UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

SHIP SCHEDULING REVIEW

Report of Meeting

15 September 1997

National Science Foundation
4201 Wilson Boulevard, Room 1235
Arlington, VA 22230

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SHIP SCHEDULING COMMITTEE MEETING
National Science Foundation
4201 Wilson Boulevard, Board Room 1235
Arlington, VA 22230

September 15, 1997
0830 HRS

Appendices

I. Meeting Announcement
II. Ship Scheduling Meeting Attendance List
III. Scheduling Procedure Review
IV. Ship Cost Summary 1997 & 1998
V. 1998 Proposed Cruise Tracks

Introduction:

The Ship Scheduling Committee met on 15 September 1997 in Room 1235 of the National Science Foundation (see agenda ***Appendix I***). The list of attendees is attached as ***Appendix II***.

The meeting was called to order at 0830 by Don Moller, SSC Chair. Don welcomed the attendees.

UNOLS: Ken Johnson, UNOLS Chair, provided a summary of recent UNOLS activities. The MOU between NOAA (OAR) and UNOLS is about to be signed. The NOAA vessel RON BROWN will be scheduled through the UNOLS scheduling process. UNOLS is also exploring with NOAA/NMFS for ways that UNOLS can be helpful with their programs. Ken reported that an ad hoc committee chaired by Rick Jahnke met in February of this year to review possible changes to the UNOLS scheduling process. Jack Bash will report later in the meeting on the results of this meeting. UNOLS is also having a charter review by a Council subcommittee. Ken reported the NSF inspection program is again underway with LAURENTIAN receiving the first inspection by Jamestown Marine Services. Ken also reported that the Navy would be building a new AGOR for the community and that the announcement for the operator of this vessel would be out soon.

Agency Reports: Dolly Dieter began the NSF report. Dolly reported that she anticipated several light schedules for 1998 and that lay-ups were expected. She encouraged all to pick up a copy of the latest *Grant Proposal Guide* and *Instructions for Preparation of Proposals Requesting Support for Oceanographic Facilities*. Don followed with the budget outlook for 1998. The NSF budget is pending in Congress. Both the House and Senate versions are close to what was requested. This suggests a small increase of 2.1%, however, the facilities budget is expected to remain flat. Don thanked Annette DeSilva for her work in providing statistics for the Government Performance and Results Act. The

NSF tasking will include 1.) an Agency Strategic Plan; 2.) an Annual Performance Plan (goals and objectives) and 3.) an Annual Performance Report. Significant effort will be necessary to keep these plans current. Changes to the cruise reporting form may be necessary to assist in collecting the data.

Don announced that Lisa Rom is back at NSF but will be working half time with Larry Clark as Assistant Program Director for the Ocean Technology and Interdisciplinary Coordination Program. Alexander Shore will continue as Program Director for Instrumentation and Technical Services until the first of the year. Recruitment of a permanent Program Director for this program will be initiated shortly.

ONR's report was given by Sujata Millick. She reported that the ONR budget for ship operations should remain healthy reflecting Admiral Gaffney's interest in getting science to sea. ONR will be providing funds for FLIP and small coastal vessels. Sujata explained that the RFP to select an operator for the new AGOR should be out today. Highlights of the RFP include turning in a ship and institutional cost sharing.

CDR. Beth White provided the report for NOAA. Beth confirmed that the UNOLS/NOAA MOU should be signed this week. RON BROWN has successfully completed its first cruise, mooring work in the Pacific, and is now involved in Vents work at Juan de Fuca. With the exception of some minor problems all is going well. NOAA will be chartering over 300 UNOLS days in 1998 representing about $2.8 M. The NOAA 1998 budget is expected to be up slightly. In 1999 NOAA expects to support funds for new fishery research vessels. RON BROWN is planning to participate in the opening of EXPO '98 in Lisbon, Portugal. Beth encouraged UNOLS to play a part in the ship's visit.

NAVO's report was presented by Gordon Wilkes. The program is expected to continue at the same $7.5M level in 1998 providing funding is available. There are more projects in 1998 than the money can support. Gordon reported that NAVO has been very pleased with their work with UNOLS. The current gravity work on MELVILLE is well ahead of schedule. NAVO is looking forward to next year's activities with UNOLS.

Ship Scheduling Procedure Review Subcommittee: Jack Bash provided a summary of the UNOLS' subcommittee charged to look at the preceived weaknesss in the ship scheduling process. A summary of Jack's remarks are included in the view graphs appended as ***Appendix III.***

Ship Review:

Each ship's scheduler provided in advance of the meeting a proposed schedule for 1998. The cost summaries for 1998 as originally submitted are included in ***Appendix IV*** along with the 1997 costs. These costs represent the operator's best estimate of conducting the cruises on the proposed schedule. The costs are subject to change as the schedules change. ***Appendix V*** includes the ship tracks submitted by the schedulers reflecting the schedules presented.

OCEANUS/ENDEAVOR - WHOI/University of Rhode Island - Because of the dearth of funded programs for intermediate ships in the Atlantic only a single schedule was presented for these two ships. One ship will lay up in 1998. The decision as to which ship will lay up will be made by NSF after receiving a recommendation from the UNOLS Council.

The cruise by Anderson scheduled in the early 1998 is likely to be rescheduled for November 1997 aboard ENDEAVOR. The Keigwin cruise has been coordinated with a second Keigwin cruise scheduled later on CAPE HATTERAS. A conflict is possible with the multi-coring crew for this cruise and the cruise of Silva aboard KNORR. ENDEAVOR is scheduled for a shipyard period in 1998. The OCEANUS/ENDEAVOR schedule includes 199 days which could drop if Anderson goes early.

CAPE HENLOPEN - University of Delaware - This ship is scheduled for 188 days in 1998. All days are funded except a USCG physical oceanographic cruise of 18 days for Ricard.

CAPE HATTERAS - Duke/UNC - Joe Ustach of Duke presented a 242 day schedule for CAPE HATTERAS. All of these are funded but for 49 days of ECOHAB work in the Gulf of Maine.

BLUE FIN - Skidaway - The Nelson work has not been funded on the schedule presented for BLUE FIN. A total of 146 days remain on the schedule with 99 of these days presently funded.

WEATHERBIRD II- BBSR - The WEATHERBIRD II schedule is dominated by Hydo-station work and BATS cruises. The schedule contains 139 days of which 121 are funded. A shipyard period is scheduled for 1998.

SEA DIVER - HBOI- An 85 day schedule was presented for SEA DIVER. 40 of these days are presently funded. Two cruises of 11 days each for Ackleson appear on the schedule. The September cruise will be moved to 1999 and the other cruise will be increased by one day. This leaves a schedule of 75 days.

EDWIN LINK - HBOI - The EDWIN LINK's schedule is dominated with NOAA/NURP submersible work. The schedule includes 238 days with 83 of these days presently funded.

SEWARD JOHNSON - .HBOI - An all funded 233 day schedule was presented for SEWARD JOHNSON.

CALANUS - University of Miami - CALANUS has a full schedule with 80 days of NSF work and 60 days of work for NOAA, all funded.

PELICAN - LUMCON - The PELICAN schedule was presented with 192 days of which 162 are presently funded . An additional ten to 30 MMS days are possible. The ship is expected to go into an extended shipyard period at the end of 1998 or early 1999.

LONGHORN - University of Texas - The cruises of Joyce, Muller-Karger and Villareal will not be funded removing 48 days from LONGHORN'S schedule. This leaves 36 days.

GYRE - TAMU - GYRE has one cruise of ten days that is NSF funded. The only remaining days on the 1998 schedule are six State days and two Other days.

URRACA - STRI - Two NSF cruises, Glynn and Kidwell, are funded for URRACA. These 50 days are part of a 173 day schedule.

LAURENTIAN - University of Michigan - The LAURENTIAN schedule is dominated with COP work with a total of 146 days. This is the best LAURENTIAN schedule in years. There is a weather concern because some of these cruises are to go out after the ice has formed.

ALPHA HELIX - University of Alaska - The GLOBEC and ECOHAB programs of ALPHA HELIX are jointly funded by NSF and NOAA. The ship has a schedule of 147 days with 37 of these days still pending funding.

MOANA WAVE - University of Hawaii - The schedule for MOANA WAVE is dominated by the HOTS program and NOAA work by Clark. The schedule includes 185 days with 175 days presently funded. Two programs, Worcester and Welschmeyer, are double booked with NEW HORIZON.

BARNES - University of Washington - A schedule of 100 days was presented for BARNES. The work of Deming is still pending funding.

WECOMA - Oregon State University - A schedule of 215 days was presented for WECOMA. This schedule includes 104 days of NOAA funded work. The Cowles work is jointly funded with NSF and ONR.

POINT SUR - Moss Landing Marine Laboratory - POINT SUR is being hauled this week to investigate a stern tube problem. The ship has a schedule of 195 days in 1998 of which 165 days are presently funded.

SPROUL - Scripps - The SPROUL schedule dropped the Simenstad work because of weather concerns. The schedule shows 168 days with 111 of these days funded.

NEW HORIZON - Scripps - A schedule of 213 days for NEW HORIZON was presented. This includes the double booked work of Worcester and Welschmeyer.

RON BROWN - NOAA - RON BROWN has a total of 264 days of funded NOAA work for 1998. The ship will have a PSA in the months of February and August. It plans a call to Lisbon, Portugal for the opening of EXPO 98 and the Year of the Oceans. NOAA is planning to send BROWN to the Indian Ocean in 1999.

EWING - LDEO - The EWING schedule of 139 days included 48 days of NAVO work off Hawaii. It is unlikely that NAVO will have funds to support this cruise. The ship is scheduled to lay up in a Gulf port after completion of its abbreviated schedule. A new multi-channel system will be installed.

KNORR - WHOI - A schedule of 257 days was presented for KNORR. All this work is in the Atlantic.

REVELLE - Scripps - REVELLE has a schedule of 280 days which includes 135 days of gravity work for NAVO.

MELVILLE - Scripps - A 1998 schedule of 179 days was presented for MELVILLE. The ship will complete this work in the first half of the year.

THOMPSON - University of Washington - The THOMPSON schedule has 290 funded days.

ATLANTIS - WHOI - A schedule of 272 days was presented for ATLANTIS. All of this work is with a submersible. The schedule remains unsettled because of conflicting requirements which must be settled by the NSF program managers.

