

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

ADVISORY COUNCIL MEETING
National Science Foundation
1800 G Street N.W.
Washington, D.C.

Minutes of Meeting, May 24, 1984

Advisory Council Members and representatives from the National Science Foundation, the Office of Naval Research and UNOLS convened in Room 643, National Science Foundation, 1800 G Street N.W., Washington, D.C. The meeting was called to order at 8:30 a.m. by Vice Chairman Harris B. Stewart, Jr., in the absence of Charles Miller.

Attendees

Advisory Council

Harris B. Stewart, Jr., Acting Chairman
Robertson P. Dinsmore
Donn S. Gorsline
Bruce Robison
John C. Van Leer
Ferris Webster, *ex-officio*
Joseph R. Curray, *ex-officio*

Unable to Attend

Robert W. Corell
Roger Larson
Charles B. Miller

Observers

Grant Gross, NSF
Keith Kaulum, ONR
Ron La Count, NSF
Robert Wall, NSF
John McMillan, NSF
Richard West, NSF
Tom Cooley, NSF

UNOLS Office

William D. Barbee
Mitch Stebens



The Minutes of the Advisory Council meeting of February 2, 3, 1984, in Pigeon Key, Florida were accepted.

Except as noted the meeting followed the tentative agenda (Appendix I).

The Council role on *Fleet Efficiency and Effectiveness* was addressed at the beginning of the meeting. Summaries of Cruise Assessment form returns for cruises in the third and fourth quarters, 1983 and first quarter, 1984 had been distributed earlier to Advisory Council members. Returns from these three periods covering July, 1983 through March, 1984 were nearly complete, and portrayed a healthy and effective fleet. Of significance:

- at least some returns were received from every ship in the UNOLS fleet save one,
- consistent comments on the capability and helpfulness of the officers and crews of various UNOLS ships indicate that the UNOLS fleet is well crewed,
- reports for these periods include a noticeable increase in favorable comments on the performance of marine technicians from various institutions and ships,
- many of the problem areas cited in reports are short lived, and there is evidence of quick response by operating institutions.

In summary, UNOLS Cruise Assessment forms seem to be working, principal investigators are generally cooperative and operating institutions have accepted the process.

In discussing community acceptance of UNOLS' cruise assessments, it was noted that some investigators view the forms as unnecessarily negative. NSF and ONR representatives endorsed the process, however, noting that the main purpose is diagnostic, and problem areas must be highlighted if that purpose is to be fulfilled. The assessments also provide valuable communications between research and operations at some institutions and throughout UNOLS.

The Advisory Council directed that the summaries of Cruise Assessments for the periods July-December, 1983 and January-March, 1984 be distributed to sponsoring agencies and UNOLS operating institutions.

The Advisory Council examined the agenda for the forthcoming UNOLS Semi-annual meeting.

In the absence of R. Corell, W. Barbee reported on activities of the ALVIN Review Committee, including their review meeting of May 14, 15, 1984. The ARC reviewed 35 requests for a total of 402 ALVIN dives in the Pacific during 1985. The Committee rated 25 of these requests for approximately 275 dives either outstanding or excellent, and recommended to sponsoring agencies and to the W.H.O.I. ALVIN operators that they be scheduled. It was clear that completing the dives recommended would require ALVIN/ATLANTIS II to remain in

the Pacific for all of 1985 and for three to six months in 1986. It was also noted that there is demand for ATLANTIS II for non-ALVIN use. Although the ARC has not completed its consideration of this last question, they were firm in their recommendation that ALVIN/ATLANTIS II remain in the Pacific as far into 1986 as required to do the recommended work.

The Advisory Council commended Robert W. Corell for his excellent continuing contribution as Chairman, ALVIN Review Committee together with members of the Committee for their consistently excellent service.

Further discussion centered on the continuing strong demand for ALVIN (or other deep submersible) time. Although the present situation may, in part, reflect the backlog accumulated during 1983, it was suggested that requests for dives will continue to tax ALVIN capacity. The availability for research use of the NAVY-operated submersibles NR-1, SEACLIFFE and TURTLE was suggested as a possible factor in alleviating the problem.

The UNOLS-National Expeditionary Planning Committee report was characterized for the Council. UNEPC has published in EOS provisional summary plans for large and intermediate UNOLS ships for 1985 and beyond. These tentative schedules provide information to prospective investigators, operators and agency program managers alike for advanced planning purposes. (The summaries will also be included in UNOLS News, and will be added to the UNOLS ship scheduling bulletin board.)

In its first year, UNEPC was successful in assembling information for advanced planning in 1986-1987. Although the workshops held during 1983-84 (at the Fall AGU and the Ocean Sciences meetings) did not meet all expectations, a small meeting will be held at the AGU/Ocean Sciences meeting during winter 1984-85. Emphasis will be on informing the community of tentative ship plans, on funding agency program forecasts and on gaining information on large program plans for ship use (without soliciting presentations from individual investigators).

