

UNOLS SHIP SCHEDULING COMMITTEE

Report of Meeting

11 September 1995

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

SHIP SCHEDULING REVIEW

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Appendices

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INTRODUCTION:

This report is a summary of the discussions at the UNOLS Ship Scheduling Meeting held at the National Science Foundation in Arlington, Virginia on 11 September 1995. The full scheduling committee met to present schedules and deliberate on the funding implication for 1996. In addition to the schedulers from the UNOLS operator institutions, agency representatives and program managers from NSF, ONR, NOAA and the USCG attended. The meeting agenda was followed except as indicated herein. A copy of the agenda is included as **Appendix I**. A list of the attendees is appended as **Appendix II**.

Schedulers provided the UNOLS Office with the latest 1996 proposed schedules. These schedules were posted on OCEANIC. Schedulers also provided the UNOLS Office their best estimates of the costs to support these schedules. A summary of these costs is included as **Appendix III**. In advance of the meeting the UNOLS Office distributed an inventory list of the 1996 and 1997 ship time requests (NSF Form 831) held by the UNOLS Office. Copies of these inventories are included as **Appendix IV & V** respectively. Copies of the 1996 ships' cruise tracks are included as **Appendix VI**.

The meeting was called to order at 0830 by the Ship Scheduling Committee Chair, Don Moller. Introductions were made around the room. Don explained that because of the early NSF panel deadline the vast majority of the funding decisions were made during the summer permitting the scheduling process to be more complete at this time. He indicated that the east coast intermediates required close coordination due to NSF's GLOBEC, ONR's Coastal Mixing & Optics and DOE's Ocean Margins Programs.

The Class I and II ships' schedules were driven by the need to coordinate the HMR-1, OBS instruments and ARGO-II/JASON/AMS-120 vehicles.

Below is a ship by ship discussion presented by the schedulers of the respective institutions. The listing is in the order presented.

REVIEW AND UPDATE OF SCHEDULES:

BARNES - University of Washington - Robert Hinton provided the 1996 BARNES schedule of 102 days reporting that it was reasonably firm. Ingalls would like his cruise to go in 1997. Robert added that they could add the Deming OPP work.

BLUE FIN - Skidaway - A Skidaway representative was not available. Dolly Dieter reported that BLUE FIN had a very good schedule that was likely to grow. Dolly said that Wiegart had requested GYRE but because of draft limitations would be moved to BLUE FIN.

CALANUS - University of Miami - Dave Powell presented an 87 day schedule for CALANUS. Only 14 days are funded with 48 days listed as tentative for ONR and 15 days of NOAA/Other proposed.

LAURENTIAN - University of Michigan - Linda Goad provided a schedule for LAURENTIAN with 45.5 funded days and 13 proposed. Linda was encouraged to seek out other agency ship time including NOAA and EPA.

LONGHORN - University of Texas - A UT representative was not available. They had filed a schedule for 1996 with 68 NSF funded days and 32 funded State days for a total of 100. Dolly Dieter informed the Committee that the 28 days of Ingall time could change.

PELICAN - LUMCON - Steve Rabalais reported that PELICAN picked up 80 days of NOAA ship time late in 1995 which significantly helped their year. The 1996 PELICAN schedule includes 123 days, 75 of which are funded. The total days could change if the MMS work goes to GYRE.

ALPHA HELIX - University of Alaska - Tom Royer reported that ALPHA HELIX was able to get Russian clearances for its 1995 work. The 1996 schedule reflects 174 ship days with only 51 of these days funded. There are 123 proposed days for OPP on the schedule. This is an unusual number of proposed days and could cause a major change in the schedule if they are not all funded. The late notification of OPP makes it difficult to work out a day rate for the ship.

MOANA WAVE - University of Hawaii - MOANA WAVE's schedule was presented by Stan Winslow. The ship picked up additional ATOC time in 1995. The 1996 schedule reflects 155 days with 38 of these days still pending. The schedule includes a

single cruise for Taylor in the western Pacific with 20 days of transit and 33 days of science.

WECOMA - Oregon State University - Fred Jones reported for WECOMA. Their light schedule of 180 days is primarily around Newport except for a joint operation with the French in the San Diego area. This cruise of 56 days for WECOMA was originally scheduled aboard NEW HORIZON.

POINT SUR - Moss Landing Marine Laboratories - The schedule of POINT SUR was presented by Mike Prince. The ship is planning an extended overhaul at the first of the 1996 year with the regular schedule starting in April. A total of 142 days has been scheduled with 106 of these days presently funded. Mike reported that the Naval Postgraduate School will be committing approximately \$250K for ship time in 1996. This is good news since the NPS funding for ship time had been in question.

NEW HORIZON - Scripps - Liz Rios provided the schedule for NEW HORIZON. The ship's 1996 schedule is based on the anticipation of a mid-life overhaul through April. There are 176 days scheduled for the remainder of the year with six of these days in the pending status. The Craig Smith work will be scheduled in 1995.

ROBERT GORDON SPROUL - Scripps - Liz continued with the schedule for SPROUL. Presently the schedule reflects 149 days of which 120 are funded. The ship will remain in the San Diego area except for a joint operation with BARNES. Liz reports the SPROUL schedule typically picks up additional work as the year progresses.

GYRE - Texas A & M - Dave Powell of the University of Miami provided the schedule for TAMU and GYRE. Dave reported that TAMU and RSMAS are reviving the SECOR consortium and are planning joint marine operations. He announced that Dean Letzring, the Marine Superintendent at TAMU, will be retiring this fall. GYRE has 14 days of proposed NSF ship time scheduled for 1996. They are expecting about 80 days of local work.

EDWIN LINK - Harbor Branch Oceanographic Institution - Tim Askew provided the 1996 schedule for EDWIN LINK. The ship is planning 21 days of NSF science and 218 days of other work. This includes NOAA science and a proposed cruise to New Zealand for Smithsonian. Funding for this cruise is still being worked out.

SEA DIVER - Harbor Branch Oceanographic Institution - Tim Askew also provided the schedule for SEA DIVER. This ship is scheduled for 116 days in 1996. NSF is planning for 54 days, ONR for 19 and Other for 43 days. All but 35 of the Other days are funded.

WEATHERBIRD II - Bermuda Biological Research Station - The WEATHERBIRD II 1996 schedule was presented by Lee Black. The ship is planning for a shipyard

period in January and has scheduled 194 operating days for the year. The Davis work double booked with SEA DIVER will go aboard WEATHERBIRD II. Lee was advised that the BATS related cruises would total no more than 96 days.

CAPE HENLOPEN - University of Delaware - Tim Pfeiffer presented a schedule for CAPE HENLOPEN of 206 days for 1996. All of the work is local which includes 158 days of NSF time and 44 days of ONR time. This is a heavy schedule for CAPE HENLOPEN.

CAPE HATTERAS - Duke/UNC- CAPE HATTERAS will lay-up in 1996. No schedule was presented.

OCEANUS - Woods Hole Oceanographic Institution - Don Moller provided the schedule for OCEANUS which included 211 days, of which 207 are presently funded. Don reported that the scheduling for OCEANUS was done in coordination with URI's ENDEAVOR and HBOI's SEWARD JOHNSON. This was necessary to work in all the programs of GLOBEC, NSF; Coastal Mixing & Optics, ONR and the Ocean Margin Program of DOE.

SEWARD JOHNSON - Harbor Branch Oceanographic Institution - Tim Askew presented a fully funded 302 day schedule for SEWARD JOHNSON. They will spend the first portion of the year in the central and south Atlantic then return to the north Atlantic for the coordinated work with OCEANUS and ENDEAVOR.

ENDEAVOR - University of Rhode Island - ENDEAVOR's 1996 schedule was reported by Bill Hahn. The ship is scheduled for 205 days. As noted above, this work was closely coordinated with the schedules of OCEANUS and SEWARD JOHNSON.

ATLANTIS II - Woods Hole Oceanographic Institution - Don Moller provided the schedule for ATLANTIS II. The ship will remain in the Pacific to start the year then work its way into the Atlantic and to WHOI. A total of 165 days are planned which will include a tentative 96 ALVIN dives. ATLANTIS II is scheduled to be retired after this schedule is complete.

Don Moller explained that the remainder of the large ships required significant coordination to ensure the efficient transfer of the HMR-1, OBS instruments and ARGO-II/JASON/AMS120 vehicles.

KNORR - Woods Hole Oceanographic Institution - Don Moller started KNORR's schedule with the late 1995 cruises. KNORR will be completing its Indian Ocean cruises and will work its way back to WHOI. A Madsen cruise is scheduled for early 1996 and will require, the not yet fully tested, SeaBeam. If the system is not ready, significant schedule changes will be required. After returning to the North Atlantic the ship will do JASON work for Fornari and a NUWC cruise in the Baltic. A total of 258 days are scheduled for KNORR in 1996.

EWING - Lamont-Doherty Earth Observatory - Mike Rawson started his presentation by reporting that EWING picked up JOI and China funding for 1995. The ship is scheduled for 311 days of ship time for 1996. For accounting purposes 7 days will be carried over from 1995. The ship schedule is driven by the coordination of the HMR-1 instrument and the MELT OBS releases. EWING will begin the year in the New Zealand area, work through the Pacific, transit the Panama Canal, work as far north as Greenland and will end the year in Miami.

MELVILLE - Scripps - Liz Rios presented a 296 day schedule for MELVILLE. The ship starts the year in New Zealand, works in the Indian Ocean then taking cruises through the Pacific to San Diego. An out-of-service period is planned for the ship in San Diego for the summer months continuing with three cruises in the central and south Pacific. The ship will end the year in Punta Arenas, Chile.

ROGER REVELLE - Scripps - REVELLE will be going through delivery and outfitting from January to the end of September 1996. After this period it has a series of short University of California funded cruises and one, one day ONR cruise.

THOMPSON - University of Washington - THOMPSON's 1996 schedule was presented by Robert Hinton which included a light 248 days. The State will be funding 74 of these days. A dry docking is planned for July. The ship will receive ARGO/JASON from KNORR for the Johnson work in the Juan de Fuca area then ship it to MELVILLE for Haymond.

Robert Hinton gave the Committee a demonstration of placing the ship time request forms on the Wide World Web. Robert's efforts included a form (similar to the NSF Form 831) that could be completed by the scientist needing ship time. The form could then be printed and part of his/her proposal. It would also be put in file and used by the UNOLS Schedulers, the UNOLS Office and the agencies for scheduling purposes. It could also be archived and used for statistical analysis. Robert further showed the Committee a sample cruise track chart. It was designed so that a click on the PI of a particular cruise would call up the ship time request of that cruise providing useful information. Further development of this procedure will be made and the process is planned for implementation when ready.

Jack Bash presented a summary of the costs for operating the fleet in 1996. These figures were assembled by the UNOLS Office from data submitted by the operators. A copy of these costs are included as **Appendix III**.

FEDERAL AGENCY REPORTS

National Science Foundation - Dolly Dieter provided the National Science Foundation report by first announcing that the new proposal guidelines are out. Copies were available for the schedulers. The NSF 1996 budget is expected to be a 1-2% decrease over 1995. Dolly informed the Committee that she would not be receiving overhaul money in the operations budget this year as she had in 1995.

Office of Naval Research - The ONR report was given by Annette DeSilva. ONR's Research Facility program is expecting level funding for 1996 which will be about \$5M. In the past, ONR has used a formula for funding ship time of 55% from the facilities budget and 45% from the science budget. In an attempt to stimulate more ship use they plan to change the formula to 80:20 facilities:science. The results of this change will not be felt until 1997 since most funding decisions for 1996 have already been made. ONR plans to continue to match NRL ship time money up to \$500K.

On the personnel side, Sujata Millick is expected to be onboard in ONR's Research Facilities Program this fall. The construction of both AGOR 24 and 25 are going well. AGOR 24, ROGER REVELLE, was launched in April and is scheduled for delivery in June 1996. AGOR 25, ATLANTIS, is scheduled for launch in February 1996 and delivery in April 1997. The cost information for converting ATLANTIS to a submersible handling ship is being worked up by Halter Marine. This information should be available at ONR by the end of September when ONR and NSF will jointly decide whether or not to do the conversion.

The Navy funded an overhaul for FLIP this past year. As part of the overhaul a stress monitoring system was installed. The monitoring results will be examined this fall to determine how structural repairs are holding up. An agreement has been developed between ONR, NAVOCEANO and NSF for making gravimeters available to the community. A committee chaired by Dan Fornari has been set up to coordinate their use. The gravimeters will be maintained by NAVOCEANO.

National Oceanic and Atmospheric Administration - Scott McKellar provide the NOAA report. By the end of September, the NOAA ships SURVEYOR, MT MITCHELL, and HECK will be taken off line, joining the already inactive OCEANOGRAPHER, FAIRWEATHER, and DAVIDSON. NOAA's converted TAGOS will be taking the operating funds of SURVEYOR. BALDRIGE is expected to operate less than desired in 1996. Repairs to Extend (RTE) the life of the fisheries research vessel DELAWARE II is underway. Backfill chartering for this ship has gone to UNOLS and commercial ships. Chartering is also planned for Antarctic work.

The 1996 NOAA budget is still in Congress but it looks like the fleet operations will be about the same as 1995. FRAM money is expected to be reduced to \$8M which will be a problem if the House language remains which limits this money to chartering.

FRAM money has been used for ship acquisition, ship overhaul and maintenance as well as chartering. In the past the maintenance money alone has equaled about \$10M. The NOAA/NURP funding is hopeful but very uncertain. The House version calls for \$12M and the Senate version \$14M.

United States Coast Guard - Steve Wheeler provided the update for the USCG. Steve reported that the USCG budget was to decline 20% over the next four years, however, they expect 100% funding in 1996 for operating, maintenance, acquisition and construction funds for the Polar Icebreakers. No science missions have been requested for 1995 or 1996. A mission has been proposed for 1997. Steve said that an International agreement has been worked out with the Canadians that would grandfather ships with CASPPR compliance if they are launched prior to 31 December 1998. HEALY is scheduled for launching prior to that time.

HEALY is on track for construction starting next year. Steve provided view graphs of HEALY characteristics which are included as **Appendix VII**.

The meeting was adjourned at 1300.

**SHIP SCHEDULING REVIEW MEETING
11 SEPTEMBER 1995
BOARD ROOM 1235, NATIONAL SCIENCE FOUNDATION**

A Ship Scheduling Review meeting was held at the National Science Foundation, 4201 Wilson Boulevard, Arlington, VA on 11 September 1995. The meeting was opened by the Chair of the Ship Scheduling Committee (SSC), Don Moller, at 1500 hrs. Present were the SSC Vice Chair, Robert Hinton; NSF Representative, Dolly Dieter; ONR Representative, Annette DeSilva; NOAA Representative, Scott McKellar and UNOLS Executive Secretary, Jack Bash.

UNOLS ship schedulers had provided via e-mail their proposed ship schedules for 1996 (also filed on OCEANIC) and the estimated cost to support these schedules (see *Appendix III*). Also provided, where appropriate, were ship tracks (see *Appendix VI*). The UNOLS Office developed an inventory of the ship time requests (Form 831) included as *Appendix IV & V*. This information was used as the basis of the review deliberations. The purpose of the deliberations was to ensure all funded science was assigned to the ship(s) that could provide the most effective and efficient platform. Recommendations for consolidation of schedules and lay-up periods were suggested in an effort to develop the most cost effective schedules possible while maintaining appropriate platforms for the science. This review was the final cut at the 1996 scheduling process. Most funding decisions have been confirmed which was the result of the new panel dates for NSF and the early funding decisions by ONR. This departure from previous years has allowed the scheduling process to arrive at final or near final schedules more efficiently and effectively.

Below is a ship by ship summary of the Review Group's deliberations. It should be noted that many of the ships will be operating in 1996 well below the desired number of days. This is an undesirable situation and will result in inefficiencies of ship operations.

BARNES - University of Washington: A modest schedule of about 100 days appears likely. The Ingall work may be moved into 1997. Deming funding (OPP) will not be known until the end of the year.

BLUE FIN - Skidaway: Wiegert's work moved from GYRE to BLUE FIN because of vessel draft considerations. BLUE FIN will have a modest schedule of about 100 days.

CALANUS - University of Miami, RSMAS: The three cruises, totaling 24 days, for Fell are the only funded cruises scheduled on CALANUS. The 48 days of ONR work has not yet been proposed. There are 15 additional days of proposed work scheduled. If a reasonable schedule does not materialize it is recommended that Miami consider

laying up CALANUS for the year unless the funded science can be accommodated at a day rate consistent with a fuller schedule.

LAURENTIAN - University of Michigan: A modest 52 day schedule is planned for LAURENTIAN. The University of Michigan is encouraged to continue working with NOAA, EPA, and USGS to coordinate science programs and ship use to make the maximum efficient use of the facilities available.

LONGHORN - University of Texas: A modest 100 days of work is scheduled for LONGHORN. The Ingall work has been carried from 1995 to the 1996 schedule because of transducer problems.

PELICAN - LUMCON: PELICAN has 123 scheduled days of which 56 are presently funded. This could decrease if the MMS work moves to GYRE. Effort should be made to coordinate the Paul and Kamykowski cruises to reduce transit time.

ALPHA HELIX - University of Alaska: A full schedule of 174 days has been presented for ALPHA HELIX, however, only 51 of these days are presently funded. Funding results for the OPP work will not be known until after the first of the year and this schedule could change significantly.

MOANA WAVE - University of Hawaii: MOANA WAVE's schedule is centered around the HOTS work off Hawaii with the exception of the Taylor cruise. The Taylor science has been funded for 26 days, however, a total of 53 days has been schedule for the cruise. An additional HOTS cruise could be funded if the Taylor work were to be streamlined to 46 days (26 science, 20 transit). Without such efficiencies it may be necessary to recommend a year lay up for this ship.

WECOMA - Oregon State University: A very light 180 day schedule has been presented for WECOMA. The Siebenaller work listed as proposed has been funded. The Review Group is concerned that the viability of this schedule is based on the Felbeck cruise run as a joint operation with the French. If the French work does not materialize the entire 56 day operation would fall out of the schedule. In the event of the loss of Felbeck, OSU should look at consolidating the remaining schedule in the most efficient way possible to permit a day rate that does not exceed the already high day rate presented.

POINT SUR - Moss Landing Marine Laboratories: The POINT SUR schedule is constructed to permit the first three months of the year to be open. This time coupled with the time in December 1995 has been set aside for an extended overhaul period. A modest schedule of 142 days remains, however, 36 of these days are pending funding decisions.

NEW HORIZON - Scripps: The schedule of 176 days for NEW HORIZON includes a mid life refit for the ship. Only six of these days are still in the pending category.

The Review Group understands that both Ken Smith and Craig Smith will be accommodated without additional funding.

ROBERT GORDON SPROUL - Scripps: A healthy schedule of 149 days has been presented for SPROUL with 29 of these days in the pending category. SPROUL normally picks up additional work throughout the year. It should be noted that the Hildebrand cruise is listed as ONR with a NSF OCE number. It was also noted that the cruises of Chave, Davis, Macha and Hildebrand have apparently been rolled into the 1996 schedule from funded 1995 programs, a practice which creates funding problems for the sponsoring agencies.

GYRE - Texas A & M University: The 14 day cruise of Bryant/Silva is the only federally funding work presently on the GYRE schedule. The proposal for this work has not been received by the facilities section of NSF and was believed to have been planned for state funding. In addition the follow-on coring work will not be scheduled for 1996. A clarification of this issue is needed.

COLUMBUS ISELIN University of Miami - COLUMBUS ISELIN will remain out of service.

CAPE HATTERAS - Duke/UNC: CAPE HATTERAS will be in lay-up in 1996. It is understood that an overhaul plan is being proposed for CAPE HATTERAS which includes a stretch of the ship. The Review Group is concerned as to the timing of this work. It is considered unlikely that plans, drawings and funding can be affected for this work in 1996. These overhaul plans should be coordinated with MARCO.

EDWIN LINK - Harbor Branch Oceanographic Institution: EDWIN LINK's schedule is primarily dependent on NOAA, Smithsonian and private funding. The only program of concern to the Review Group was the Cook's cruise where the number of days should be checked.

SEA DIVER - Harbor Branch Oceanographic Institution: SEA DIVER has presented a modest schedule of 116 days of which 81 days are presently funded. The Davis work will be handled by WEATHERBIRD II reducing the funded days to 62.

WEATHERBIRD II - Bermuda Biological Station: The WEATHERBIRD II's schedule should be adjusted to reflect just 96 days assigned to BATS and BATS related cruises. The day rate presented for this size ship is very high.

CAPE HENLOPEN - University of Delaware: A very full schedule of 206 days has been presented for CAPE HENLOPEN.

OCEANUS - Woods Hole Oceanographic Institution: The OCEANUS schedule presents a solid but light 211 days. This schedule has been closely integrated with that of ENDEAVOR and SEWARD JOHNSON combining the NSF/GLOBEC,

ONR/Coastal Ocean Mixing & Optics and DOE Ocean Margins programs. The Marten cruise may be reduced in the number of days.