APPENDIX I

TENTATIVE AGENDA

UNOLS SHIP SCHEDULING MEETING
15 September 1997 - 0830 Hrs

National Science Foundation, Room 1235
4201 Wilson Boulevard
Arlington, VA

The Ship Scheduling meeting will be called into session by Don Moller, Chair.

AGENCY PRESENTATIONS. - Representatives from NSF, ONR, NOAA and NAVO will provide scheduling guidance, science program ship requirements and priorities, science funding decisions, ship operations funding outlook and related matters for the 1998 scheduling year.

REVIEW AND UPDATE SCHEDULES. Each scheduler will present and update their respective ship(s) schedule and cost information. Viewgraph(s) for this presentation are recommended.

IDENTIFY CONFLICTS AND UNRESOLVED ISSUES. There will be a discussion of issues regarding cruises with scientific, personnel and operational conflicts, the coordination of cruises requiring specialty equipment, and the overall efficiency of fleet operations. (Note: We will attempt to account for all cruises on the inventory list maintained by the UNOLS Office.)

COSTS. The UNOLS Office will provide a summary of projected cost figures for vessel operations in CY- '98.

GENERAL DISCUSSION. Significant changes have occurred in the environment in which the UNOLS fleet operates. Projected funding reductions, expansion of the partnerships with NOAA and NAVOCEANO, an increase in the number of PIs from non-UNOLS academia, an increase in the number multi-year, multi-ship programs, the need to coordinate vehicles and personnel between ships and changes in the very nature of the science programs themselves all directly affect the way the fleet is utilized and scheduled. There will be a discussion of the effect that these and other changes are having on the UNOLS ship scheduling process. Jack Bash will identify procedural changes, particularly those utilizing the "web", that are intended to improve the information flow amongst the scientist user, funding agencies and ship operators involved in the scheduling process.

PRE-MEETING ACTION. All ship's schedules should be posted on OCEANIC. Cost figures in the following format for both 1997 and 1998 should be passed to the UNOLS Office no later than 8 September '97.

1997	NSF	NAVY	OTHER	TOTAL
Ship Days				
Cost $K				

1998	NSF	NAVY	OTHER	TOTAL
Ship Days				
Cost $K				

Costs for 1997 should be your latest projection. Costs for 1998 should be realistic estimates.

WHAT TO BRING TO THE MEETING:

1. Viewgraph(s) to illustrate your 1998 schedule.
2. Viewgraph(s) of the track chart(s) for 1998. (A hard copy for inclusion in the record is requested.)
3. An extra copy of all UNOLS Ship Time Request forms not on file with the UNOLS Office.

APPENDIX II

NAME	INSTITUTION/ ORGANIZATION	PHONE	FAX	E-MAIL
Tim Askew	HBOI	(561) 465-2400 x262	(561) 465-2116	taskew@hboi.edu
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Stan Winslow	U of Hawaii	(808) 847-2661	(808) 848-5451	swinslow@poha.soest.hawaii.edu

APPENDIX III

SCHEDULING PROCEDURE REVIEW

A Ship Scheduling Procedure Review Committee chaired by Rick Jahnke met 7 January 1997 to address perceived weakness in the ship scheduling process. These were:

1. Information Exchange
2. Insufficient Project Tracking
3. Cost Benefit Analysis
4. Timing of Science Meetings and Milestones
5. Other Factors (additional charges caused by shifting ships)

The following recommendations were presented:

1. Revise the ship-time request form
2. Develop a ship request tracking system relational data base
3. Automate the procedure for PI input on preliminary schedules and schedule changes
4. Standardize procedures for all users
5. Optimize scheduling meeting and procedure times (encourage more regional communications)
6. Cost benefit analysis system
7. Variable costs should be handled by Program Managers on an individual basis

ACTION TO DATE:

Revised Electronic Ship Time Request form (work in progress).

Two parts, single page for proposals and scheduling followed by an extensive second part for cruise planning. Part one submitted with proposal, part two after funding or special request. Each request will have a backup archive file of pertinent traffic.

Posted by year to web on world chart, geographically located in pull down box.

On-line ship schedule form. Auto cruise track posted to web on world chart. All PIs automatically notified at posting and for subsequent changes.

Transit bank auto-update for no cost cruises of opportunity.

Future work. Program ship daily cost, distance and fuel use into ship track program to provide a first level cut at a cost analysis.

UNOLS SHIP TIME REQUEST FORM

P.I. Name	Last	First	MI.
Institution / **Address**			Research vessel requi ◯ **Ancillary Only** ◯ **Principal Use**
Phone:	Fax:	**E-mail:**	
Co P.I. Name	Institution	Co P.I. Name	Institution
Title:			

◉ New Proposal?
Inst. Proposal #

Proposal #

◯ Renewal
Grant #

Agency submitted to:
NSF/OCE/BO
Amount Requested:

Start Date: (mm/dd/yy)

End Date: (mm/dd/yy)

Foreign EEZ? ◯ No ◯ Yes - see Handbook
(List countries' clearance required)

Area of Operations (Use codes from standard Naval Chart and brief description) Codes:
Geographic
Description (Latitude, Longitude):
Beginning: Ending:

Year	Ship(s) Requested Name or size	Science Days Required	Optimum Dates Month/Day/Year	Alternate Dates Month/Day/Year
1997	Large			
Total Science & Ship Days Needed:		Start Port:	Intermediate Port:	End Port:
Number in Science Party:				

Equipment Required: ☐ Vans ☐ Dynamic Positioning	☐ P-Code GPS ☐ Multibeam	☐ MCS ☐ SCS	☐ ALVIN ☐ ROV	☐ AMS 120 ☐ .680 Cond.

Other Special Equipment; Comments:

Inorder to recall this form for reprinting or modification, enter an 4-10 character password.
Password:

After final submission, a copy of this form will be sent to the UNOLS office and forwarded to the appropriate institution(s) operating the ship(s) and Federal funding agency. This information will be part of a UNOLS database.

To submit the form press either the DRAFT button to enter a partially completed form into the system or the FINAL button to submit a completed version of the form to UNOLS. Your request will not be sent to UNOLS until the FINAL button is pressed and the Draft version of your form will then be purged. Draft forms will be purged from the system after 30 days.

DRAFT form submittal | FINAL form submittal | Clear form

Back to the Main Menu

Back to UNOLS home page

Section Two UNOLS SHIP TIME REQUEST FORM

Submit this portion of the UNOLS Ship Time Request form after funding of your cruise has been confirmed or upon notification of your Program Manager. This form is an extension of section one. If there are changes needed to section one they can be made and will be included upon submission of this section. The purpose of this section is to permit the ship operator to better understand the science mission and provide the services needed to run a successful cruise. A message file will also be opened for each cruise. This file will be used to archive e-mail message traffic pertaining to the cruise. Anyone associated with the cruise can file messages in this file. The messages will be automatically filed by copying <unols@gso.uri.edu> on your message and include on the subject line the last 6 digits of the UNOLS Request ID # found on your come back copy of the first submission above. Access to the file can be found through the Ship Time Request menu on the UNOLS Homepage.

When submitted the entire UNOLS Ship Time Request form (section one and two) will automatically be forwarded to the PI, funding agency, ship(s) involved in the cruise and the UNOLS Office. It will also be accessible on the WWW through the UNOLS Homepage, positioned on a world chart at the geographical location of your planned cruise.

Please review the information submitted on section one of this form and update changes.

Other scientists involved in Multi-PI program (For multiple leg cruises indicate the chief scientist for each leg).

Name (Last, First, MI) Institution E-mail

Are there special considerations of the science party or cruise scheduling such as science time constraints; coordination of equipment shipping; two ship operations; weather windows; mooring turn-around; teaching schedules or other considerations that will affect scheduling decisions? Please explain:

SCUBA Diving? No Yes Designated Lead Institution

Individual Dives: # Divers onboard:

A list of all divers and their certification information must be submitted to the ship's marine superintendent.

Are there special science party considerations? Foreign Nationals; Medical Conditions; Disabled persons
If yes please explain:

Will you be using Hazardous Materials such as radioactive material, explosives or other?
No Yes If yes please list type, quantity and disposal plan.

Provide a detailed list of equipment to be required for your cruise. This is in addition to the equipment listed in section one above. Include equipment that will be provided by the science party. Be as specific as possible. Will there be equipment brought aboard that will need special handling, storage or installation?

General comments not covered above:

All members of the science party are expected to have read Chapter 1 of the RVOC Safety Training Manual before the cruise begins. It can be accessed here. Copies should also be available aboard ship.

FINAL SUBMIT

APPENDIX IV

SUMMARY OF SHIP USE AND COSTS

YEAR: 1997

As of: 9/12/97

	NSF		NAVY		OTHER		TOTAL		DAILY
SHIP/CLASS	DAY	$	DAY	$	DAY	$	DAY	$	RATE
R. REVELLE	233	3,719	8	128	47	750	288	4,597	15,962
MELVILLE	199	3,359	87	1,469	21	354	307	5,182	16,879
KNORR	152	2,478	112	1,826	28	456	292	4,760	16,300
ATLANTIS	157	2,512	0	0	28	448	185	2,960	16,000
EWING	191	3,103	60	975	22	357	273	4,435	16,245
T.G. THOMPSON	171	2,624	24	368	66	1,013	261	4,006	15,349
MOANA WAVE	180	2,342	0	0	23	300	203	2,642	13,015
CLASS I/II	1,283	20,137	291	4,766	235	3,678	1,809	28,582	- -
AVE: (7)	183	2,877	42	681	34	525	258	4,083	- -
EDWIN LINK	43	366	34	289.0	135	1,148.0	212	1,803	8,505
ENDEAVOR	117	1,260	74	797	0	0	191	2,057	10,770
OCEANUS	156	1,716	45	495	0	0	201	2,211	1,100
GYRE	30	216	32	230	86	619	148	1,065	7,196
NEW HORIZON	144	1,318	70	640	48	439	262	2,397	9,149
SEWARD JOHNSON	179	1,683	0	0	105	987	284	2,670	9,401
WECOMA	109	1,079	12	119	79	782	200	1,980	9,900
CLASS III	778	7,638	267	2,570	453	3,975	1,498	14,183	- -
AVE: (8)	97	955	33	321	57	497	187	1,773	- -
PELICAN	57	200	51	179	103	361	211	740	3,507
LONGHORN	4	16	0	0	41	164	45	180	4,000
POINT SUR	82	508	57	353	58	360	197	1,221	6,198
CAPE HATTERAS	120	825	90	619	19	131	229	1575	6,878
ALPHA HELIX	73	788	10	107	27	413	110	1308	11,891
R. SPROUL	118	673	17	97	45	180	180	950	5,278
CAPE HENLOPEN	86	490	115	655	5	28	206	1,173	5,694
WEATHERBIRD II	130	964	20	148	1	7	151	1,119	7,411
SEA DIVER	5	23	22	99	70	315	97	437	4,505
CLASS IV - TOTAL	675	4,487	382	2,257	369	1,959	1,426	8,703	- -
AVE: (9)	75	499	42	251	41	218	158	967	- -
BLUE FIN	85	215	0	0	8	20	93	235	1,816
LAURENTIAN	35	165	0	0	12	56	47	221	4,702
BARNES	106	146	0	0	28	39	134	185	1,381
CALANUS	66	218	12	40	24	79	102	337.0	3,304
URRACA (c)	0	0	0	0	0	0	0	0	NA
< CLASS IV TOTAL	292	744	12	40	72	194	376	978	- -
AVE: (5)	58	149	2	8	14	39	75	196	- -
Fleet Total	3,028	33,006	952	9,633	1,129	9,806	5,109	52,446	- -
AVE: (29)	104	1,138	33	332	39	338	176	1,808	- -

