

UNOLS SHIP SCHEDULING COMMITTEE

Report of Meeting

4 September 1991

Board Room
American Institute of Architects
1735 New York Avenue NW
Washington, DC

SCHEDULING REVIEW PANEL

Report of Meeting

5 September 1991

National Science Foundation
1800 G Street NW, Room 609
Washington, DC



**UNOLS SHIP SCHEDULING MEETING
SEPTEMBER 4, 1991
AMERICAN INSTITUTE OF ARCHITECTS
1735 NEW YORK AVENUE NW
WASHINGTON, DC**

The UNOLS Ship Scheduling Committee met at 0830 in the board room at the American Institute of Architects in Washington, DC on 4 September 1991. The meeting was called to order by the Chairman, Ken Palfrey. A list of the attendees is included as Appendix I.

The UNOLS Office notified the Committee and the community of the meeting and its agenda in a telemail message dated 5 August. The notice also announced the convening of a Schedule Review Panel scheduled for 5 September 1991. Reports from both of these meetings are included in this report. A copy of the Agenda is included as Appendix II

Ship schedules and operating cost figures were provided in advance via telemail from all operating institutions. A summary of the operating costs for 1991 and the proposed costs for 1992 are included as Appendix III.

Agency presentations were held after each institution had an opportunity to present their ship(s) schedule and the anticipated costs associated with that schedule. The WOCE community indicated a concern earlier in the year that their extensive sea programs would need special consideration because of the backup caused by ship delays. Comments on this issue were held until the end of the schedule presentation.

REVIEW AND UPDATE OF 1992 SCHEDULES
A BRIEF SUMMARY BY SHIP

Representatives from UNOLS operating institutions presented schedules and cost information for each ship in the UNOLS fleet. Detailed individual schedules were as presented on the UNOLS electronic mail bulletin board SHIP.SCHED92.

WHOI - OCEANUS. Dick Pittenger reported that OCEANUS is scheduled for 289 days most of which is in the Eastern Atlantic supporting subduction work. The entire schedule appears to be funded with minor adjustments recommended.

WHOI - AII. ATLANTIS II will start the year in Manzanillo, Mexico in support of ALVIN. Scheduling constraints due to scientific requirements necessitate a 70 day open period in Feb-Mar. The ship was then scheduled to complete its Pacific work and transit the Panama Canal for work in the

Gulf of Mexico and the Atlantic Ocean. NOAA has been scheduled for 87 days of this work. Comments during this meeting suggest a soft schedule. AII plans to return to Woods Hole in the later part of the year to overhaul ALVIN.

WHOI - KNORR. KNORR will complete its overhaul in October 1991 and return to Woods Hole for further outfitting. After shakedown cruises they are preparing for a full 291 day schedule in 1992. A warranty period has been scheduled for Valpariso, Chile in April. The remainder of the year is to be devoted to WOCE work.

URI - ENDEAVOR. Bill Hahn reported that ENDEAVOR's schedule for 1992 reflects 213 days of work in the Western North Atlantic including NSF, ONR and DOE funded science. A mid-life refit is planned to start in October upon completion of the scheduled science. Two cruises, Watts and Schnitker could not be accommodated.

LDGO - EWING. Mike Rawson reported that MAURICE EWING has been scheduled for a full year of MG&G science and presented two schedule options. These included several cruises in the Pacific and a Panama Canal transit for work in the Mid-Atlantic. No WOCE work has been scheduled aboard EWING.

DELAWARE - CAPE HENLOPEN. Waddy Owen reported that CAPE HENLOPEN's schedule for 1992 included 195 days, 110 of which are presently funded. This schedule included 50 to 60 days of cruises double booked aboard WARFIELD. All cruises were in the W. No. Atlantic and Chesapeake Bay.

JOHNS HOPKINS/MARYLAND - WARFIELD. Bruce Cornwall reported that RIDGELY WARFIELD scheduled 64 days of ship time including 16 different cruises all of which were in the Chesapeake Bay. It was acknowledged that these were double booked aboard HENLOPEN.

BERMUDA BIOLOGICAL STATION - WEATHERBIRD II. Harry Barnes reported that WEATHERBIRD II has been scheduled for 238 days comprising 68 separate cruises most of which are for the hydrographic station south of Bermuda.

DUKE - CAPE HATTERAS. Joe Ustech reported that CAPE HATTERAS presented a schedule of 268 days. After comments with funding agents and program managers 73 of the pending funding was found to be declined or ancillary.

MICHIGAN - LAURENTIAN. Linda Goad reported that LAURENTIAN scheduled 87 days for 1992. There is an anticipation of an additional 35 days of EPA ship time.

SKIDAWAY - BLUE FIN. BLUE FIN had no schedule presented at the meeting however electronic transmissions suggest an anticipated 94 days of ship time are planned for 1992.

HBOI - SEWARD JOHNSON. Tim Askew reported that SEWARD JOHNSON scheduled 164 days for 1992 including NSF, ONR and NOAA time. The funding agencies suggest 15 days of this time had been declined.

HBOI - EDWIN LINK. EDWIN LINK has a schedule for 230 days of ship time. NOAA and HBOI represent 147 of these days with 53 for ONR and 30 for NSF. Declines for 26 of the NSF days were indicated by the funding agencies.

MIAMI - ISELIN. COLUMBUS ISELIN has a schedule for work in the Florida Coast and Caribbean area with the later part of the year off Brazil. This schedule includes 287 days of mostly funded ship time.

MIAMI - CALANUS. CALANUS has a modest 120 day schedule planned for 1992. All but 20 of these days are funded.

LUMCON - PELICAN. Steve Rabalais reported that PELICAN is presently scheduled for 113 days of ship time for 1992. Nearly half of the time is MMS funded.

TEXAS - LONGHORN. LONGHORN has not published a 1992 schedule to date.

TEXAS A&M - GYRE. Dean Letzring reported that GYRE's schedule included 95 days all of which is for work in the Gulf of Mexico.

SIO - WASHINGTON. Rose Dufour reported that THOMAS WASHINGTON is scheduled for retirement in May 1992 after completing a schedule of 115 days.