SEWARD JOHNSON - Harbor Branch Oceanographic Institution: The SEWARD JOHNSON 302 day schedule is totally funded and is driven by work in the southern and mid-Atlantic.

ENDEAVOR - University of Rhode Island: ENDEAVOR's schedule has been integrated with that of OCEANUS and SEWARD JOHNSON as noted above. The Marten work may be transferred to a Harbor Branch vessel if funding for a submersible is obtained. One GLOBEC cruise still needs to be scheduled (Irish). The WOCE work (Watts) is still pending. It should be noted that the Larsen work is NOAA and not NSF. OCEANUS and ENDEAVOR schedules may need to be adjusted to accommodate this cruise.

Large ship considerations: Considerable discussion centered around the large ship schedules. Driving the concern was the coordination of the research tools to be used. Specifically, the coordination of HMR-1, OBS instruments and ARGO-II/JASON/AMS-120 vehicles. The schedules recommended below were predicated on coordination of these three facilities.

ATLANTIS II - Woods Hole Oceanographic Institution: ATLANTIS II presently has 170 days and 96 dives for ALVIN scheduled. This schedule is concentrated in the first two thirds of the year after which ATLANTIS II will stand down. This schedule is subject to change after the results of the November panel are known.

KNORR - Woods Hole Oceanographic Institution: A schedule of 258 days has been presented for KNORR. This schedule starts in the Indian Ocean and ends at WHOI. Two early cruises will be dependent on a SeaBeam operation. If the newly installed SeaBeam is not performing adequately major schedule changes will be required. KNORR has a pending program with NUWC funding in the Baltic Sea.

EWING - Lamont-Doherty Earth Observatory: EWING will have a solid 311 day schedule for 1996. Seven of these days have been carried forward from 1995.

MELVILLE - Scripps: MELVILLE will start the year in the Indian Ocean and work back to San Diego where it will stand down for approximately two months. The remaining portion of the schedule will be driven by the coordination of the shipping of the ARGO/JASON vehicles for the Haymon cruise. The present schedule calls for the ship to depart San Diego in early September for the MacDonald cruise followed by Haymon and Lonsdale. This schedule is predicated on the idea that ARGO/JASON can be shipped from Seattle to San Diego in time for the MacDonald departure. It is unlikely that ARGO/JASON will be available as early as 1 September because its Johnson work on THOMPSON in the Juan de Fuca area will not be completed in time to meet that date. The Review Group therefore recommends that Scripps investigate

the possibility of completing MacDonald's work prior to the stand down period and immediately after Bloomer. This will permit additional time to complete the Johnson work and the shipping of ARGO/JASON. The Review Group notes the extraordinary high day rate for this ship and recommends a re-evaluation of the numbers.

REVELLE - Scripps: The REVELLE schedule includes 27 days of institutional funding and 1 ONR day for 1996.

THOMPSON - University of Washington: THOMPSON will schedule 74 days of State time in its 248 day schedule for 1996. The ship will start the year in the Indian Ocean and work its way back to the Pacific northwest. A dry dock is scheduled for July. THOMPSON will be positioned for the Johnson and ARGO/JASON work in the Juan de Fuca area when ARGO/JASON is available having been shipped from Bremerhaven.

The meeting was adjourned at 1700 hrs.

APPENDIX I

AGENDA

UNOLS SHIP SCHEDULING MEETING

MEETING: UNOLS Scheduling Meeting

DATE: 11 September 1995

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

TIME: 0830 Hrs

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

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 UNSOLVED ISSUES. There will be a discussion on cruises not scheduled and those double booked. (Note: We will attempt to account for all cruises on the inventory list distributed by Jack Bash).

AGENCY PRESENTATIONS. Representatives from NSF, ONR and NOAA will provide scheduling guidance, science program ship requirements and priorities, science funding decisions, ship ops funding outlook and related matters for the 1996 scheduling year.

COSTS. The UNOLS Office will provide a summary of cost figures.

GENERAL DISCUSSION. Electronic communications - how can we better use e-mail, gopher and the wide world web to enhance scheduling efficiency?

PRE-MEETING ACTION. All ship's schedules should be posted on OCEANIC. Cost figures in the following format for both 1995 and 1996 should be passed to the UNOLS Office no later than 5 Sep '95.

1995	NSF	NAVY	OTHER	TOTAL
Ship Days/ Ship \$K				
1996	NSF	NAVY	OTHER	TOTAL
Ship Days/ Ship \$K				

Costs for 1995 should be your latest projection, and consistent with your last negotiation with NSF and/or ONR. Costs for 1996 should be realistic estimates.

WHAT TO BRING TO THE MEETING:

1. Viewgraph(s) to illustrate your 1996 schedule.
2. Viewgraph(s) and one hard copy of track chart(s) for 1996.
3. An extra copy of each Form 831 Ship Time Request not yet submitted to the UNOLS Office.
4. YOU SHOULD HAVE ALREADY SUBMITTED YOUR SCHEDULE AND COST INFORMATION AND SHOULD NOT NEED TO BRING COPIES.

APPENDIX II

ATTENDEES

<u>NAME</u>	<u>INSTITUTION/ ORGANIZATION</u>	<u>PHONE</u>	<u>FAX</u>	<u>E-MAIL</u>
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APPENDIX III

SUMMARY OF SHIP USE AND COSTS YEAR: 1995

As of:9/8/95

SHIP/CLASS	NSF		NAVY		OTHER		TOTAL		DAILY RATE			
	DAY	\$	DAY	\$	DAY	\$	DAY	\$				
MELVILLE	256	4,309	36	606	5	84	297	4,999	16,832			
KNORR	351	5,059	0	0	0	0	351	5,059	14,413			
ATLANTIS II	298	3,910	1	13	22	291	319	4,214	13,210			
EWING	285	4,294	0	0	25	377	310	4,671	15,068			
T.G. THOMPSON	219	3,073	112	1,572	0	0	331	4,645	14,033			
MOANA WAVE	176	1,995	0	0	50	567	226	2,562	11,336			
CLASS II	1,583	22,640	0	149	2,191	0	102	1,319	0	1,834	26,150	--
AVE: (6)	264	3,773		25	365		17	220		306	4,358	--
EDWIN LINK	15	113	0	0	135	1,013	150	1,125	7,500			
ENDEAVOR	191	2,015	37	390	0	0	228	2,405	10,548			
OCEANUS	124	1,180	60	571	3	29	187	1,780	9,519			
GYRE	0	0	24	151	104	655	128	806	6,297			
ISELIN							0	0	NA			
NEW HORIZON	194	1,872	8	77	40	386	242	2,335	9,649			
SEWARD JOHNSON	81	689	36	306	153	1,301	270	2,295	8,500			
WECOMA	72	1,024	75	1,067	0	0	147	2,091	14,224			
CLASS III	677	6,892	0	240	2,562	0	435	3,383	0	1,352	12,837	--
AVE: (8)	85	862	0	30	320	0	54	423	0	169	1,605	--
PELICAN	0	0	38	171	125	563	163	734	4,503			
LONGHORN	36	144	7	28	22	88	65	260	4,000			
POINT SUR (a)	106	695	38	249	23	151	167	1,095	6,557			
CAPE HATTERAS	152	1,310	18	144	19	185	189	1,639	8,672			
ALPHA HELIX	89	862	19	186	36	366	144	1,414	9,816			
R. SPROUL	87	484	32	178	37	206	156	868	5,564			
CAPE HENLOPEN	173	955	25	138	0	0	198	1,093	5,520			
WEATHERBIRD II	153	1,160	1	7	2	15	156	1,182	7,578			
SEA DIVER	31	118	58	220	71	270	160	608	3,800			
CLASS IV - TOTAL	827	5,728	0	236	1,322	0	335	1,843	0	1,398	8,893	--
AVE: (9)	92	636	0	26	147	0	37	205	0	155	988	--
BLUE FIN	84	204	0	0	8	19	92	223	2,424			
LAURENTIAN	93	400	0	0	0	0	93	400	4,301			
BARNES	57	96	0	0	21	35	78	131	1,679			
CALANUS	27	76	5	14	19	53	51	143	2,804			
CLASS IV TOTAL	261	776		5	14		48	107		314	897	--
AVE: (4)	65	194		1	4		12	27		79	224	--
Fleet Total	3,348	36,036	0	630	6,089	0	920	6,652	0	4,898	48,777	--
AVE: (27)	124	1,335	0	23	226	0	34	246	0	181	1,807	--

NOTES: a. NPS (CNOC) days only

SUMMARY OF SHIP USE AND COSTS

YEAR: 1996

As of:9/19/95

SHIP/CLASS	NSF		NAVY		OTHER		TOTAL		DAILY RATE			
	DAY	\$	DAY	\$	DAY	\$	DAY	\$				
R. REVELLE	1	18	1	18	27	488	29	524	18,069			
MELVILLE	296	5,319	0	0	0	0	296	5,319	17,970			
KNORR	230	3,703	28	451	0	0	258	4,154	16,101			
ATLANTIS II	131	1,912	1	15	33	482	165	2,409	14,600			
EWING	300	4,695	0	0	4	63	304	4,758	15,651			
T.G. THOMPSON	164	2,710	10	165	74	1,149	248	4,024	16,226			
MOANA WAVE	106	1,427	0	0	49	660	155	2,087	13,465			
CLASS II	1,228	19,784	0	40	649	0	187	2,842	0	1,455	23,275	- -
AVE: (7)	175	2,826	0	6	93	0	27	406	0	208	3,325	- -
EDWIN LINK	21	168	0	0	218	1,744	239	1,912	8,000			
ENDEAVOR	96	1,082	64	721	45	507	205	2,310	11,268			
OCEANUS	75	780	72	749	64	665	211	2,194	10,398			
GYRE	14	88	0	0	30	189	44	277	6,295			
ISELIN							0	0	NA			
NEW HORIZON	153	1,643	6	64	17	183	176	1,890	10,739			
SEWARD JOHNSON	209	1,881	57	513	36	324	302	2,718	9,000			
WECOMA	104	1,240	76	906	0	0	180	2,146	11,922			
CLASS III	672	6,882	0	275	2,953	0	410	3,612	0	1,357	13,447	- -
AVE: (8)	84	860	0	34	369	0	51	452	0	170	1,681	- -
PELICAN	47	188	0	0	76	304	123	492	4,000			
LONGHORN	68	272	0	0	32	128	100	400	4,000			
POINT SUR (a)	60	379	52	328	30	189	142	896	6,310			
CAPE HATTERAS	0	700	0	0	0	0	0	700	#DIV/0!			
ALPHA HELIX	123	1,178	0	0	51	536	174	1,714	9,851			
R. SPROUL	95	580	39	238	15	91	149	909	6,101			
CAPE HENLOPEN	158	853	44	238	0	0	202	1,091	5,401			
WEATHERBIRD II	172	1,120	22	143	0	0	194	1,263	6,510			
SEA DIVER	54	216	19	76	43	172	116	464	4,000			
CLASS IV - TOTAL	777	5,486	0	176	1,023	0	247	1,420	0	1,200	7,929	- -
AVE: (9)	86	610	0	20	114	0	27	158	0	133	881	- -
BLUE FIN	101	240	0	0	0	0	101	240	2,376			
LAURENTIAN	42	185	0	0	10	44	52	229	4,404			
BARNES	75	116	0	0	27	42	102	158	1,549			
CALANUS	24	72	48	144	15	45	87	261	3,000			
CLASS IV TOTAL	242	613	48	144	52	131	342	888	- -			
AVE: (4)	61	153	12	36	13	33	86	222	- -			
Fleet Total	2,919	32,765	0	539	4,769	0	896	8,005	0	4,354	45,539	- -
AVE: (28)	104	1,170	0	19	170	0	32	286	0	156	1,626	- -

NOTES: a. Includes 22 NPS (CNOC) days

APPENDIX IV

1996 SHIP TIME REQUESTS

28 AUG 95

PI	INSTITUTION	AREA	SHIP REQUESTED	OPTIMUM	SOURCE/ FUNDING	DAYS
				1996 DATES		
Aller, R*	STONY BROOK	NA10	SEWARD JOHNSON	FEB-MAR	NSF/CHEM	14
Allredde, A*	UCSB	NP10	POINT SUR	JUN-JUL	NSF/CHEM	10
Allison, M	WHOI	NA10	CAPE HATTERAS	FEB	NSF/MGG	14
Allison, M	TAMU	NA6	BARNES	NOV95/JAN96	NSF/MGG	4
Ammerman, J	TAMU	NA6	CAPE HATTERAS	FEB	NSF/CHEM	10
Ammerman, J	TAMU	NA6	CAPE HATTERAS	AUG	NSF/CHEM	7
Ammerman, J*	TAMU	NA6	WEATHERBIRD II	AUG	NSF/BIO	10
Bacon-Francis*	WHOI	NA6	OCEANUS	JUL/AUG	NSF/CHEM	10
Badley, M*	DEL	NA6	CAPE HENLOPEN	TBD	ONR	16
Bailey, T	WHOI	NA9	JOHNSON/LINK	MAY	NSF/BIO	12
Banse, K*	OW	NP9	WECOMA	SEP/OCT	NSF/BIO	20
Banse, K	OW	NP9	MEDIUM	JUL	NSF/BIO	9
Barth, J*	OSU	NA6	ENDEAVOR	AUG-SEP	ONR	21
Barth, J*	OSU	NP9	WECOMA	MAY	ONR	3
Beardsley, R**	WHOI	NA6	ENDEAVOR/OCE	SEP	ONR	22
Becker, K	MIAMI	NA6	ATLANTIS II	SPR/SUM	NSF/ODP	3
Behrens, W	UT	NA9	GYRE	MAY/JUN	NSF/MGG	20
Behrens, W	UT	NA9	GYRE	SEP	NSF/MGG	12
Benfield, M	WHOI	NA6	CAPE HATTERAS	MAR/JUN	NSF/BIO	28
Bernhard, J*	WADSWORTH	NP9	SPROUL	OCT	NSF/BIO	2
Biesiot, P	U OF S M	NA6	CAPE HATTERAS	SEP	NSF/BIO	2
Block, B	STANFORD	NP9	POINT SUR/SPR	SEP/OCT	NSF/PYHS	14
Blough, N**	U MD	NA6	CAPE HENLOPEN	JUN/AUG	ONR	10
Boucot, A*	OSU	NA4	EWING	JUL/AUG	NSF/MGG	18
Boynton, W*	U MD	NA6	CAPE HENLOPEN	MAR-OCT	NSF/LNER	39
Brown, K	SCRIPPS	NP13	MELVILLE	SUMMER/FALL	NSF/MGG	12
Brown, K	SCRIPPS	NP9	SPROUL	SPRING/SUM	NSF/MGG	2
Brown, W	UNH	NA6	OCEANUS/END	SEP/OCT	NSF/PHY	5
Brown, W	UNH	NA6	OCEANUS/END	FEB & SEP	NSF/PHY	8
Bruland, K*	UCSC	NP9	POINT SUR	JUN-JUL	NSF/CHEM	28
Bryant, W	TAMU	NA9	GYRE	APR	NSF/ENG	14
Burdick, D*	ODU	NA6	CAPE HENLOPEN	APR	NSF/CHEM	4
Buskey, E*	UT	NA9	LONGHORN	MAY	NSF/BIO	7
Butler, R	???	NP9	MELVILLE	JUL	NSF/OTECH	18
Cain/Savies	WHOI	NA6	MEDIUM	MAR/APR	NSF/CHEM	10
Cain/Savies	WHOI	NA6	MEDIUM	AUG	NSF/CHEM	10
Capone, J*	U MD	NA9/10	SEWARD JOHNSON	AUG-OCT	NSF/BIO	20
Carbotte, S	LOEO	SP3	EWING	APR ON	NSF/MGG	29
Cary/Stein	DEL	NP13	ATLANTIS II	APR ON	NSF/BIO	5
Catipovic, J	WHOI	NP6	ATLANTIS II	JUN/SEP	NSF	4
Chadwick, W	OSU	NP9	THOMPSON	SUM/FAL	NSF/RIDGE	12
Chave, A*	WHOI	NP9	WECOMA	SEP-OCT	NSF/MGG	5
Chave, A*	WHOI	NA4	OCEANUS	OCT	NSF/PHY	33
Childress, J*	UCSB	NP9	NEW HORIZON	WINTER&JUN	NSF/BIO	24
Chisholm, S*	MIT	NA6	OCEANUS	JUN(FROM94)	NSF/BIO	10
Chisholm, S	MIT	NA6	OCEANUS	JAN	NSF/BIO	10
Christensen, A	BIGELOW	NA6	OCEANUS	AUG-OCT	NSF/CHEM	14
Christensen, J	BIGELOW	NA6	ISELIN/ENDEAVR	JUN	NSF/CHEM	30

Halfman, J	NOTRE DAME	GL4	LAURENTIAN	AUG	NSF/MGG	2
Hall, J*	MEMORIAL U	NA8	EWING	AUG/SEP	??	22
Hansell, D	BBS	NA6	WEATHERBIRD II	FEB-OCT	NSF/CHEM	12
Harding, A	SCRIPPS	SP1	EWING	NOV95?	NSF/MGG	12
Henkey, T*	USC	SP5	EWING	FEB/MAR	NSF/EAR	29
Hildebrand, J	SCRIPPS	NP9	MEDIUM/LARGE	JUL	NSF/MGG	6
Hodell, D*	UFL	GA4/6	EWING/LARGE	JAN-MAR	NSF/ODP	40
Holbrook, S	WHOI	NA6	CAPE HATTERAS	OCT95?	NSF/ODP	3
Holbrook, S*	WHOI	NA1/4	EWING	SEP95?	NSF/MGG	42
Honig, S	WHOI	IN1	THOMPSON	OCT	NSF/IGOFB	400
Houder, E	UMD	NA6	CAPE HENLOPEN	JUN/JUL	NSF/BIO	19
Houghton, R*	LOEO	NA6	ENDEAVOR	MAY	NSF/	6
Humphris, S**	WHOI	NP9	THOMPSON/REV	MAY/JUN	NSF/ODP	28
Huyer, A*	OSU	NP9	WECOMA	JUL	ONR	12
Indall, E*	UT	NA9	LONGHORN	AUG	NSF/CHEM	10
Indall, E	UT	NP9	SMALL	MAY	NSF/CHEM	12
Jacobs, D	SCRIPPS	SA1	MEDIUM	MAR	NSF/	5
Jannasch, H	WHOI	NP13	KNORR/ALVIN/JA	DEC95/AP96	NSF/BIO	10
Johnson, K*	HAWAII	IN3/4/7	MELVILLE	DEC95/JAN96	NSF/RIDGE	50
Johnson, P	UM	NP9	BARNES	FEB/MAR	NSF/MGG	5
Johnson, P*	UM	NP9/11/12	THOMPSON	FEB/MAR	NSF/MGG	40
Johnson, P	UM	NP9	THOMPSON/JAS	SUMMER	NSF	12
Jumars, P*	UM	NP6	BARNES	EA QTR	NSF/BIO	16
Karl, D*	HAWAII	NP12/9	MOANA WAVE	MAY&JUN	NSF/BIO	56
Karlin, R	U NEVADA	NP9	BARNES	SPRING/SUM	NSF/MGG	14
Karsten, J	HAWAII	SP6	MELVILLE	DEC96/JAN97	NSF/MGG	23
Keil, R*	UM	NP6	BARNES	3 DAY/MO	NSF/CHEM	36
Kent, G	WHOI	NA6/7	EWING	FALL95?	NSF/RIDGE	5
Kidwell, S	U CHICAGO	NA9	URACCA	MAY	NSF/PALED	25
Kidwell, S	U CHICAGO	NA9	URACCA	AUG/SEP	NSF/PALED	30
Kirchman, D*	U DEL	NA6	CAPE HENLOPEN	APR/AUG	NSF/BIO	8
Klinkhammer, J	OSU	SP3	KNORR	??	NSF/CHEM	4
Knap, A*	BBS	NA6	WEATHERBIRD II	MONTHLY	NSF/CHEM	110
Kula, V*	OSU	NP9	THOMPSON	AUG	NSF/MGG	19
Kunze, E	UM	NP9	POINT SUR	SEP/OCT	NSF/PHY	7
Lanoue, C	LOEO	NP13	MELVILLE	ANY	NSF/MGG	35
Lasker, H	SUNY BUFFALO	NA9	URACCA	JUL	NSF/BIO	12
Latz, M*	SCRIPPS	NP9	SPROUL	MONTHLY	NSF/BIO	15
Ledwell, J*	WHOI	SA1	SEWARD JOHNSON	MAR	NSF/PHY	31
Ledwell, J*	WHOI	NA6	OCEANUS	SEP	ONR	15
Lehman, J*	U MICH	GL4	LAURENTIAN	JUN/JUL/AUG	NSF/BIO	24
Lentz, S*	WHOI	NA6	OCEANUS	JUL-AUG	ONR	15
Levine, M*	OSU	NA6	OCEANUS	JUL	ONR	6
Levine, M	OSU	NA6	OCEANUS	SEP	ONR	8
Lilley, M*	UM	NP9	THOMPSON	ANY	NSF/ODP	15
Lilley, M	UM	SP3	ATLANTIS II	JAN/FEB	NSF/RIDGE	36
Lonsdale, P*	SCRIPPS	SP9	MELVILLE	JAN	NSF/MGG	35
Luther, G*	U BEL	NA6	CAPE HENLOPEN	AUG	NSF/CHEM	8
Luyendyk, B	UCSB	SP4	EWING	APR	NSF/MGG	28
MacDonald, I*	TAMU	NA9	SEWARD JOHNSON	JUL	NSF/MGG	9
MacDonald, K*	UCSB	SP3	MELVILLE	NOV	NSF/MGG	43
Martin, W	WHOI	NA6	KNORR/ALVIN	JUL	NSF/CHEM	14
Martin, W*	WHOI	NA6	OCEANUS	JUN-OCT	NSF/CHEM	7
McCleave, J	MAINE	NA6/9	CAPE HATTERAS	FEB	NSF/BIO	30