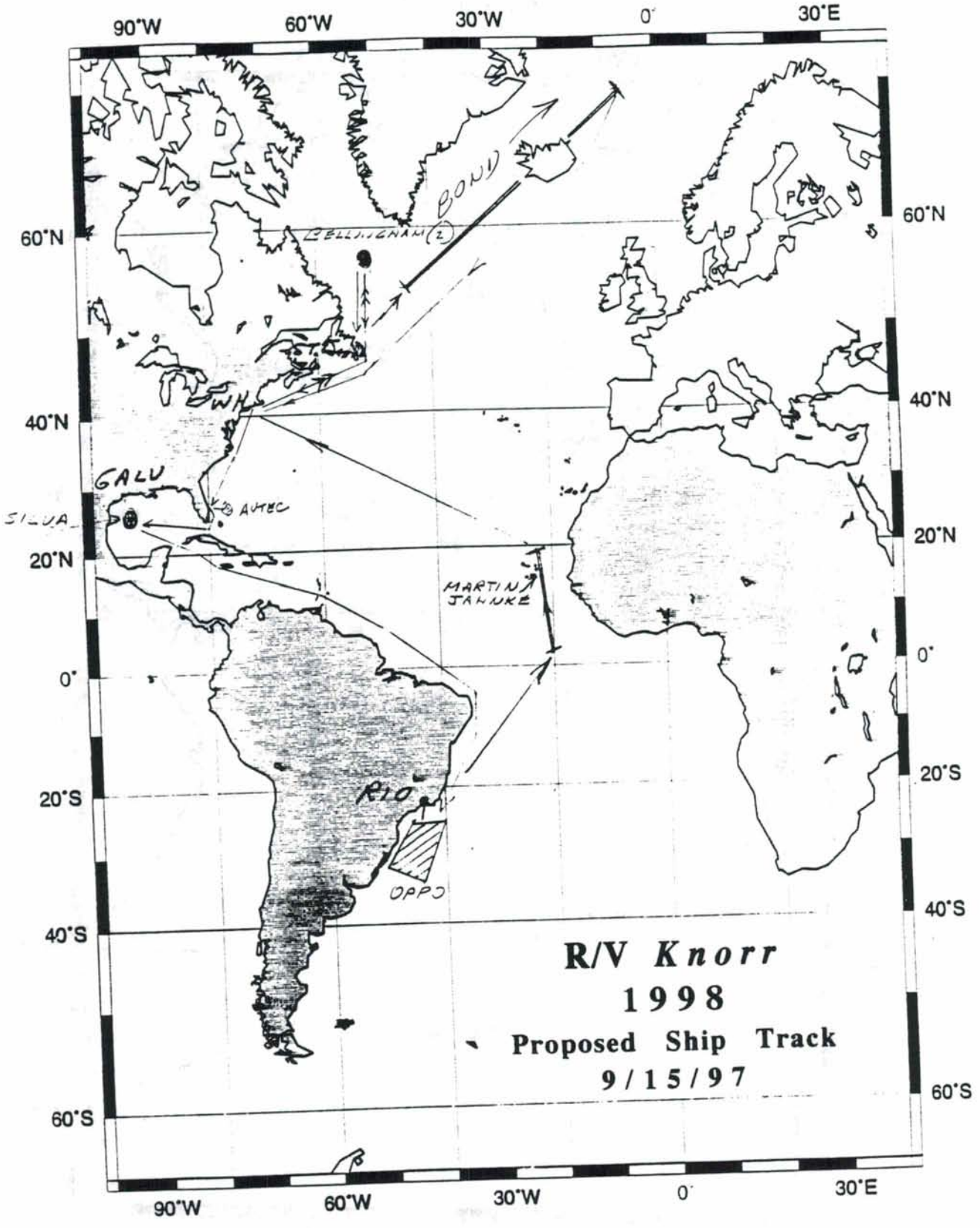
SUMMARY OF SHIP USE AND COSTS

YEAR 1,998

As of: 9/11/97

	NSF		NAVY		OTHER		TOTAL		DAILY
SHIP/CLASS	DAY	$	DAY	$	DAY	$	DAY	$	RATE
R. REVELLE	127	2,121	135	2,255	18	301	280	4,677	16,704
MELVILLE	172	3,044	0	0	7	124	179	3,168	17,698
KNORR	185	3,034	53	869	19	312	257	4,215	16,400
ATLANTIS	223	3,524	11	174	38	600	272	4,298	15,801
EWING	73	1,278	48	840	18	315	139	2,432	17,496
T.G. THOMPSON	112	1,773	76	1,203	102	1,615	290	4,591	15,831
MOANA WAVE	104	1,452	16	224	65	907	185	2,583	13,962
CLASS I/II	**996**	**16,226**	**339**	**5,565**	**267**	**4,174**	**1,602**	**25,964**	- -
AVE: (7)	**142**	**2,318**	**48**	**795**	**38**	**596**	**229**	**3,709**	- -
EDWIN LINK	29	261	0	0.0	209	1,881.0	238	2,142	9,000
ENDEAVOR	0		0		0		0	0	#DIV/0!
OCEANUS	152	1,611	40	424	7	74	199	2,109	10,600
GYRE							0	0	#DIV/0!
NEW HORIZON	77	754	97	950	37	362	211	2,066	9,791
SEWARD JOHNSON	173	1,678	34	330	26	252	233	2,260	9,700
WECOMA	71	703	58	574	86	851	215	2,128	9,898
CLASS III	**502**	**5,007**	**229**	**2,278**	**365**	**3,420**	**1,096**	**10,705**	- -
AVE: (8)	**63**	**626**	**29**	**285**	**46**	**428**	**137**	**1,338**	- -
PELICAN	62	233	25	94	105	394	192	721	3,755
LONGHORN	54	216	0	0	30	120	84	336	4,000
POINT SUR	121	762	28	176	46	290	195	1,228	6,297
CAPE HATTERAS	104	724	81	564	57	397	242	1685	6,963
ALPHA HELIX	132	1,417	0	0	12	129	144	1546	10,736
R. SPROUL	81	482	44	262	20	119	145	863	5,952
CAPE HENLOPEN	104	593	68	388	16	91	188	1,072	5,702
WEATHERBIRD II	139	1,043	0	0	0	0	139	1,043	7,504
SEA DIVER	18	86	22	105	45	214	85	405	4,761
CLASS IV - TOTAL	**815**	**5,556**	**268**	**1,589**	**331**	**1,754**	**1,414**	**8,899**	- -
AVE: (9)	**91**	**617**	**30**	**177**	**37**	**195**	**157**	**989**	- -
BLUE FIN (b)	72	224	0	0	34	106	106	330	1,816
LAURENTIAN	140	630	0	0	6	27	146	657	4,500
BARNES	65	99	17	26	18	27	100	152	1,520
CALANUS	80	248	0	0	60	186	140	434.0	3,100
URRACA							0	0	NA
< CLASS IV TOTAL	**357**	**1,201**	**17**	**26**	**118**	**346**	**492**	**1,573**	- -
AVE: (5)	**71**	**240**	**3**	**5**	**24**	**69**	**98**	**315**	- -
Fleet Total	**2,670**	**27,990**	**853**	**9,458**	**1,081**	**9,694**	**4,604**	**47,141**	- -
AVE: (29)	**92**	**965**	**29**	**326**	**37**	**334**	**159**	**1,626**	- -

