

UNOLS SHIP SCHEDULING COMMITTEE
REPORT OF MEETINGS

JUNE 12, 1991

EAST COAST SCHEDULERS
Atlanta Airport Hilton
Atlanta, GA

JUNE 19, 1991

WEST COAST SCHEDULERS
Grosvenor Airport Inn
South San Francisco, CA



JUNE SCHEDULING MEETINGS

Introduction:

The June Scheduling meetings were divided into East and West Coast groups this year. The East Coast group met at the Atlanta Hilton on Wednesday 12 June while the West Coast group met at the San Francisco Best Western Grosvenor on Wednesday 19 June. The East Coast Group dealt with Atlantic Ocean science for 1992 and the West Coast group with Pacific Ocean science. Because East Coast Operators from WHOI and LDGO will be operating in both oceans, their representatives attended both meetings. Also attending both meetings were the Scheduling Chairman and Vice Chairman, the NSF representative and the UNOLS Executive Secretary. Upon completion of the West Coast session a short wrap-up meeting with both the Chairman and Vice Chairman, NSF representative and Executive Secretary was held. This report will cover the results of all three meetings including recommendations to operating institutions on how schedules might be altered to meet the anticipated funding level. It was well recognized that funding information was far from complete and that much of the discussion was conjecture; however, there were many elements known, permitting useful planning and highlighting obvious problem areas.

The agenda for each meeting was followed (see Appendix 1). Cost figures for 1991 & 1992 were collected before the meetings and are included in Appendix 2. This report will first give some knowns or believed to be knowns, then review the individual institution's schedules including recommendations. The remainder of the report will cover the other issues discussed and included in the agenda. The recommendations given are in lieu of individual follow-up letters. These recommendations are presented as suggestions as to how to most efficiently handle the science projected for 1992 with an attempt to balance priorities and yet get the most science for the funds available.

Jim Swift, representing the WOCE community, and Sandy Shor, the MR-1 community, provided welcome and valuable input to the process. Decisions on these two major projects were done in concert with these scientists.

Ship Scheduling Comments and Recommendations:

First the givens: It is obvious that the number of ship days presented by the schedulers (5825 days for '92) and the funds requested to support those days (54.6 million) exceed the funding resources available. With three additional large ships and one additional intermediate ship joining the fleet in 1992 there is a greater capacity to do science. Because three of these ships were delayed in commencing operations there is a penned up demand for big-science, and big ship activity.

Analyzing the '91 - '92 cost figures reported in Appendix 2 reveals the following:

Class	NSF		TOTAL	
	Days	Cost	Days	Cost
II	up 38%	up 46%	up 28%	up 36%
III	up 60%	up 71%	up 20%	up 28%
IV	up 49%	up 34%	up 29%	up 20%
All	up 46%	up 49%	up 24%	up 30%

The numbers suggest that NSF ship days and costs are up significantly, particularly in the intermediate class ships. They also suggest that Navy and "Other" ship requests and funding are down.

NSF is optimistically projecting 31 million dollars for ship operations in 1992. If Navy and "Other" provide the same as 1991, 7.2M and 6.9M respectively, the fleet will be facing a 9.5 million dollar short fall. It appears that the schedules, as provided, and the funding for those schedules are optimistic. It also suggests that operators should be seeking more Navy and "Other" time and not be so reliant on the NSF money.

Dolly Dieter provided some insight from the NSF perspective. Her comments included:

- a) Just because it's a funded program does not mean it will go in '92 or at the number of days requested.
- b) Large ships should not plan on more than 300 total days of operations per ship for 1992.
- c) Transit time must be cut to a minimum, meaning that ships with transits scheduled may have to pass the cruise to a ship that would offer little or no transit.
- d) Weather days are not to be built-in by the operators.
- e) Operating days will be reviewed and scrutinized with the project managers for the purpose of minimizing cruise lengths.

Review of 1992 Schedules (ship by ship):

WHOI - AII. The AII schedule will be dependent upon ALVIN operations. The ship is expected to commence operations in the Pacific off Manzanillo. Going north for the Childress work is not recommended unless additional science warrants. The ship will then proceed through the canal for mid-Atlantic "RIDGE" work.

The last three months will have ALVIN in port for a major overhaul. If AII is not totally committed to ALVIN then general oceanographic programs should be considered.