Santachi, P	TAMU	NA9	GYRE	OCT	NSF/CHEM	6
Saunders, K	NRL	NA9	SEWARD JOHNSON	JUN	NRL	14
Sawyer, D*	RICE	NA7	EWING	MAY-AUG	NSF/MGG	28
Sawyer, F*	WHOI	NA6	WEATHERBIRD II	ALL	NSF/CHEM	50
Schneider, D	WHOI	NP10	ATLANTIS II	ANY	NSF/MGG	20
Seidene, J D*	UM	NA6/10	MELVILLE	ANY	NSF/RIDGE	35
Sharp, J*	DEL	NA6	CAPE HENLOPEN	JUL	NSF/REU	3
Sharp, J*	DEL	NA6	CAPE HENLOPEN	APR/JUL	NSF/CHEM	6
Sherrell, R	RUTGERS	NP9	POINT SUR	MAY	NSF/CHEM	2
Sherrell, R	RUTGERS	NA6	WEATHERBIRD II	AUG	NSF/CHEM	2
Shiller, A	U OF S M	NA9	PELICAN	JUN	NSF/CHEM	15
Shiller, A	U OF S M	NP9	POINT SUR	MAY	NSF/CHEM	1
Siedel, D	UCSB	NA6	WEATHERBIRD II	MAR/AUG	NSF/	12
Siebenaller, *	LSU	NP9	WECOMA	MAY	NSF/BIO	10
Sieracki, M	BIGELOW	NA6	CAPE HATTERAS	JUL	NSF	12
Silva, A	URI	NA9	LARGE/KNORR	JUL/AUG	NSF/ENG	21
Silver, E	UCSC	NP13	EWING/LARGE	APR/JUN	NSF/ODP	20
Simenstad, C*	UM	NP9	BARNES	JUL	NSF/LMER	30
Smith, C	HAWAII	NP13	ATLANTIS II	JUL-DEC	NSF/BIO	12
Smith, C	HAWAII	NP9	ATLANTIS II	JAN-AUG	NSF/BIO	2
Smith, K**	SCRIPPS	NP13	NEW H/REVILLE	FEB/JUN/OCT	NSF/	42
Soliss/Hildbd*	SCRIPPS	NP9	MELVILLE/M H	SUMMER	???	14
Stammes, K	UA	NP6	ALPHA HELIX	SUMMER	NSF/POLAR	5
Stanic, S*	NRL	NA6	OCEANUS	AUG	ONR	14
Stanton, T	WHOI	NA6	OCEANUS	MAY	NSF/BIO	12
Stephen, R	WHOI	NP13	REVELLE	OCT	NSF/ODP	30
Strom, S	WU	NP9/13	POINT SUR	JUN/JUL	NSF/BIO	30
Suttle, C*	UT	NA9	LONGHORN	AUG	NSF/BIO	10
Swant, A*	MIAMI	NA9	SEA DIVER/CAL	APR/AUG	NSF/BIO	12
Tebbens, S	U OF SO FL	SP6	MELVILLE	NOV95/MAR96	NSF/MGG	40
Toole, J	WHOI	IN7	FRANKLIN	FALL	NSF/PHY	21
Toole, J	WHOI	NA6	WEATHERBIRD	OCT	NSF	3
Toomey, D*	U OF OR	NA7	EWING	JUN	NSF/RIDGE	6
Toomey, D	U OF OR	NA7	OCEANUS	DEC	NSF/RIDGE	6
Torres, J*	U OF SO FL	NA9	CALANUS	JUN-AUG	NSF?	28
Townsend, D	MAINE	NA6	ENDEAVOR	APR&MAY	NSF/BIO	20
Trenu, A*	OSU	NP9	WECOMA	AUG/SEP	NSF/MGG	6
Tuchoike, B*	WHOI	NA10	EWING	JUL	NSF/RIDGE	35
Turner, R	LSU	NA9	PELICAN	JAN-OCT	NSF/LMER	96
Van Dover, C	ALASKA	NA6	ATLANTIS II	JAN/FEB	NSF/RIDGE	8
van Green, A*	LDEO	NP9	POINT SUR	NOV	NSF/MGG	4
Vrijenhoek/Ltz	RUTGERS	NP9	KNORR/ALVIN	EARLY/LATE	NSF/RIDGE	19
Walsh, J	U OF S FL	NA9	ISELIN/PELICAN	FEB/MAR/APR	NSF/LMER	30
Washburn, L	UCSB	NA6	ENDEAVOR	JUN	NSF	19
Waterbury, J*	WHOI	NA6/9	OCEANUS	AUG/SEP	??	14
Webb, S*	SCRIPPS	NP9	REVILLE	AUG	NSF/ODP	7
Webb, S*	SCRIPPS	NP9	WECOMA	DEC	NSF/ODP	10
Weidemann, A	NRL	NA6	CAPE HATTERAS	SEP	NRL	14
Whitledge, T*	UT	NA9	LONGHORN	JUL	NSF/REU	6
Whitworth, T	TAMU	AN2/3/4/IN	PALMER	JAN	NSF/MOCE	53
Wiebe, M*	U OF GA	NA6	BLUE FIN	MAR/JUL	NSF/BIO	10
Wimbush, M*	URI	GL4	LAURENTIAN	AUG	NSF/PHY	14
Wimbush, M*	URI	NA6	ENDEAVOR	JUN	NSF/UF	1

1997 SHIPTIME REQUESTS

28 AUG 1995

PI	INSTITUTION	AREA	SHIP REQUESTED	OPTIMUM 1997 DATES	SOURCE/FUNDING	DAYS
Dowan, E	APPALA STATE	NP6	ALPHA HELIX	JUL/AUG	NSF/OPP	14
Chave, A	WHOI	NP9	ATLANTIS II	JUN/JUL	NSF/OSIDP	6
Chave, A	WHOI	NP9	ATLANTIS II	OCT/NOV	NSF/OSIDP	6
France, S	UMH	NP13/SP3	ATLANTIS II	FALL	NSF/RIDGE	4
Lawver, L	UT	SA5A	ATLANTIS II	JAN/FEB	NSF/OPP	30
Tivey, M	WHOI	NP9	ATLANTIS II	JUN/SEP	NSF/RIDGE	5
Van Dover, C	NRDP/ALASKA	NP13	ATLANTIS II	FALL	NSF/RIDGE	14
Banse, K	UM	NP9	BARNES	SEP	NSF/BIO	20
Devol, A	UM	NP9	BARNES	TBS	NSF/CHEM	8
Jumars, P	UM	NP6	BARNES	TBA	NSF/BIO	16
Karlin, R	U NEVADA	NP9	BARNES	SPRING/SUM	NSF/MGG	12
Murray, J	UM	NP9	BARNES	TBA	NSF/CHEM	25
Murray, J	UM	NP9	BARNES	TBA	NSF/CHEM	5
Simenstad, C	UM	NP9	BARNES	FEB	NSF/LMER	15
Eckman, J	SKIDAWAY	NA6	BLUE FIN	JUN	NSF/BIO	4
Paffenhofer, G	SKIDAWAY	NA6	BLUE FIN	TBA	NSF/BIO	48
Nelson, J	SKIDAWAY	NA6	BLUEFIN	MAR-NOV	NSF/BIO	35
Benfield, M	WHOI	NA6	CAPE HATTERAS	MAR	NSF/BIO	28
Friedrichs, C	VMI	NA6	CAPE HATTERAS	MAR	NSF/MGG	10
Herbers, T	NPS	NA6	CAPE HATTERAS	JUL & DEC	OMR	15
Riggs, S	EAST CAR U	NA6	CAPE HATTERAS	JUL/AUG	NSF/MGG	20
Boynston, W	U MD	NA6	CAPE HEMLOPEN	QUARTERLY	NSF/LMER	39
Church, T	DEL	NA6	CAPE HEMLOPEN	WINTER	NSF/CHEM	7
Garvine, R	DEL	NA6	CAPE HEMLOPEN	TBD	NSF/PHY	22
Houde, E	U MD	NA6	CAPE HEMLOPEN	JUN/JUL	NSF/BIO	15
Kirchman, D	DEL	NA6	CAPE HEMLOPEN	APR	NSF/CHEM	8
Sharp, J	UDEL	NA6	CAPE HEMLOPEN	JUL	NSF/REU	3
Young, C	HBOI	NA5	EDWIN LINK	MAY/JUL	???	25
Pickart, R	WHOI	NA6	END/OCEANUS	FEB	OMR	22
Pickart, R	WHOI	NA6	END/OCEANUS	DEC	OMR	6
Barth, J	OSU	NA6	ENDEAVOR	AUG	OMR	21
Beardsley, R	WHOI	NA6	ENDEAVOR	FEB	OMR	22
DeGrandpre, M	WHOI	NA4	ENDEAVOR	MAR	NSF/CHEM	1
Houghton, R	LBEO	NA6	ENDEAVOR	MAY	NSF/	12
Banos, M	UT	NA9	EWING	MAR	NSF/MGG	17
Carbotte, S	LBEO	SPS	EWING	JAN/MAY	NSF/MGG	37
Coffin, M	UT	NP10/11	EWING	APR-MAY	NSF/ODP	41
Lawver, L	UT	NA9	EWING	WINTER96/97	NSF/MGG	18
McNutt, M	MIT	NP11/12	EWING	APR-OCT	NSF/MGG	28
Nicholson, C	UCSB	NP9	EWING	SPRING	NSF/MGG	12
Toomey, D	U OR	NP13	EWING	FEB	NSF/RIDGE	35
Santschi, P	TAMU	NA9	GYRE	MAR & JUL	NSF/CHEM	14
France/Mull	UMH	NP8/11	K-O-K	JUL	NSF/BIO	16
Kent, G	WHOI	SP3	KNORR	AUSTRAL SUM	NSF/RIDGE	20
Sempere, J C	UM	NA6	KNORR	ANY	NSF/RIDGE	35
Jannasch, H	WHOI	NP13	KNORR/ALVIN	DEC96/APR97	NSF	10
Johnson, P	UM	NP9	KNORR/ALVIN	JUL/AUG	NSF/MGG	20
Perfit, M	U FL	SP1/INS	KNORR/ALVIN	SUMMER	NSF/MGG	24

Lasker, H	SUNY BUFFALO	NA9	URRACA	JUL/AUG	NSF/BIO	8
Ammernan, J	TAMU	NA6	WEATHERBIRD II	FEB	NSF/BIO	12
Conte, M	WHOI	NA6	WEATHERBIRD II	TBA	NSF/BATS	18
Conte, M	WHOI	NA6	WEATHERBIRD II	TBA	NSF/DFP	6
Proctor, L	FSU	NA6	WEATHERBIRD II	APR/AUG	NSF/BIO	10
Sayles, F	WHOI	NA6	WEATHERBIRD II	TBA	NSF/CHEM	28
Siegel, D	UCSB	NA6	WEATHERBIRD II	FEB/JUL	NSF/	12
Sherrell, R	RUTGERS	NP6	WEATHERBIRD II	MAR/DEC	NSF/CHEM	6
Toole, J	WHOI	NA6	WEATHERBIRD II	MAY & OCT	NSF/	6
Zafirion, D	WHOI	NA6	WEATHERBIRD II	MAR	NSF/CHEM	3
Michaels, A	BBS	NA6	WEATHERBIRD II	APR/MAY	???	20
Cowles, T	OSU	NP9	WECOMA	JAN/MAY	NSF/BIO	64
Devol, A	UM	NP13	WECOMA	JUL	NSF/CHEM	25
Mourn, J	OSU	NP9	WECOMA	AUG	NSF/PHY	10
Siebenaller, J	LSU	NP9	WECOMA	MAY	NSF/BIO	10
Sanford, T	UM	NP9	WECOMA/MED	AUG	NSF/PHY	28

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PI	INSTITUTION	AREA	SHIP REQUESTED	OPTIMUM 1996 DATES	SOURCE/FUNDING	DAYS
Whitworth, T	TAMU	AN2/3/4/IN	PALMER	JAN	NSF/WOCE	53
Boad, L*	U MICH	GL4	LAURENTIAN	JUL	NSF/TEP	9
Green, T	MUSKEGON	GL4	LAURENTIAN	AUG	NSF/TE	2
Halfman, J	NOTRE DAME	GL4	LAURENTIAN	AUG	NSF/MGG	2
Lenman, J*	U MICH	GL4	LAURENTIAN	JUN/JUL/AUG	NSF/BIO	24
Wimbush, M*	URI	GL4	LAURENTIAN	AUG	NSF/PHY	14
Driscoll, N	UDEL	IM1	EWING	SPR/FALL95?	NSF/ODP	30
Devol, A*	UW	IM1	THOMPSON	JAN	NSF/CHEM	3
Hongo, S	WHOI	IM1	THOMPSON	OCT	NSF/JGDFS	ANC
Muramoto, J	WHOI	IM1	THOMPSON	JAN/FEB	NSF/JGDFS	
PNorris, R	WHOI	IM1	THOMPSON	JAN/FEB	NSF/JGDFS	77
Riser, S*	UW	IM3	THOMPSON	MAR	NSF/PHY	25
Johnson, K*	HAWII	IM3/4/7	MELVILLE	DEC95/JAN96	NSF/RIDGE	50
Dick, H	WHOI	IM4	KNORR	JAN-FEB	NSF/ODP	35
Toole, J	WHOI	IM7	FRANKLIN	FALL	NSF/PHY	21
Morgan/Black*	SCRIPPS	IM8/IN11	MELVILLE	DEC96/JAN97	NSF/GEO	35
Druffel, E	UCI	IM9	MELVILLE	FEB	NSF/CHEM	33
Purdy, G	WHOI	MA10	EWING	FALL	NSF/MGG	36
Fornari, D*	WHOI	MA7	KNORR	AUG-SEP	NSF/RIDGE	33
Jannasch, H	WHOI	MP13	KNORR/ALVIN/JA	DEC95/AP96	NSF/BIO	10
Holbrook, S*	WHOI	NA1/4	EWING	SEP95?	NSF/MGG	42
Allison, M	WHOI	NA10	CAPE HATTERAS	FEB	NSF/MGG	14
Tuchoike, B*	WHOI	NA10	EWING	JUL	NSF/RIDGE	35
Aller, R*	STONY BROOK	NA10	SEWARD JOHNSON	FEB-MAR	NSF/CHEM	14
de Moustier*	SCRIPPS	NA2/AR2	NEW HORIZON	AUG	NSF/MGG	31
DeGrandpre, M	WHOI	NA4	ENDEAVOR	MAR/APR/OCT	NSF/CHEM	4
Rosby/Prater	URI	NA4	ENDEAVOR	JUL/AUG	ONR	28
Boucot, A*	OSU	NA4	EWING	JUL/AUG	NSF/MGG	18
Zelt, G*	RICE	NA4	EWING	AUG	NSF/MGG	30
Chave, A*	WHOI	NA4	OCEANUS	OCT	NSF/PHY	33
Worcester, P*	SCRIPPS	NA4	OCEANUS	LATE SUM	NSF	15
Young, C	HBOI	NA5	SEWARD JOHNSON	SUMMER	NSF?	20
Becker, K	MIAMI	NA6	ATLANTIS II	SPR/SUM	NSF/ODP	3
Van Dover, C	ALASKA	NA6	ATLANTIS II	JAN/FEB	NSF/RIDGE	8
Eckman, J*	SKIDAWAY	NA6	BLUE FIN	APR/JUL/SEP	NSF/BIO	60
Eckman, J*	SKIDAWAY	NA6	BLUE FIN	JUN/AUG	NSF/BIO	4
Nelson, J	SKIDAWAY	NA6	BLUE FIN	JAN/MAR	NSF/BIO	20
Paffenoffert*	SKIDAWAY	NA6	BLUE FIN	ALL	NSF/BIO	48
Wiebe, M*	U OF GA	NA6	BLUE FIN	MAR/JUL	NSF/BIO	10
Window, H*	SKIDAWAY	NA6	BLUE FIN	JUL/AUG	NSF/CHEM	5
Ammerman, J	TAMU	NA6	CAPE HATTERAS	FEB	NSF/CHEM	10
Ammerman, J	TAMU	NA6	CAPE HATTERAS	AUG	NSF/CHEM	7
Benfield, M	WHOI	NA6	CAPE HATTERAS	MAR/JUN	NSF/BIO	28
Biesiot, P	U OF S M	NA6	CAPE HATTERAS	SEP	NSF/BIO	2
Corliss, B	DUKE	NA6	CAPE HATTERAS	SEP	NSF/MGG	10
Cutter, G*	ODU	NA6	CAPE HATTERAS	AUG	NSF/CHEM	7
Holbrook, S	WHOI	NA6	CAPE HATTERAS	OCT95?	NSF/ODP	3
Mittrover, C	STONY BROOK	NA6	CAPE HATTERAS	JUL-DEC	NSF/MGG	49

Stanton, T	WHOI	NA6	OCEANUS	MAY	NSF/BIO	12
Warlick, DK	BROOKHAVEN	NA6	OCEANUS	MAR	DGE	9
Warlick, DK	BROOKHAVEN	NA6	OCEANUS	JUL	DGE	5
Brown, W	UNH	NA6	OCEANUS/END	SEP/OCT	NSF/PHY	5
Brown, W	UNH	NA6	OCEANUS/END	FEB & SEP	NSF/PHY	8
Proeders, DK	WIMS	NA6	SEA DIVER	OCT	NSF/MGG	10
Warlick, DK	BROOKHAVEN	NA6	SEWARD JOHNSON	MAR	DGE	15
Warlick, DK	BROOKHAVEN	NA6	SEWARD JOHNSON	APR	DGE	15
Warlick, DK	BROOKHAVEN	NA6	SEWARD JOHNSON	JUN	DGE	15
Warlick, DK	BROOKHAVEN	NA6	SEWARD JOHNSON	SEP	DGE	14
Warlick, DK	BROOKHAVEN	NA6	SEWARD JOHNSON	SEP	DGE	15
Daneveld, J R	OSU	NA6	SEWARD JOHNSON	AUG-SEP	ONR	21
Toole, J	WHOI	NA6	WEATHERBIRD	OCT	NSF	3
Amernhan, Jk	TAMU	NA6	WEATHERBIRD II	AUG	NSF/BIO	10
Dente, M	WHOI	NA6	WEATHERBIRD II	THRU-OCT	NSF/CHEM	13
Deuser, W	WHOI	NA6	WEATHERBIRD II	MAR-NOV	NSF/CHEM	6
Eckelbarber, K	U OF MAINE	NA6	WEATHERBIRD II	FEB-DEC	NSF/BIO	24
Hansell, D	BBS	NA6	WEATHERBIRD II	FEB-OCT	NSF/CHEM	12
Knapp, A*	BBS	NA6	WEATHERBIRD II	MONTHLY	NSF/CHEM	110
Michaels, A	BBS	NA6	WEATHERBIRD II	MAR/APR/JUN	NSF/CHEM	20
Michaels, A	BBS	NA6	WEATHERBIRD II	MAR/MAY	NSF/CHEM	14
Michaels, A	BBS	NA6	WEATHERBIRD II	SUMMER	???	ANS
Moffett/Busler	WHOI	NA6	WEATHERBIRD II	APR	NSF/CHEM	5
Nelson, N	BBS	NA6	WEATHERBIRD II	MAY & SEP	NSF/BIO	14
Sayles, F*	WHOI	NA6	WEATHERBIRD II	ALL	NSF/CHEM	50
Sherrill, R	RUTGERS	NA6	WEATHERBIRD II	AUG	NSF/CHEM	2
Siegel, D	UCSB	NA6	WEATHERBIRD II	MAR/AUG	NSF/	12
Zafirou, Dk	WHOI	NA6	WEATHR/OCEANUS	JUN	NSF/CHEM	3
Sempere, J Ck	UM	NA6/10	MELVILLE	ANY	NSF/RIDGE	35
Detrick, Rk	WHOI	NA6/7	EWING	APR-JUN	NSF/RIDGE	39
Kent, G	WHOI	NA6/7	EWING	FALL95?	NSF/RIDGE	5
Yamamoto, T*	MIAMI	NA6/7	SEWARD JOHNSON	ANY	NSF?	7
McDleave, J	MAINE	NA6/9	CAPE HATTERAS	FEB	NSF/BIO	30
Waterbury, Jk	WHOI	NA6/9	OCEANUS	AUG/SEP	??	14
Frank, Tk	HBOI	NA6/9/13	SEA DIVER	FEB/OCT	NSF/BIO	7
Frank, Tk	HBOI	NA6/9/13	SEWARD JOHNSON	JUN	NSF/BIO	11
Sawyer, Dk	RICE	NA7	EWING	MAY-AUG	NSF/MGG	28
Toohey, Dk	U OF OR	NA7	EWING	JUN	NSF/RIDGE	6
Toohey, D	U OF OR	NA7	OCEANUS	DEC	NSF/RIDGE	6
Hall, Jk	MEMORIAL U	NA8	EWING	AUG/SEP	??	22
Torres, Jk	U OF SO FL	NA9	CALANUS	JUN-AUG	NSF?	28
Young, Dk	HBOI	NA9	EDWIN LINK	JAN/MAY/JUN	???	26
Grindlay, Nk	U OF P R	NA9	EWING	JAN-MAY	NSF/MGG	20
Pratson, L	LDEO	NA9	EWING	MAR95?	NSF/MGG	20
Rosencrantz, E	UT	NA9	EWING	NOV	NSF/MGG	30
Behrens, W	UT	NA9	GYRE	MAY/JUN	NSF/MGG	20
Behrens, W	UT	NA9	GYRE	SEP	NSF/MGG	12
Bryant, W	TAMU	NA9	GYRE	APR	NSF/ENG	14
Difuentes, L	TAMU	NA9	GYRE	JAN	NSF/BIO	10
Rowe, G	TAMU	NA9	GYRE	MAY-AUG	NSF/BIO	10
Santschi, P	TAMU	NA9	GYRE	OCT	NSF/CHEM	6
Walsh, J	U OF S FL	NA9	ISELIN/PELICAN	FEB/MAR/APR	NSF/LMER	30
Bailey, T	HBOI	NA9	JOHNSON/LINK	MAY	NSF/BIO	12
Silva, A	JRI	NA9	LARGE/KNORR	JUL/AUG	NSF/ENG	21