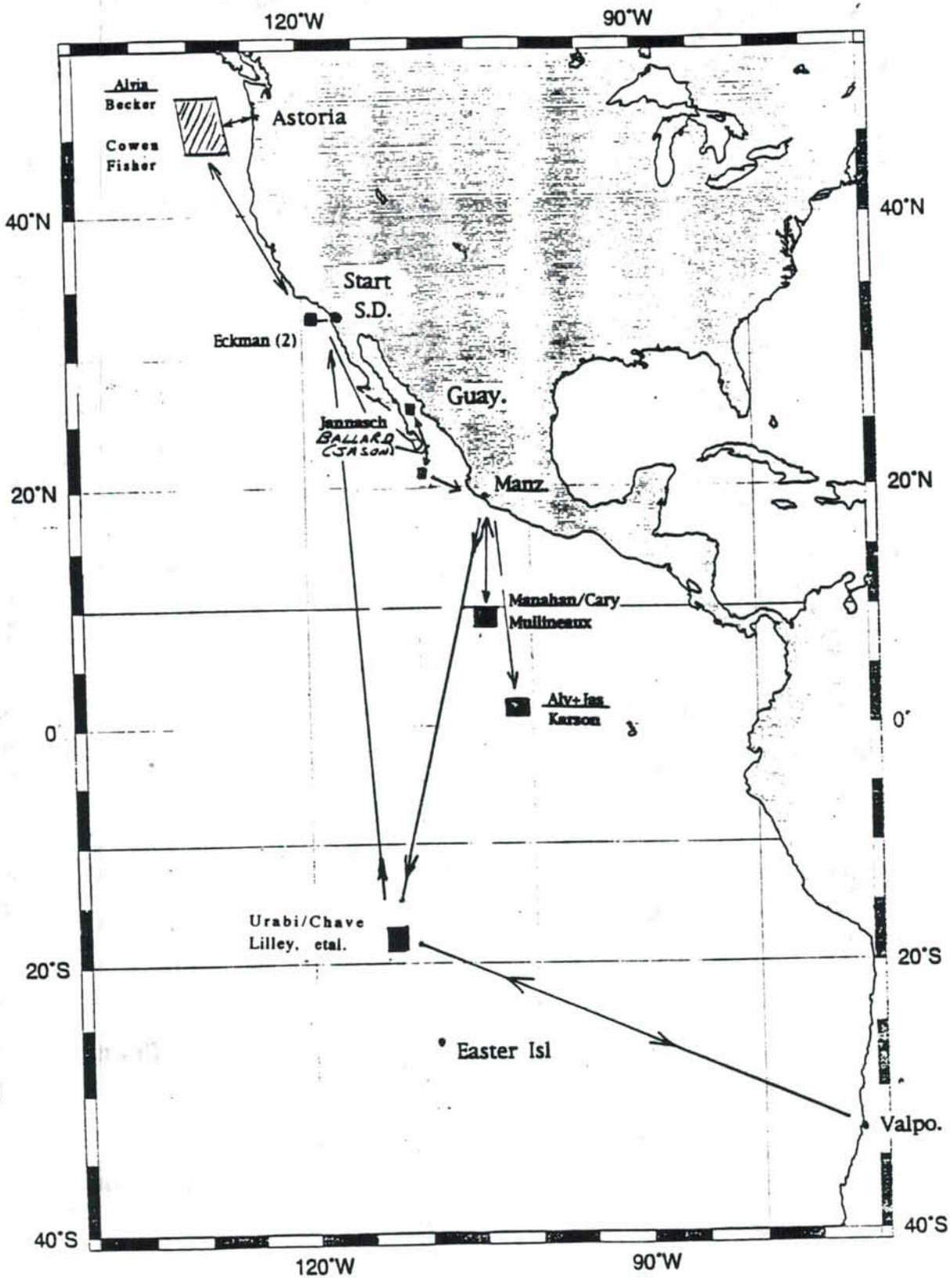
APPENDIX V



MOC04: Atlantic ...dan

WHOI / M

R/V *Atlantis*
1998
Proposed Ship Track
9/15/97

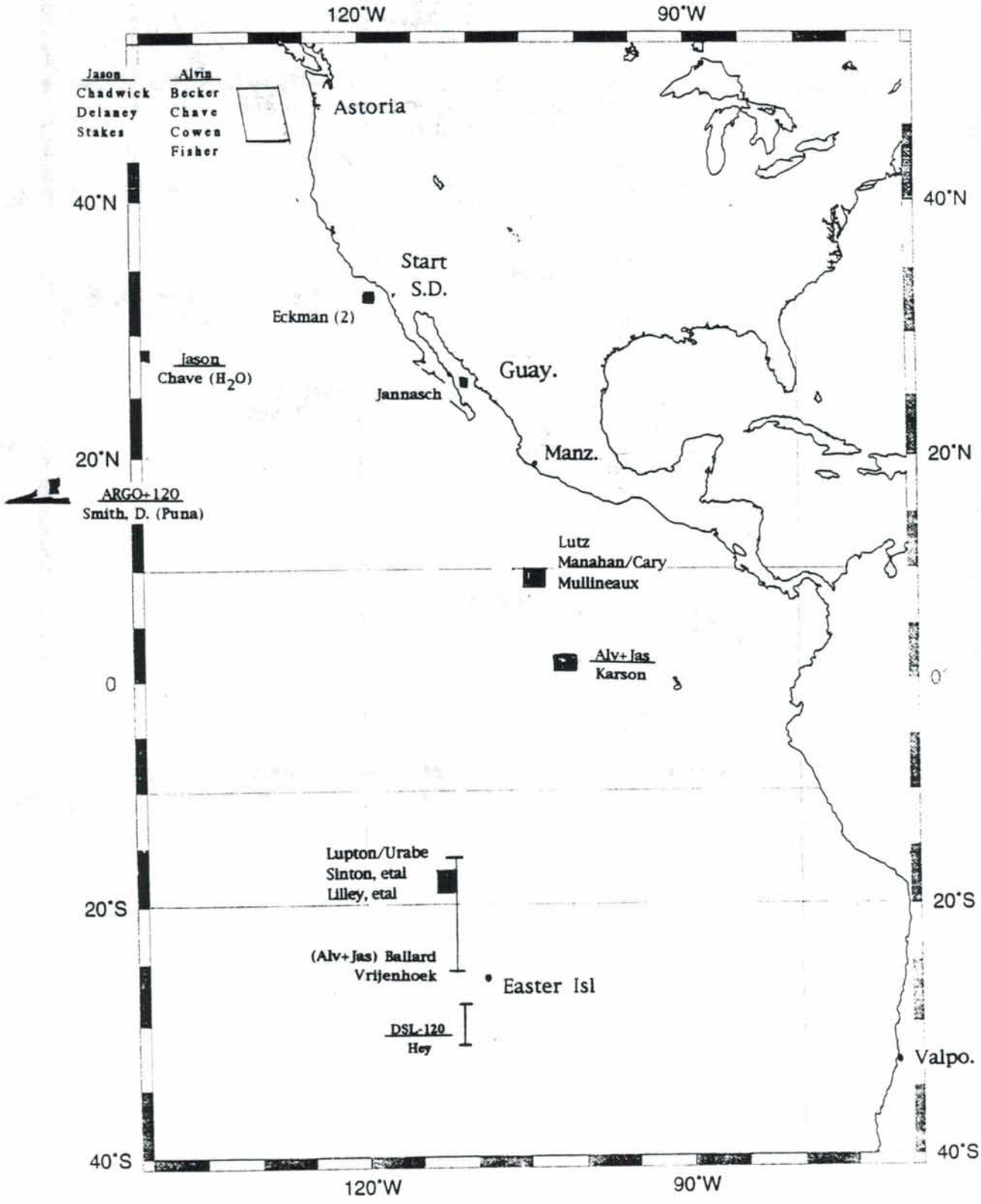


- - 1998 - -

DEEP SUBMERGENCE VEHICLES

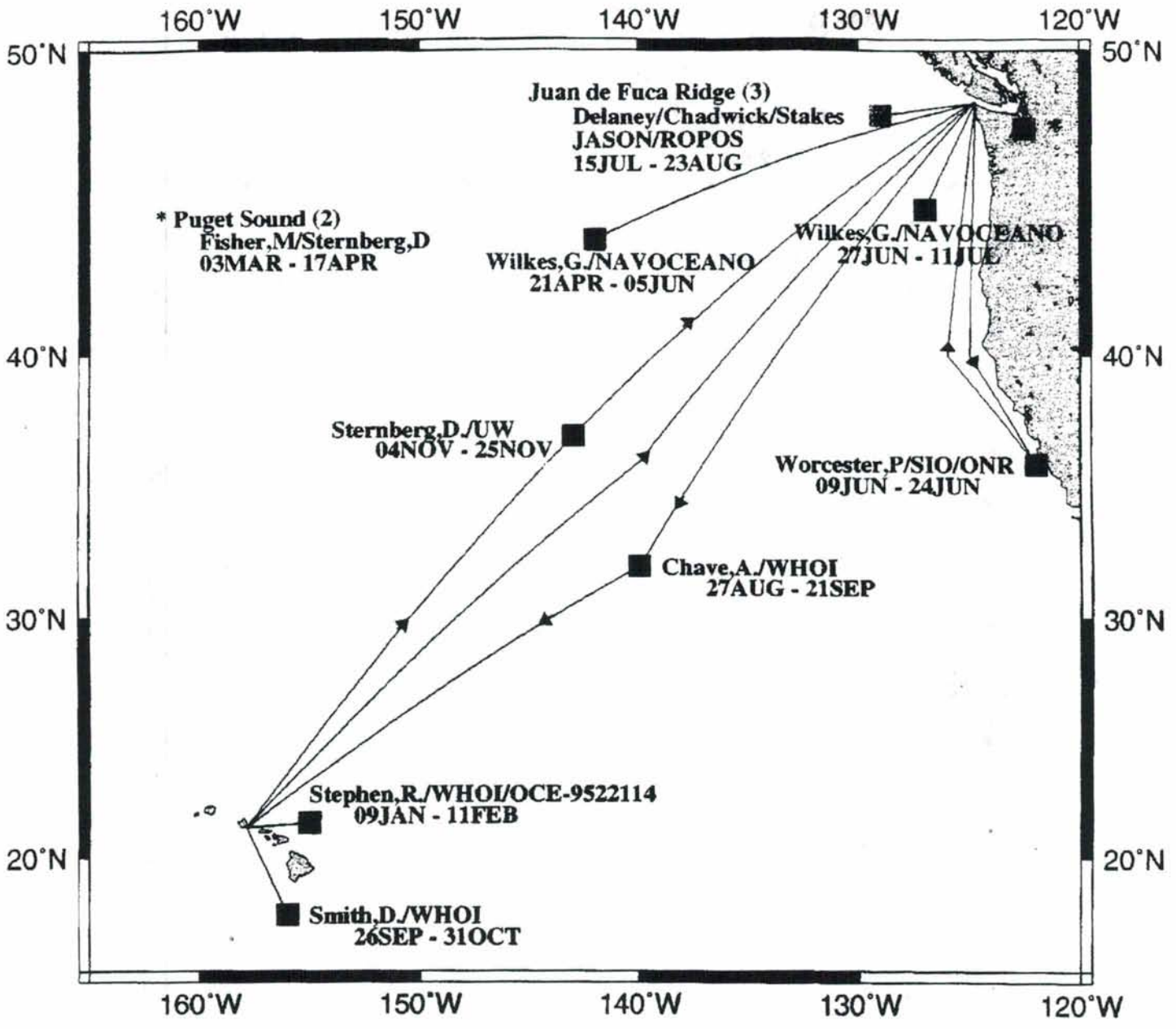
(*Alvin*, Jason, ARGO-II, DSL-120)