WHOI - KNORR. After entering the Pacific KNORR should complete WOCE lines P-6, P-14, and P-31. Funding is not likely for P-21. Watch for additional science to be funded to bring KNORR back to the Atlantic in late '92. The Atlantic work of Weller could be picked up by the British. Von Herzen may be available for KNORR in the Pacific.

WHOI - OCEANUS. The Fairall cruise will be funded but could go aboard a Russian ship. The Purdy cruise will go but a more cost effective way is needed. Ledwell is to be jointly handled with the Canadians; plan on 60 days of NSF funding not 90 days on this series of cruises. Coordinate with ENDEAVOR and Cape Hatteras for cruises in the northeast that reduce transit time.

URI - ENDEAVOR. Duclow and Olson should go together. Look for more "coastal" work. Coordinate with OCEANUS and Cape Hatteras for cruises in the northeast that reduce transit time.

LDGO - EWING. No WOCE work will be conducted on EWING in 1992. Option B looks good with second half of the year in the Atlantic. Watch for the possibility of picking up Shor, Taylor or Silver if they need a home. The cruises of Sautter and Gordon will be covered by R/V DISCOVERY (NERC).

DELAWARE - JOHNS HOPKINS/MARYLAND - DUKE. As with 1991 the three institutions need to coordinate schedules for a more efficient mix. It would appear that no more than 1 1/2 ship years are available for the three ships. Check with Bermuda to pick up time during WEATHERBIRD's upkeep period. HATTERAS should coordinate with ENDEAVOR and OCEANUS to increase efficiency and eliminate transits.

BERMUDA BIOLOGICAL STATION - WEATHERBIRD II. Tighten schedules where possible. Work with MARCOS for overhaul period.

SKIDAWAY - BLUE FIN. Schedule too sketchy at this time for comment.

HARBOR BRANCH - EDWIN LINK and SEWARD JOHNSON. EDWIN LINK and SEWARD JOHNSON should operate with a negotiated day rate as cruises develop.

MIAMI - ISELIN. ISELIN should schedule Richardson and Owen on the equator with the possibly of Whitehead going at the same time. Look for cruise to bring ship back from the equator.

MIAMI - CALANUS. CALANUS should operate with a negotiated day rate as cruises develop.

TEXAS A&M - GYRE. GYRE has a weak schedule and should operate with a negotiated day rate as cruises develop.

TEXAS - LONGHORN. LONGHORN should operate with a negotiated day rate as cruises develop.

MICHIGAN - LAURENTIAN. LAURENTIAN's schedule is light. The ship should operate with a negotiated day rate as the schedule develops.

SIO - MELVILLE. MELVILLE will return to service in March and begin working southward with an intervening ship warranty period at San Diego. Schedule option B, which calls for WOCE lines P16S, 17S & 19S late in the year and early 1993 (Austral Summer) is preferred. Jim Swift (WOCE) concurs with this schedule and the use of MELVILLE vs EWING.

SIO - NEW HORIZON and SPROUL. NEW HORIZON and SPROUL have typically full schedules of regional work. SPROUL may again support work in the Columbia River during the late Spring.

SIO - WASHINGTON. WASHINGTON will be retired from the UNOLS fleet after completing a 1991 schedule in March 1992.

USC - VICKERS. An ambitious schedule has been proposed for VICKERS which includes strong NOAA support. A deployment to the western Pacific will allow for some NOARL (Navy) work off Japan in addition to participation in TOGA COARE.

MLML - POINT SUR. A full, reasonable schedule of regional work has been advanced for POINT SUR. More than half of this schedule will be supported by agencies other than NSF.

OSU - WECOMA. WECOMA will start a 1992 schedule from Honolulu where it will finish 1991. Planned work in the Mid-Pacific will keep the vessel employed until at least May at which time WECOMA will return to homeport for regional work. In September WECOMA will deploy to the Western Pacific for TOGA COARE with some mid-Pacific work enroute. Should additional work keep WECOMA in the mid-Pacific beyond May some NW Pacific coast work needs to be covered by NEW HORIZON, POINT SUR or Possibly ALPHA HELIX.

UW - THOMPSON. JGOFS and State work will keep THOMPSON fully employed throughout the year. Additional science days have been requested but probably cannot be provided.

UW - BARNES. BARNES will have a normal schedule of local work.