Yell, R*	UM	NP5	BARNES	J DAY/MO	NSF/CHEM	36
Francer/Mullin	UNH/WHOI	NP8/11	K-0-K	JUL	NSF/BIO	8
Johnson, R*	UM	NP9/11-12	THOMPSON	FEB/MAR	NSF/MGG	40
Smith, D	HAWAII	NP9	ATLANTIS II	JAN-AUG	NSF/BIO	2
Breder, M	UM-APL	NP9	BARNES	MAY	??	15
Johnson, P	UM	NP9	BARNES	FEB/MAR	NSF/MGG	5
Karlson, R	UNNEVADA	NP9	BARNES	SPRING/SUM	NSF/MGG	14
Murray, J	UM	NP9	BARNES	AUG	NSF/CHEM	7
Murray, J	UM	NP9	BARNES	TBA	NSF/CHEM	25
Bowenstad, D*	UM	NP9	BARNES	JUL	NSF/LMER	30
Ravitsky, D	WHOI	NP9	KNORR/ALVIN	SUMMER	NSF/MGG	2
Vrijenhoek/Litt	RUTGERS	NP9	KNORR/ALVIN	EARLY/LATE	NSF/RIDGE	19
Banse, K	UM	NP9	MEDIUM	JUL	NSF/BIO	9
Hildebrand, J	SCRIPPS	NP9	MEDIUM/LARGE	JUL	NSF/MGG	5
Buller, P	UM	NP9	MELVILLE	JUL	NSF/OTECH	18
Spencer/Hildebr*	SCRIPPS	NP9	MELVILLE/N H	SUMMER	???	14
Zumberge, M**	SCRIPPS	NP9	NEW H/REVELLE	SUMMER	ONR/MGG	5
Childress, D*	UCSB	NP9	NEW HORIZON	WINTER&JUN	NSF/BIO	24
Devol, A*	UM	NP9	NEW HORIZON	FEB	NSF/CHEM	30
Boerckle, R*	SCRIPPS	NP9	NEW HORIZON	ANY?	NSF/BIO	2
Mitchell, G	SCRIPPS	NP9	NEW HORIZON	ANY	ONR	2
Bruand, K*	UCSC	NP9	POINT SUR	JUN-JUL	NSF/CHEM	28
Collins, D*	NPS	NP9	POINT SUR	SEP	ONR	4
Duggale, R	JSC	NP9	POINT SUR	APR/MAY/JUN	NSF/BIO	15
Kunze, E	UM	NP9	POINT SUR	SEP/OCT	NSF/PHY	7
Sherrill, R	RUTGERS	NP9	POINT SUR	MAY	NSF/CHEM	2
Shiller, A	U OF S M	NP9	POINT SUR	MAY	NSF/CHEM	1
van Green, A*	LOED	NP9	POINT SUR	NOV	NSF/MGG	4
Block, B	STANFORD	NP9	POINT SUR/SPR	SEP/OCT	NSF/PYHS	14
Webb, S*	SCRIPPS	NP9	REVILLE	AUG	NSF/ODP	7
Ingall, E	UT	NP9	SMALL	MAY	NSF/CHEM	12
Bernhard, J*	WADSWORTH	NP9	SPROUL	OCT	NSF/BIO	2
Brown, K	SCRIPPS	NP9	SPROUL	SPRING/SUM	NSF/MGG	2
Latz, M*	SCRIPPS	NP9	SPROUL	MONTHLY	NSF/BIO	15
Chadwick, W	OSU	NP9	THOMPSON	SUM/FAL	NSF/RIDGE	12
Delaney, J*	UM	NP9	THOMPSON	SUMMER	NSF/RIDGE	22
Kula, M*	OSU	NP9	THOMPSON	AUG	NSF/MGG	19
Lilley, M*	UM	NP9	THOMPSON	ANY	NSF/ODP	15Johnson, P
UM	NP9	THOMPSON/JAS	SUMMER	NSF	12	
Humphris, S**	WHOI	NP9	THOMPSON/REV	MAY/JUN	NSF/ODP	28
Banse, K*	UM	NP9	WECOMA	SEP/OCT	NSF/BIO	20
Barth, J*	OSU	NP9	WECOMA	MAY	ONR	3
Chave, A*	WHOI	NP9	WECOMA	SEP-OCT	NSF/MGG	5
Hoyer, A*	OSU	NP9	WECOMA	JUL	ONR	12
Miller, C*	OSU	NP9	WECOMA	MAY	NSF/TECH	1
Moun, J*	OSU	NP9	WECOMA	AUG&NOV	NSF/PHY	8
Richardson, M*	NRL	NP9	WECOMA	JUN/JUL	ONR	38
Siebenaller, X	LSU	NP9	WECOMA	MAY	NSF/BIO	10
Trehu, A*	OSU	NP9	WECOMA	AUG/SEP	NSF/MGG	6
Webb, S*	SCRIPPS	NP9	WECOMA	DEC	NSF/ODP	10
Nittroauer, C**	STONY BROOK	NP9	WECOMA/GYRE	AUG/SEP	ONR	40
Stroo, S	WU	NP9/13	POINT SUR	JUN/JUL	NSF/BIO	30
Jacobs, D	SCRIPPS	SA1	MEDIUM	MAR	NSF/	5

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PI	INSTITUTION	AREA	SHIP REQUESTED	OPTIMUM	SOURCE/ FUNDING	DAYS
				1996 DATES		
Waterbury, D*	WHOI	NA6/9	OCEANUS	AUG/SEP	??	14
Hall, J*	MEMORIAL U	NA8	EWING	AUG/SEP	??	22
Rowe, S	TAMU	NA9	LONGHORN	QUARTERLY	??	20
Gregg, M	UM-APL	NP9	BARNES	MAY	??	15
Michaelis, A	BBS	NA6	WEATHERBIRD II	SUMMER	???	ANS
Young, C*	WHOI	NA9	EDWIN LINK	JAN/MAY/JUN	???	26
Cook, S	WHOI	NA9	SEWARD JOHNSON	JUL	???	3
Soless/Hildbo*	SCRIPPS	NP9	MELVILLE/N H	SUMMER	???	14
Wirick, C*	BROOKHAVEN	NA6	ENDEAVOR	FEB	DOE	10
Wirick, C*	BROOKHAVEN	NA6	ENDEAVOR	MAY	DOE	10
Wirick, C*	BROOKHAVEN	NA6	ENDEAVOR	JUN	DOE	10
Wirick, C*	BROOKHAVEN	NA6	ENDEAVOR	OCT	DOE	10
Wirick, C*	BROOKHAVEN	NA6	ENDEAVOR	NOV	DOE	10
Wirick, C*	BROOKHAVEN	NA6	OCEANUS	MAR	DOE	9
Wirick, C*	BROOKHAVEN	NA6	OCEANUS	JUL	DOE	5
Wirick, C*	BROOKHAVEN	NA6	SEWARD JOHNSON	MAR	DOE	15
Wirick, C*	BROOKHAVEN	NA6	SEWARD JOHNSON	APR	DOE	15
Wirick, C*	BROOKHAVEN	NA6	SEWARD JOHNSON	JUN	DOE	15
Wirick, C*	BROOKHAVEN	NA6	SEWARD JOHNSON	SEP	DOE	14
Wirick, C*	BROOKHAVEN	NA6	SEWARD JOHNSON	SEP	DOE	15
Weidemann, A	NRL	NA6	CAPE HATTERAS	SEP	NRL	14
Mied/Marmorino	NRL	NA6	CAPE HENLOPEN	SEP	NRL	17
Saunders, K	NRL	NA9	SEWARD JOHNSON	JUN	NRL	14
Worcester, P*	SCRIPPS	NA4	OCEANUS	LATE SUM	NSF	15
Sieracki, M	BIGELOW	NA6	CAPE HATTERAS	JUL	NSF	12
Washburn, L	UCSB	NA6	ENDEAVOR	JUN	NSF	19
Toole, J	WHOI	NA6	WEATHERBIRD	OCT	NSF	3
Paul, J*	U OF SF	NA9	PELICAN	JUL	NSF	8
Paul, A	ALASKA	NP6	ALPHA HELIX	AUG/SEP	NSF	21
Cratichovic, J	WHOI	NP6	ATLANTIS II	JUN/SEP	NSF	4
Johnson, P	UM	NP9	THOMPSON/JAS	SUMMER	NSF	12
Salmon, H*	JOHNS HOP	NA6	CAPE HENLOPEN	MAY/JUN	NSF/	6
Houghton, R*	LDEO	NA6	ENDEAVOR	MAY	NSF/	6
Gleed, J	UCSB	NA6	WEATHERBIRD II	MAR/AUG	NSF/	12
Smith, K**	SCRIPPS	NP13	NEW H/REVILLE	FEB/JUN/OCT	NSF/	42
Jacobs, D	SCRIPPS	SA1	MEDIUM	MAR	NSF/	5
Lehman, J*	U MICH	GL4	LAURENTIAN	JUN/JUL/AUG	NSF/BIO	24
Jannasch, H	WHOI	NP13	KNORR/ALVIN/JA	DEC95/AP96	NSF/BIO	10
Eckman, J*	SKIDAWAY	NA6	BLUE FIN	APR/JUL/SEP	NSF/BIO	60
Eckman, J*	SKIDAWAY	NA6	BLUE FIN	JUN/AUG	NSF/BIO	4
Nelson, J	SKIDAWAY	NA6	BLUE FIN	JAN/MAR	NSF/BIO	20
Paffenoffer*	SKIDAWAY	NA6	BLUE FIN	ALL	NSF/BIO	48
Wiebe, W*	U OF GA	NA6	BLUE FIN	MAR/JUL	NSF/BIO	10
Benfield, M	WHOI	NA6	CAPE HATTERAS	MAR/JUN	NSF/BIO	28
Biesiot, P	U OF S M	NA6	CAPE HATTERAS	SEP	NSF/BIO	2
Sambrotto, R	LDEO	NA6	CAPE HATTERAS	APR/MAY	NSF/BIO	21
Coats, D **	SMITHSONIAN	NA6	CAPE HENLOPEN	MAY/OCT	NSF/BIO	30
Houde, E	U MD	NA6	CAPE HENLOPEN	JUN/JUL	NSF/BIO	10

Christensen, J	BIGELOW	NA6	ISELIN/ENDEAVR	DEC	NSF/CHEM	30
Martin, W	WHOI	NA6	KNORR/ALVIN	JUL	NSF/CHEM	14
Daly/Savies	WHOI	NA6	MEDIUM	MAR/APR	NSF/CHEM	10
Daly/Savies	WHOI	NA6	MEDIUM	AUG	NSF/CHEM	10
Zafiriou, D*	WHOI	NA6	NEW HORIZON	AUG	NSF/CHEM	3
Bacon/Francis*	WHOI	NA6	OCEANUS	JUL/AUG	NSF/CHEM	10
Christensen, X	BIGELOW	NA6	OCEANUS	AUG-OCT	NSF/CHEM	14
Dacey, J	WHOI	NA6	OCEANUS	AUG	NSF/CHEM	26
Martin, W*	WHOI	NA6	OCEANUS	JUN-OCT	NSF/CHEM	7
Moffett, J	WHOI	NA6	OCEANUS	JAN	NSF/CHEM	7
Conte, M	WHOI	NA6	WEATHERBIRD II	THRU-OUT	NSF/CHEM	18
Deuser, W*	WHOI	NA6	WEATHERBIRD II	MAR-NOV	NSF/CHEM	6
Hansell, D	BBS	NA6	WEATHERBIRD II	FEB-OCT	NSF/CHEM	12
Knap, A*	BBS	NA6	WEATHERBIRD II	MONTHLY	NSF/CHEM	110
Michaels, A	BBS	NA6	WEATHERBIRD II	MAR/APR/JUN	NSF/CHEM	20
Michaels, A	BBS	NA6	WEATHERBIRD II	MAR/MAY	NSF/CHEM	14
Moffett/Busler	WHOI	NA6	WEATHERBIRD II	APR	NSF/CHEM	5
Savies, F*	WHOI	NA6	WEATHERBIRD II	ALL	NSF/CHEM	50
Sherrell, R	RUTGERS	NA6	WEATHERBIRD II	AUG	NSF/CHEM	2
Zafiriou, D*	WHOI	NA6	WEATHR/OCEANUS	JUN	NSF/CHEM	3
Santschi, P	TANU	NA9	GYRE	OCT	NSF/CHEM	6
Inoall, E*	UT	NA9	LONGHORN	AUG	NSF/CHEM	10
Shiller, A	U OF S M	NA9	PELICAN	JUN	NSF/CHEM	15
Fenical, W*	SCRIPPS	NA9	SEWARD JOHNSON	SUMMER	NSF/CHEM	21
Dacey, J	WHOI	NA9	WEATHERBIRD II	SEP/NOV	NSF/CHEM	20
30Cochran, K	STONY BROOK	NP11	MOAMA WAVE	MONTHLY	NSF/CHEM	6
Devol, A*	UM	NP13	BARNES	TBA	NSF/CHEM	26
Allredoe, A*	UCSB	NP13	POINT SUR	JUN-JUL	NSF/CHEM	10
Keil, R*	UM	NP6	BARNES	3 DAY/MO	NSF/CHEM	36
Murray, J	UM	NP9	BARNES	AUG	NSF/CHEM	7
Murray, J	UM	NP9	BARNES	TBA	NSF/CHEM	25
Devol, A*	UM	NP9	NEW HORIZON	FEB	NSF/CHEM	30
Bruland, K*	UCSC	NP9	POINT SUR	JUN-JUL	NSF/CHEM	28
Sherrell, R	RUTGERS	NP9	POINT SUR	MAY	NSF/CHEM	2
Shiller, A	U OF S M	NP9	POINT SUR	MAY	NSF/CHEM	1
Inoall, E	UT	NP9	SMALL	MAY	NSF/CHEM	12
Cutter, G*	ODU	SA1/2NA10/9	KNORR	MAY	NSF/CHEM	39
Murray, J*	UM	SP2/NP11	THOMPSON/MEL	MAR	NSF/CHEM	22
Klinkhammer, L	OSU	SP3	KNORR	??	NSF/CHEM	4
Diebold, J	LDEO	SP4	EWING	JAN-FEB	NSF/CONT D	27
Henvey, T*	USC	SP5	EWING	FEB/MAR	NSF/EAR	29
Bryant, W	TANU	NA9	GYRE	APR	NSF/ENG	14
Silva, A	URI	NA9	LARGE/KNORR	JUL/AUG	NSF/ENG	21
Pisias, N	OSU	NP13/9	MELVILLE/THOM	ANY	NSF/ESH	
Morgan/Black*	SCRIPPS	IN8/IN11	MELVILLE	DEC96/JAN97	NSF/GEO	35
Morgan, J P**	SCRIPPS	NP12	M.W./M.H.	???	NSF/GEO	25
Morgan/Gabr	SCRIPPS	NP12	REVELLE	JUL	NSF/GEO	6
Honjo, S	WHOI	IM1	THOMPSON	OCT	NSF/JGOF5	ANC
Muramoto, J	WHOI	IM1	THOMPSON	JAN/FEB	NSF/JGOF5	
??Norris, R	WHOI	IM1	THOMPSON	JAN/FEB	NSF/JGOF5	??
Boynton, W*	U MD	NA6	CAPE HENLOPEN	MAR-OCT	NSF/LMER	39
Walsh, J	U OF S FL	NA9	ISELIN/PELICAN	FEB/MAR/APR	NSF/LMER	30
Turner, R	LSU	NA9	PELICAN	JAN-OCT	NSF/LMER	96
Simenstad, C*	UM	NP9	BARNES	JUL	NSF/LMER	30

Sliver, E	UCSC	NP13	EWING/LARGE	APR/JUN	NSF/ODP	20
Stephen, R	WHOI	NP13	REVELLE	OCT	NSF/ODP	30
Webb, B*	SCRIPPS	NP9	REVELLE	AUG	NSF/ODP	7
Wille, M*	UM	NP9	THOMPSON	ANY	NSF/ODP	
Woods, S**	WHOI	NP9	THOMPSON/REV	MAY/JUN	NSF/ODP	28
Webb, B*	SCRIPPS	NP9	WECOMA	DEC	NSF/ODP	10
Hodell, D*	UCL	SA4/5	EWING/LARGE	JAN-MAR	NSF/ODP	40
Doffin, M*	UT	SP2/NP12	EWING	APR/MAY	NSF/ODP	37
Wu, A	OSU	SP3/SP6, SP9	MELVILLE	JAN-APR	NSF/ODP	42
Dowan, E	APPA STATE	NP6	ALPHA HELIX	MAY & JUL	NSF/ODP	28
Butler, R	MIT	NP9	MELVILLE	JUL	NSF/OTECH	18
Kidwell, S	U CHICAGO	NA9	URACCA	MAY	NSF/PALEO	25
Kidwell, S	U CHICAGO	NA9	URACCA	AUG/SEP	NSF/PALEO	30
Dwens, D*	TAMU	NP13	GYRE	JUL & AUG	NSF/PH BEH	10
Wimbush, M*	URI	GL4	LAURENTIAN	AUG	NSF/PHY	14
Riser, S*	UM	IN3	THOMPSON	MAR	NSF/PHY	25
Toole, J	WHOI	IN7	FRANKLIN	FALL	NSF/PHY	21
Chave, A*	WHOI	NA4	OCEANUS	OCT	NSF/PHY	33
Garvine, R*	DEL	NA6	CAPE HENLOPEN	TBD	NSF/PHY	22
Brown, W	UNH	NA6	OCEANUS/END	SEP/OCT	NSF/PHY	5
Brown, W	UNH	NA6	OCEANUS/END	FEB & SEP	NSF/PHY	8
Royer, T*	ALASKA	NP6	ALPHA HELIX	APR/AUG/DEC	NSF/PHY	15
Kunze, E	UM	NP9	POINT SUR	SEP/OCT	NSF/PHY	7
Moun, J*	OSU	NP9	WECOMA	AUG&NOV	NSF/PHY	8
Ledwell, J*	WHOI	SA1	SEWARD JOHNSON	MAR	NSF/PHY	31
Richardson, P	WHOI	SA2	MEDIUM/LARGE	MAY/JUN	NSF/PHY	19
Stannes, K	UA	NP6	ALPHA HELIX	SUMMER	NSF/POLAR	5
Block, B	STANFORD	NP9	POINT SUR/SPR	SEP/OCT	NSF/PYHS	14
Sharp, J*	DEL	NA6	CAPE HENLOPEN	JUL	NSF/REU	3
Whitledge, T*	UT	NA9	LONGHORN	JUL	NSF/REU	6Daqq.
Johnson, K*	HAWII	IN3/4/7	MELVILLE	DEC95/JAN96	NSF/RIDGE	50
Fornari, D*	WHOI	NA7	KNORR	AUG-SEP	NSF/RIDGE	33
Tucholke, B*	WHOI	NA10	EWING	JUL	NSF/RIDGE	35
Van Dover, C	ALASKA	NA6	ATLANTIS II	JAN/FEB	NSF/RIDGE	8
Bempere, J C*	UM	NA6/10	MELVILLE	ANY	NSF/RIDGE	35
Detrick, R*	WHOI	NA6/7	EWING	APR-JUN	NSF/RIDGE	39
Kent, G	WHOI	NA6/7	EWING	FALL95?	NSF/RIDGE	5
Toomey, D*	U OF OR	NA7	EWING	JUN	NSF/RIDGE	6Toomey, D
U OF OR	NA7	OCEANUS	DEC	NSF/RIDGE	6	
France, S	UNH	NP13	ATLANTIS II	FALL	NSF/RIDGE	8
Cochran, J	LOEO	NP13	EWING	ANY	NSF/RIDGE	41
Vrijenhoek/Ltz	RUTGERS	NP9	KNORR/ALVIN	EARLY/LATE	NSF/RIDGE	19
Chadwick, W	OSU	NP9	THOMPSON	SUM/FAL	NSF/RIDGE	12
Delaney, J*	UM	NP9	THOMPSON	SUMMER	NSF/RIDGE	22
Michael, P*	TULSA	SA1-4	KNORR	WINTER	NSF/RIDGE	41
Lilliev, M	UM	SP3	ATLANTIS II	JAN/FEB	NSF/RIDGE	36
Forsyth, D*	BROWN	SP3	THOMPSON	MAY/JUN	NSF/RIDGE	48
Green, T	MUSKEGON	GL4	LAURENTIAN	AUG	NSF/TE	3
Miller, O*	OSU	NP9	WECOMA	MAY	NSF/TECH	1
Goad, L*	U MICH	GL4	LAURENTIAN	JUL	NSF/TEP	9
Wimbush, M*	URI	NA6	ENDEAVOR	JUN	NSF/UFE	1
Whitworth, T	TAMU	AN2/3/4/IN	PALMER	JAN	NSF/WOCE	53
Young, C	HBQI	NA5	SEWARD JOHNSON	SUMMER	NSF?	20