It was suggested that UNEPC establish a firmer contact with U.S. members of the JOIDES Planning Committee.

Robertson P. Dinsmore, Chairman, *UNOLS Fleet Replacement Committee (FRC)* reviewed his report to UNOLS for the Council. (The Fleet Replacement Committee report for 1983-84 is appended to the UNOLS Semiannual Meeting Report for May, 1984.)

The FRC has defined the scope of their work to include consideration of any ship replacement that would affect the composition of the UNOLS fleet (e.g., University of Texas plans to replace the R/V FRED H. MOORE, USC plans to replace the R/V VELERO IV, Scripps plans to replace the R/V ELLEN B. SCRIPPS).

A recent NECOR workshop resulted in sets of ship requirements and recommendations for ship design studies for two large ships: a conventional monohull design and a SWATH ship design.

The University of Texas will pursue a number of conceptual design studies, and three of these will be used in the FRC's conceptual design study

phase, together with two design studies by W.H.O.I. (for NECOR) and three in the UNOLS study proposal--a total of eight conceptual design studies. The FRC community wide workshop on projected research ship requirements and conceptual ship designs to meet those requirements will be held in November, 1984.

Grant Gross, Director, Division of Ocean Sciences (OCE), NSF, noted that OCE's long range planning efforts should provide valuable definition of projected research ship needs. He noted that in the past the Division's effort to enhance their program have perhaps foundered on the lack of adequately focused comprehensive, long-range plans. OCE, through the National Academy of Science's Board on Ocean Science and Policy, is developing a long range plan for ocean science, relevant portions of which could be made available to the FRC in Fall, 1984.

At the request of Ronald La Count, the Agenda was adjusted to hear Price Lewis, Jr., Manager, Polar Operations Section, Division of Polar Programs, NSF, discuss DPP's acquisition of the POLAR DUKE. Since the vessel HERO was no longer serviceable for polar operations, DPP required a replacement vessel. After conducting a search and identifying suitable, available vessels, DPP has contracted for the POLAR DUKE, beginning May 9, 1984. The vessel description is Appendix II. The vessel will be operated under a sub-contract, in support of the Division of Polar Programs' antarctic work and South American geology. Approximately 5-6 months annually will be devoted to support of Palmer Peninsula Operations. The POLAR DUKE has some capability for supporting oceanographic research, and should be available during a part of each year (although no schedule of availability has yet been developed).

The Division of Polar Programs is considering the feasibility of submitting POLAR DUKE to the UNOLS scheduling process. Tentatively, daily costs for the vessel would be \$6,300, plus food, fuel and other expenses.

In an executive session at the end of their meeting, the Advisory Council reviewed the information presented by Mr. Lewis of DPP.

The Advisory Council, noting the addition of POLAR DUKE in the United States Federal oceanographic research fleet, recommends that the National Science Foundation consider including POLAR DUKE in UNOLS ship scheduling procedures and that they advertise the availability of the POLAR DUKE.

W. Barbee presented a short report on the *Committee on International Restrictions to Ocean Science Research (IROSC)* that had been provided by Chairman Robert Corell (Appendix III) for presentation at the forthcoming UNOLS meeting. IROSC held a telephone conference meeting in April, 1984. The main points were: discussion of a clearinghouse concept to enhance international marine science cooperation, mechanisms to monitor and facilitate foreign clearances and to monitor performance on post-cruise obligations, review of the IROSC charge, and a recommended reorganization of IROSC.

IROSC considered the draft description of a Program for International Marine Science Cooperation by Committee Member David A. Ross (to be presented at the forthcoming UNOLS meeting). The committee formed a resolution for presentation to the Advisory Council:

"The Committee on International Restrictions to Ocean Science Research (IROSC) of the UNOLS Advisory Council, recommends that the IROSC be charged with the responsibility of developing a proposal to establish organizational arrangements, such as an Office of International Marine Science Cooperation, to:

1. Provide a point of contact and a source of information within the United States, for foreign marine scientific agencies, institutions and individuals interested in international marine scientific program and activities.
2. Search for opportunities for cooperation in international marine scientific research in foreign countries and to disseminate such information to the U.S. marine science community.
3. Determine and maintain information about individuals, agencies and institutions within the U.S. who wish to work in foreign countries.
4. Provide a "clearinghouse" and "matching" role to connect U.S. interests with foreign requirements and opportunities, and hence, to facilitate cooperative U.S./foreign marine scientific research.
5. Maintain a compendium on foreign country requirements, regulations and conditions affecting cooperative international marine scientific research programs and activities.
6. Provide follow-up mechanisms to determine characteristics of successful programs and the ingredients of those programs which have limitations or which have failed.