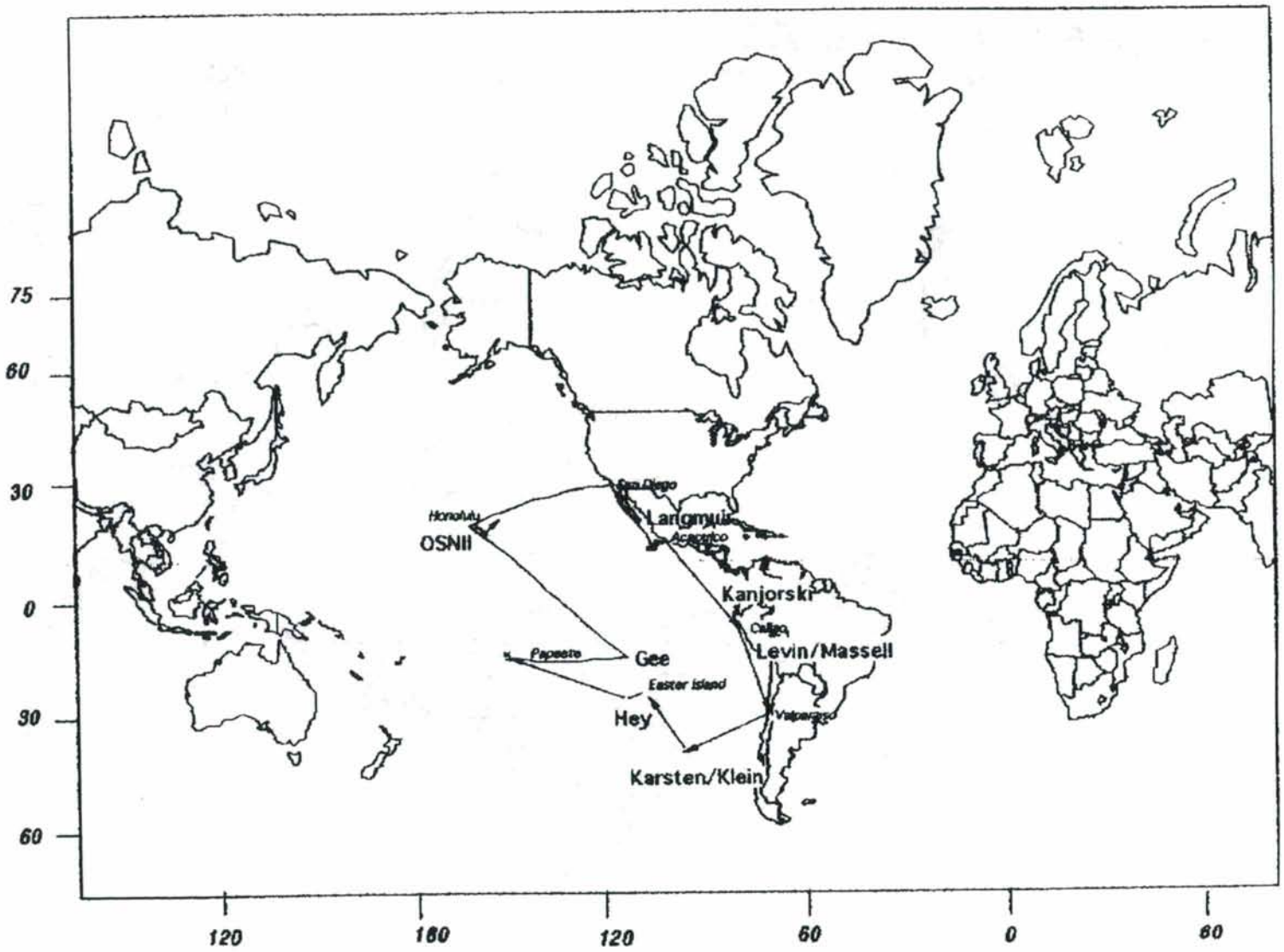
Funded Programs To Be Run



WHOI / MoI

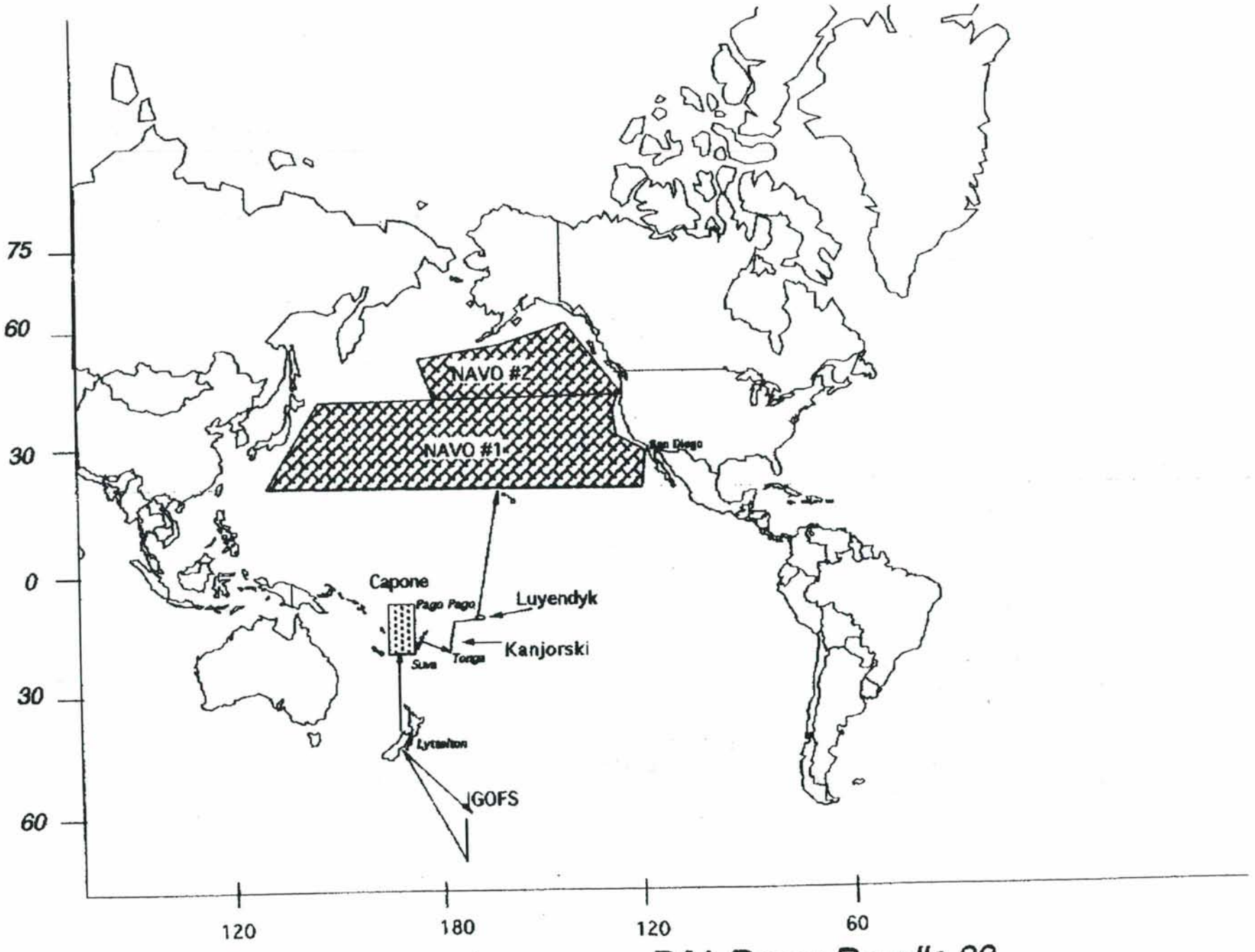
R/V THOMAS G. THOMPSON 1998 Schedule



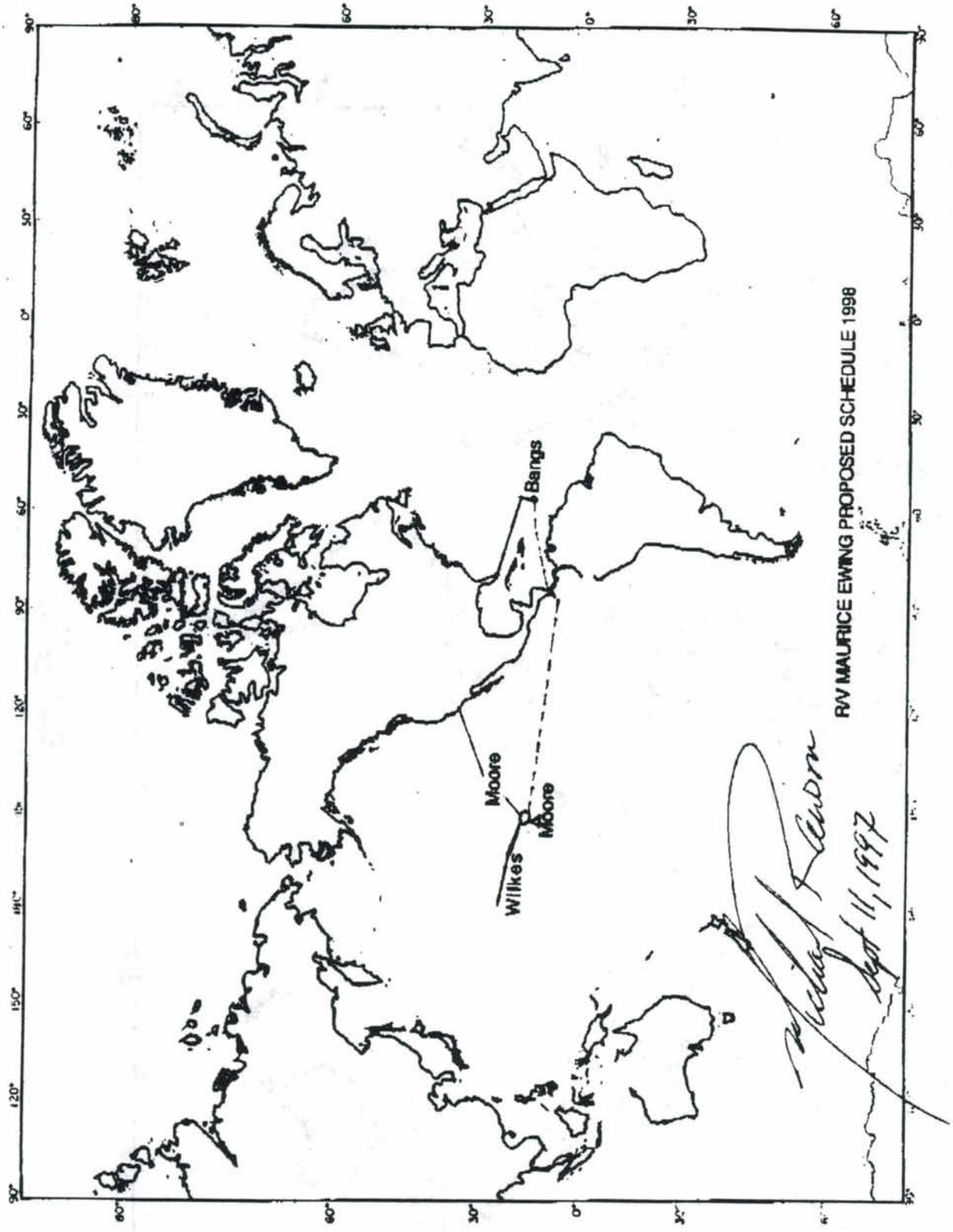


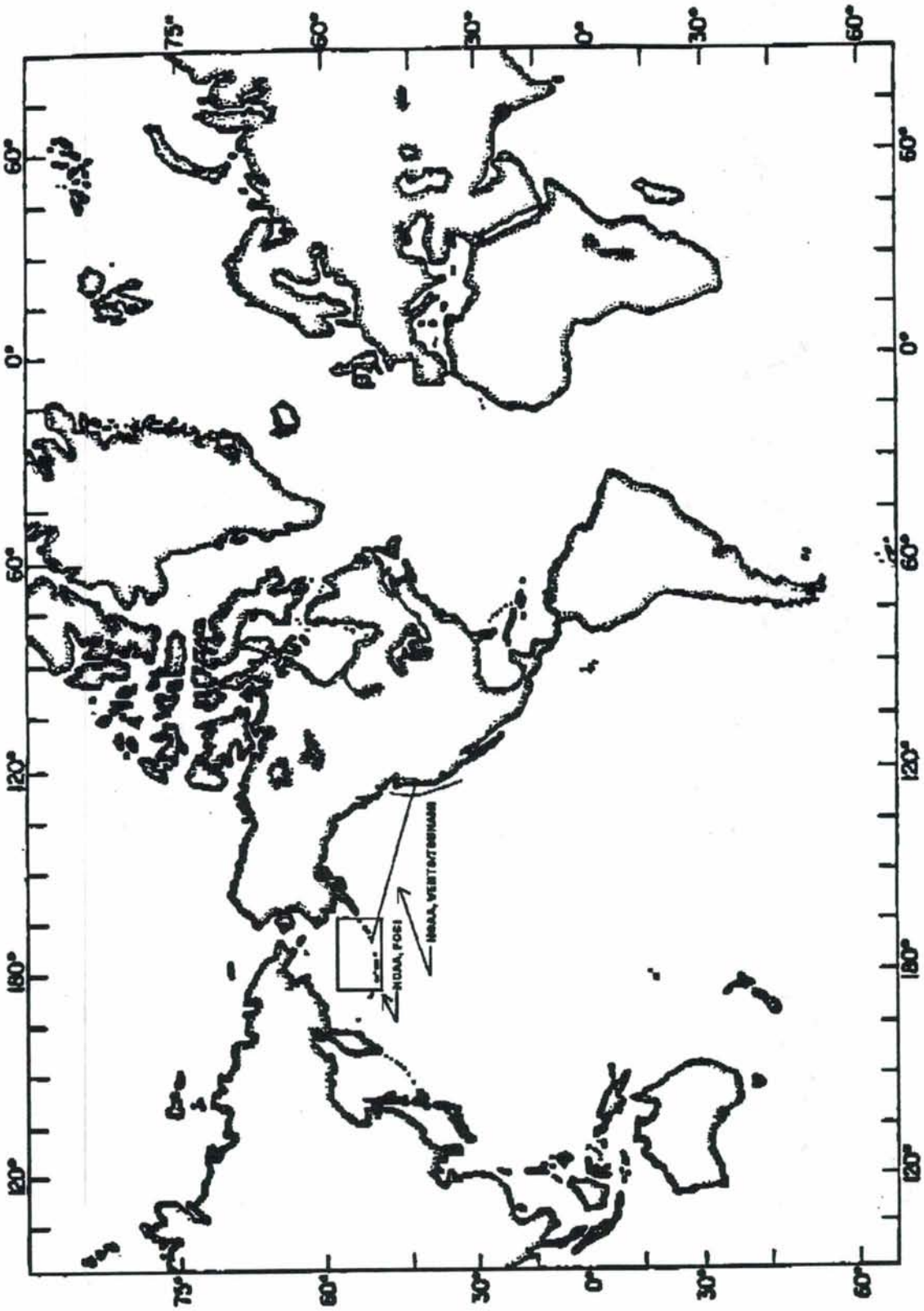
Scripps Institution of Oceanography

R/V Melville 98



R/V Roger Revelle 98
Scripps Institutuion of Oceanography