APPENDIX V

1997 SHIPTIME REQUESTS

28 AUG 1995

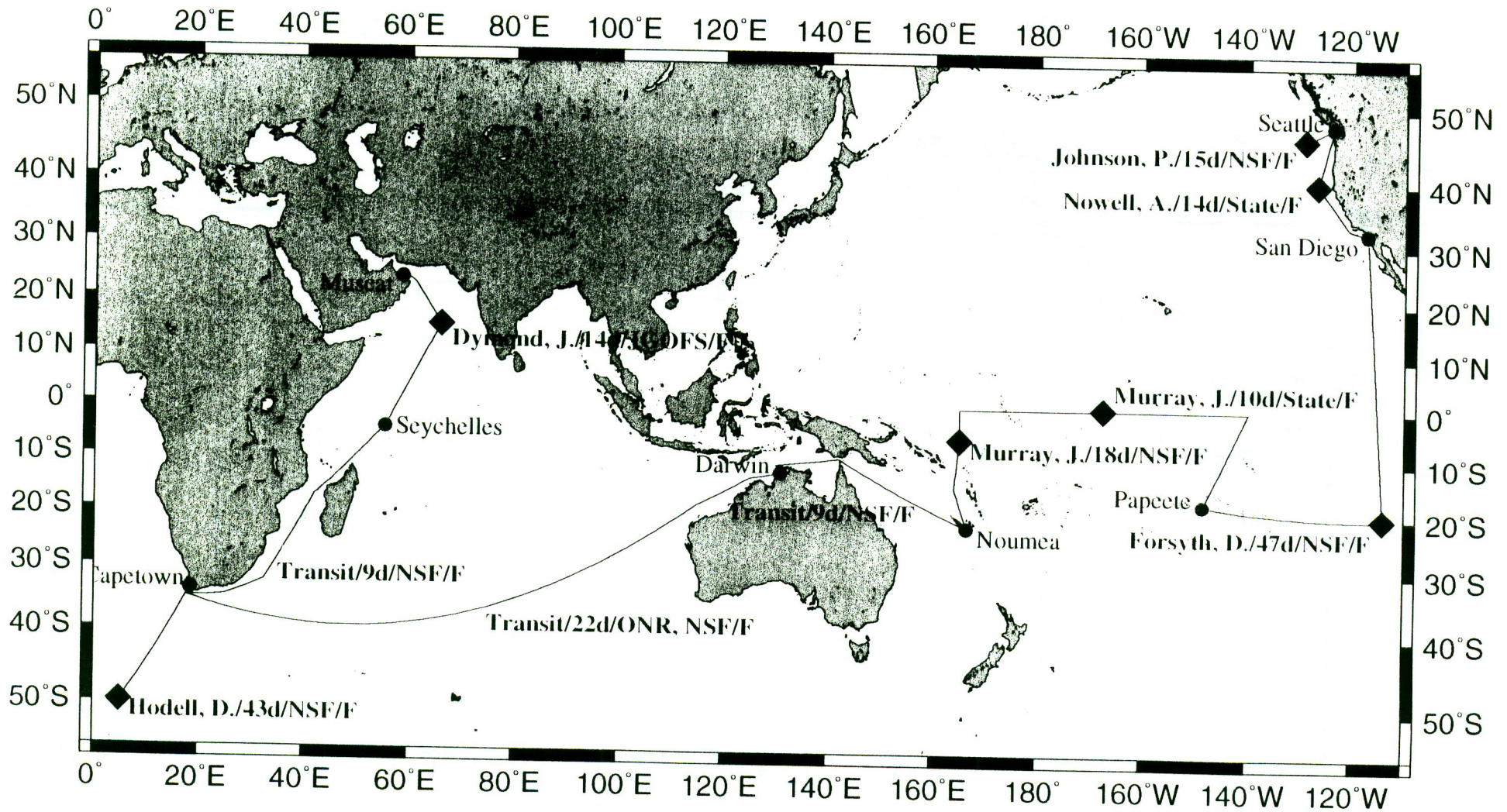
PI	INSTITUTION	AREA	SHIP REQUESTED	OPTIMUM	SOURCE/ FUNDING	DAYS
				1997 DATES		
Amberman, J	TAMU	NA6	WEATHERBIRD II	FEB	NSF/BIO	12
Bailey, T	HBOI	NA9	SEWARD JOHNSON	MAY	NSF/BIO	12
Bangs, N	UT	NA9	EWING	MAR	NSF/MGG	17
Banse, K	UM	NP9	BARNES	SEP	NSF/BIO	20
Banse, K	UM	NP9	MEDIUM	FALL	NSF/BIO	9
Barth, J	OSU	NA6	ENDEAVOR	AUG	ONR	21
Beardslev, R	WHOI	NA6	ENDEAVOR	FEB	ONR	22
Benfield, M	WHOI	NA6	CAPE HATTERAS	MAR	NSF/BIO	28
Block, B	STANFORD	NP9	POINT SUR/SPR	SEP/OCT	NSF/PHYS	14
Bock, E	WHOI	NA6	OCEANUS	MAY	NSF/COOP	21
Boynton, W	UMD	NA6	CAPE HENLOPEN	QUARTERLY	NSF/LMER	39
Brown, K	SCRIPPS	NP13	MEDIUM	ANY	NSF/MGG	6
Brown, W	UMH	NA6	OCEANUS/END	FEB/MAY	NSF/PHY	10
Bruland, K	UCSC	NP9	POINT SUR	JUN/JUL	NSF/CHEM	21
Buskev, E	UT	NA9	LONGHORN	JAN/APR/JUL	???	6
Cande, S	SCRIPPS	AN2/3	PALNER	FEB/MAR	NSF/OPP	52
Carbotte, S	LDEO	SP5	EWING	JAN/MAY	NSF/MGG	37
Chadwick, W	OSU	NP9	THOMPSON	SUMMER/FALL	NSF/RIDGE	3
Chave, A	WHOI	NP9	KNORR/JASON	SEP	NSF/ARI	22
Chave, A	WHOI	NP9	ATLANTIS II	JUN/JUL	NSF/OSIDP	6
Chave, A	WHOI	NP9	ATLANTIS II	OCT/NOV	NSF/OSIDP	6
Church, T	DEL	NA6	CAPE HENLOPEN	WINTER	NSF/CHEM	7
Cochran, K	STONY BROOK	NP12	NOANA WAVE	MONTHLY	NSF/CHEM	1
Coffin, M	UT	NP10/11	EWING	APR-MAY	NSF/ODP	41
Conte, M	WHOI	NA6	WEATHERBIRD II	TBA	NSF/BATS	18
Conte, M	WHOI	NA6	WEATHERBIRD II	TBA	NSF/ODP	6
Cowan, E	APPALA STATE	NP6	ALPHA HELIX	JUL/AUG	NSF/OPP	14
Cowen, R	STONY BROOK	NA9	MEDIUM	APR	NSF/	30
Cowles, T	OSU	NP9	WECONA	JAN/MAY	NSF/BIO	64
Dacey, J	WHOI	NA6	OCEANUS	APR	NSF/CHEM	23
Dagg, M	LUNCON	NA9	PELICAN	JUL/AUG	NSF/BIO	10
DeGrandpre, M	WHOI	NA4	ENDEAVOR	MAR	NSF/CHEM	1
Devol, A	UM	NP13	WECONA	JUL	NSF/CHEM	25
Devol, A	UM	NP9	BARNES	TBS	NSF/CHEM	8
Dortch, Q	LUNCON	NA9	PELICAN	MAY/JUN	NSF/BIO	2
Dushaw, B	APL/WASH	NP11	NOANA WAVE	APR	NSF/PHY	14
Eckman, J	SKIDAWAY	NA6	BLUE FIN	JUN	NSF/BIO	4
France, S	UMH	NP13/SP3	ATLANTIS II	FALL	NSF/RIDGE	4
France/Mull	UMH	NP8/11	K-O-K	JUL	NSF/BIO	16
Friedrichs, C	VMI	NA6	CAPE HATTERAS	MAR	NSF/MGG	10
Garvine, R	DEL	NA6	CAPE HENLOPEN	TBD	NSF/PHY	22
Glynn, P	MIAMI	NP13	URRACA	JUL	NSF/BIO	12
Green, T	MUSKEGON	GL4	LAURENTIAN	AUG	NSF/TE	5
Hayward, T	SCRIPPS	NP8/NP12	THOMPSON	MAR & AUG	NSF/BIO	60
Herbers, T	NPS	NA6	CAPE HATTERAS	JUL & DEC	ONR	15
Houde, E	UMD	NA6	CAPE HENLOPEN	JUN/JUL	NSF/BIO	15
Houghton, R	LDEO	NA6	ENDEAVOR	MAY	NSF/	12
Jacobs, D	SCRIPPS	SA1	MEDIUM	MAR	NSF	4

Jahnke, R	SKIDAWAY	NA6/10	LARGE	MAR	NSF/CHEM	33
Jannasch, H	WHOI	NP13	KNORR/ALVIN	DEC96/APR97	NSF	10
Johnson, P	UM	NP9	KNORR/ALVIN	JUL/AUG	NSF/MGG	20
Jowers, P	UM	NP6	BARNES	TBA	NSF/BIO	16
Karl, J	HAWAII	NP12/9	MOANA WAVE	JAN/FEB/MAR	NSF/CHEM	84
Karlson, R	U NEVADA	NP9	BARNES	SPRING/SUM	NSF/MGG	12
Kent, G	WHOI	SP3	KNORR	AUSTRAL SUM	NSF/RIDGE	20
Kirchman, D	DEL	NA6	CAPE HENLOPEN	APR	NSF/CHEM	8
Lasker, H	SUNY BUFFALO	NA9	URRACA	JUL/AUG	NSF/BIO	8
Lawver, L	UT	SASA	ATLANTIS II	JAN/FEB	NSF/OPP	30
Lawver, L	UT	NA9	EWING	WINTER96/97	NSF/MGG	18
Lawver, L	UT	NA9	LONGHORN	WINTER96/97	NSF/MGG	18
Ledwell, J	BIGELOW	SA1	MEDIUM	MAR	NSF/PHY	36
Ledwell, J	BIGELOW	NA6	OCEANUS	MAY	NSF/PHY	15
Lentz, S	WHOI	NA6	OCEANUS	MAY/JUN	ONR	15
Lilley, M	UM	NP6/9	LARGE	TBA	NSF/MGG	15
Luther, D	HAWAII	IN8	MEL/THOM/KNORR	JAN	NSF/PHY	29
Martin, W	WHOI	NA6	SEWARD JOHNSON	JUL	NSF/CHEM	14
Martin, W	WHOI	NA10	LARGE	JUN-OCT	NSF/CHEM	35
McNutt, M	MIT	NP11/12	EWING	APR-OCT	NSF/MGG	28
Michaels, A	BBS	NA6	WEATHERBIRD II	APR/MAY	???	20
Michaels, A	BBS	NP9	POINT SUR	JUN/JUL	???	20
Mitchell, G	SCRIPPS	NP9	NEW HORIZON	TBA	ONR	ANC
Moffett, J	WHOI	NA6	OCEANUS	MAR	NSF	14
Morgan/Blacka	SCRIPPS	IN8/IN11	MELVILLE	FEB	NSF/GEO	35
Morgan/Gabr	SCRIPPS	NP12	REVELLE	APR	NSF/GEO	6
Morgan, JP	SCRIPPS	NP12	SMALL/MEDIUM	TBA	NSF/GEO	29
Mourn, J	OSU	NP9	WECOMA	AUG	NSF/PHY	10
Murray, J	UM	NP9	BARNES	TBA	NSF/CHEM	25
Murray, J	UM	NP9	BARNES	TBA	NSF/CHEM	5
Nelson, J	SKIDAWAY	NA6	BLUEFIN	MAR-NOV	NSF/BIO	35
Nicholson, C	UCSB	NP9	EWING	SPRING	NSF/MGG	12
Paffenhofer, G	SKIDAWAY	NA6	BLUE FIN	TBA	NSF/BIO	48
Perfit, M	U FL	SP1/IN5	KNORR/ALVIN	SUMMER	NSF/MGG	24
Pickart, R	WHOI	NA6	END/OCEANUS	FEB	ONR	22
Pickart, R	WHOI	NA6	END/OCEANUS	DEC	ONR	6
Pillsbury, R	OSU	INS/4/3	MELVILLE	JUN	NSF/VOCE	35
Proctor, L	FSU	NA6	WEATHERBIRD II	APR/AUG	NSF/BIO	10
Purdy, M	WHOI	NP12	REVILLE	JAN	NSF/ODP	6
Riggs, S	EAST CAR U	NA6	CAPE HATTERAS	JUL/AUG	NSF/MGG	20
Ryan, W	LEDS	NA6	KNORR/EWING	ANY	NSF/MGG	20
Sanford, T	UM	NP9	WECOMA/MED	AUG	NSF/PHY	28
Santschi, P	TAMU	NP9	GYRE	MAR & JUL	NSF/CHEM	14
Sayles, F	WHOI	NA6	WEATHERBIRD II	TBA	NSF/CHEM	28
Schwitt/Toole	WHOI	SA1/3	LARGE/KNORR	MAR	NSF/PHY	36
Sempere, J C	UM	NA6	KNORR	ANY	NSF/RIDGE	35
Sempere, J C	UM	NA6/10	OCEANUS	SUMMER	NSF/RIDGE	17
Sharp, J	UDEL	NA6	CAPE HENLOPEN	JUL	NSF/REU	3
Siegel, D	UCSB	NA6	WEATHERBIRD II	FEB/JUL	NSF/	12
Sherrell, R	RUTGERS	NP6	WEATHERBIRD II	MAR/DEC	NSF/CHEM	6
Siebenaller, J	LSU	NP9	WECOMA	MAY	NSF/BIO	10
Sienstad, C	UM	NP9	BARNES	FEB	NSF/LNER	15
Stranton, T	WHOI	NP9	MEDIUM	AUG	NSF/BIO	6
Szwant, A	MIAMI	NA9	SEA DIVER/CAL	APR/AUG	NSF/BIO	12

Tovey, M	WHOI	NP9	ATLANTIS II	JUN/SEP	NSF/RIDGE	5
Toole, J	WHOI	NA6	WEATHERBIRD II	MAY & OCT	NSF/	6
Toppey, D	U OR	NP13	EWING	FEB	NSF/RIDGE	35
Trefny, J	FIT	SP3	KNORR/ALVIN	AUSTRAL SUM	NSF/CHEM	15
Turner, R	LSU	NA9	PELICAN	JAN-OCT	NSF/LMER	24
Van Dover, C	NURP/ALASKA	NP13	ATLANTIS II	FALL	NSF/RIDGE	14
Walsh, J	U OF SO FL	NA9	PELICAN	AUG/SEP/OCT	NSF/LMER	30
Warren/WHITWTH	WHOI	IN3/4/5	LARGE	TBA	NSF/NOCE	35
Waterbury, J	WHOI	NA9	OCEANUS CLASS	FEB/MAR	NSF?	10
Williams, A	WHOI	NA6	OCEANUS	JAN&APR	ONR	10
Worcester, P	SCRIPPS	NA4	MEDIUM	SUMMER	NSF/	15
Young, C	HBOI	NA5	SEWARD JOHNSON	SUMMER	???	20
Young, C	HBOI	NA5	EDWIN LINK	MAY/JUL	???	25
Zafirion, O	WHOI	NA6	OCEANUS	JUL	NSF/CHEM	15
Zafirion, O	WHOI	NA6	WEATHERBIRD II	MAR	NSF/CHEM	3
Zaneveld, R	OSU	NA6	SEWARD JOHNSON	APR	ONR	21