The Committee is further charged with determining the agency or organization (such as the National Academy of Science, UNOLS, etc.) within the U.S. most capable of carrying out such a charge.

The Advisory Council approved of the resolution from the Committee on International Restrictions to Ocean Science Research that they develop a proposal to establish organizational arrangements, such as an Office of International Marine Science Cooperation, and determine the agencies or organizations within the U.S. most capable of carrying out such a charge.

It was the sense of the Council that the clearinghouse concept should be presented to the UNOLS membership on an informational basis but that no firm expression of UNOLS member's wills should be sought until a concrete proposal could be presented.

IROSC suggested that the UNOLS Office should play a role in support of the Department of State in monitoring and facilitating clearances, and that the Office should monitor the fulfillment of post-cruise obligations, in support of UNOLS institutions.

The Advisory Council deferred comment.

IROSC recommended that two year terms be established for its members, and that a new chairman be designated.

The Advisory Council concurred, but deferred action until its next meeting.

Bruce Robison and Harris Stewart reported on meetings of the *East and West Coast Ship Scheduling Groups*. The scheduling process is working well, and the fleet will be generally well-utilized and fully scheduled in 1985. Scheduling problems flagged for 1985:

Large ships are over-subscribed, and it may be necessary to slip some South Atlantic-Southern Ocean work from 1985 into 1986.

One intermediate ship in the Atlantic, the R/V COLUMBUS ISELIN, is forecast to be underutilized in 1985. The East Coast Ship Scheduling Group tentatively recommends that it be transferred to the West Coast (USC) on a trial basis.

(The Council deferred consideration of this recommendation until late in the meeting.)

It was again noted that funding for ocean science proposals requiring ship time was better defined and funding decisions more timely for 1985 than at any time in the recent past. This has contributed greatly to better scheduling in 1985. *The Advisory Council commended Robert E. Wall, Head, Ocean Sciences Research Section (OSRS) for his recognition of the need in scheduling for timely science funding decisions and for his and his section's efforts in response to that need.*

A report on UNOLS Office activities and consideration of the UNOLS Office grant were deleted.

Harris B. Stewart, Chairman, Nominations Committee, reviewed the nominations process and proposed slates for UNOLS officers and Advisory Council members.

Bruce Robison led a discussion of *Fleet Management* focused on reexamination of the Council's report *Composition, Distribution and Management of the UNOLS Fleet, 1982*, and on a number of current problems in fleet management. Statistics on UNOLS Ship Operating Costs, forecast through 1985 and on a comparison of available and actual ship use days were distributed to Council members and to agency representatives. (Appendices IV and V).

Problems identified included ISELIN utilization in 1985, ALPHA HELIX underutilization and expense of operation, and the oversubscription of large, especially Class B, vessels.

The Council discussed the projected ISELIN schedule for 1985 and the tentative recommendation from the East Coast Ship Scheduling Group that it be reassigned on a trial basis. It was noted that in 1983 and 1984, the ISELIN schedule has been adequate, and that the University of Miami-RSMAS is making efforts to augment its seagoing program (and thus, ISELIN use). At the conclusion of the discussion, the Advisory Council recommended to the National Science Foundation, the temporary relocation, for at least two years, of the R/V COLUMBUS ISELIN to the West Coast by 1985, if the projected level of underutilization is realized.

The Council noted that the return of the MOANA WAVE to the UNOLS fleet may help alleviate oversubscription of large ships.

It had been suggested in the past that the ALPHA HELIX might be assigned, at least part time, for work off Washington and Oregon. The Council agreed that they did not have sufficient information to address that problem, and directed the Executive Secretary to solicit information from northwest UNOLS institutions.

John Van Leer discussed *platform design ideas*, noting that SWATH ships will be included in Fleet Replacement Committee studies and that the three best multihull designers available will contribute.

Donn Gorsline noted that *UNOLS communications* are improving, and the UNOLS News is going well. The Council directed that Council members of AGU and ASLO be added to the News mailing list.

Both Ron La Count and Keith Kaulum declined the opportunity to report on activities in their agencies, deferring to reports they would make at the UNOLS meeting.

A letter from E. R. Dieter, Chair, Research Vessel Operators Council to Ferris Webster was introduced. The letter announces a Fall, 1984 RVOC meeting and solicits UNOLS input. The Council deferred detailed consideration until its June, 1984 meeting.

Dates were selected for fall Advisory Council, Ship Scheduling, UNEPC and UNOLS meetings in Washington, D.C.

Advisory Council	October 24, 1984
Ship Scheduling	October 25, 1984
UNEPC	October 25, 1984
UNOLS Semiannual	October 26, 1984

A short executive session was held. After Federal representatives had excused themselves, the Council considered DPP plans for the POLAR DUKE and reached the recommendation noted above.

The meeting was adjourned at 11:55.