SIO - MELVILLE. MELVILLE plans to be available for science in late May after an anticipated January delivery date from the shipyard. Three schedule options were presented reflecting 253 days, 190 days, and 161 days respectively. Nearly all cruises planned have been funded.

SIO - NEW HORIZON. NEW HORIZON presented a two option schedule for work in the San Diego area. Of the 257 days in option II 52 days were found to be declined by the funding agencies.

SIO - SPROUL. ROBERT GORDON SPROUL had 250 days scheduled, half of which is considered funded. Funding review suggested that 43 days of the proposed work would not be funded.

USC - VICKERS. Don Newman reported that VICKERS is expected to sail in 1992 with a unique arrangement with NOAA. This arrangement calls for NOAA to provide for crewing the ship with NOAA Corp officers. NOAA has scheduled 163 of the 243 days presented on VICKERS.

MLML - POINT SUR. Mike Prince reported that POINT SUR scheduled 181 days for 1992. Three cruises representing 84 days of proposed ship time were unscheduled. Two of these cruises were found to be declined. This schedule still represents an aggressive effort.

OSU - WECOMA. Ken Palfrey reported that WECOMA was scheduled with 315 days. The funding agencies indicated that 32 of these days were declined. This schedule starts in Hawaii, transits to Newport then in September returns to the Central Pacific.

UW - THOMPSON. Bill Jeffers reported that THOMAS THOMPSON will be operating their first year with a full 275 day schedule. JGOFS accounts for 230 of these days. The ship will take a 60 day shipyard warranty period May-July.

UW - BARNES. CLIFFORD BARNES was scheduled for 167 days however 34 days of this schedule had cruises that were declined by the funding agencies.

ALASKA - ALPHA HELIX. Tom Royer reported that ALPHA HELIX scheduled 164 days in the presented schedule. Funding information revealed 28 of these days were declined. This schedule was for all operations in Alaskan waters.

HAWAII - MOANA WAVE. Roy Wilkens reported that MOANA WAVE had a schedule of 282 days. The schedule included cruises starting in the Hawaii area then to Ponape and Lae, returning to Hawaii then returning again to Suva and Ponape. Funding looked sound for most of this schedule.

FUNDING SUMMARY

A funding summary as presented in Appendix III was discussed by Jack Bash with the Committee. This funding information represented what operators believe they need to operate the schedules presented. The 1992 requested funding exceeded the 1991 actual funding by \$12 million. Even with an anticipated increase in NSF funds a significant shortfall appears evident.

AGENCY PRESENTATIONS

Keith Kaulum of ONR predicted ship support at about \$6.2 million for 1992. This was down from the \$6.8 million for 1991. The successful delivery of Thompson and the completion dates of Knorr and Melville were discussed.

Don Heinrich and Dolly Dieter of NSF anticipate \$31 to \$31.5 million to be available for ship support for 1992. This suggests a shortfall of about \$8 million that must be worked out.

David Yeager of NOAA discussed the NOAA/USC arrangement with VICKERS and their potential for increased support of the academic fleet.

OTHER BUSINESS**Modification to Ship Scheduling Annex I.**

Ken Palfrey and Jack Bash reported on the modifications to the UNOLS Charter Annex I (see Appendix IV). A draft of the modified annex was presented for comment. This change would be offered to the UNOLS Council and the Membership for adoption. No corrections were suggested.

Ship Scheduling Process.

A brief discussion of the meeting schedules indicated a desire by the membership to continue with two annual meetings. The first meeting (June or July) would be divided East Coast and West Coast both of which would be held in Washington. The second meeting in the fall would remain as before in Washington as a joint meeting. It was also concluded that the scheduling process adequately satisfied the WOCE needs for ship time.

SHIP SCHEDULING MEETING ADJOURNED - 1600

**SCHEDULING REVIEW PANEL
SEPTEMBER 5, 1991
NATIONAL SCIENCE FOUNDATION
1800 G STREET NW, ROOM 609
WASHINGTON, DC**

A Scheduling Review Panel met in room 609 at NSF on 5 September at 0830. Present were Scheduling Chair, Ken Palfrey, ONR representatives Keith Kaulum and Joe Fondrk, NSF representatives Don Heinrichs and Dolly Dieter and UNOLS Executive Secretary, Jack Bash. A review was made of all schedules presented on 4 September. The purpose was to resolve discrepancies and consolidate schedules where possible. The results of this review have been transmitted to the respective institutions and are summarized below.

OCEANUS

The OCEANUS schedule appears very strong with all scheduled cruises funded totaling over 280 days. Subduction work in the Eastern Atlantic fills both the first and last third of the year. One cruise, Austin, (UTEX) should be dropped from the schedule. This cruise may be shifted to the North Pacific and would then be scheduled aboard ALPHA HELIX. The atmospheric chemistry cruise of Huebert should be added to the schedule which requires 28 station days in the Eastern Atlantic at 47 degrees north. Consideration should be given to transfer one or more cruises to another Atlantic ship (ENDEAVOR, CAPE HATTERAS or CAPE HENLOPEN) to lighten a busy schedule.

ATLANTIS II

The ATLANTIS II has a very soft schedule for 1992 with only 85 funded days (74 NSF and 11 KAPL) and an additional 110 pending (18 NSF, 5 ONR AND 87 NOAA). NOAA is expected to fund about half of their proposed 87 ship days which will leave still a greater gap in the schedule as presented. The year starts in Manzanillo, Mexico with Haymon and Lutz. The review committee views with concern the 70 day open period that follows in the port of Manzanillo. WHOI is encouraged to commence processing the clearance of Edmund and to determine whether the State Department can accelerate the clearance process in an effort to reduce the down period. Further, Childress should be queried to ascertain whether or not he can commence his cruise earlier, possibly before the Edmund cruise. It will be necessary to pursue the funding status of the NOAA cruises and to seek non-ALVIN work. The cruises of Watts (URI) and Langmuir (LDGO) may need a home. It may be necessary to compress the Atlantic ALVIN work to permit the ship to return to Woods Hole as early as July to commence an overhaul of ALVIN.