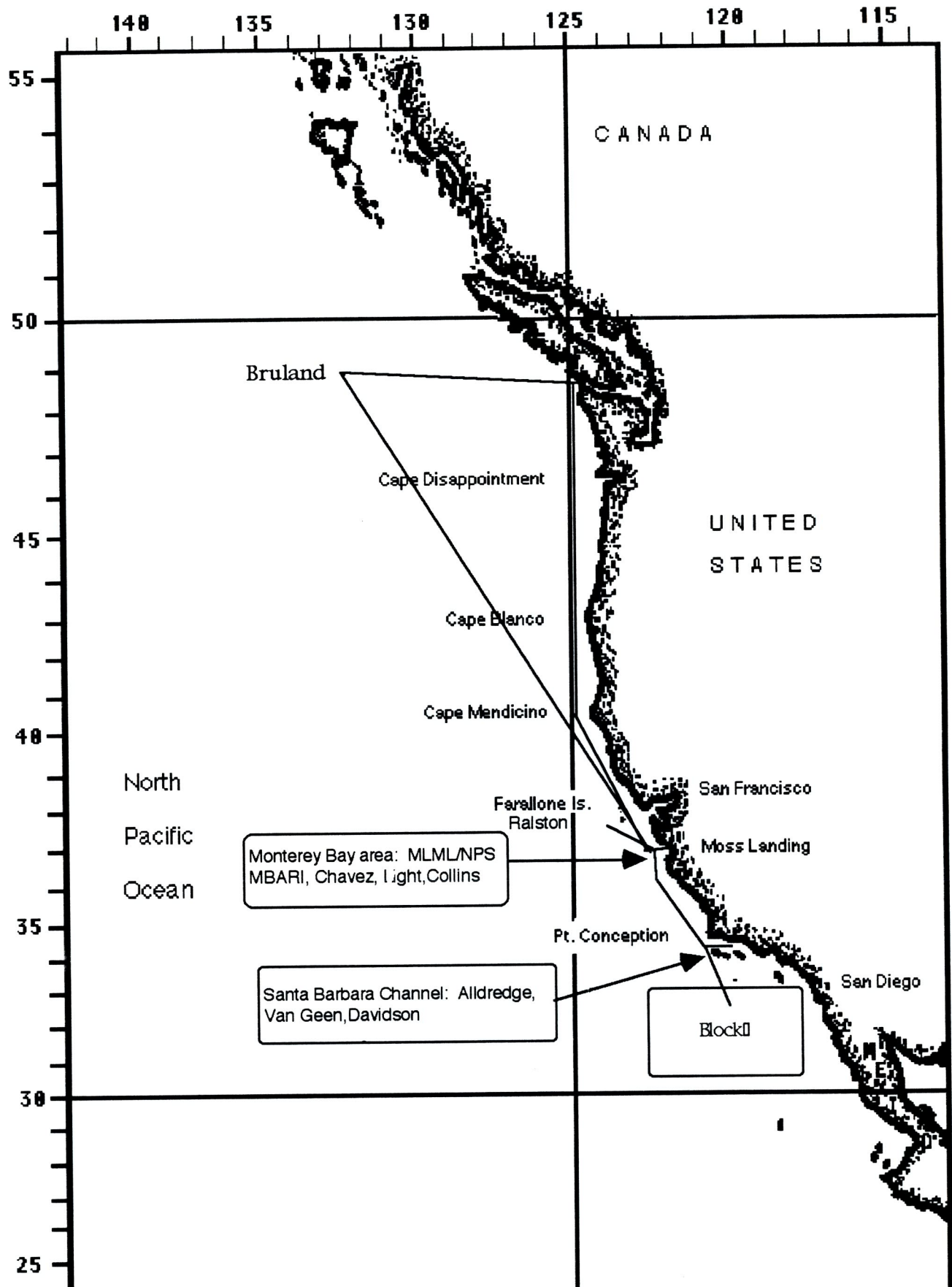
APPENDIX VI

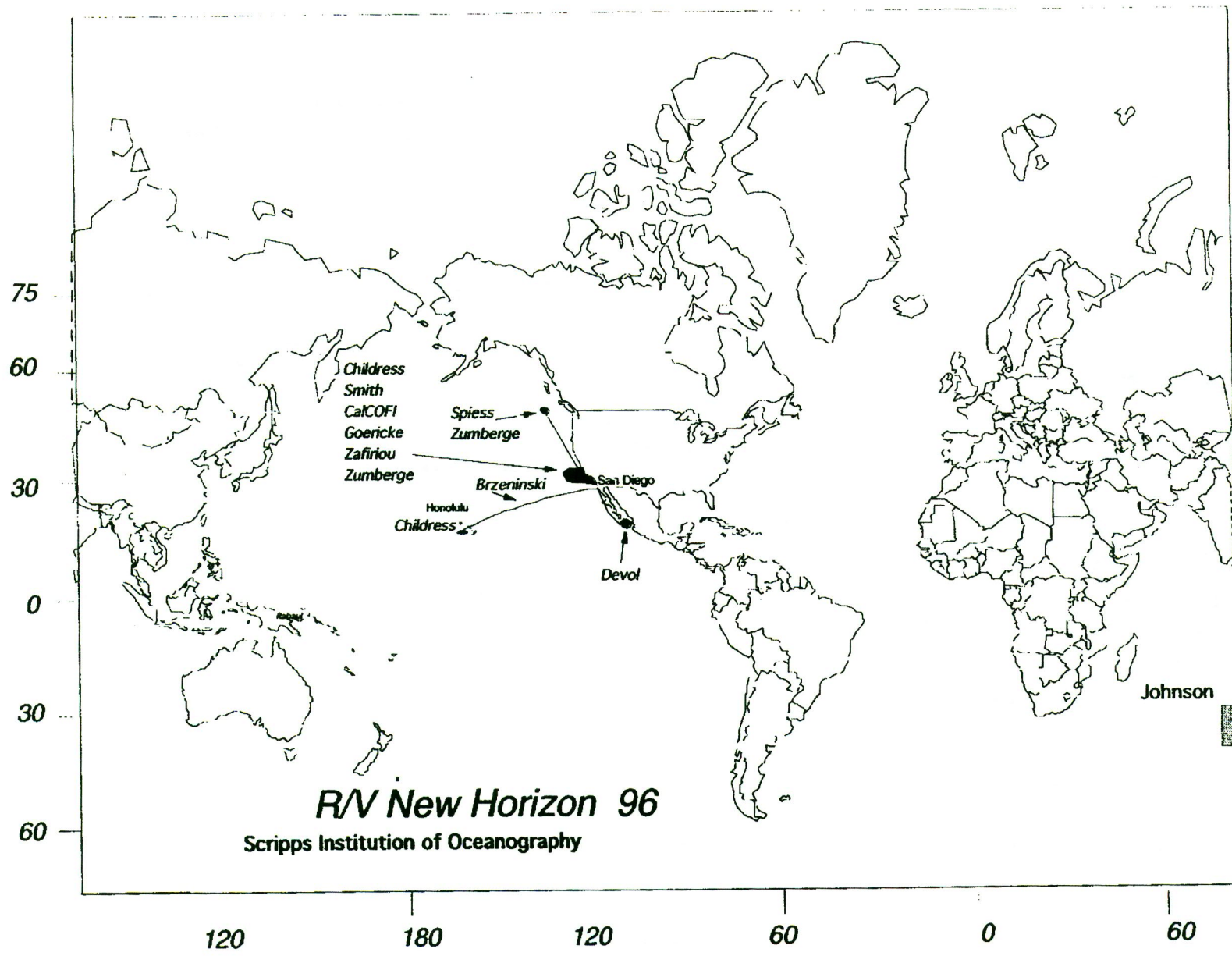
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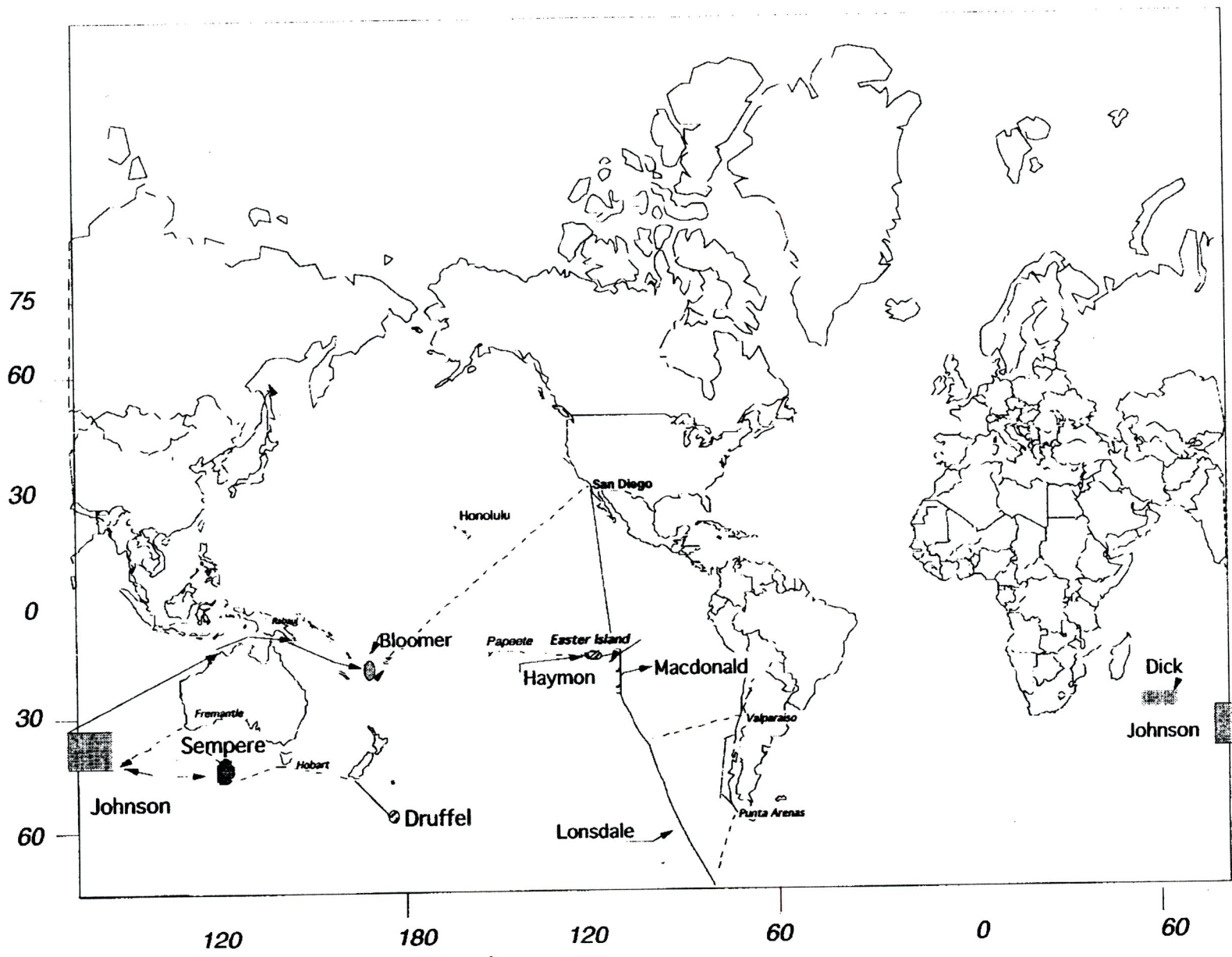


Moss Landing Marine Labs

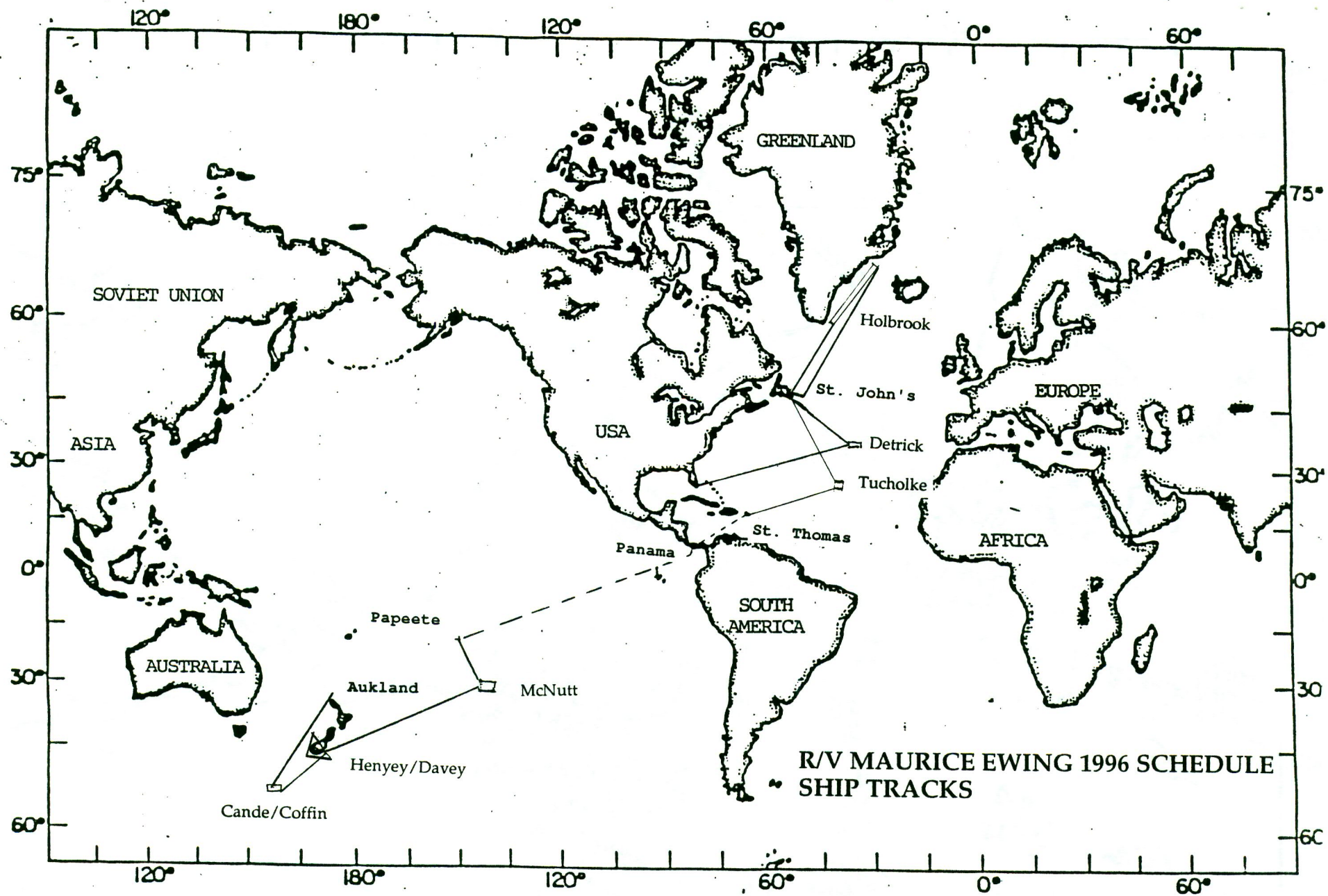
1996 R/V POINT SUR Cruise Tracks



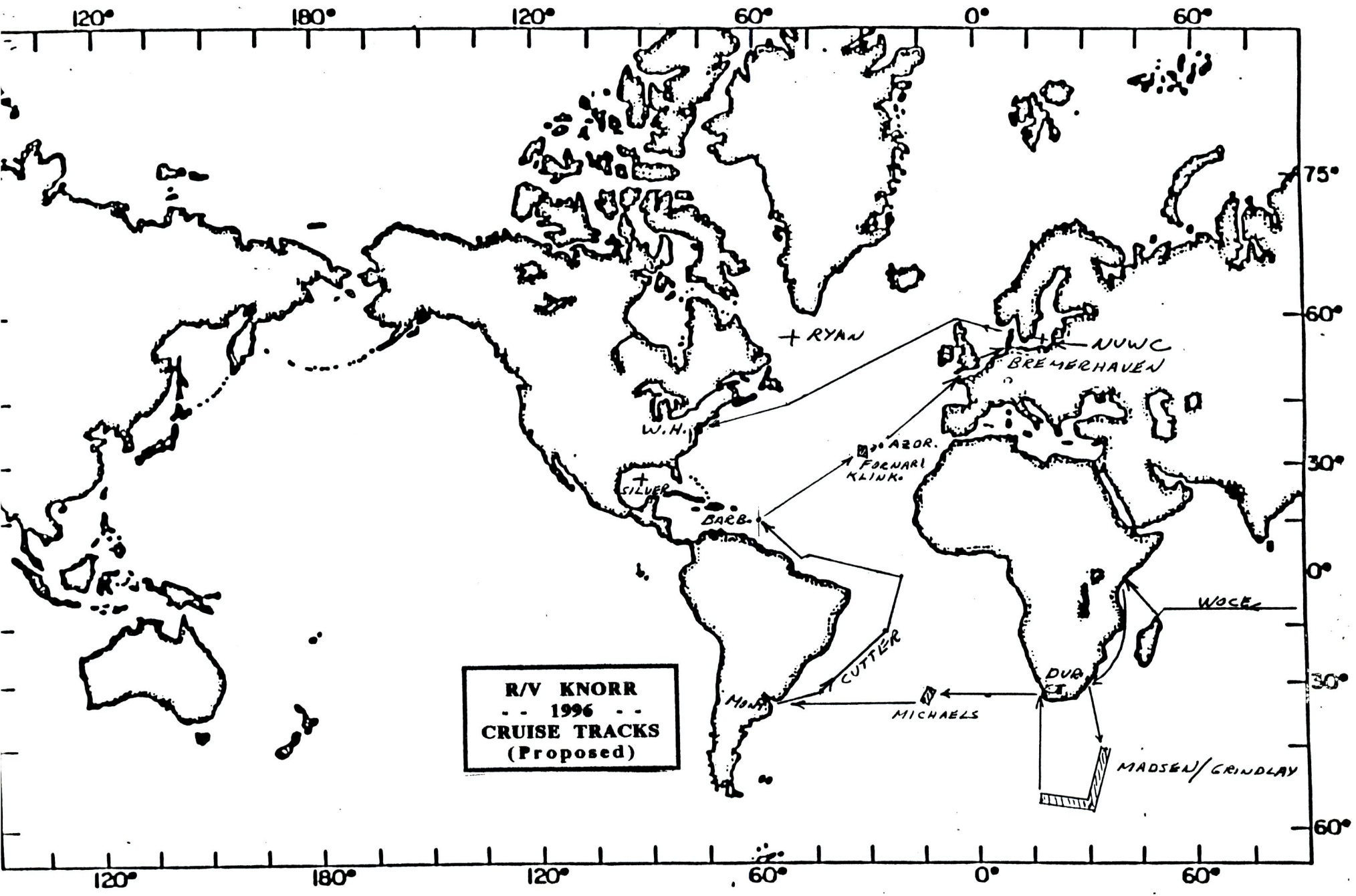


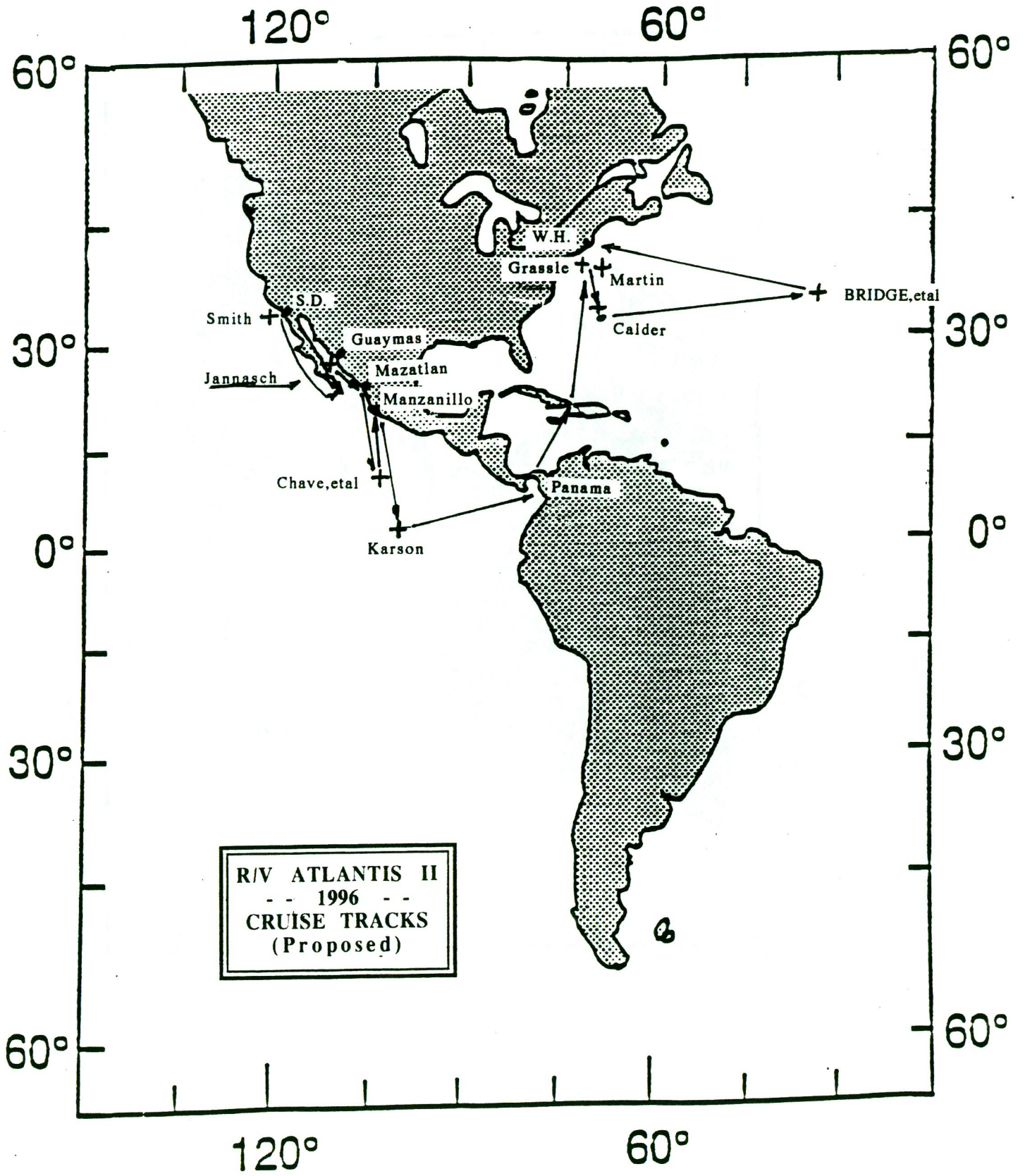


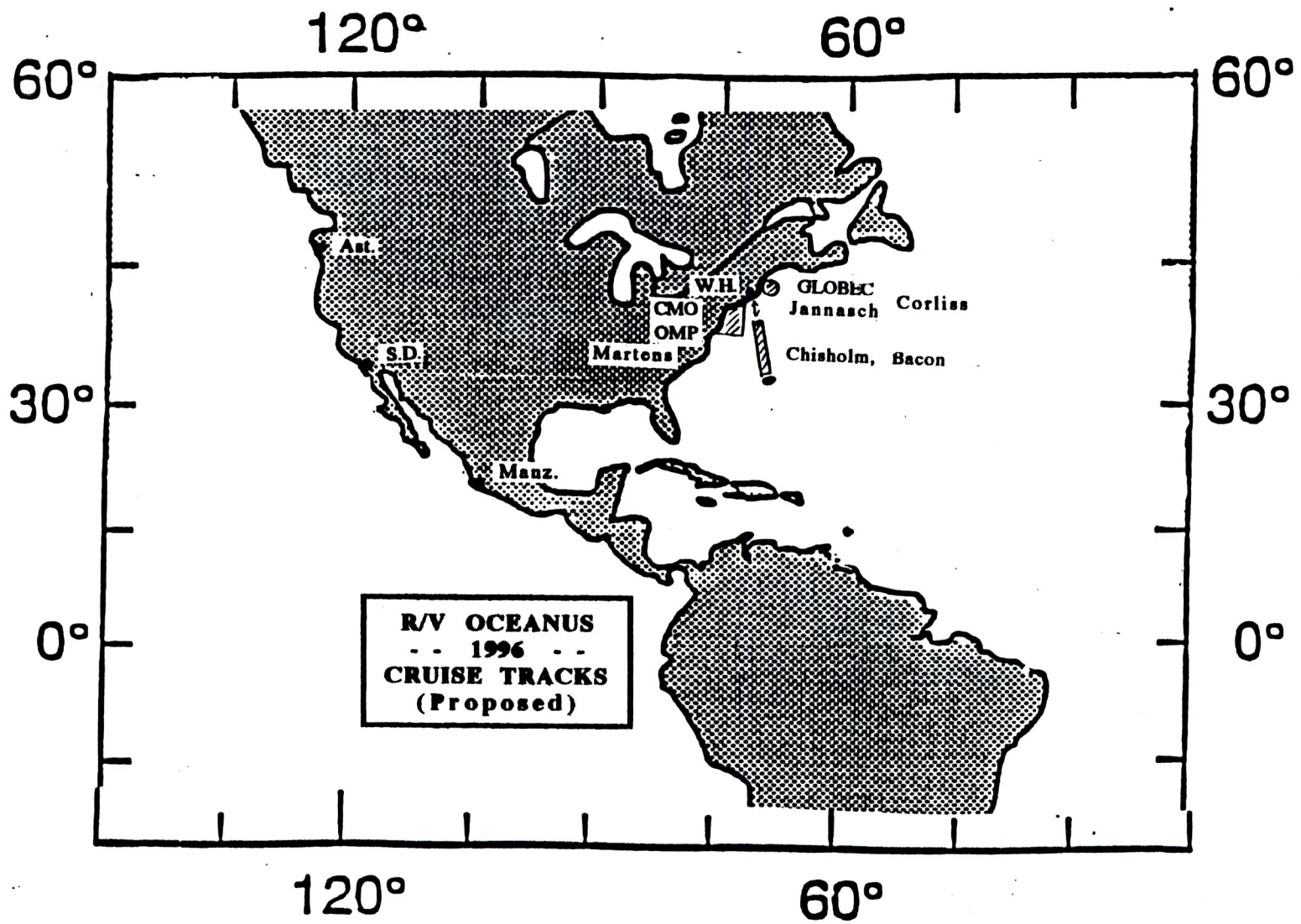
Scripps Institution of Oceanography
R/V Melville 96