UNOLS Advisory Council
Agenda for Meeting
8:30 - 12:00, 23 May 1984
Room 643
National Science Foundation, 1800 G Street NW
Washington, D.C.

Accept minutes of February 2, 3, 1984 meeting

Examine Agenda for May, 1984 Semi-Annual Meeting:

ALVIN Review Committee Report: W. Barbee (R. Corell cannot attend)
Fleet Replacement Committee Report: R. Dinsmore
UNEPC Report: W. Barbee
International Restrictions Committee Report: W. Barbee
Ship Scheduling Groups Report: B. Robison, H. Stewart
UNOLS Office Activities: W. Barbee
Nominations for UNOLS, A/C Officers: H. Stewart
Review of UNOLS Grant: W. Barbee

STATUS OF STANDING ROLES AND INPUT TO ANNUAL REPORT

FLEET EFFICIENCY AND EFFECTIVENESS - Curray
ACCESS FOR OCEAN RESEARCH - Corell (unless covered in report above)
SPECIALIZED INSTRUMENTATION FACILITIES - (C. Miller will be at sea, but does intend to continue with this role)
REPLACEMENTS, ADDITIONS AND RETIREMENTS, UNOLS FLEET - Dinsmore (unless covered in report above)
REGIONAL SHIP SCHEDULING GROUPS - Robison, Stewart (unless covered above)

FLEET MANAGEMENT

UPDATE ON A/C REPORT - Robison

PLATFORM DESIGN IDEAS - Van Leer

COMMUNICATIONS - Gorsline

SPONSORING AGENCY INFORMATION TO ADVISORY COUNCIL

Report (as they wish) from K. Kaulum, R. R. La Count and others, to augment reports scheduled for Semi-Annual Meeting.

OTHER BUSINESS

Policy concerning Associate Members - (e.g. the S.E.A. inquiry)

DESCRIPTION OF VESSEL
M/V POLAR DUKE

Built: 1983	Speed, Cruising: 13 knots
Length: 219 ft.	Speed, Full: 15 knots
Beam: 43 ft.	Speed, Min: 1 knot
Draft: 19 ft.	Endurance: 90 days
Gross Tonnage: 615 tons	Range: 25,000 nautical miles
Displacement: 1600 tons	Fuel Capacity: 265,000 gals.
Crew: 14	Laboratory Space:
Scientific Personnel: 27	Not yet determined; vans (at least 4) as needed.
Main Engine(s): 2 Mak-6M453AK 2250 bhp at 600 #rpm	Ice Classification: 1A1 (ABS 1AA). Continuously breaks 1 meter, year old ice at 4 knots.
Bow Thruster and Stern Thruster	Double Bottom Hull
Ship's Service Generator(s):	2 G.M. Detroit diesel 8V92T coupled to Stamford generator MC 534C 305 KVA.
Propellers(s): Hjelset C.P. propeller and Kort Nozzle - 240 rpm	
Ownership: Title held by <u>Carino Shipping Ltd., Canada</u>	
<u>Electronic and Navigation Equipment</u>	<u>Oceanographic Equipment</u>
Radar-Decca RM 916 A/C-3cm.	Deep-sea trawl winch.
Radar-Decca TMS 1230C-10 cm-true motion.	Coring/dredging winch.
Navigation echosounder-Simrad ED.	Hydro winch.
Satellite communication: Racal SES-A1 (Comsat General MCS-9000) Tlx no. 1560316.	CTD winch.
Radio direction finder-Taiyo TD-L 100.	Crane-22 tons.
Doppler log-Simrad NL.	Crane-1.5 tons.
Satellite Navigation receiver-Magnavox MX3102.	Helicopter platform (below deck storage for helicopter).
SSB-radio Skanti TRP5000 (MF + HF).	
SSB-radio - Skanti TRP6000 (MF).	
VHF radio - 2 Sailor RT 143 - 55 channels, duplex, dual watch.	
1 Sailor RT 144B 55 channels, simplex, dual watch.	
Portable UHF-radio-SRA (4 sets).	
Aero VHF-radio-King Ky 195 B.	
Helicopter homing beacon - South Arionics SS800A.	
Gyro compass Anschutz SA-4 coupled to Anschutz autopilot.	
Automatic telephone/sound powered hailing system to all cabins and mess rooms.	
Separate soundpowered telephone between eng. room and bridge.	
Other equipment according to regulations.	