ALASKA - ALPHA HELIX. A weak schedule has been proposed for ALPHA HELIX. Consideration should be given to filling in for WECOMA on the West Coast and/or picking up work in Hawaii during the Spring and Summer.

HAWAII - MOANA WAVE. Prefers to schedule MOANA WAVE for the entire year in the western Pacific to take advantage of Singapore shipyard prices. Although some questionable work is included a full schedule approaching 300 days is possible. Support to TOGA COARE will start in late 1992 and continue into 1993.

General Comment on the Scheduling Process:

The regional scheduling concept worked well this year. The meetings turned into true work sessions during which all major scheduling issues were resolved so far as available funding information would permit. A potentially difficult large-ship scheduling dilemma in the Pacific was resolved. The thought of continuing with these separate meetings but at a Washington, DC location seemed to have support. The opinion of the UNOLS Council should be sought. A plan should be presented at the Annual UNOLS Meeting.

AGENDA ITEMS:

The Ship Scheduling Committee meetings were called into session by the Chairman Ken Palfrey at 0830 12 June 1991 in the Atlanta Airport Hilton and at 0830 19 June 1991 in the Grosvenor Airport Inn, San Francisco as planned. Attending each meeting were Schedulers from the east and west coast institutions respectively. The attendees are listed in Appendix 3. NSF was represented at both meetings and a NOAA representative attended the west coast session.

AGENCY REPORTS. Dolly Dieter presented the proposed budget figures for the National Science Foundation for 1991 and provided an estimated 1992 budget. A copy of this presentation is enclosed as Appendix 4. In summary, NSF is requesting a 14% increase in funding over 1991 which would permit approximately 31 million dollars to be available for ship operations for 1992. Captain Mike McCallister of NOAA reported that NOAA is working with the University of Southern California on an agreement to utilize about 90 days of ship time aboard R/V Vickers and that NOAA would continue to request UNOLS ship time when funds and science were appropriate. He also reported that the NOAA vessel Discoverer would be on the Equator at 180 W and had time for UNOLS science.

FORM 831, NSF-UNOLS SHIP TIME REQUEST. Dolly Dieter passed around a marked up copy of a Form 831 requesting input for revision. The committee was given an opportunity to make recommendations for changes.

USERS MANUAL AND EQUIPMENT COSTS DISTRIBUTION. Dolly made a plea for the regular submission of updated ship Users Manuals to her office. In addition, a record of ship equipment costs should be made available to NSF if not included in the Users Manual.

RIDGELY WARFIELD UPDATE. Bruce Cornwall presented a report as to the status of the Ridgely Warfield and its transfer to the University of Maryland. Appendix 5 is a summary of this report.

SCHEDULES. The meeting proceeded with a review of those schedulers whose ship interacted with other ships on major projects, ocean basin or multi-ship operations. This is reported above, along with the examination of each ship's schedule.

FALL MEETING. The fall scheduling meeting is set for 4 September in Washington, DC at the American Institute of Architects. A Schedule Review Meeting will follow on 5 September.

A G E N D A

UNOLS SHIP SCHEDULING MEETINGS

MEETING:	Atlantic	Pacific
DATE:	June 12, 1991	June 19, 1991
PLACE:	Atlanta Airport Hilton Atlanta, GA	Grosvenor Airport Inn South San Francisco, CA
TIME:	8:30 a.m.	8:30 a.m.

The Ship Scheduling Committee meetings will be called into session by Ken Palfrey, Chair and/or Ron Hutchinson, Vice-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.

FORM 831, NSF-UNOLS Ship Time Request. Since the UNOLS Ship Time Request has been combined with NSF's Form 831, distribution and handling of the forms have not been fully satisfactory. Discussion on how the form and/or procedures might be improved.

USER MANUAL AND EQUIPMENT COSTS DISTRIBUTION.

EXAMINATION OF DISTANT WATER, MAJOR PROJECT, LARGE SHIP?

SCHEDULES. Participation by those Operators whose ships, schedules interact with others on a major project, ocean basin or multi-ship operation basis.

EXAMINATION OF LOCAL (REGIONAL) SCHEDULES. Participation by Operators whose ships, schedules are mainly local/regional, with minimum interaction with other ships, schedules.

IDENTIFICATION OF UNRESOLVED ISSUES. E.G., Priority programs not accommodated, double bookings, schedule inefficiencies. Definite issues/recommendations. Agreed on input to Schedule Review Meeting.