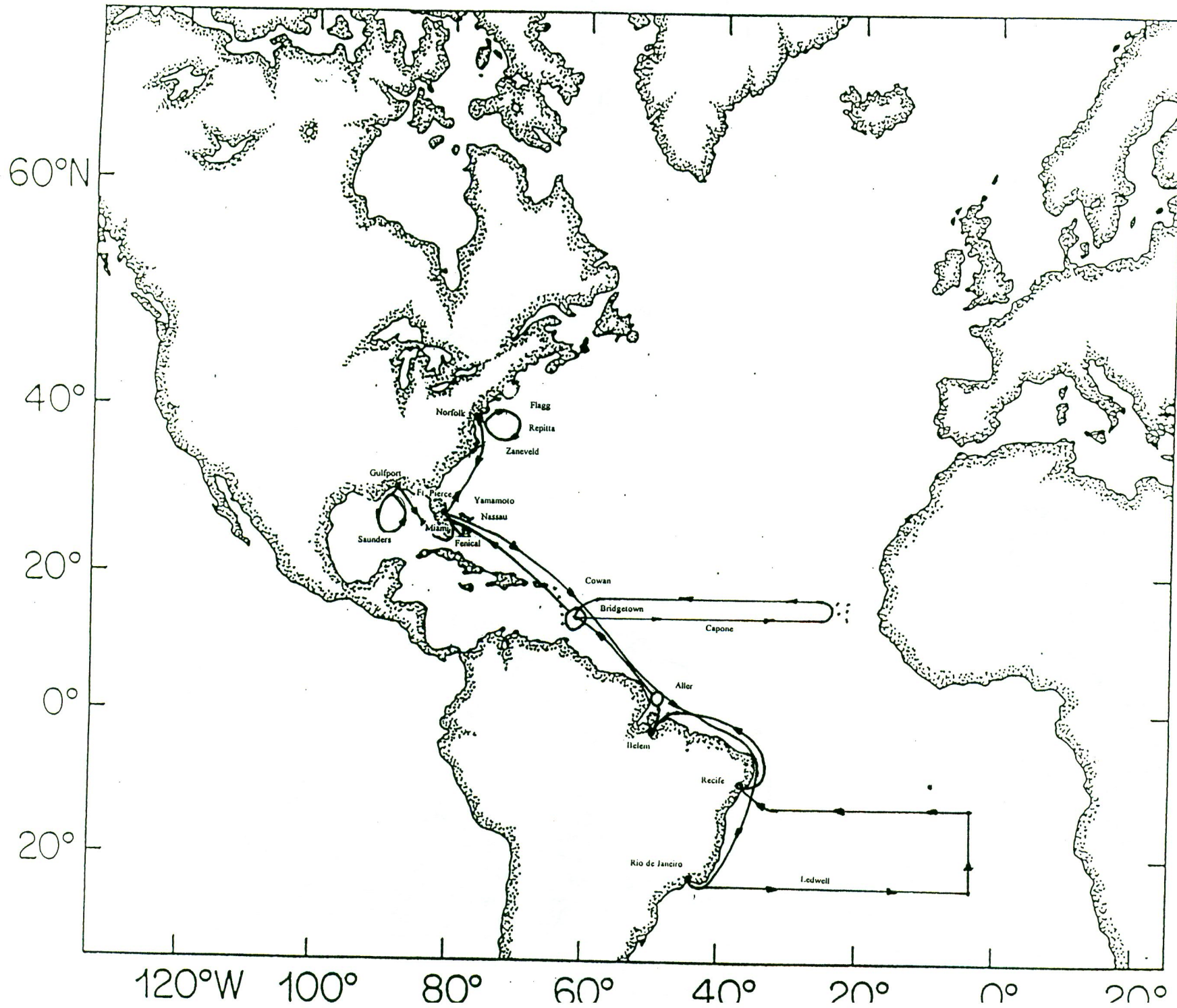
TRACK CHART



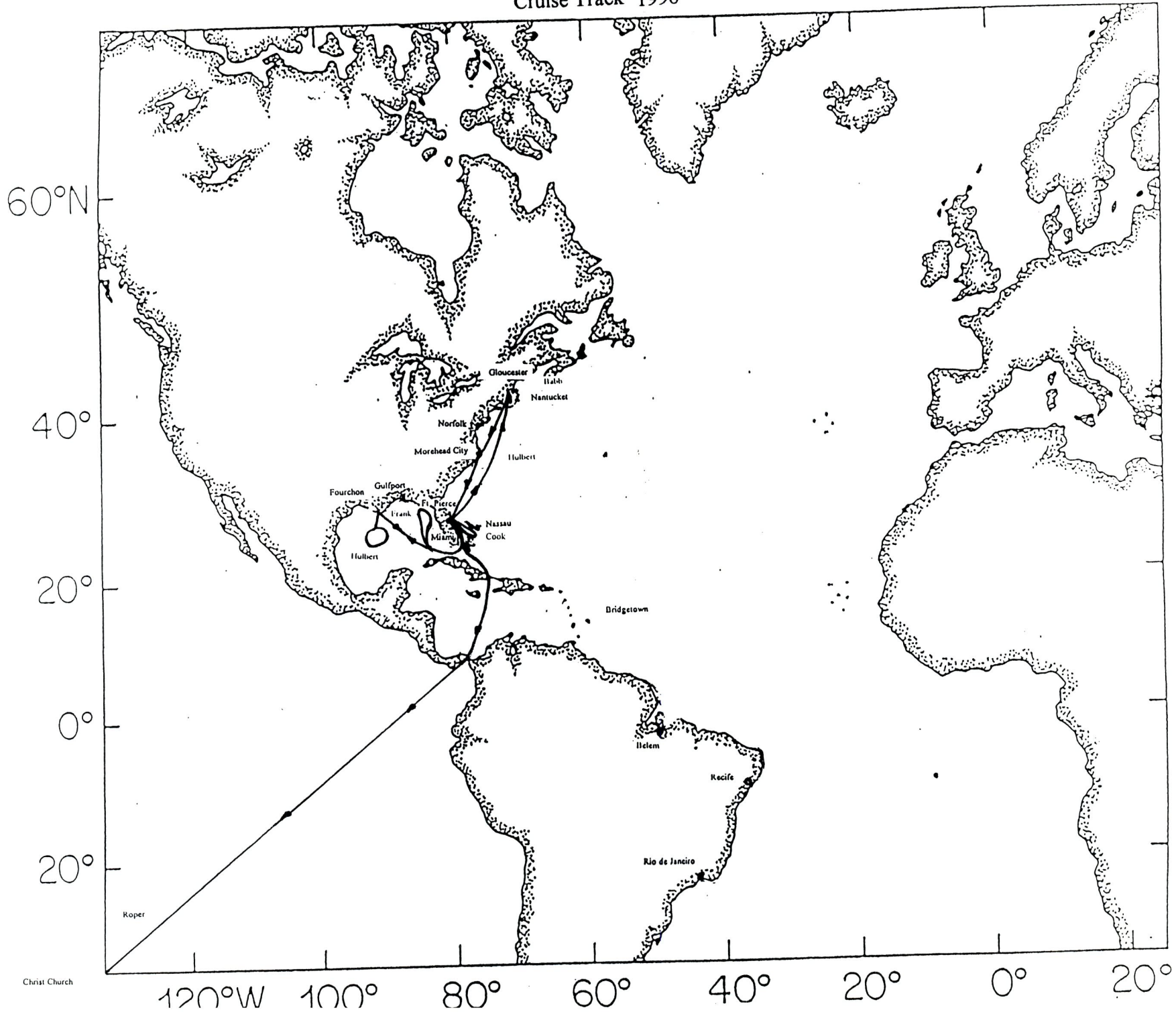




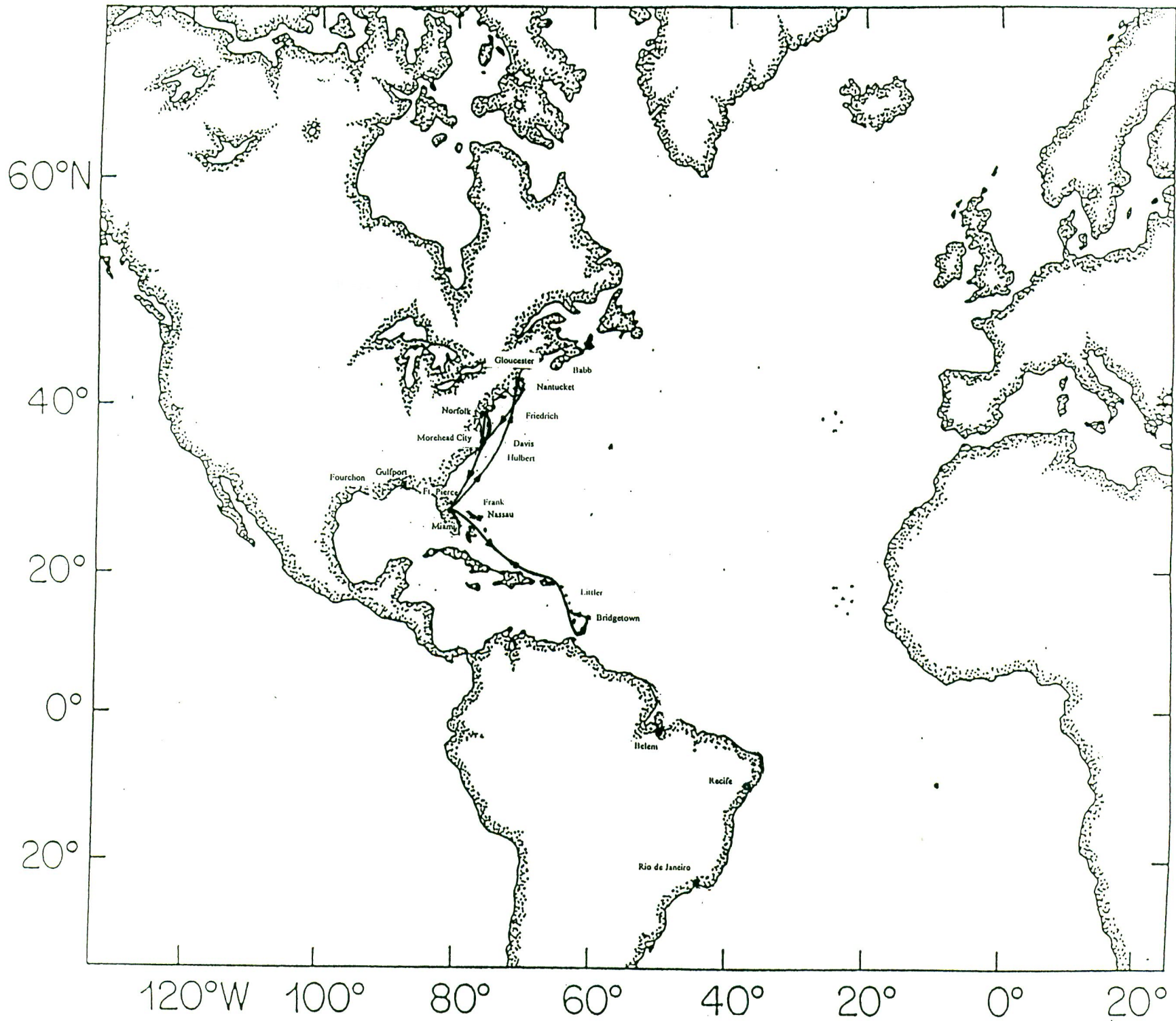
R/V SEWARD JOHNSON
Cruise Track 1996

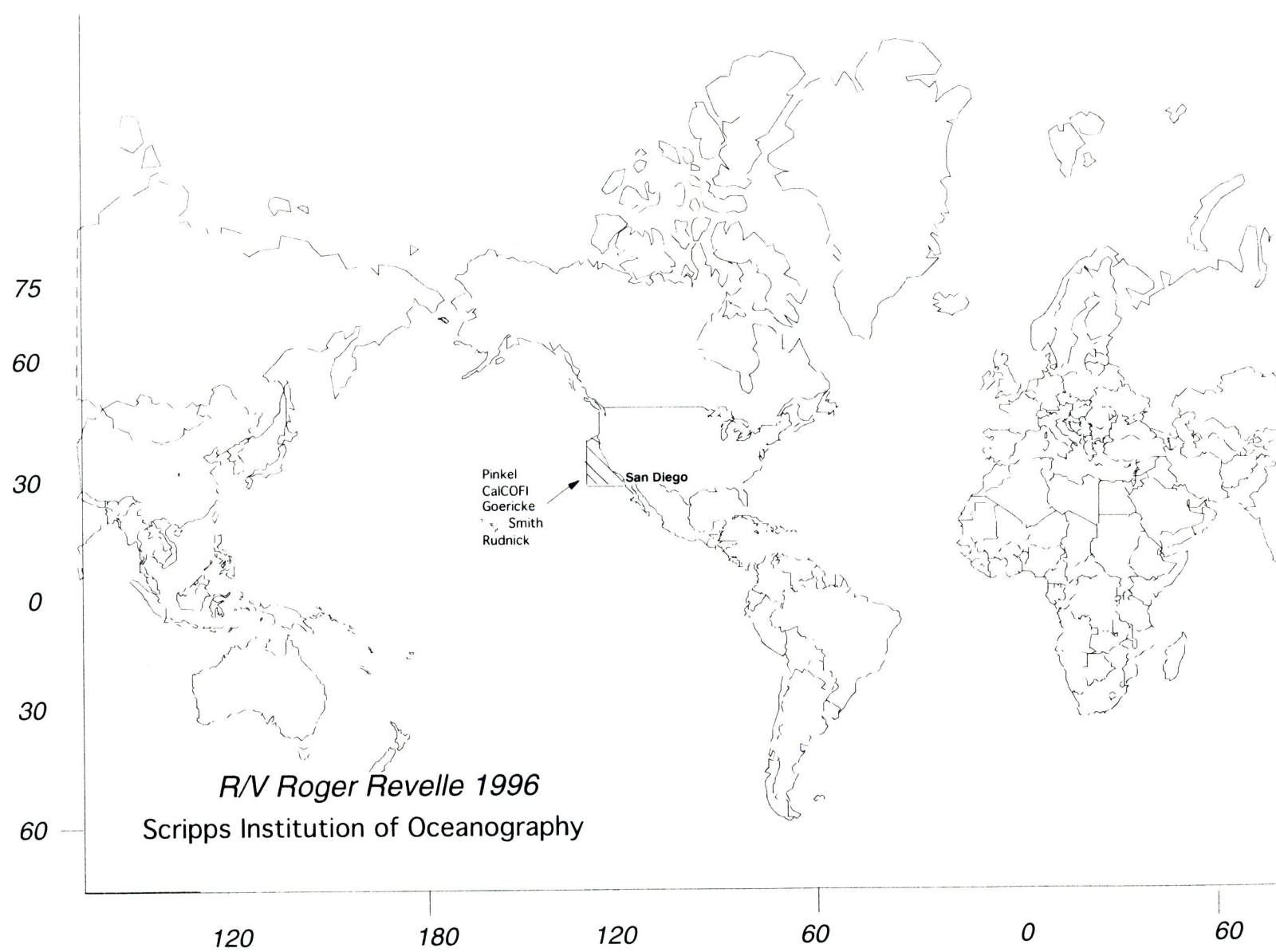


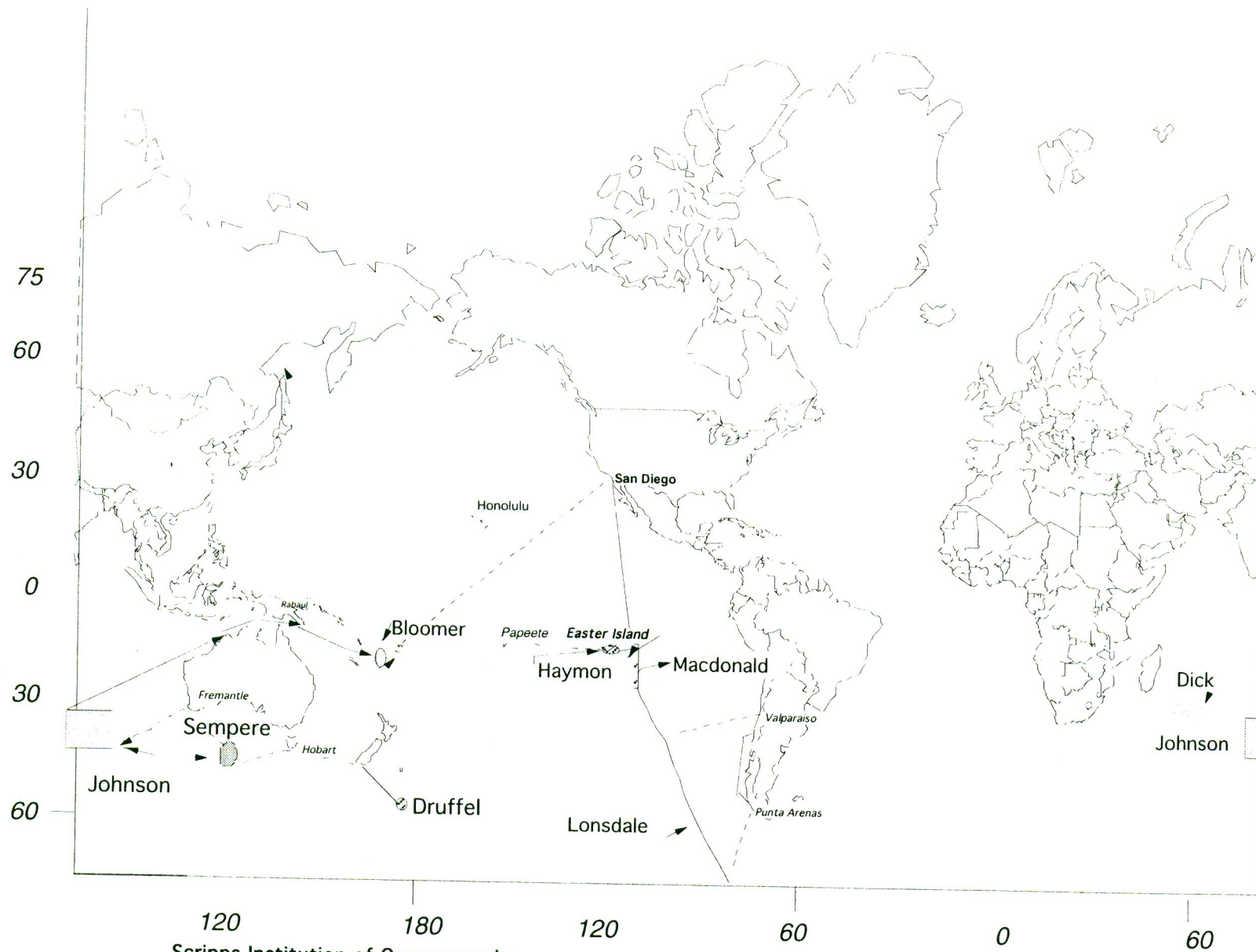
R/V EDWIN LINK
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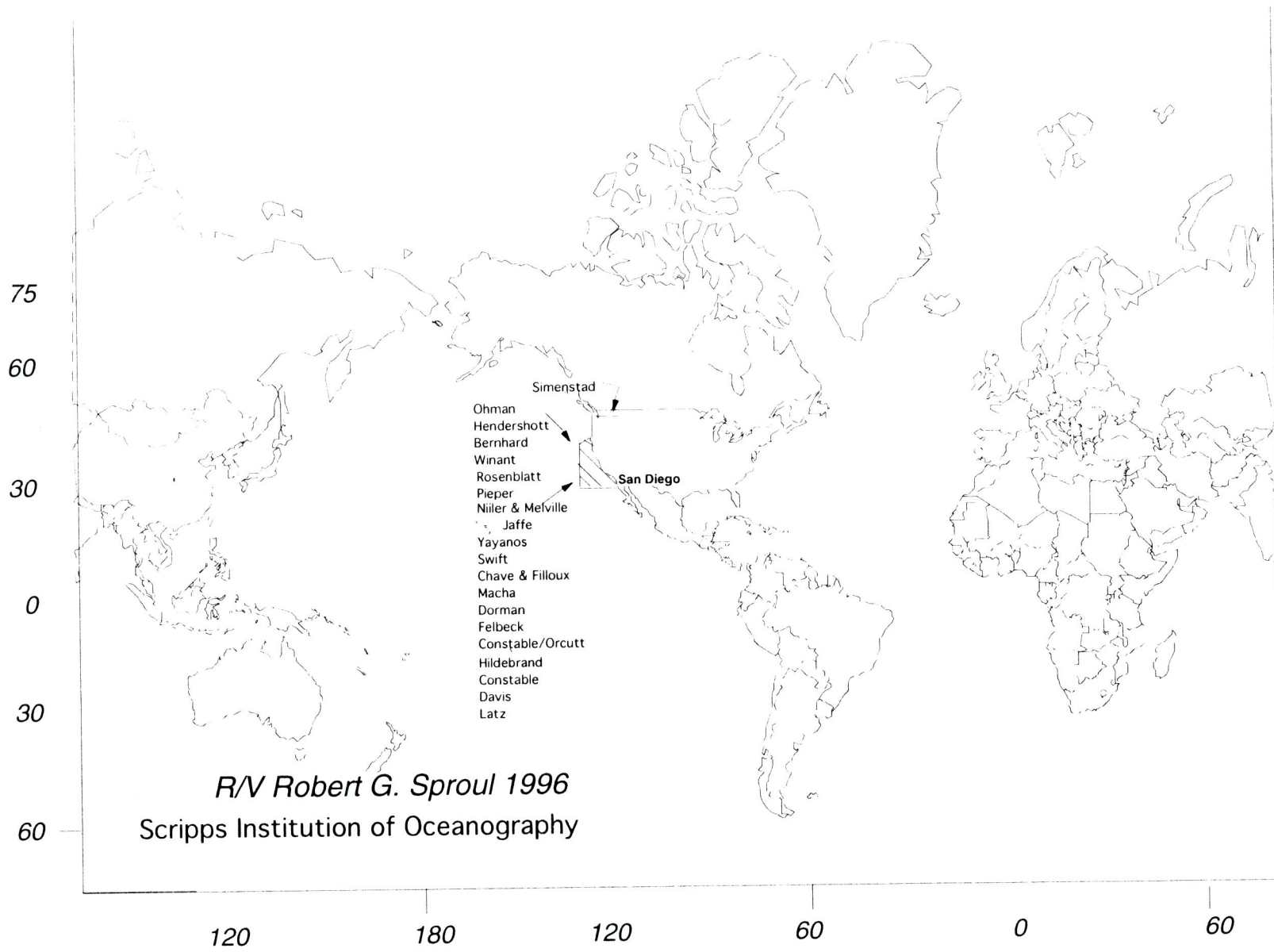
NOV SEA DIVER
Cruise Track 1996

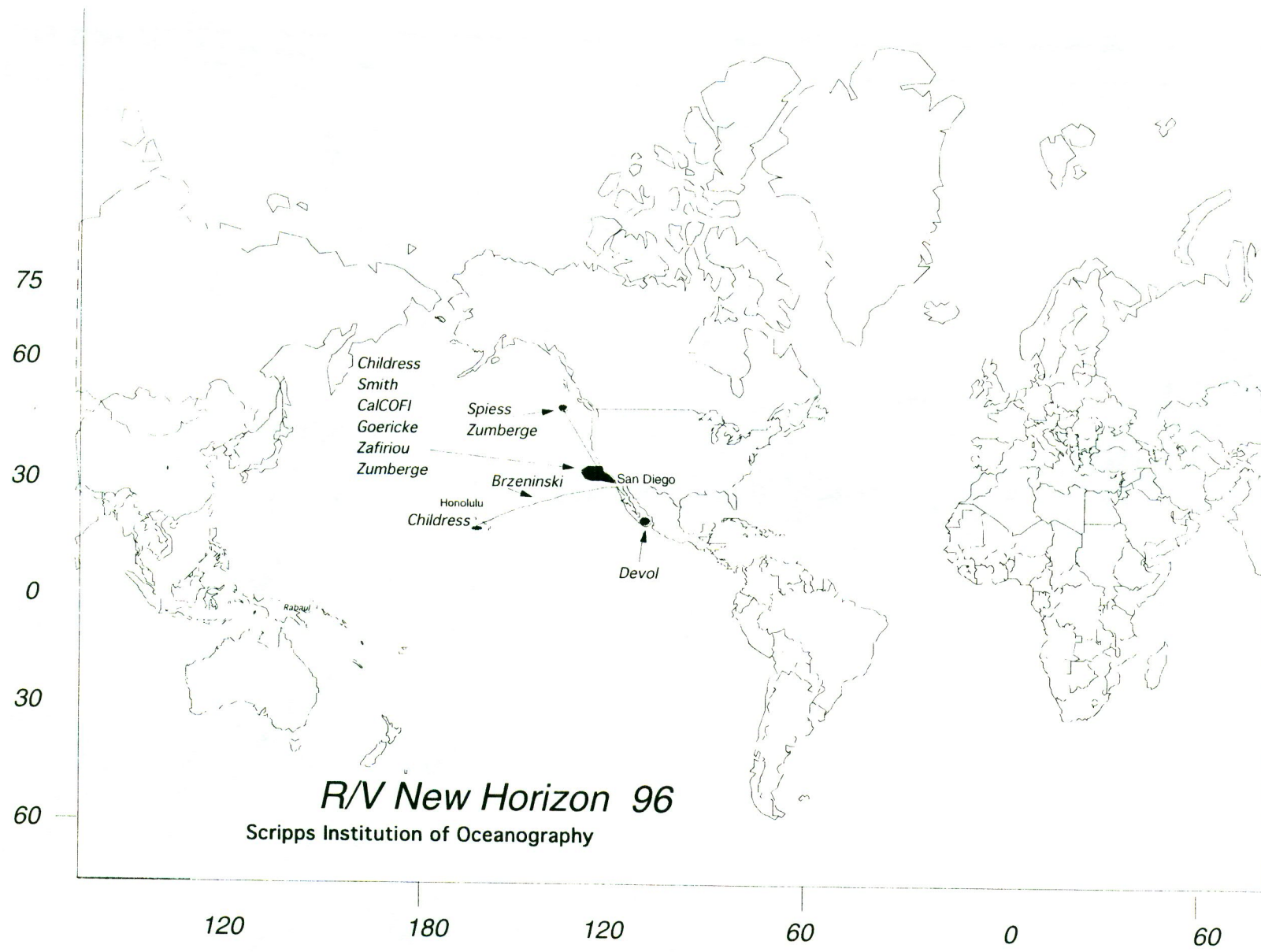




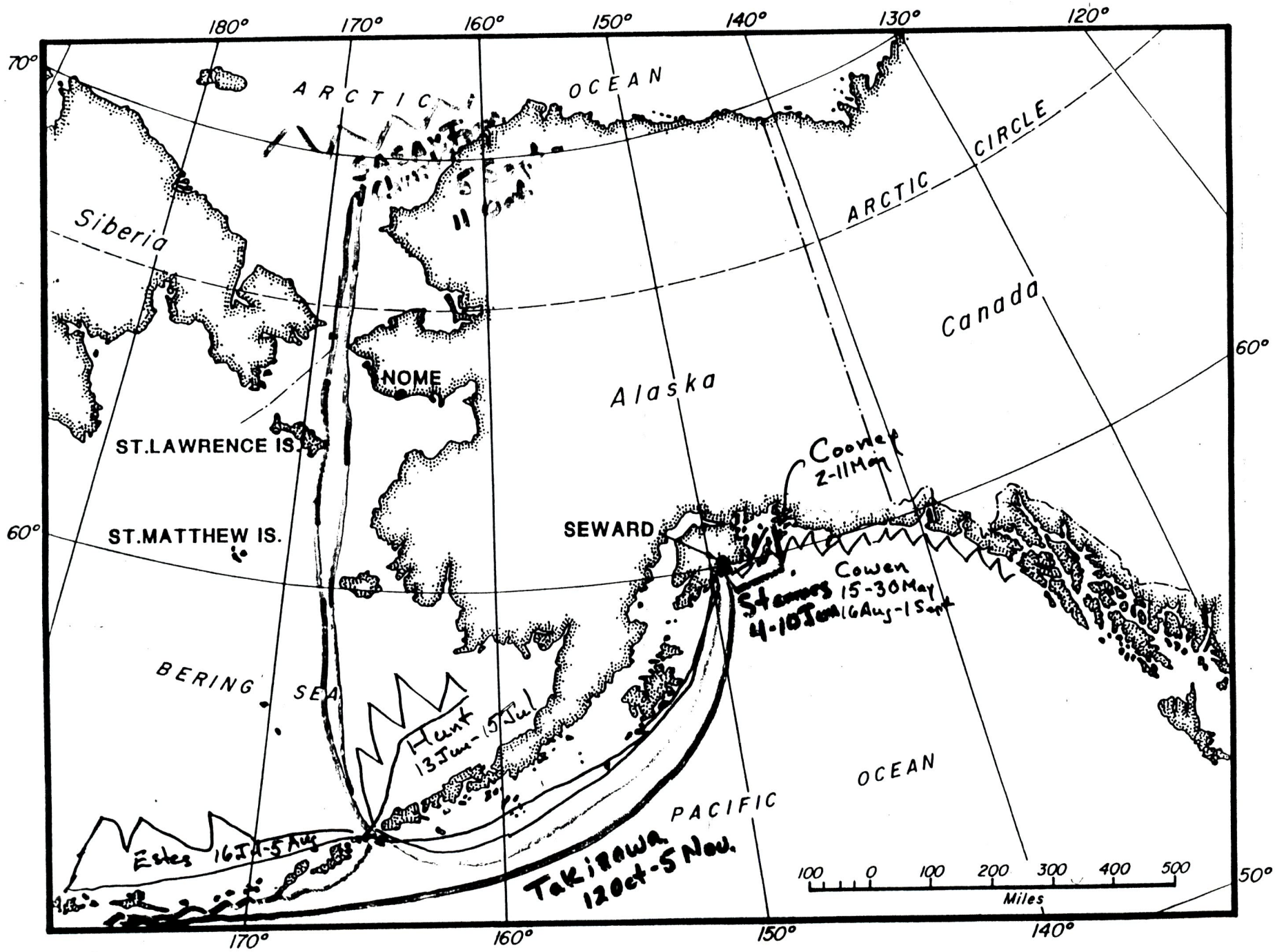


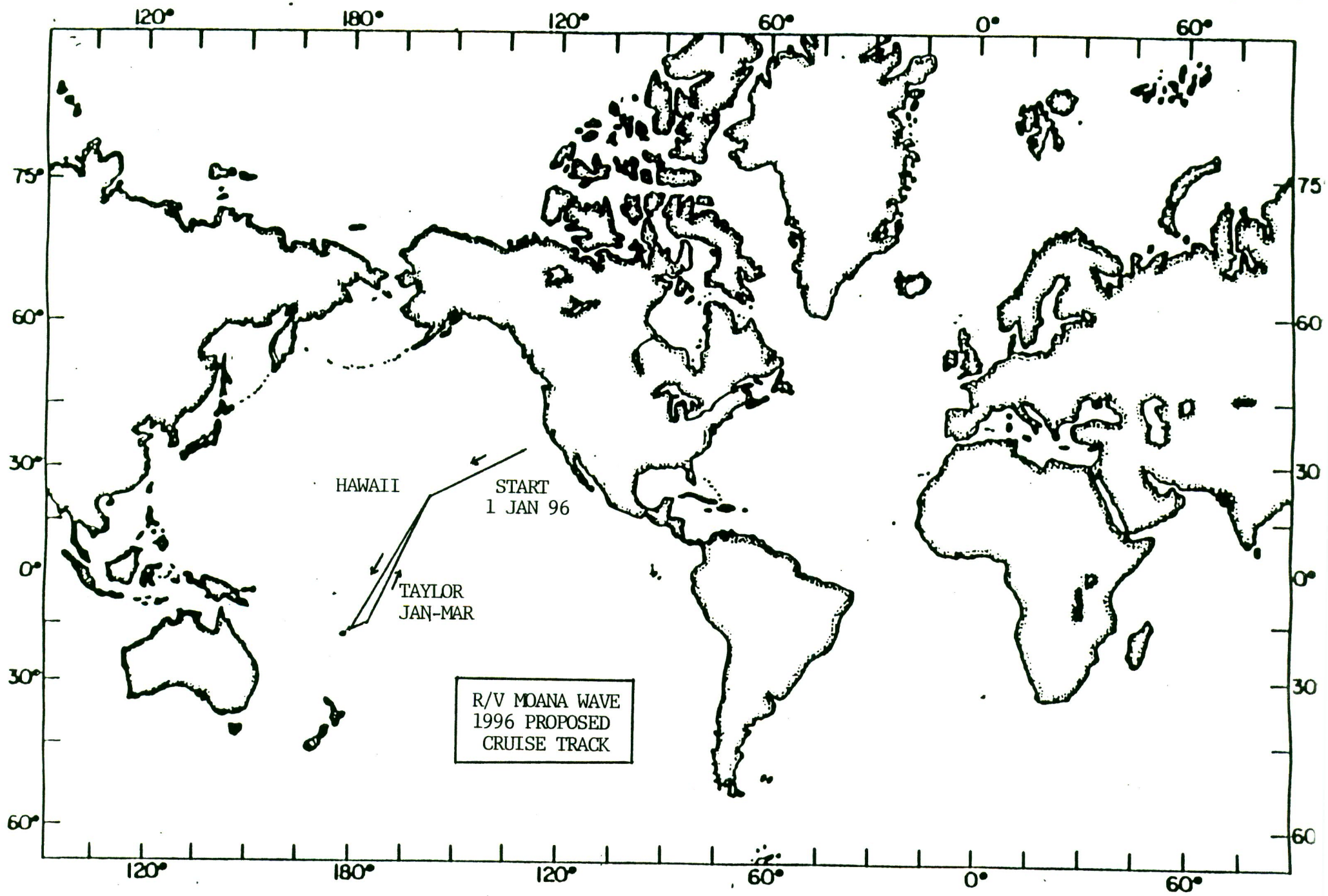
Scripps Institution of Oceanography
R/V Melville 96





1996 Alpha Helix





APPENDIX VII

Polar-Class Icebreaker Long Range Schedule

Basic precepts applied to the schedule:

#1: One operational polar icebreaker at all times.

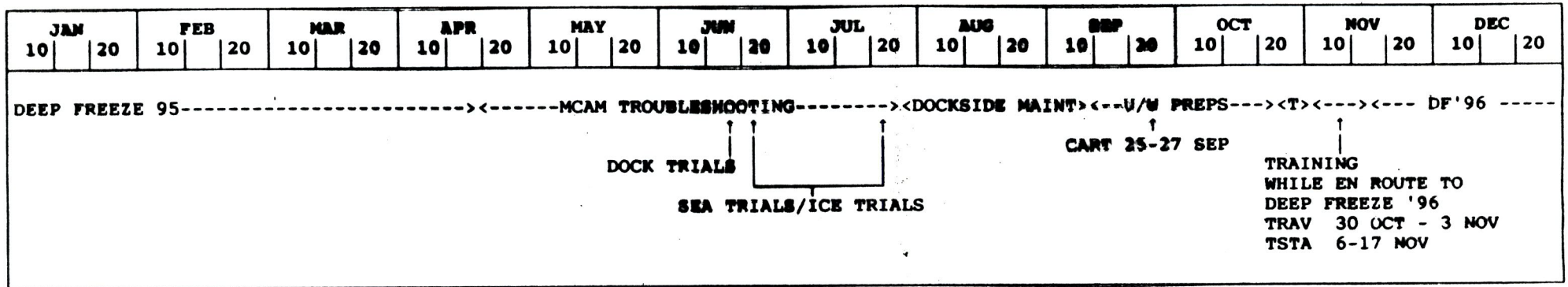
#2: A ship available for Deep Freeze every year.

#3: 1 month ready-for-sea period prior to deployments.

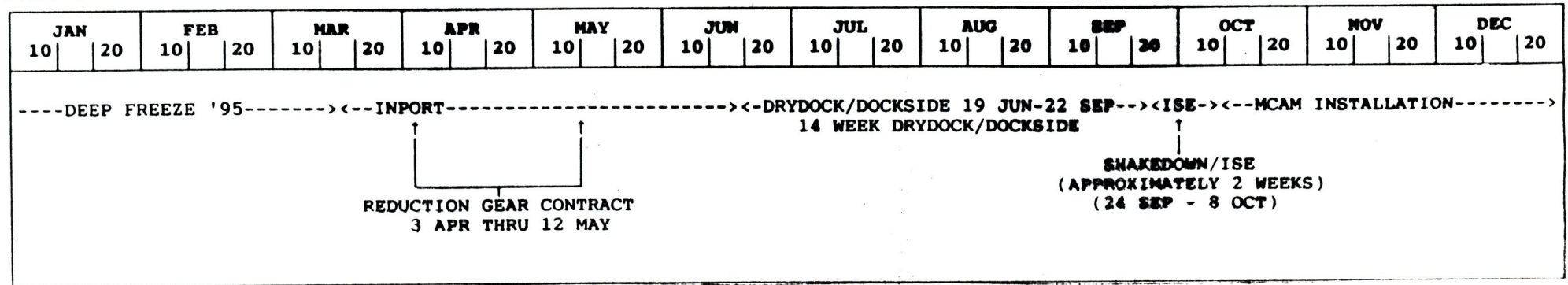
There are other important precepts, including scheduling time for training & maintenance, and designating Deep Freeze and Canadian Arctic resupply backup vessels.

POLAR-CLASS ICEBREAKER FORECAST SCHEDULE 1995

POLAR STAR



POLAR SEA