UNIVERSITY OF NEW HAMPSHIRE

LINH Marine Program
 Marine Program Building
 Durham, New Hampshire 03824
 (603) 862-2994

FROM: Robert W. Corell *Bob*

DATE: April 27, 1984

SUBJ: Report of the Committee on International Restriction to
 Ocean Science Research

Outline for the Report to UNOLS, May 25, 1984

1. A discussion on the "clearinghouse" concept and a presentation of the recommendation of the Committee (draft in a companion message).
2. A discussion, following the presentation by a State Department representative on systems of follow-up to our work in foreign waters - mechanism to assure ourselves that we have met our obligations. Our committee felt UNOLS should possibly play the lead role in:
 - (a) Monitoring and facilitating clearances, with State doing it.
 - (b) Monitoring and facilitating the follow-up on obligations, with the institutions doing most, if not all, of it.
3. Reviewing with the Membership and Advisory Council the committee change and to ascertain if the committee is aware of all needs and expectations.
4. Recommending that the Committee have a rotating, overlapping term of office, two years. Further, the Committee asks that the Advisory Council assign terms of office to the present members and suggests that the membership include individuals like George Shor and Tex Treadwell who are experienced in international clearance and related matters. The Committee felt that the size of the current committee is about right, so some current members might be rotated off now, or in the near future, if others are appointed.
5. The current chair has indicated a desire to "step-down" and requests that a new chair be appointed.



COMPARISON OF AVAILABLE AND ACTUAL OR
PROJECTED USE DAYS 1983-1985

APPENDIX IV
21 May 1984

SHIP	1983		1984		1985		Remarks
	Available	Actual	Available	Estimated Actual	Available	Projected Use	
CLASS A							
KNORR	260	279	260	255	260	270	
MELVILLE	260	257	260	244	260	297	
THOMPSON	165	158	260	267	260	260	Midlife refit 1983
Subtotal	685	684	780	766	780	827	
CLASS B							
ATLANTIS II	0	0	260	321	260	290	Refit for ALVIN 1983
CONRAD	260	268	260	315	260	325	
WASHINGTON	165	155	260	292	260	297	Midlife refit 1983
Subtotal	425	423	780	928	780	912	
CLASS C							
ENDEAVOR	240	227	240	257	240	271	
GYRE	240	249	240	268	240	270	
ISELIN	240	225	240	255	240	225	
KANA KEOKI	240	286	240	156	-	-	Out of service Sept. 84
MOANA WAVE	-	-	240	68	240	316	In service Oct 84
NEW HORIZON	240	209	240	249	240	227	
OCEANUS	240	253	240	258	240	250	
WECOMA	240	254	240	223	240	260	
Subtotal	1680	1703	1680	1734	1680	1819	
CLASS D							
ALPHA HELIX	220	138	220	119	220	247	
CAPE FLORIDA	220	180	220	214	220	220	
CAPE HATTERAS	220	235	220	245	220	250	
CAPE HENLOPEN	220	69	220	174	220	174	
(FRED MOORE)	(220)	(?)	(220)	(163)	(220)	(169)	Not incl in Class/Fleet tot
VELERO IV	220	131	220	131	220	215	
WARFIELD	220	124	220	155	220	138	
Subtotal	1320	877	1320	1038	1320	1244	
CLASS E							
CAYUSE	200	127	200	128	200	125	
E.B. SCRIPPS	200	135	200	160	200	177	
LAURENTAIN	(200)	-	(200)	-	(200)	-	Not incl in Class/Fleet tot
Subtotal	400	262	400	288	400	302	
CLASS F							
BLUE FIN	200	160	200	220	200	220	
BARNES (ONAR)	200	189	200	190	200	200	
CALANUS	200	120	200	108	200	196	
LONGHORN	(200)	(66)	-	-	(200)	-	Not incl in Class/Fleet tot
Subtotal	600	469	600	518	600	616	
TOTAL	5110	4418	5560	5272	5560	5720	

Notes

1. All ships currently in or contemplated for UNOLS fleet are included.
2. Changes from Composition, Distribution and Management of the UNOLS Fleet, October, 1982:
 - A. From Table 2a, p 7., Introduction and Table 2.1, Ch 1, p 6

CLASS D

<u>1982</u> <u>Table 2a</u>	<u>1982</u> <u>Table 2.1</u>	<u>1984</u>
ALPHA HELIX	ALPHA HELIX	ALPHA HELIX
C. FLORIDA	C. FLORIDA	C. FLORIDA
C. HATTERAS	C. HATTERAS	C. HATTERAS
VELERO IV	VELERO IV	C. HENLOPEN
	R. WARFIELD	FRED MOORE
		VELERO IV

CLASS E

C. HENLOPEN	CAYUSE	CAYUSE
CAYUSE	E.B. SCRIPPS	E.B. SCRIPPS
E.B. SCRIPPS		LAURENTIAN
LAURENTIAN		
R. WARFIELD		

CLASS F

BLUE FIN	BLUE FIN	BLUE FIN
CALANUS	CALANUS	BARNES
HOH	HOH	CALANUS
LONGHORN	LONGHORN	LONGHORN
ONAR	ONAR	

3. Available time calculated:

CLASS A	260 days/year
B	260 days/year
C	240 days/year
D	220 days/year
E	200 days/year
F	200 days/year

Ships out of service (AII in 1983, THOMPSON and WASHINGTON part of 1983, MOANA WAVE, 1983 and part of 1984 and KANA KEOKI, part 1984 and 1985) show adjusted availability.