R/V MAURICE EWING PROPOSED SCHEDULE 1998
Bangs
Moore
Moore
Wilkes
Sept 11, 1997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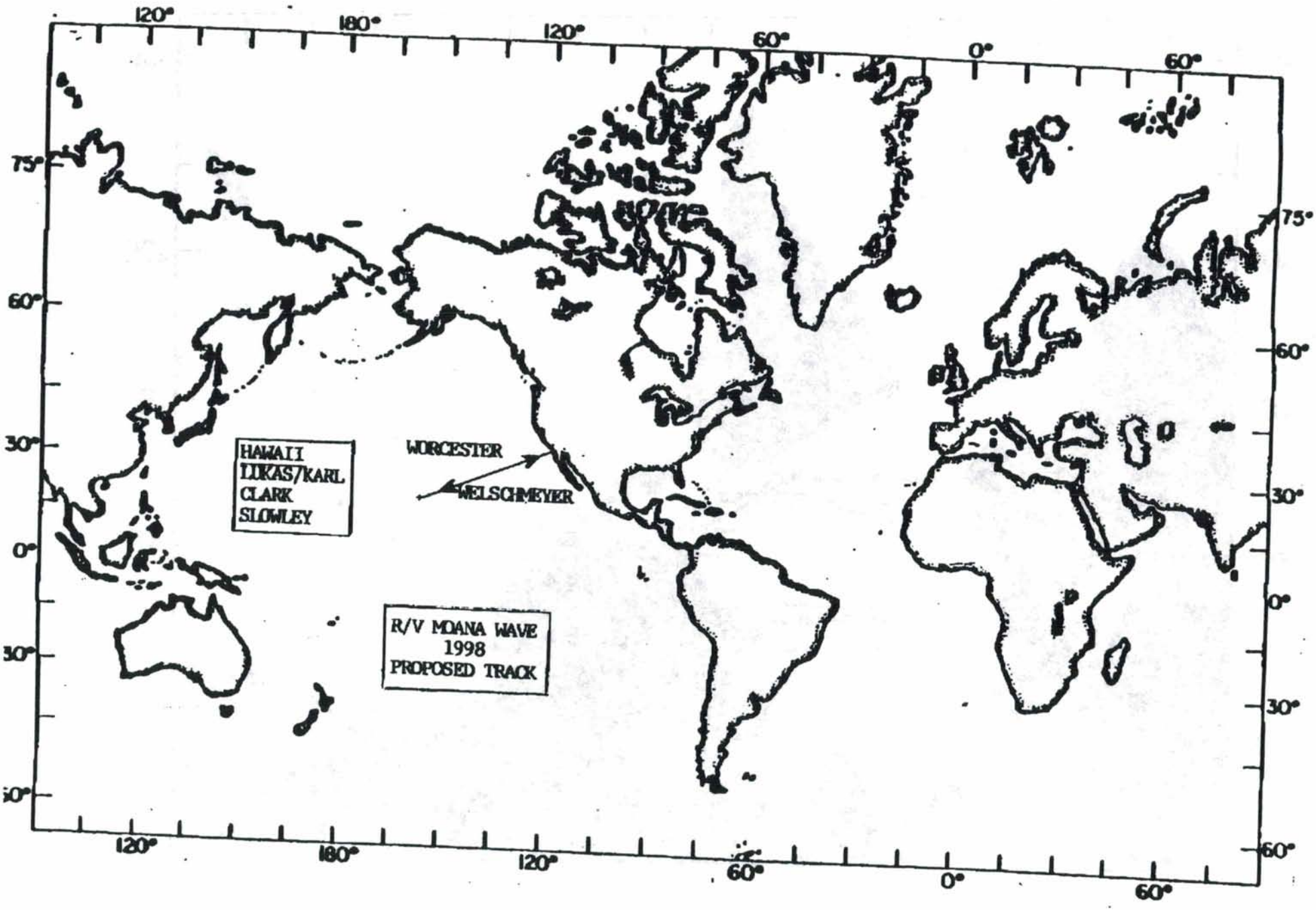
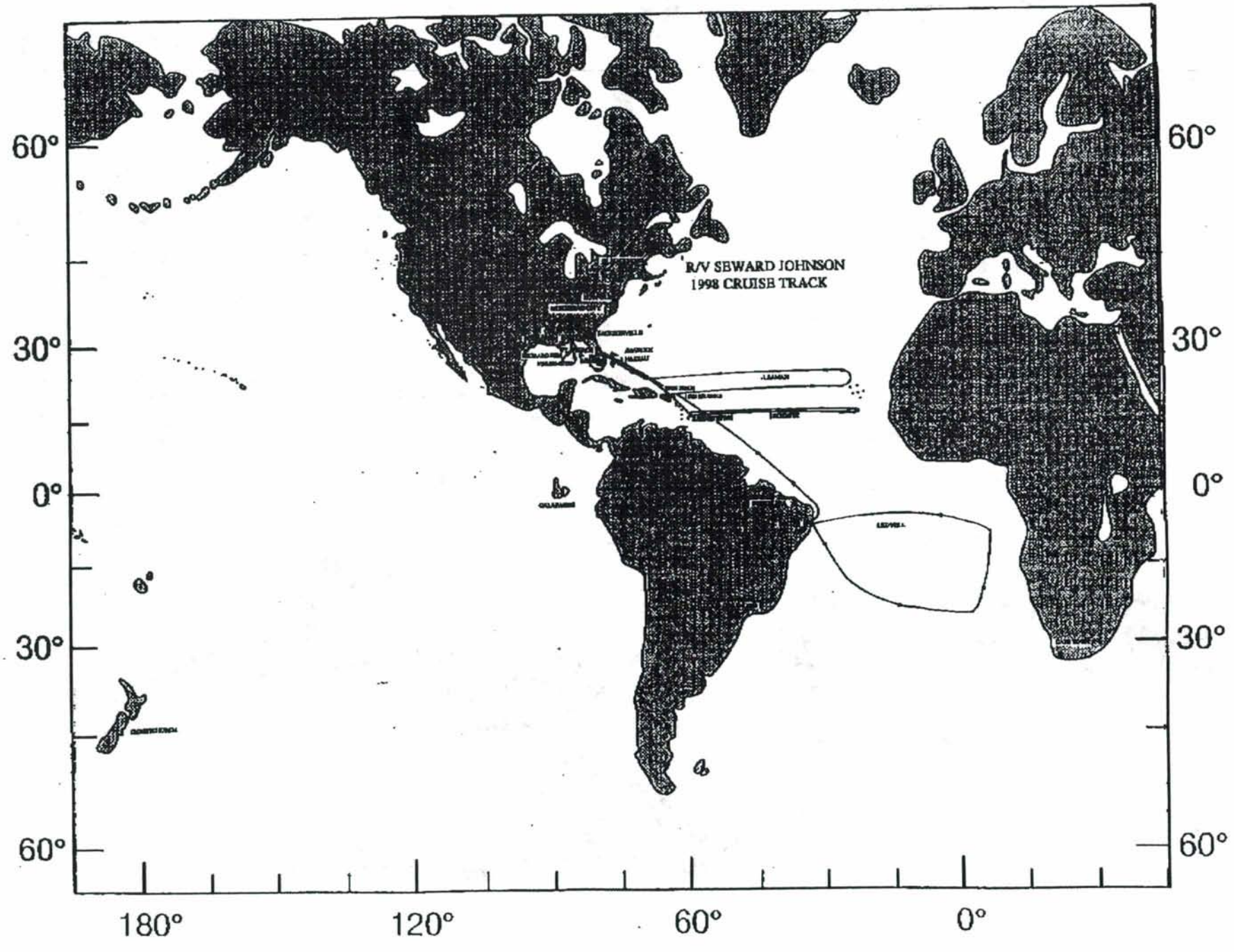
60°
30°
0°
30°
60°
60°
0°
60°
120°
180°
120°
NOAA, POSI
NOAA, VERTICAL PROFILES
1998
CRUISE TRACKS
R/V WECOMA
OREGON STATE UNIVERSITY