POLAR-CLASS ICEBREAKER FORECAST SCHEDULE 1996

POLAR STAR

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10 20	10 20	10 20	10 20	10 20	10 20	10 20	10 20	10 20	10 20	10 20	10 20
DEEP FREEZE 96-----><---INPORT--/--VOYAGE REPAIRS-----><---REP #1--(1 SEP THRU 1 MARCH)-----><---											

POLAR SEA

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10 20	10 20	10 20	10 20	10 20	10 20	10 20	10 20	10 20	10 20	10 20	10 20
MCAM-----><---U/W PREPS-----><TT><---><ICE TRIALS/OP WINDOW-----><---U/W PREPS-----><---DF 97-----><---											
(9 OCT 95 - 12 APR 96			↑ TRAINING		↑ TRAINING						

POLAR-CLASS ICEBREAKER FORECAST SCHEDULE 1997

POLAR STAR

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10	10	10	10	10	10	10	10	10	10	10	10
20	20	20	20	20	20	20	20	20	20	20	20
RIP #1-----><-U/W PREPS-----><TT><-----OPERATIONAL WINDOW-----><-----U/W PREPS--><DF 98----->											
				↑			↑			↑	
				TRAINING			TRAINING			ARCTIC EAST	(92 DAYS)

POLAR SEA

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10	10	10	10	10	10	10	10	10	10	10	10
20	20	20	20	20	20	20	20	20	20	20	20
DEEP FREEZE 97-----><-----INPORT-/-VOYAGE REPAIRS-----><-----RIP #1---(1 SEP THRU 1 MAR)----->											