KNORR

KNORR is expected to depart the shipyard by 1 October 1991 and complete the overhaul at Woods Hole. The Option I schedule presented to the scheduling committee is preferred by the Schedule Review Panel. This schedule is fully funded but will need minor modifications. The Rudnick and Roemmich work should be combined to a single cruise, Suva to Papeete for a new total of 26 days. The Von Herzen cruise should be deleted from KNORR and be conducted aboard MOANA WAVE. The possibility of doing the Klein cruise out of Valparaiso in the middle of Huyer's WOCE line P19 should be investigated. This appears to be the most efficient way to schedule Klein if acceptable to Huyer. The above changes will keep KNORR operating at about 300 days for 1992.

ENDEAVOR

The schedule presented for ENDEAVOR is fully funded with the exception of the 5 days of pended DOE work of Buessler and minor changes as presented below. Sanford has been funded for 8 and 14 days respectively. Madin' has been funded for two cruises of 7 days each, one on ENDEAVOR and one on CAPE HATTERAS. Additional transit days may be required to complete each of these cruises. In addition, Ducklow should be worked in on an ancillary basis where possible. No further changes were suggested. It is understood that URI plans to put ENDEAVOR into its mid-life overhaul at the completion of this 1992 schedule.

The Watts cruise not accommodated by ENDEAVOR will be considered for CAPE HATTERAS or ATLANTIS II. Schnitker will be deferred until a ship can be made available in the northern latitudes.

EWING

The EWING schedule, Option A is preferred by the Schedule Review Panel. The following changes are recommended. After McNutt the ship should transit to the Atlantic moving Macdonald to the Melville. Cruises of Shipley, Tucholke, Sempere, Langmuir and Curry to follow. Langmuir could be transferred to AII if total operating days exceed 300. Tucholke's cruise is time dependent necessitating this change. A careful coordination of the HMR-1 instrument will be necessary in this schedule. It will move from the MOANA WAVE to EWING to Navy (KANE) to MELVILLE. No more than 300 operating days are expected aboard EWING in 1992.

CAPE HENLOPEN

The Scheduling Review Panel concurs with the schedule as presented. The Huebert cruise that was discussed during the scheduling meeting is recommended for scheduling aboard OCEANUS.

RIDGELY WARFIELD

The Scheduling Review Panel has recommended that all cruises scheduled aboard RIDGELY WARFIELD be transferred to CAPE HENLOPEN. This decision was based primarily on economic considerations allowing for the most efficient scheduling scenario. It is anticipated that WARFIELD will remain laid up for another year.

CAPE HATTERAS

The schedule as presented to the Scheduling Committee is recommended to remain reasonably intact. The cruises of Mullins, Witman and Szmant have been declined. The cruises of Ducklow are to be on an ancillary basis and should be coordinated with URI and fit in where possible. A seven day (plus transit) Madin cruise should be added to the schedule. This could accommodate one of the Ducklow ancillary cruises. URI also has an ONR cruise of R. Watts that will need ship time. Coordination is needed with URI for this cruise and with WHOI for possible cruises that can not be accommodated aboard OCEANUS. The above changes should result in a schedule of approximately 200 days.

WEATHERBIRD II

The schedule as presented to the Scheduling Committee appears to be fully funded with one exception. The Dacey cruise is funded as an ancillary cruise and should be worked in as appropriate. Ducklow had 4 cruises scheduled aboard ENDEAVOR and CAPE HATTERAS. These have been funded as ancillary cruises. ENDEAVOR can accommodate two of these and CAPE HATTERAS another. BBSR should investigate the possibility of accommodating the remaining cruise.

BLUE FIN

The BLUE FIN schedule should remain as presented.

SEWARD JOHNSON

SEWARD JOHNSON's schedule has the following updated changes. The cruises of Kirkpatrick and Bailey have been declined. Both Young cruises have been funded. No other changes were noted. The Paull cruise is still pending with ship/submersible time possibly being provided by NURP (NOAA).

EDWIN LINK

The following changes to the EDWIN LINK schedule were discussed at the Scheduling Committee Meeting. The cruises of both Youngbluth and Bailey have been declined while the Young cruise of four days has moved from pending to funded. No further changes were noted.

COLUMBUS ISELIN

Miami has presented a strong and full schedule for COLUMBUS ISELIN. All NSF and ONR cruises are funded with the exception of one cruise of DeFerrari which was declined. The coordination of Richardson, Owens and Whitehead cruises are acceptable as presented.

CALANUS

The schedule presented by Miami for CALANUS should remain as presented. The funding status of the Graber cruise is yet to be determined.

PELICAN

The schedule presented by LUMCON for PELICAN should remain as scheduled.

LONGHORN

No schedule for LONGHORN was reported on SCHEDULERS.EAST.GULF telemail. Although it is realized the proposed work is limited this should be presented to the UNOLS Scheduling Committee. The cruise of Kennicutt will be funded by NSF.

GYRE

The schedule as provided by Texas A&M for GYRE remains as scheduled with the exception of Powell which was declined. In addition, a 10 day cruise for Hodson has been funded and should be added to the schedule. GYRE overall status is conditional based on the successful transfer of title from the Navy to TAMU.

LAURENTIAN

The LAURENTIAN's cruises have been funded as presented on the schedule.

ROBERT GORDON SPROUL

SPROUL presented a schedule of 125 funded and 125 pending days. The following status changes are provided. Haury, Tebo, Orcutt and Lal have been declined for a loss of 43 days. The cruises of Filloux and Chave have been funded. The remaining pending cruises are yet to be determined. Coordination with MLML is necessary to possibly pick up work from Point Sur during both transits north and south.

NEW HORIZON

NEW HORIZON lost several cruises in the schedule presented to the Scheduling Committee. These include 32 days for Reimers and 14 days for Irish which were both declined. The cruise of Cowles was transferred to WECOMA to better facilitate staging out of Newport vice San Diego. This reduces this schedule below 200 days. POINT SUR appears unable to accommodate all the Dugdale work which could possibly be added to the NEW HORIZON schedule. Further, SIO should consider the Greg Moore work off the Oregon coast. Pieper of USC may need to move from VICKERS to NEW HORIZON.