DATE, FORMAT AND AGENDA FOR FALL UNOLS SCHEDULING MEETING. Discuss and set.

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

NOTE: A UNOLS Schedule Review Meeting will be held, probably in July. Participants: Ken Palfrey and Ron Hutchinson, Ship Scheduling Committee, Gary Brass, UNOLS Chair, Jack Bash, UNOLS Executive Secretary, Dolly Dieter and/or Don Heinrichs, NSF and Keith Kaulum and/or June Keller, ONR.

WHAT TO BRING TO THE MEETING:

1. Vu-graphs and (one hard copy) to illustrate your schedule and facilitate discussion.
2. Extra copy of each Form 831, Ship Time Request not provided in a late-May 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 already been asked to post their tentative 1992 schedules to SCHEDULERS.EAST.GULF or SCHEDULERS.WEST. If they have not yet done so, they should as soon as they can and not later than 24 May. NSF and ONR program managers have offered to ascertain the funding status of projects on schedules, but their time between now and the June meetings is limited, so the sooner you get your schedules in the more info you might get. As of April 25, only Scripps, MLML, U.Hawaii, Bermuda Biological and Oregon State had posted schedules.

Schedule Format. Formats for schedule submission will remain virtually unchanged from previous years. (The Schedule Format message will be sent separately, in about a week.) The only changes to the format are:

1. Add a summary of days, sponsors and funding status after the Schedule:

Agency	Funded	Proposed	Total
NSF	30	10	40
ONR	60	30	90
(OTHER) NOAA	30	0	30
(list if) EPA	30	0	30
(you wish) USGS	0	60	60
TOTAL	150	100	250

2. In the last column, we will ask for Foreign Clearance alerts:

These entries are now: DAYS/AGENCY/
STATUS
3/ONR/P

We will change to: DAYS/AGENCY/
STATUS/CLEAR
3/ONR/P

If a clearance required, country: MEXICO

COSTS:

COST INFORMATION FOR 1991 and 1992. UNOLS Operators should post not later than June 1 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. THEY SHOULD NOT BE A MERE REPEAT OF YOUR Oct, 1990 SHIP OP'S PROPOSAL OR YOUR SEPT, 1990 INPUT TO UNOLS. There have been too many changes since then. 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: 1991									
SHIP/CLASS	DAY	NSF		NAVY		OTHER		TOTAL	DAILY RATE
		\$	DAY	\$	DAY	\$	DAY		
MELVILLE	0	0	16	243 ^d	0	0	16	243	15,188
KNORR	65	1,134	0	0	10	174	75	1,308	17,440
ATLANTIS II	244	4,016	17	280	24	395	285	4,691	16,460
EWING	252	3,900	0	0	49	758	301	4,658	15,475
T.G. THOMPSON	0	66	80 ^c	1,374 ^c	0	0	80	1,440	18,000
T. WASHINGTON	320	3,724	10	116	6	70	336	3,910	11,637
MOANA WAVE	218	2,055	3	28	51	481	272	2,564	9,426
CLASS II TOTAL	1,099	14,895	126	2,041	140	1,878	1,365	18,814	---
AVE: (6)	183	2,483	20	329	24	332	227	3,144	---
EDWIN LINK	34	265	5	39	140	1,092	179	1,396	7,799
ENDEAVOR	72	669	128	1,188	0	0	200	1,857	9,285
OCEANUS	49	446	160	1,456	12	109	221	2,011	9,100
GYRE	10	72	0	0	22	204	32	276	8,625
ISELIN	228	2,169	18	173	0	0	244	2,342	9,598
NEW HORIZON	95	855	94	846	39	351	228	2,052	9,000
SEWARD JOHNSON	12	94	21	164	175	1,365	208	1,623	7,803
VICKERS	94	900	0	0	0	0	94	900	9,574
WECOMA	160	1,552	68	660	0	0	228	2,212	9,702
CLASS III TOTAL	752	7,022	494	4,526	388	3,121	1,634	14,669	---
AVE: (9)	84	780	55	503	43	347	182	1,630	---
PELICAN	0	0	0	0	106	424	106	424	4,000
LONGHORN	15	45	0	0	85	255	100	300	3,000
POINT SUR	49	308	51 ^a	321	63 ^b	397	163	1,026	6,294
CAPE HATTERAS	188	1,245	12	80	28	187	228	1,512	6,632
ALPHA HELIX	99	1,116	0	0	5	56	104	1,172	11,269
R. SPROUL	118	576	14	68	29	142	161	786	4,882
CAPE HENLOPEN	143	836	18	105	4	23	165	964	5,842
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 IV TOTAL	811	5,353	95	574	331	1,543	1,237	7,470	---
AVE: (8)	101	669	12	72	41	193	155	934	---
BLUE FIN	47	109	0	0	33	77	80	186	2,325
LAURENTIAN	51	197	0	0	33	127	84	324	3,857
BARNES	152	288	0	0	16	18	168	306	1,821
CALANUS	65	131	11	22	54	109	130	262	2,015
CLASS IV TOTAL	315	725	11	22	136	331	462	1,078	---
AVE: (4)	79	181	3	6	34	83	116	270	---
FLEET TOTAL	2,977	27,995	726	7,163	995	6,873	4,698	42,031	---
AVE: (27)	110	1,037	27	265	37	255	174	1,557	---
a. Navy includes NPS (CNOC) 47 days, 296K									
b. Other includes EPA 42 days, 264K									
c. Navy includes NAVSEA 33 days, 545K									
d. Does not include Navy refit funding.									