120°
180°
120°
60°
0°
60°
75°
60°
30°
0°
30°
60°
HAWAII
LUKAS/KARL
CLARK
SLOWLEY
WORCESTER
WELSCHMEYER
R/V MOANA WAVE
1998
PROPOSED TRACK


R/V SEWARD JOHNSON
1998 CRUISE TRACK
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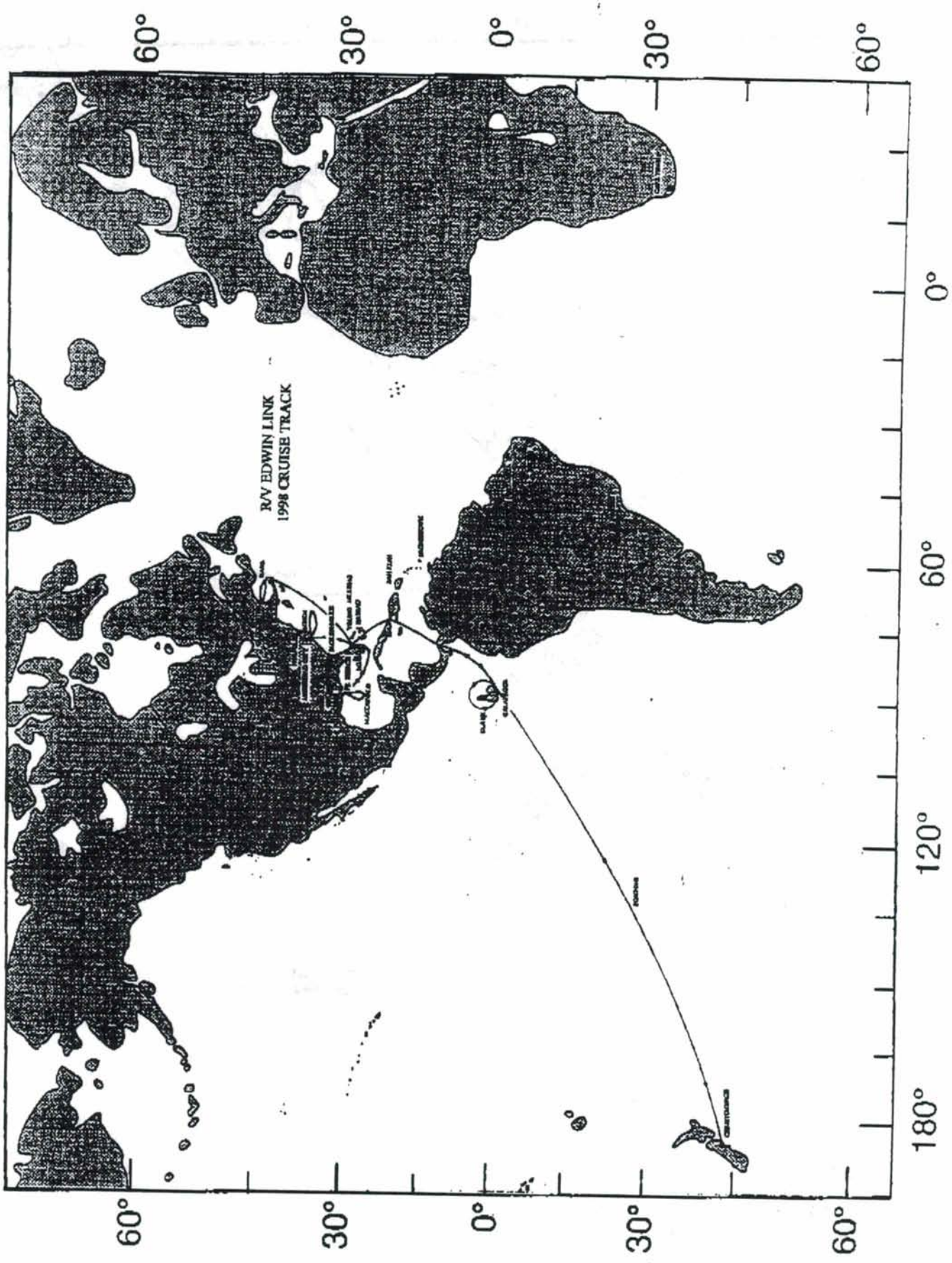
30°
60°
180°
120°
60°
0°