THOMAS WASHINGTON

The THOMAS WASHINGTON schedule Option II is recommended. It is necessary to accommodate both the Spiess and Dorman cruises. The ship is a possible WOCE backup but is expected to retire upon completion of the Dorman cruise.

MELVILLE

MELVILLE schedule Option II was preferred by the Scheduling Review Panel with the following modifications. The Klein cruise should be accommodated by KNORR. If the submersible equipment is available for Jahnke it should go as scheduled. If the Jahnke cruise fails to materialize Garmany could move up. The Macdonald cruise should be included on this schedule in November or December. Sandwell and Hey will need a suitable weather window and should be scheduled appropriately. This schedule provides a healthy year for MELVILLE.

VICKERS

The VICKERS schedule for 1992 will reflect its first full year of operation. NOAA cruises provide two thirds of the ship time. The Dugdale cruises should be moved to the POINT SUR or NEW HORIZON. The Berelson cruise money was provided in 1991 funding and should not appear in the 1992 budget. The Childress cruise is funded for 24 days and must be coordinated with ATLANTIS II/ALVIN operations. The Saltzman and Rutledge cruises are joint NSF/NOAA funding and are still pending.

POINT SUR

Moss Landing has presented an ambitious schedule for 1992. The Dugdale cruise presently on VICKERS schedule should be worked into the POINT SUR schedule if possible. Remaining Dugdale time could go on NEW HORIZON. The cruises of Welschmeyer and Ryan were listed but not scheduled have been declined. If Rosenfeld is funded the cruise will be difficult to schedule on POINT SUR without other modifications. Sproul could probably accommodate ship time during transits north and south.

WECOMA

WECOMA has a very ambitious 283 days scheduled. This takes into account the four Barth cruises that were declined and the Moun cruise moved to MOANA WAVE. The only cruise funding unresolved is Tindale and that is probable. The cruises of Yamamoto and Constable were funded with 1991 money and should not appear on the 1992 budget.

THOMAS THOMPSON

The schedule presented for the THOMAS THOMPSON is an ambitious 275 days. This schedule accommodates primarily the JGOFS program and should remain as scheduled.

BARNES

The BARNES schedule was reduced from 167 to 133 days by decline of funding for Frost and Carpenter. The cruises of Hedges, Perry, Murray and Tsuji have been funded. Simenstad and Jay (30-45 days) have not been accommodated in this schedule.

ALPHA HELIX

Alaska presented a light schedule for ALPHA HELIX in 1992. The Norcross cruises were declined and 70 days remain pending. It is suggested that work out of the Alaska area be considered i.e. H.O.T.S. or Anderson.

MOANA WAVE

Hawaii presented a healthy schedule for MOANA WAVE. The Murray cruise funded for 12 days of science should be moved earlier to fit in after Weisberg and before Lukas. The Gregg cruise listed as NSF should read ONR. It should be noted that the Von Herzen cruise is an expensive option and could be vulnerable to postponement as a cost saving possibility. This would also allow MOANA WAVE to support October and November H.O.T.S. cruises.

LIST OF ATTENDEES

<u>NAME</u>	<u>INSTITUTION/ORGANIZATION</u>
Tim Askew	HBOI
Rodger Baier	NSF/CO
Harry Barnes	BBSR
Jack Bash	UNOLS
Larry Clark	NSF
Bruce Cornwall	CBI & CEES
Bill Coste	HI
Mary D'Andrea	UNOLS
Paul Dauphin	NSF/ODP
Dolly Dieter	NSF
Rose Dufour	UCSD/SIO
Linda Duguay	NSF/BIO/OCE
David Epp	NSF/MGG
Joseph Fondrk	ONR
Linda Goad	UMI
Dave Goodrich	NOAA
Grant Gross	NSF
William Hahn	URI
Donald Heinrichs	NSF/OCFS
Eric Itsweire	NSF/PO
Bill Jeffers	UWA
Keith Kaulum	ONR
Dick Lambert	NSF/PO
Dean Letzring	Texas A&M
Bruce Malfait	NSF/ODP
Don Newman	USC
Wadsworth Owen	UDE
Ken Palfrey	OSU
Dick Pittenger	WHOI
Mike Prince	MLML
Steve Rabalais	LUMCON
Michael Rawson	LDGO
Tom Royer	UAK
George Shor	SIO
Joe Ustach	DUML
Roy Wilkens	HI
David Yeager	NOAA

A G E N D A

UNOLS SHIP SCHEDULING MEETING

MEETING: SCHEDULING (East & West)
DATE: 4 September, 1991
PLACE: American Institute of Architects
 Washington, DC 20037
TIME: 8:30 a.m.

The Ship Scheduling Committee meeting will be called into session by Ken Palfrey, Chair.

AGENCY PRESENTATIONS. Representatives from NSF, ONR and NOAA will provide scheduling guidance, science program ship requirements and priorities, science funding decision outlook, ship ops funding outlook and related matters.

WOCE REQUIREMENTS. WOCE requirements will be discussed including an update of KNORR/MELVILLE availability for the WOCE cruises.

REVIEW AND UPDATE OF SCHEDULES. Each scheduler will present an updated schedule. Viewgraph presentations are suggested.

RECOMMENDATIONS CONCERNING SCHEDULING PROCEDURES. Improvements you'd like to see? Changes you'd like made?

NOTE: A UNOLS Schedule Review Meeting will be held on 5 September. Participants: Ken Palfrey and Ron Hutchinson, Ship Scheduling Committee, Jack Bash, UNOLS Executive Secretary, Dolly Dieter and/or Don Heinrichs, NSF, Keith Kaulum and/or June Keller, ONR and Dave Yeager, NOAA.

WHAT TO BRING TO THE MEETING:

1. Viewgraphs and (one hard copy) to illustrate your schedule and facilitate discussion.
2. Extra copy of each Form 831, Ship Time Request not provided in June distribution from the UNOLS Office.
3. YOU SHOULD HAVE ALREADY SUBMITTED YOUR SCHEDULE AND COST INFORMATION (SEE BELOW) AND SHOULDN'T NEED TO BRING COPIES.