4. Use sources

1983 Actual from UNOLS Use Summaries
 1984 Estimated actual from Ship Schedule meetings, spring 1984
 1985 Projected use from Ship Schedule meetings, spring 1984

5. In comparing with information available in 1982 when Fleet Study was completed, see the two tables, 2a, p 7, Introduction and 2.1, p 6, Chapter I as well as the graphs on pp 14, 17, 20 of Chapter III.
6. Neither available nor actual use days were included in class subtotals or fleet totals from the FRED MOORE, LAURENTIAN or LONGHORN.

412 - use of product (only use amount 1380)

Category	1983 Actual	1984 Est. Actual	1985 Proj. Actual
COAST GUARD (VET)	20,530	21,328	21,500
COAST GUARD (REG)	21,100	21,328	21,500
COAST GUARD (TOTAL)	41,630	42,656	43,000
NAVY (VET)	20,530	21,328	21,500
NAVY (REG)	21,100	21,328	21,500
NAVY (TOTAL)	41,630	42,656	43,000
ARMY (VET)	20,530	21,328	21,500
ARMY (REG)	21,100	21,328	21,500
ARMY (TOTAL)	41,630	42,656	43,000
AIR FORCE (VET)	20,530	21,328	21,500
AIR FORCE (REG)	21,100	21,328	21,500
AIR FORCE (TOTAL)	41,630	42,656	43,000
NAVY (TOTAL)	41,630	42,656	43,000
ARMY (TOTAL)	41,630	42,656	43,000
AIR FORCE (TOTAL)	41,630	42,656	43,000
NAVY (TOTAL)	41,630	42,656	43,000
ARMY (TOTAL)	41,630	42,656	43,000
AIR FORCE (TOTAL)	41,630	42,656	43,000

APPENDIX V

Compilation Date: 5/84

SUMMARY OF UNCLAS SHIP OPERATING COSTS

SHIP	1979 (Actual)	1980 (Actual)	1981 (Actual)	1982 (Actual)	1983 (Actual)	1984 (Estimated)	1985 (Projected)
KNERR (WHDI)							
Total Operating Cost	\$1,535,600	\$1,862,800	\$2,592,000	\$2,366,885	\$3,240,250?	\$3,153,000	\$3,375,000
Operating Days	208	246	235	258	279	255	270
Days At Sea	186	237	210	242	---	---	---
Cost Per Day	\$7,383	\$7,572	\$11,030	\$9,174	\$11,572?	\$12,365	\$12,500
MELVILLE (SIO)							
Total Operating Cost	\$809,998	\$1,789,691	\$2,780,181	\$2,094,432	\$3,181,500	\$3,170,000	\$3,378,000
Operating Days	126	159	247	175	257	244	297
Days At Sea	112	152	217	165	---	---	---
Cost Per Day (actual)	\$6,429	\$11,256	\$11,256	\$11,968	\$12,379	\$12,992	\$11,373
Cost Per Day (charged)	---	\$8,357/8,686	---	---	---	---	---
THOMPSON (LW)							
Total Operating Cost	\$1,581,039	\$1,767,219	\$1,950,970	\$2,164,256	\$1,616,000	\$2,323,000	\$2,513,000
Operating Days	283	264	264	265	158	267	260
Days At Sea	264	246	252	245	---	---	---
Cost Per Day	\$5,586	\$6,700	\$7,398	\$8,166	\$10,228	\$8,700	\$9,665
ATLANTIS II (WHDI)							
Total Operating Cost	\$1,227,300	\$2,404,600	\$2,174,600	\$673,963	\$1,894,000?	\$3,314,000	\$3,370,000
Operating Days	84	322	221	mid-life	0?	321	290
Days At Sea	74	280	198	refit	---	---	---
Cost Per Day	\$14,611	\$7,468	\$9,840	---	?	\$10,323	\$12,310
CONRAD (LDCC)							
Total Operating Cost	\$1,629,217*	lay up	lay up	\$1,933,715	\$2,709,480?	\$2,875,000	\$3,282,000
Operating Days	323	and	and	284	268	315	325
Days At Sea	278	refit	refit	264	---	---	---
Cost Per Day	\$5,044	---	---	\$6,818	\$10,110?	\$9,125	\$10,980
WASHINGTON (SIO)							
Total Operating Cost	\$1,310,883	\$1,930,603	\$2,127,249	\$2,310,103	\$1,837,152	\$3,189,000	\$3,335,000
Operating Days	171	270	213	240	155	292	297
Days At Sea	156	247	198	228	---	---	---
Cost Per Day (actual)	\$7,666	\$7,150	\$9,987	\$9,625	\$11,853	\$10,921	\$11,229
Cost Per Day (charged)	---	\$7,638/8,135	---	---	---	---	---
ENDEAVOR (LRI)							
Total Operating Cost	\$1,169,940	\$1,329,866	\$1,685,062	\$1,376,061	\$1,601,000	\$1,634,000	\$2,017,000
Operating Days	274	251	272	248	227	257	271
Days At Sea	251	238	249	243	---	---	---
Cost Per Day	\$4,270	\$5,382	\$6,196	\$5,549	\$7,050	\$6,358	\$7,443

