (1 project) New York Harbor. Shipyard in September.

THOMAS WASHINGTON. Scheduled for 248 days, beginning with seismic and Sea Beam surveys in the west equatorial Pacific and central Pacific and general oceanography (January-May). After shipyard overhaul (May-July), geology and geophysics in the eastern equatorial Pacific.

WECOMA. Scheduled for a solid 246 days (NSF 194, ONR 52). General oceanography in northeast Pacific.

BERNIER TO JOIN UNOLS FLEET

Lamont-Doherty Geological Observatory proposed to NSF that they acquire the Canadian seismic survey vessel BERNIER for use in multi-channel seismic, other geological and geophysical and general-purpose oceanographic work. NSF sought reviews of the proposals, from UNOLS and from their own review panels. In consideration of those reviews and of the agency's internal evaluation and review processes, **NSF agreed early in December to support the acquisition.** Although actual awards were still pending, plans were to acquire the BERNIER, modify the ship to serve academic oceanographers, cross deck equipment and join the UNOLS fleet during 1989.

5 Front

RVIB UPDATE

Representatives from NSF's Division of Polar Programs recently reported to UNOLS that language in NSF's Authorization Bill directed that the Research Vessel with Icebreaking Capability (RVIB) to support the U.S. Antarctic Program should be built in a U.S. shipyard. This so changed the conditions of construction that the RVIB procurement process then underway (see UNOLS NEWS Vol. 5, No. 2, September 1988) was cancelled and a new procurement is being developed. DPP's target is to bring the vessel on line in late 1991.

PROGRESS ON AGOR-23

Ship Operations staff at the University of Washington (to be operators of AGOR-23) report that the builders, Halter Marine, began cutting steel for AGOR-23 on December 6. At about the same time NAVSEA, ship procurement managers for the Navy, delivered a change-order package to Halter. The change-order package, developed by NAVSEA in consultation with ONR and UW Ship Operations, deals with ship arrangements/layouts. It includes many, if not all, of the changes requested by the special ship construction committee established by Northwest Consortium (NORCOR).

AGOR-23, when it becomes operational in 1991, will be the largest, most powerful ship in the academic fleet.

THE ALVIN PROGRAM FOR 1989

ALVIN operations in 1989 will be at their most sparse of any year since the availability of ATLANTIS II introduced worldwide capability. Only three ALVIN projects totaling less than 50 days on station are scheduled. The very light ALVIN schedule reflects several factors: ALVIN overhaul for most of the first half of 1989; extremely light dive request/proposal pressure for ALVIN, especially in the Atlantic; strong requests for non-ALVIN use of ATLANTIS II and, basically, much lower-than-usual science-program activity throughout the ocean community. The sparse ALVIN schedule has allowed use of ATLANTIS II for other work, particularly in support of JGOFS in the north Atlantic.

Two other ALVIN issues are being addressed. **ALVIN records and their archiving are in poor condition.** ALVIN samples and records cover nearly 25 years. Many of these records, particularly film-based materials from early years, are deteriorating and could soon be lost. Further, since archiving is not automated, it is often difficult to find and use material. The ALVIN Review Committee has recommended that W.H.O.I. prepare and submit a proposal to selectively reproduce (and save) photo material and to design an automated archiving scheme.

The ARC also recommended that W.H.O.I. propose an ALVIN Twenty-fifth Anniversary Symposium. The symposium would review and characterize 25 years of ALVIN-supported science, celebrate the anniversary date and provide planning information for near-future ALVIN programs. NSF, ONR and NOAA have not, to date, agreed to funding.

Bruce Robison, Monterey Bay Aquarium Research Institute, at the October 1988 UNOLS meeting, reported on his committee's study of the broad scientific program requirements for submersibles and related technologies in the 1990's and beyond. In August 1987 the UNOLS Office had issued a subcontract to make such a study, following recommendations of the ALVIN Review Committee and approval by the UNOLS membership. An eight-member study committee, chaired by Bruce Robison, was formed to **study and report on the trends, patterns and directions for academically based ocean science research requiring manned or unmanned submersible systems. They would also develop a comprehensive submersible science facilities plan which would satisfy projected requirements.**

Results from their study are that the demand for submersible systems, both manned and unmanned, will continue and expand over the next decade. By the mid-1990's, needs from funded research will include: continued full utilization of ALVIN, more than 100 days per year of 6000-meter and greater capability, over 800 days per year of single and multi-place manned subs with up to 1000-meter depth capability, 600 days per year of general-purpose ROVs capable to 3000 meters and the routine use (1000-1500 days per year) of small, shallow-work, low-cost ROVs.