SCHEDULES:

UNOLS Operators have posted their tentative 1992 schedules to SCHEDULERS.EAST.GULF or SCHEDULERS.WEST. Schedules should be updated no later than 30 Aug. NSF and ONR program managers have offered to ascertain the funding status of projects on schedules, but their time between now and the September meeting is limited, so the sooner you get your schedules in the more info you might get.

Schedule Format. Formats for schedule submission will remain unchanged from the June meeting.

COSTS:

COST INFORMATION FOR 1991 and 1992. UNOLS Operators should post not later than 23 August to SCHEDULERS.EAST.GULF and/or SCHEDULERS.WEST, cost information for 1991 and 1992:

1991	NSF	Navy	Other	Total
Ship Days				
Ship \$K				

1992	NSF	Navy	Other	Total
Ship Days				
Ship \$K				

Costs for 1991 should be your latest projection, and consistent with last negotiation with NSF and/or ONR. Costs for 1992 should be realistic estimates. The UNOLS Office will provide summaries of 1991 and 1992 cost information at the meeting.

SUMMARY OF SHIP USE AND COSTS

YEAR: 1992

SHIP/CLASS	DAY	NSF		NAVY		OTHER		TOTAL	DAILY
		\$	DAY	\$	DAY	\$	DAY		
MELVILLE	158 ^a	2,418 ^a	0 ^a	0 ^a	3 ^a	46 ^a	161	2,464	15,304
KNORR - OPTION 1	291	5,092	0	0	0	0	291	5,092	17,498
ATLANTIS II	92	1,518	5	83	98	1,617	195	3,218	16,503
EWING	274	4,439	41	664	0	0	315	5,103	16,199
T.G. THOMPSON	230	3,499	7	283 ^b	38	578	275	4,360	15,855
T. WASHINGTON	90 ^c	1,025 ^c	25 ^c	284 ^c	0	0	115	1,310	11,391
MOANA WAVE	282	2,874	0	0	0	0	282	2,874	10,191
CLASS II TOTAL	1,417	20,865	78	1,314	139	2,241	1,634	24,420	---
AVE: (7)	202	2,981	11	188	20	320	233	3,489	---
EDWIN LINK	30	234	53	413	147	1,147	230	1,794	7,800
ENDEAVOR	173	1,727	40	399	0	0	213	2,126	9,981
OCEANUS	156	1,435	123	1,132	10	92	289	2,659	9,201
GYRE	37	292	0	0	81	640	118	932	7,898
ISELIN	227	2,180	30	288	30	288	287	2,756	9,603
NEW HORIZON	140	1,288	57 ^d	524	32	294	229	2,106	9,197
SEWARD JOHNSON	39	304	25	195	99	772	163	1,271	7,799
VICKERS	105	1,155	0	0	138	1,518	243	2,673	11,000
WECOMA	279	2,776	36	358	0	0	315	3,134	9,949
CLASS III TOTAL	1,186	11,391	364	3,309	537	4,751	2,087	19,451	---
AVE: (9)	132	1,266	40	368	60	528	232	2,161	---
PELICAN	37	148	0	0	76	304	113	452	4,000
LONGHORN	14	42	0	0	54	162	68	204	3,000
POINT SUR	70	425	84 ^e	510 ^e	27	164	181	1,099	6,072
CAPE HATTERAS	246	1,522	0	0	22	136	268	1,658	6,187
ALPHA HELIX	107	1,057	18	178	24	237	149	1,472	9,878
R. SPROUL	123	597	0	0	33	160	156	757	4,853
CAPE HENLOPEN	188	1,060	2	11	5	28	195	1,099	5,636
WEATHERBIRD II	240	1,028	0	0	0	0	240	1,028	4,283 *
R. WARFIELD	64	550	0	0	0	0	64	550	8,594
CLASS IV TOTAL	1,089	6,429	104	699	241	1,191	1,434	8,319	---
AVE: (9)	121	714	12	78	27	132	159	924	---
BLUE FIN	65	138	0	0	29	62	94	200	2,128
LAURENTIAN	25	105	0	0	30	126	55	231	4,200
BARNES	132	245	6	11	29	54	167	310	1,856
CALANUS	82	180	22	48	11	24	115	253	2,198
CLASS IV TOTAL	304	668	28	59	99	266	431	994	---
AVE: (4)	76	167	7	15	25	67	108	248	---
FLEET TOTAL	3,996	39,353	574	5,381	1,016	8,449	5,586	53,184	---
AVE: (29)	138	1,357	20	186	35	291	193	1,834	---
a. Schedule III, funded program only. Does not include refit funding or 16 days redelivery b. Navy includes NAVSEA \$167K c. Schedule II, funded programs only d. Navy includes NRL 10 days e. Navy includes NPS (CNOC) 56 days, 340K & WEST DIV 28 DAYS, \$170K									
* COST INFORMATION HAS NOT BEEN UPDATED SINCE JUNE SCHEDULING MEETING.									