R/V EDWIN LINK
1998 CRUISE TRACK
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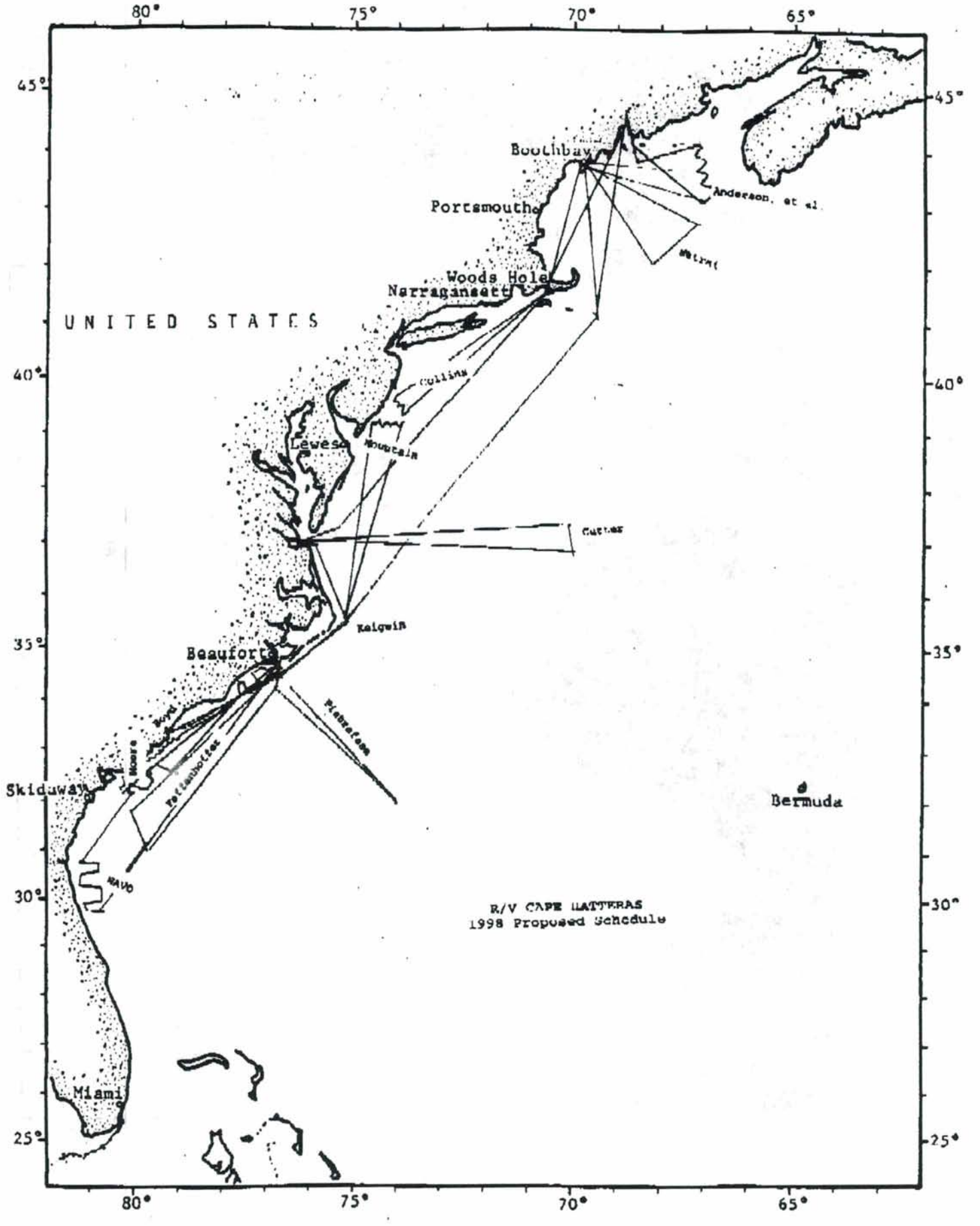
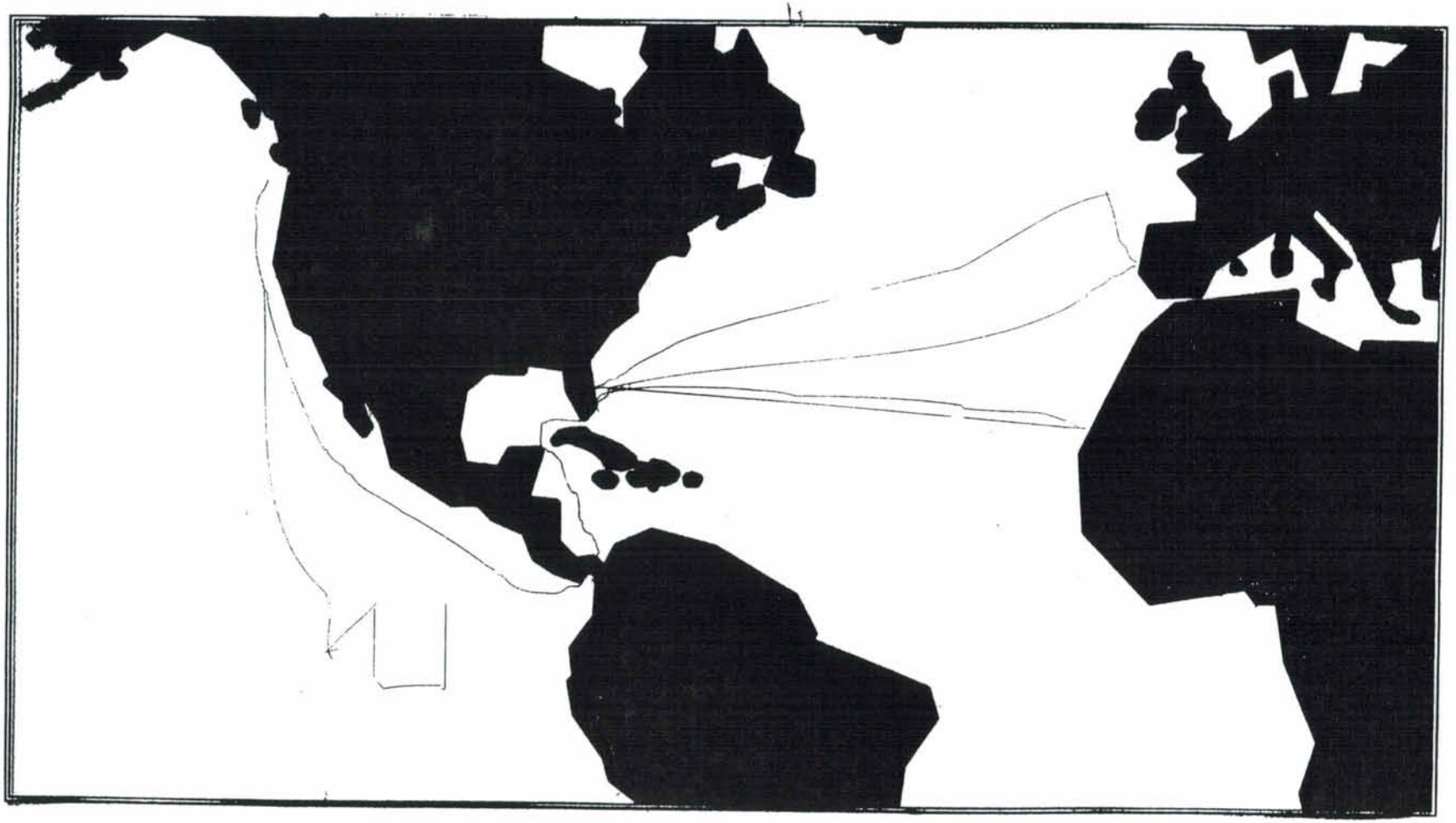
0°
30°
60°
0°
60°
120°
180°
60°
30°
0°
30°
60°


80°
75°
70°
65°
45°
40°
35°
30°
25°
UNITED STATES
Boothbay
Portsmouth
Woods Hole
Narraganset
Anderson, et al
Lewes
Beaufort
Kelowin
Bermuda
Miami
R/V CAPE HATTERAS
1998 Proposed Schedule

NOAA Ship RONALD H. BROWN

CY98 Cruise Track



SHIP SCHEDULING REVIEW GROUP

National Science Foundation
4201 Wilson Boulevard, Board Room 1235
Arlington, VA 22230

September 15, 1997

The Ship Scheduling Review Group met following the Ship Scheduling Committee Meeting on 15 September 1997 in Room 1235 of the National Science Foundation. Present were Ship Scheduling Committee Chair Don Moller, Vice Chair Robert Hinton; Agency representatives Dolly Dieter (NSF) and Cdr. Elizabeth White (NOAA); Ken Johnson, UNOLS Chair; and UNOLS Executive Secretary, Jack Bash.

The Group reviewed the events of the Ship Scheduling Committee Meeting and made recommendations where conflicts existed. A full or partial lay-up of several ships has been recommended in this review. Operators in need of crew or technicians should ensure that their requirements are first made known to those ship's that are idle. The ships were reviewed in the order presented at the Ship Scheduling Committee Meeting and as listed below.

Comments by ship:

OCEANUS/ENDEAVOR - Both ships had presented an identical schedule suggesting that one of the two ships would lay up in 1998. The final decision will be made by NSF after reviewing the recommendations of UNOLS. Both ships were treated as a single entity. A potential conflict exists with the coring crew to be used on the Keigwin cruise (OCEANUS/ENDEAVOR) and Silva cruise (KNORR). The Keigwin cruise should receive priority. The GLOBEC cruises are joint funded between NSF and NOAA. The ONR funding of ship time for the education, bio-acoustic cruises should be confirmed with Greene. The January Anderson cruise could move into 1997 and go to ENDEAVOR.

CAPE HENLOPEN - The Hutchins cruise to Bermuda should be moved to WEATHERBIRD II if that ship is suitable for the science and WEATHERBIRD II can efficiently schedule the cruise.

CAPE HATTERAS - Matrai needs seven days in June or July in addition to the March work. The Spero science needs to be accommodated, if possible on an ancillary basis, possibly on Paffenhoffer cruise. The work must be done in June of July. All cruises listed as Townsend should be renamed Anderson with Townsend as a secondary PI. CAPE HATTERAS is nearly over-booked. If possible the OCEANUS/ENDEAVOR schedule should take up to 30 days of the HATTERAS work in the Gulf of Maine.

BLUE FIN - The 25 day Nelson cruise has not been funded.

WEATHERBIRD II- If WEATHERBIRD II can meet the science requirements, the ship should take the Hutchins work presently scheduled on HENLOPEN.

SEA DIVER - The September cruise (11 days) of the Ackleson ONR program is to move into 1999. The remaining days should be increased from 11 to 12.

EDWIN LINK - All the EDWIN LINK work in 1998 will be with submersibles. See note below in the GYRE write-up re Watling.

SEWARD JOHNSON - Good schedule, no comment.

CALANUS - Good schedule, no comment.

PELICAN - The PELICAN schedule has 192 days of which 162 are funded. This schedule approaches over booking.

LONGHORN - The cruises of Joyce, Muller-Karger and Villareal are not currently funded reducing the LONGHORN schedule to 36 days.

GYRE - The Watling cruise of ten days is the only NSF work scheduled for GYRE. This coupled with six State days and two other days represent an 18 day schedule. Unless other work materializes, GYRE should find another ship for the Watling work (EDWIN LINK?) and lay the ship up for the year.

URRACA - This ship has 173 days scheduled, 50 of which (Glynn and Kidwell) are NSF funded.

LAURENTIAN - The Feb.-Apr. COP cruises on LAURENTIAN should have Edgington listed as PI. Good schedule.

ALPHA HELIX - Button has been funded for three days. The Eslinger LTER work remains pending. The GLOBEC and ECOHAB work is a jointly funded program with NSF and NOAA. The exception to this is the ECOHAB work of Kviteck which remains NSF funded.

MOANA WAVE - In an effort to keep MOANA WAVE with a viable schedule the Worcester and Welschmeyer should remain on this ship and not NEW HORIZON. HOTS work will be funded at the 50 day level. Speisberger is funded by ONR and is a basic time series Karl cruise.

BARNES - The Deming OPP work remains in the pending column. The two ship Simenstad work needs coordination with WECOMA.

WECOMA - Potential weather problems preclude using SPROUL for the Simenstad work. That cruise should be re-booked on WECOMA. The Chave work of two days will be transferred to ATLANTIS at 9N, EPR as an ancillary program. The second Cowles cruise of six days remains pending. The Collier cruise is declined.

POINT SUR - No comment. Good schedule.

SPROUL - No comment. Good schedule.

NEW HORIZON - See note above for MOANA WAVE re Welshmeyer and Worcester.

BROWN - RON BROWN will operate the entire year with NOAA funding. This ship's work in the Juan de Fuca should be coordinated with THOMPSON and ATLANTIS to prevent any conflict.

EWING - The NAVO work will not be funded reducing EWING to a 91 day schedule. The ship will lay up in a Gulf port.

KNORR - The potential conflict with the multi-corer must be coordinated between Keigwin and Silva (see note above with OCEANUS/ENDEAVOR). Ancillary work may be scheduled with no additional days being added to the funded Jahnke/Martin cruise.

REVELLE - No comment. Good schedule.

MELVILLE - MELVILLE will work half a year with a schedule of 179 days and will lay up upon returning to San Diego.

THOMPSON - See note on BROWN. Good schedule.

ATLANTIS - The schedule for ATLANTIS remains unsettled until the Urabe options can be understood and NSF/OCE can work out scheduling conflicts. Consideration must be given to coordination of equipment/personnel transfers with MELVILLE and THOMPSON. A submersible program, B. Carson, on the Oregon Margin was omitted and needs to be scheduled. See note on BROWN.