SHIP SCHEDULING MEETINGS

Atlanta, GA - June 12, 1991

San Francisco, CA - June 19, 1991

<u>Attendees:</u>	<u>Atlantic</u>	<u>Pacific</u>
Timothy M. Askew, Harbor Branch Oceanographic Institution	x	
Howard S. Barnes, Bermuda Biological Station for Research	x	
John F. Bash, UNOLS Office	x	x
Bruce K. Cornwall, Johns Hopkins University	x	
James W. Coste, University of Hawaii		x
Emma R. Dieter, National Science Foundation	x	x
Rose Dufour, Scripps Institution of Oceanography		x
William B. Hahn, University of Rhode Island	x	
Ron Hutchinson, University of Miami	x	x
K. William Jeffers, University of Washington		x
Dean Letzring, Texas A&M	x	
David Manzel, Skidaway	x	
Captain Michael McCallister, NOAA		x
Don Moller, Woods Hole Oceanographic Institution	x	x
Wadsworth Owen, University of Delaware	x	
Kennard M. Palfrey, Oregon State University	x	x
Richard Pieper, University of Southern California		x
Mike Prince, Moss Landing Marine Laboratories		x
Steve C. Rabalais, Louisiana Universities Marine Consortium	x	
Michael Rawson, Lamont-Doherty Geological Observatory	x	x
Alexander Shor, University of Hawaii		x
George Shor, Jr., Scripps Institution of Oceanography		x
Tom Smith, University of Alaska		x
Jim Swift, Scripps Institution of Oceanography		x
Joseph F. Ustach, DUKE/University of North Carolina	x	
Roy Wilkens, University of Hawaii		x
Stewart White, NERC	x	

NSF FY 1992 BUDGET REQUESTOCEAN SCIENCES

- Total Request is \$188.5 Million
 - Increase of \$23.7 M or 14.4% from FY 1991
 - Global Change programs increase by \$13.2 M or 36.9%
 - Other programs increase by \$10.5 M or 8.1%
-
- Ocean Sciences Research Programs (OSRS)

Global Change	\$97.7 M	<u>Increases</u>
Disciplinary	32.7 M	\$15.6 M or 19.0%
	65.0 M	9.9 M or 43.4%
		5.7 M or 9.6%
 - Oceanographic Centers and Facilities (OCFS)

Global Change	\$54.4 M	\$6.7 M or 14.1%
Disciplinary	16.3 M	3.3 M or 25.4%
	38.1 M	3.4 M or 9.8%
 - Ocean Drilling Program (ODP)

International Funds	\$36.4 M	\$1.4 M or 4.0%
	(\$19.3 M)	(\$2.8 M) or (16.7%)

OCEAN SCIENCES DIVISION

	Actual FY 1990	Estimated FY 1991	Requested FY 1992
Ocean Sciences Division	\$147.4 M	\$164.8 M	\$188.5 M
Oceans Sciences Research	72.9 M	82.1 M	97.7 M
Ocean Drilling Program	32.0 M	35.0 M	36.4 M
Oceanographic Facilities	42.5 M	47.7 M	54.4 M