SUMMARY OF SHIP USE AND COSTS

YEAR: 1992

SHIP/CLASS	NSF		NAVY		OTHER		TOTAL		DAILY RATE
	DAY	\$	DAY	\$	DAY	\$	DAY	\$	
MELVILLE	158 ^a	2,418 ^a	0 ^a	0 ^a	3 ^a	46 ^a	161	2,464	15,304
KNORR - OPTION 2	316	5,530	0	0	0	0	316	5,530	17,500
ATLANTIS II	92	1,518	5	83	98	1,617	195	3,218	16,503
EWING	274	4,439	41	664	0	0	315	5,103	16,199
T.G. THOMPSON	230	3,499	7	283 ^b	38	578	275	4,360	15,855
T. WASHINGTON	90 ^c	1,025 ^c	25 ^c	284 ^c	0	0	115	1,310	11,391
MOANA WAVE	282	2,874	0	0	0	0	282	2,874	10,191
CLASS II TOTAL	1,442	21,303	78	1,314	139	2,241	1,659	24,858	---
AVE: (7)	206	3,043	11	188	20	320	237	3,551	---
EDWIN LINK	30	234	53	413	147	1,147	230	1,794	7,800
ENDEAVOR	173	1,727	40	399	0	0	213	2,126	9,981
OCEANUS	156	1,435	123	1,132	10	92	289	2,659	9,201
GYRE	37	292	0	0	81	640	118	932	7,898
ISELIN	227	2,180	30	288	30	288	287	2,756	9,603
NEW HORIZON	140	1,288	57 ^d	524	32	294	229	2,106	9,197
SEWARD JOHNSON	39	304	25	195	99	772	163	1,271	7,799
VICKERS	105	1,155	0	0	138	1,518	243	2,673	11,000
WECOMA	279	2,776	36	358	0	0	315	3,134	9,949
CLASS III TOTAL	1,186	11,391	364	3,309	537	4,751	2,087	19,451	---
AVE: (9)	132	1,266	40	368	60	528	232	2,161	---
PELICAN	37	148	0	0	76	304	113	452	4,000
LONGHORN	14	42	0	0	54	162	68	204	3,000
POINT SUR	70	425	84 ^e	510 ^e	27	164	181	1,099	6,072
CAPE HATTERAS	246	1,522	0	0	22	136	268	1,658	6,187
ALPHA HELIX	107	1,057	18	178	24	237	149	1,472	9,878
R. SPROUL	123	597	0	0	33	160	156	757	4,853
CAPE HENLOPEN	188	1,060	2	11	5	28	195	1,099	5,636
WEATHERBIRD II	240	1,028	0	0	0	0	240	1,028	4,283 [*]
R. WARFIELD	64	550	0	0	0	0	64	550	8,594
CLASS IV TOTAL	1,089	6,429	104	699	241	1,191	1,434	8,319	---
AVE: (9)	121	714	12	78	27	132	159	924	---
BLUE FIN	65	138	0	0	29	62	94	200	2,128
LAURENTIAN	25	105	0	0	30	126	55	231	4,200
BARNES	132	245	6	11	29	54	167	310	1,856
CALANUS	82	180	22	48	11	24	115	253	2,198
CLASS IV TOTAL	304	668	28	59	99	266	431	994	---
AVE: (4)	76	167	7	15	25	67	108	248	---
FLEET TOTAL	4,021	39,791	574	5,381	1,016	8,449	5,611	53,622	---
AVE: (29)	139	1,372	20	186	35	291	193	1,849	---

a. Schedule III, funded program only. Does not include refit funding or 16 days redelivery

b. Navy includes NAVSEA \$167K

c. Schedule II, funded programs only

d. Navy includes NRL 10 days

e. Navy includes NPS (CNOC) 56 days, 340K & WEST DIV 28 DAYS, \$170K

* COST INFORMATION HAS NOT BEEN UPDATED SINCE JUNE SCHEDULING MEETING.

SUMMARY OF SHIP USE AND COSTS

YEAR: 1991

SHIP/CLASS	NSF		NAVY		OTHER		TOTAL	DAILY	
	DAY	\$	DAY	\$	DAY	\$	DAY	\$	RATE
MELVILLE	0	0	0	0 ^a	0	0	0	0	0
KNORR	0	0	0	0	0	0	0	0	0
ATLANTIS II	243	3,997	21	345	24	395	288	4,737	16,448
EWING	252	3,900	0	0	49	758	301	4,658	15,475
T.G. THOMPSON	0	66 ^b	85 ^c	1,455 ^c	0	0	85	1,521	17,894
T. WASHINGTON	320	3,710	10	116	6	70	336	3,896	11,595
MOANA WAVE	221	2,132	0	0	51	492	272	2,624	9,647
CLASS II TOTAL	1,099	13,805	116	1,916	130	1,715	1,282	17,436	---
AVE: (5)	220	2,761	23	383	26	343	256	3,487	---
EDWIN LINK	34	265	8	62	151	1,178	193	1,505	7,798
ENDEAVOR	72	669	130	1,207	0	0	202	1,876	9,287
OCEANUS	49	451	151	1,389	12	110	212	1,950	9,198
GYRE	10	72	0	0	197 ^d	1,441 ^d	207	1,513	7,309
ISELIN	226	2,169	12	116	0	0	238	2,285	9,601
NEW HORIZON	95	866	94	857	39	356	228	2,079	9,118
SEWARD JOHNSON	12	94	21	164	175	1,365	208	1,623	7,803
VICKERS	94 ^e	900	0	0	0	0	94	900	9,574
WECOMA	155	1,504	58	562	0	0	213	2,066	9,700
CLASS III TOTAL	747	6,990	474	4,357	574	4,450	1,795	15,797	---
AVE: (9)	83	777	53	484	64	494	199	1,755	---
PELICAN	0	0	0	0	85	340	85	340	4,000
LONGHORN	15	45	0	0	85	255	100	300	3,000 *
POINT SUR	49	313	50 ^f	320 ^f	61	390	160	1,023	6,394
CAPE HATTERAS	185	1,245	12	80	31	207	228	1,532	6,719
ALPHA HELIX	108	1,062	0	0	3	30	111	1,092	9,833
R. SPROUL	118	592	14	70	29	145	161	807	5,012
CAPE HENLOPEN	143	837	18	105	4	23	165	965	5,848
WEATHERBIRD II	199	1,067	0	0	11	59	210	1,126	5,362 *
R. WARFIELD	0	160	0	0	0	0	0	160	---
CLASS 1V TOTAL	817	5,321	94	575	309	1,449	1,220	7,345	---
AVE: (8)	102	665	12	72	39	181	153	918	---
BLUE FIN	27	96	0	0	23	82	50	178	3,560
LAURENTIAN	51	197	0	0	36	139	87	336	3,862
BARNES	152	288	0	0	16	18	168	306	1,821
CALANUS	65	131	11	22	54	109	130	262	2,015 *
CLASS 1V TOTAL	295	712	11	22	129	348	435	1,082	---
AVE: (4)	74	178	3	6	32	87	109	271	---
FLEET TOTAL	2,958	26,828	695	6,870	1,142	7,962	4,732	41,660	---
AVE: (26)	114	1,032	27	264	44	306	182	1,602	---

a. Does not include Navy refit funding.

b. Includes \$66K for shore support.

c. Navy includes NAVSEA 33 days, 545K

d. Includes STATE 7 days at \$10,395 per per day

e. 28 days carryover into 1992. Not counted in 1992 budget.

f. Navy includes NPS (CNOC) 46 days, 294K & ONR/ONT 4 DAYS, \$26K

* Cost information has not been updated since June scheduling meetings.