*13 month budget (only one month 1980)

SHIP	1979 (Actual)	1980 (Actual)	1981 (Actual)	1982 Actual)	1983 (Actual)	1984 (Estimated)	1985 (Projected)
GYRE (TAMU)							
Total Operating Cost	no data	\$1,547,409	\$1,565,000	\$1,720,000	\$1,890,000?	\$1,850,000	\$1,940,000
Operating Days	available	242	288	236	249	268	270
Days At Sea		216		200			
Cost Per Day		\$6,394	\$5,416	\$7,290	\$7,590?	\$6,902	\$7,185
KAWA KEOKI (UH)							
Total Operating Cost	\$1,109,544	\$842,763	\$1,160,042	\$1,276,124	\$1,305,000	\$999,960	Will Not
Operating Days	302	181	262	279	286	156	Operate
Days At Sea							
Cost Per Day	\$3,674	\$4,656	\$4,428	\$4,574	\$4,563	\$6,410	
ISELIN (RSWS)							
Total Operating Cost	\$1,243,717	\$1,039,698	\$1,085,196	\$716,607	\$1,482,348	\$1,637,000	\$1,709,000
Operating Days	284	173	226	0	225	255	225
Days At Sea							
Cost Per Day	\$4,379	\$6,010	\$4,802		\$6,588	\$6,498	\$7,595
MONA WAVE (UH)							
Total Operating Cost	\$904,050	\$867,337	\$1,080,260	\$1,156,225		\$419,560	\$1,542,396
Operating Days		366	365	365		68	316
Days At Sea							
Cost Per Day	\$2,575	\$2,370	\$2,960	\$3,168		\$6,170	\$4,881
NEW HORIZON (SIO)							
Total Operating Cost	\$765,577	\$1,252,564	\$1,193,625	\$1,464,608	\$1,406,210	\$1,853,000	\$1,749,000
Operating Days	204	196	215	242	209	249	227
Days At Sea	197	190	215	229			
Cost Per Day (actual)	\$3,753	\$6,391	\$5,552	\$6,052	\$6,996	\$7,441	\$7,705
Cost Per Day (charged)		\$6,372/5,825					
OCEANUS (WHOI)							
Total Operating Cost	\$1,093,600	\$1,219,400	\$1,283,500	\$1,281,954	\$1,780,000?	\$1,739,000	\$1,790,000
Operating Days	232	257	239	225	253	258	250
Days At Sea	230	247	229	223			
Cost Per Day	\$4,714	\$4,745	\$5,370	\$5,698	\$7,007?	\$6,740	\$7,160
WECOMA (OSU)							
Total Operating Cost	\$1,119,901	\$1,385,903	\$1,394,269	\$1,335,324	\$1,832,000	\$1,628,541	\$1,864,000
Operating Days	255	276	236	236	254	223	260
Days At Sea	216	244	231	235			
Cost Per Day	\$4,392	\$5,021	\$5,908	\$5,658	\$7,212	\$7,303	\$7,169
ALPHA HELIX (UA)							
Total Operating Cost		\$1,004,179	\$1,335,080	\$1,240,635	\$1,397,400	\$1,274,000	\$1,805,000
Operating Days		131	142	177	138	119	247
Days At Sea		133	138	175			
Cost Per Day		\$7,665	\$9,402	\$7,009	\$10,126	\$10,706	\$7,308