OCEANOGRAPHIC FACILITIES DETAIL

Operations	\$22.4 M*	\$27.4 M*	\$31.5 M*
Ship Operations	1.4 M	1.4 M	1.5 M
ALVIN, Aircraft, etc.	<u>3.7 M</u>	<u>4.2 M</u>	<u>4.5 M</u>
Marine Techs	27.5 M	33.0 M	37.5 M

Infrastructure	\$1.8 M	\$4.0 M	\$4.0 M
Science Instruments	2.1 M	2.6 M	3.3 M
Shipboard Equipment	3.4 M	<u>0.5 M</u>	<u>0.7 M</u>
Ships, Upgrades	<u>0.6 M</u>	7.1 M	8.0 M
UNOLS, Misc.	7.9 M		

Technology, Centers, Reserves	\$3.5 M	\$4.2 M	\$5.0 M
Technology Development	1.8 M	1.8 M	1.5 M
AMS Center	<u>1.8 M</u>	<u>1.6 M</u>	<u>2.4 M</u>
Cross Directorate/Reserves	7.1 M	7.6 M	8.9 M

* Plus \$1.0 M from ODP (1990), \$1.7 M (1991), \$1.5 M (1992)

Status of the R/V *Ridgely Warfield*

UNOLS East Coast Scheduling Meeting
Atlanta, GA
12 June 1991

1991 Operations

- Ship will remain in lay-up at its berth in Annapolis for the rest of this year, having completed its last cruise as a JHU-operated vessel in December 1991.
- NSF is funding the lay-up, total cost for 1991 is \$160,000.

Status of Transfer

- In April of 1990 JHU submitted a proposal to NSF requesting \$1.2 million dollars to re-engine the *Warfield*, in addition to performing other improvements and repairs. The timetable called for this work to be completed prior to June 1, 1991, at which time the ship would be officially transferred to the U MD and operated by them under a charter from NSF. It was our sincere desire to transfer the ship to MD in a refurbished condition.
- In January we were notified by NSF that this proposal was not going to be funded.
- I was immediately asked by the U MD to rewrite the proposal, which they were going to submit on their own behalf, to re-engine, etc. the *Warfield*.
- In March, and almost finished the rewrite, I was informed that the U MD was abandoning the resubmittal of the re-engining proposal, in lieu of planning and design for a new vessel.
- I'm told that Tom Malone will chair a committee to begin identifying the science mission requirements for a new regional vessel. This committee will be made up of representatives from the recently formed Mid Atlantic Research Consortium (MARCO). They will work in concert with the UNOLS Fleet Improvement Committee.

1992 Operations

- It is the U MD's intention to operate *Warfield* during 1992 and until a new ship comes on line, at which time they will return title of the ship to NSF for appropriate disposition.

- Current plan is for JHU to request some supplemental funds on our existing Ship Ops grant so that we can perform dockside repairs and drydock the *Warfield* this fall, after which a Charter agreement would be initiated between U MD and NSF, to become effective January 1, 1992.
- The actual physical transfer of the ship and scientific support equipment will most likely take place in December, depending on whether construction of a new research fleet operations (RFO) building in Solomons is completed.
- This new building is to be constructed in part with funds already provided to U MD by NSF for the *Warfield* transfer. The U MD is committed to providing the additional funds necessary to complete this building, which will provide about 8,000 sq. ft. for shops, storage and office space to support the operation of the *Warfield*, in addition to their RV's *Aquarius* and *Orion*. Tentative completion 12/31/91.
- A new 60' pier, also funded by NSF as part of the original transfer grant, was completed last summer. When added to the existing bulkhead at RFO, it provides 115 ft. of alongside dock space, with a depth alongside of 12 feet. *Warfield* and *Cape Henlopen* have already used this dock; *Cape Hatteras* is scheduled to use it later this summer and fall.
- Until I'm told otherwise, I will be the *Warfield* scheduling contact for the U MD. My office will most likely remain at CBI until the end of this year.
- I will have a detailed 1992 schedule available at the fall scheduling meeting. Anticipate no great deviation from the way *Warfield* has been operated in past.
- 1992 cost information:
 - 64 days, all NSF, all funded total cost \$523
 - 52 days LMER, U MD
 - 8 days Burdige, ODU
 - 4 days Colwell, U MD