To meet these projected needs, the study recommends:

Improving technology and support for the ALVIN program to enhance an already excellent facility;

Gaining access to depths beyond 6000 meters by developing means to use existing 6000-meter submersibles (both Navy- and foreign-owned) and by developing unmanned systems with capabilities to great depths;

Providing capability for work in depths to 1000 meters by leasing, but with a comprehensive, community-wide management scheme, and providing expert, community-wide management by following, in UNOLS, a national facilities model and, among the principal agencies sponsoring submersible research--NOAA, NSF, and ONR,--by careful coordination, enhanced funding for development and balanced research management.

NEW PROGRAM MANAGER, SHIP OPERATIONS

It was announced in early December that **E.M. Dolly Dieter, now Marine Superintendent, University of Alaska, had been offered and has accepted the position as Program Manager, Operations, in the Oceanographic Centers and Facilities Section,** Ocean Sciences Division, National Science Foundation. Dolly is expected to take up her duties in early April, 1989.

That change is but one of many recent ones in Ocean Sciences. In case your program isn't new enough to reflect the current cast: **Don Heinrichs** is Director, Ocean Sciences Division (replacing Grant Gross, who is on sabbatical); **Bruce Malfait** is Acting Head, Oceanographic Centers and Facilities, as well as Director, Ocean Drilling Programs; **Larry Clark** is Acting Manager, Operations (until Dolly arrives in April) and Manager, Oceanographic Technology; and **Dick West** is Manager, Oceanographic Facilities.

FLEET IMPROVEMENT COMMITTEE

Worth Nowlin, Chair, reported to UNOLS on the Fleet Improvement Committee's activities during 1988 and on their plans for 1989. Fleet improvement issues remain among the most critical issues facing UNOLS, and the Fleet Improvement Committee is perhaps the most active element in UNOLS.

An important activity has been reviewing federal agency plans and, as requested, advising agencies on ship-related matters. Importantly, **in 1988 the FIC reviewed NAVSEA design development for a large SWATH then being advanced as the AGOR-24 research vessel for the academic fleet.** The Committee agreed that the proposed design was not suitable for UNOLS use and recommended UNOLS institutions not accept the design; UNOLS and all UNOLS Member Institutions concurred and, later, NAVSEA cancelled work on the design.

A preliminary design study of a large, general-purpose, monohull research vessel was initiated; the design is based on the concept developed by Glosten and Associates and Scripps. Tank tests have been completed, and the final design report is expected in early 1989.

The FIC report **Concept Design for a General-purpose SWATH Oceanographic Research Ship** by SEACO was issued in June 1988. The concept is promising and meets FIC criteria, except for excessive pitch under some conditions. Need for the azimuthal thrusters (other than fixed propellers) was also questioned. Further work is being commissioned to address those points in a concept design for a two-strut intermediate SWATH.

Scientific Mission Requirements for Oceanographic Research Vessels was issued in October 1988 in loose-leaf form. The report contains updated requirements for three large ships (over 200 ft LOA), a large high-endurance, a large medium-endurance and a large high-performance SWATH; for two intermediates (150-199 ft LOA), a monohull and a SWATH; and two small ships (100-149 ft LOA), a monohull and a SWATH. The intent is to keep requirements for these ships up-to-date and to add requirements for ships of other configurations or purposes as they are developed.

As part of their effort to update and amplify the **UNOLS Fleet Improvement Plan,** the Committee issued several separate reports: **Scientific Requirements for the UNOLS Fleet, February 1988** projects ship needs through 1996 based mainly on program projections from federal funding agencies; **Arctic Science Requirements for Ice-worthy Research Vessels, July 1988** was prepared in part to respond to a request from the Assistant Director for Geosciences, National Science Foundation, and in part to enunciate the ocean community's requirements for a research vessel capable of and committed to research in ice-covered seas in the Arctic. The **History of the U.S. Academic Oceanographic Research Fleet and the Sources of Research Ships, September 1988** was prepared and issued to provide perspective for efforts to improve the research fleet, especially concerning the controversy on conversions versus new construction. (The Committee also inspected a group of vessels held by MARAD and assessed their potential for conversion to intermediate

general-purpose research vessels. **The Committee also sponsored workshops on potential improvements and refit requirements for existing intermediate vessels and some small vessels.** In some instances, improvements and refits provide alternatives to new construction or conversions.

UNOLS Office, WB-15
School of Oceanography
University of Washington
Seattle, WA 98195

62-6678

FIRST CLASS

10 Buck