ANNEX I
TO THE CHARTER

Ship Scheduling Committee

1. An important facet of the UNOLS' activities is the provision of a mechanism to coordinate the use of available facilities. The coordination of ship schedules is the most obvious area where immediate benefit might be gained. An underlying principle of UNOLS is that control of facility operations and scheduling remain the responsibility of the operating institution, with the understanding that UNOLS and UNOLS operating institutions will make serious efforts to assure that ships and facilities are fully available to all federally-funded users. To assure that ships and facilities are broadly available and that their use is effectively scheduled and coordinated, it is critically important that records of ship-time requests, ships and facilities available, the funding status of proposed ship use and tentative schedules be broadly disseminated in a timely fashion. It will be a responsibility of the UNOLS Council to assess and report on the effectiveness of facility utilization.

2. A Ship Scheduling Committee is maintained in UNOLS. The UNOLS Chair shall appoint a Ship Scheduling Committee Chair and Vice Chair from among UNOLS operator institutions, and usually in accordance with nominations from within the Committee. Normally the Chair and Vice Chair will be from opposite coasts (Atlantic/Gulf and Pacific). Terms of office will be for two years. The purpose of the Committee is to serve as a mechanism for the development and coordination of ship schedules in order to assure the most effective, efficient and economic utilization of ships and associated facilities. The Ship Scheduling Committee has its own terms of reference. Membership consists of representatives from each UNOLS operator institution. Representatives of NSF, ONR, NOAA and other sponsoring agencies shall be included regularly as observers.

The Ship Scheduling Committee may establish subcommittees to meet and function on a regional basis, reporting then to the main committee.

3. The Ship Scheduling Committee, supported by the UNOLS Office shall pursue an annual process of schedule development. The process is executed so as to assure effective ship and facility support to federally-funded investigators, efficient and economic operating schedules for individual ships and the UNOLS fleet and

to provide timely information for fleet management to funding agencies, UNOLS ship operators and the research vessel user community. Procedures for schedule development include:

- collection of ship-time requests both at the operating institutions and at the UNOLS Office.
- exchange of ship-time requests and summaries among all UNOLS institutions and the UNOLS Office,
- development of tentative ship schedules by operating institutions and dissemination among all institutions and the UNOLS Office,
- meetings to consolidate knowledge of science project funding status, to compile institution estimates of operating costs, to coordinate schedules and to make recommendations concerning fleet management.

4. **Ship-time requests** are ordinarily solicited and collected by individual operating institutions. In addition, prospective investigators are required to submit an NSF-UNOLS Ship Time Request Form as a part of their Research Proposals to NSF or to notify ONR, NOAA or other sponsoring agencies of their ship time requirements. Whenever practical, requests are filled using the ship requested by the investigator. Institutions encourage submission of ship-time requests as early as practical, hopefully in January or February, prior to the operating year, although experience is that some requests will not be received until spring. Ship-time requests shall also be submitted to the UNOLS Office; these requests will be sent to all operating institutions. The UNOLS Office maintains a central file of ship-time requests for each year. The file should be accessible, to allow operators, program managers and ship users ease and flexibility of use. Successful implementation of a central ship-time request file requires that all operating institutions submit all of their ship-time requests promptly, that electronic communications be used and that a computer database system be employed. The central file of ship-time requests will be the principal mechanism for the exchange of ship-time requests.

5. **Tentative schedules** are generated by each UNOLS institution for their ships. Tentative schedules are generated as soon as operators have a basis in credible ship-time requests (routinely in the spring). Tentative schedules are exchanged with support from the UNOLS Office among operative institutions, program managers and the user community. The exchange of tentative schedules is to provide information and to

prompt negotiations to eliminate double bookings, assure accommodation of all funded science, enhance effectiveness of facility support and to improve the efficiency and economy of the overall fleet schedule. These negotiations are a critical part of the UNOLS scheduling process.

6. **Meetings of the Ship Scheduling Committee** are held as necessary, at least annually. The number and dates for meetings may be influenced by institutions' efficiency in developing and exchanging ship-time requests and tentative schedules. Practically, the timing for meetings is dictated by the flow of ship-time requests and of their science funding decisions and by the submission date for Ship Operations Proposals. A late spring regional meeting should be scheduled after most ship-time requests have been compiled and some funding decisions have been announced. The meeting should be early enough to refine tentative schedules thereby forming a basis for Ship Operations Proposals and for other aspects of fleet management. An early fall meeting is necessary to finalize ship operating schedules and to accommodate fleet operating costs to the total funding available and to the needs of sponsored science projects. Additional scheduling meetings as necessary are encouraged among regional groups and consortia of operators. These regional meetings are to prompt exchange of information on ship-time requests and tentative schedules and to promote negotiation among operators and users.

7. **The Ship Scheduling Committee** will, as a part of each meeting report, with the input of the Federal sponsoring agencies, make comprehensive recommendations regarding effective utilization of the UNOLS fleet based on criteria for ship scheduling, the ship needs of sponsored science programs and other aspects of ship management. Recommendations should include the need for additions to or deletions from the UNOLS fleet, temporary periods out of service for individual ships, or modification to schedules for individual ships or groups of ships. Recommendations should be reached through an open process, and transmitted to the UNOLS Council.