SHIP

	1979 (Actual)	1980 (Actual)	1981 (Actual)	1982 (Actual)	1983 (Actual)	1984 (Estimated)	1985 (Projected)
CAPE FLORIDA (RSMAS)							
Total Operating Cost	---	1981	\$526,102	\$789,728	\$893,694	\$1,113,000	\$1,233,000
Operating Days	---	first year	101	203	180	214	220
Days At Sea	---	of	97	---	---	---	---
Cost Per Day	---	operation	\$5,209	\$3,890	\$4,965	\$5,200	\$5,605
CAPE HATTERAS (DUKE/LNC)							
Total Operating Cost	---	1981	\$541,150	\$1,102,342	\$1,220,000(?)	\$1,320,000	\$1,373,000
Operating Days	---	first year	outfitting	266	235	245	250
Days At Sea	---	of	---	251	---	---	---
Cost Per Day	---	operation	---	\$4,144	\$5,191(?)	\$5,388	\$5,492
VELERO IV (USC)							
Total Operating Cost	\$520,858	\$605,526	\$613,990	\$651,493	\$565,004	\$608,003	\$887,076
Operating Days	174	158	164	147	131	131	215
Days At Sea	174	158	162	147	---	---	---
Cost Per Day	\$2,993	\$3,833	\$3,741	\$4,432	\$4,313	\$4,641	\$4,125
BIJLE FIN (SKIDAWAY)							
Total Operating Cost	\$137,984	\$178,188	\$190,107	\$157,821	\$168,000(?)	\$180,000	\$190,000
Operating Days	196	186	146	136	160	220	220
Days At Sea	173	173	126	123	---	---	---
Cost Per Day	\$704	\$958	\$1,301	\$1,160	\$1,050	\$818	\$864
CALANUS (RSMAS)							
Total Operating Cost	\$123,743	\$199,131	\$143,880	\$190,020	\$194,324	\$215,000	\$271,000
Operating Days	120	177	146	156	120	108	196
Days At Sea	---	177	140	---	---	---	---
Cost Per Day	\$1,031	\$1,125	\$985	\$1,128	\$1,619	\$1,991	\$1,382
CAYUSE (MML)							
Total Operating Cost	\$105,058	\$326,176	\$447,140	\$412,263	\$476,283	\$466,584	\$440,000
Operating Days	48	133	158	135	127	128	125
Days At Sea	48	125	143	132	---	---	---
Cost Per Day	\$2,189	\$2,453	\$2,830	\$3,037	\$3,750	\$3,645	\$3,520
CAPE HENLOPEN (LD)							
Total Operating Cost	\$192,000	\$354,090	\$522,060	\$667,978	\$788,000?	\$748,000	\$793,000
Operating Days	64	111	154	157	69	174	174
Days At Sea	64	111	154	154	---	---	---
Cost Per Day	\$3,000	\$3,190	\$3,390	\$3,700	?	\$4,299	\$4,557

SHIP

	1979 (Actual)	1980 (Actual)	1981 (Actual)	1982 (Actual)	1983 (Actual)	1984 (Estimated)	1985 (Projected)
HCH (LW)							
Total Operating Cost	\$51,413	\$49,749	\$48,965	\$9,655	Did Not Operate	Did Not Operate	---
Operating Days	113	121	97	30			---
Days At Sea	113	121	97	30			---
Cost Per Day	\$455	\$411	\$505	\$322			---
QVAR (LW)							
Total Operating Cost	\$117,235	\$116,402	\$105,065	\$127,540	\$121,000	---	---
Operating Days	159	143	142	132	185	---	---
Days At Sea	159	143	142	132	---	---	---
Cost Per Day	\$737	\$814	\$740	\$966	\$654	---	---
LONGHORN (UT)							
Total Operating Cost	\$267,655	\$192,582	\$224,548	\$183,434	\$104,000(?)	?	?
Operating Days	129	78	101	58	66	?	?
Days At Sea	116	78	93	57	---	?	?
Cost Per Day	\$1,300	\$1,400	\$1,500	\$1,700	\$1,576	?	?
E. B. SCRIPPS (SIO)							
Total Operating Cost	\$311,452	\$399,726	\$416,001	\$380,560	\$437,267	\$438,000	\$653,000
Operating Days	127	138	146	111	135	160	177
Days At Sea	127	138	133	109	---	---	---
Cost Per Day (actual)	\$2,452	\$2,897	\$2,849	\$3,428	\$3,239	\$2,737	\$3,689
Cost Per Day (charged)	---	\$2,954/2,790	---	---	---	---	---
R. WARFIELD (JHL)							
Total Operating Cost	No Data Available	\$437,710	\$442,679	\$482,276	\$435,000	\$545,000	\$500,000
Operating Days		136	84	97	124	155	138
Days At Sea		136	84	97	---	---	---
Cost Per Day		\$3,218	\$5,269	\$4,972	\$3,508	\$3,516	\$3,623
BARNES (LW)							
Total Operating Cost	Did Not Operate	Did Not Operate	Did Not Operate	Did Not Operate	\$50,000	\$163,000	\$70,000
Operating Days					4	190	200
Days At Sea					---	---	---
Cost Per Day					N/A	\$857	\$850
MOORE							
Total Operating Costs						\$1,304,000	\$1,352,000
Operating Days						163	169
Days At Sea						---	---
Cost Per Day						\$8,000	\$8,000

1979 costs from Ship Operations proposals submitted by institutions on July 1980.
 1980 costs from Ship Operations proposals submitted by institutions on July 1981.
 1981 costs from Ship Operations proposals submitted by institutions on July 1982.
 1982 costs from Ship Operations proposals submitted in July 1983
 1983 estimates from Ship Operations proposals submitted July 1983
 1984 and 1985 estimates and projections from Ship Scheduling meetings spring, 1984.