Originally adopted:	Sep 22, 1971, Palisades, NY
Amended and readopted:	May 16, 1974, Washington, DC
Amended and readopted:	May 13, 1977, Washington, DC
Readopted:	Oct 21, 1981, Washington, DC
Readopted:	May 25, 1984, Washington, DC
Amended and readopted:	Oct 23, 1987, Washington, DC
Readopted:	Oct 28, 1988, Washington, DC
Readopted:	Sep 15, 1989, Washington, DC
Amended:	Oct 17, 1991, Washington, DC

SHIP SCHEDULING CONTACT

THE UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM
LIST OF RESEARCH VESSELS (>20M) OPERATED BY UNOLS INSTITUTIONS

Rev. (8/91)

OPERATOR	NAME	LOA (FT/M)	BUILT/ CONVERTED	NO. of SCIENTISTS	OWNER	SHIP SCHED. CONTACT
University of Hawaii Marine Center, #1 Sand Island Road Honolulu, HI 96819	MOANA WAVE	210/64	1973/1984	19	NAVY	Dr. Roy Wilkens Ship Scheduler (808) 847-2661
University of Alaska Institute of Marine Science Fairbanks, AK 99701	ALPHA HELIX	133/41	1966	15	NSF	Dr. Thomas Royer Chair, Ship Committee (907) 474-7835
University of Washington School of Oceanography, WB-10 Seattle, WA 98195	T. G. THOMPSON C.A. BARNES	274/84 66/20	1991 1966/1984	26 6	NAVY NSF	Dr. Arthur Nowell Director (206) 543-6487
Oregon State University College of Oceanography Newport, OR 97365	WECOMA	177/54	1975	16	NSF	Capt. Kennard M. Palfrey Marine Superintendent (503) 867-0224
Moss Landing Marine Laboratories PO Box 450 Moss Landing, CA 95039	POINT SUR	135/41	1981	12	NSF	Mr. Michael Prince Marine Superintendent (408) 633-3534
University of Southern California Hancock Institute for Marine Studies 820 South Seaside Avenue, Terminal Island, CA 90731	VICKERS	220/67	1973/1989	25	USC	Mr. Don Newman, Mgr. Marine Support Facility (213) 743-6977 830-4570
University of California, San Diego Scripps Institution of Oceanography La Jolla, CA 92093-0210	MELVILLE T. WASHINGTON NEW HORIZON R.G. SPROUL	279/86 209/64 170/52 125/38	1969/1990-91 1965 1978 1981/1985	35 22 13 12	NAVY NAVY U.C U.C.	Ms. Rose M. Dufour Ship Scheduler(s) Code A-010 (619) 534-2841
University of Michigan Center for Great Lakes & Aquatic Sciences 2200 Bonisteel Boulevard Ann Arbor, MI 48109-2099	LAURENTIAN	80/24	1974	8	U.M.	Dr. Linda Goad Marine Superintendent (313) 763-5393
Texas A&M University Department of Oceanography PO Box 1675 Galveston, TX 77553	GYRE	182/55	1973/80	20	NAVY	Capt. Dean Letzring Mngr. Marine Operations (409) 740-4469
University of Texas Marine Science Institute Port Aransas, TX 78373	LONGHORN	105/32	1971/1986	12	U.T.	Mr. John Thompson Assoc. Director, Admin. (512) 749-6760
Louisiana Universities Marine Consortium Marine Research & Education Center Star Route Box 541 (Cocodrie) Chauvin, LA 70344	PELICAN	105/32	1985	15	LUMCON	Mr. Steve Rabalais Marine Ops. Supervisor (504) 851-2808
Harbor Branch Oceanographic Institution 5600 Old Dixie Highway Ft. Pierce, FL 34946	SEWARD JOHNSON EDWIN LINK	176/54 168/51	1984 1982/1988	20 20	H.B. H.B.	Mr. Tim Askew Marine Operations (407) 465-2400
University of Miami, RSMAS Marine Department 4600 Rickenbacker Causeway Miami, FL 33149	COLUMBUS ISELIN CALANUS	170/52 64/20	1972 1971	16 6	U.M. U.M.	Mr. Ronald Hutchinson Marine Operations (305) 361-4880
University System of Georgia Skidaway Institute of Oceanography P.O. Box 13687 Savannah, GA 31416-0687	BLUE FIN	72/22	1972/1975	8	U.G.	Mr. Lee Knight Assist. Director, Operations (912) 356-2486

OPERATOR	NAME	LOA (FT/M)	BUILT/ CONVERTED	NO. of SCIENTISTS	OWNER	SHIP SCHED. CONTACT
Duke/UNC Oceanographic Consortium Duke University Marine Laboratory Beaufort, NC 28516	CAPE HATTERAS	135/41	1981	12	NSF	Mr. Quentin Lewis Marine Superintendent (919) 728-3372
Johns Hopkins University Chesapeake Bay Institute 4800 Atwell Road Shady Side, MD 20764	R. WARFIELD	106/32	1967	10	JHU	Mr. Bruce Cornwall Marine Superintendent (301) 867-7550, Ext. 246
University of Delaware College of Marine Studies 700 Pilottown Road Lewes, DE 19958	CAPE HENLOPEN	120/37	1976	12	U.D.	Mr. Wadsworth Owen Director, Marine Operations (302) 645-4320
Lamont-Doherty Geological Observatory Columbia University Palisades, NY 10964	MAURICE EWING	239/73	1983/1990	32	L-DGO	Mr. Michael Rawson Marine Sci. Coordinator (914) 359-2900, Ext. 367
University of Rhode Island Graduate School of Oceanography Narragansett, RI 02881	ENDEAVOR	177/54	1976	16	NSF	Mr. William Hahn Marine Superintendent (401) 792-6203
Woods Hole Oceanographic Institution Woods Hole, MA 02543	KNORR	279/85	1970/1989	34	NAVY	Mr. Donald Moller Marine Ops. Admin. (508) 548-1400, Ex. 2277
	ATLANTIS II	210/64	1963	*29	WHOI	
	OCEANUS	177/54	1975	12	NSF	
	DSRV ALVIN	25.8	1964	2	NAVY	

* 20 Scientists (includes one medic), plus 9 ALVIN group