

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

UNOLS
Ship Scheduling Review

Meeting Report

September 20, 2000

**National Science Foundation
4201 Wilson Boulevard, Room 340
Arlington, VA 22230**



**Ship Scheduling Review
Room 340
National Science Foundation
Arlington, Virginia**

September 20, 2000

Appendices

- I. List of Attendees**
- II. Cruise Tracks**
- III. Estimate of Costs**

The Ship Scheduling Review meeting was called to order at 0830 by UNOLS Scheduling Committee Chair, Joe Ustach. Because there were many unresolved issues remaining, many of the UNOLS ship schedulers were in attendance and Rose Dufour from Scripps was included in the deliberations by telephone. A list of attendees is included as **Appendix I**. Posted schedules or Letters of Intent were reviewed one at a time, starting with small, regional and intermediate class vessels. Class I vessels were handled as a group. Comments regarding each ships proposed schedule follow. This meeting was schedule to last for one half day, however during the morning session, ONR announced some changes to the requested dates for the LWAD programs which impacted several of the large ship schedules. This coupled with other scheduling conflicts, primarily affecting Class I vessels operating in the Pacific, made it necessary to conduct a scheduling session in the afternoon in an attempt to sort through the various options. Several contacts with affected PI's were made, however it soon became clear that more work would be needed to resolve these schedules. For this reason the results of those follow on actions are reported as part of this meeting. The meeting was adjourned at 5 pm.

ALPHA HELIX

Schedule looks good; GLOBEC cruises still in funding flux, as usual; there is the potential of one extra day to the Weingartner cruises.

BLUE HERON

Some question about Kerfoot – is it a 7 or 14-day cruise? Cruises should be split between BLUE HERON and LAURENT IAN.

CAPE HENLOPEN

Put OCE numbers on schedule! Double booking of J. Barnhard with CAPE HATTERAS should be decided.

CAPE HATTERAS

Hwang is funded by Navy. Double booking with CAPE HENLOPEN should be decided.

EDWIN LINK

Potential Lay-up; Navy may have some time, however.

ENDEAVOR

Sohn needs to determine if cruises will continue. Balch double booked with OCEANUS, probably will go on ENDEAVOR in November. Balch still needs a summer cruise; on SEWARD JOHNSON? Cabel Davis to go on OCEANUS in September.

OCEANUS

Balch cruise worked out with ENDEAVOR; Balch still needs summer cruise, on SEWARD JOHNSON? McCartney and Plueddemann cruises ok together.

GYRE

LWAD cruise may go later in year and for more days – 14 Feb to 10 March with transits and mobilizations. Santchi cruise is funded (OCE 9906823). Need to identify AUV cruise in April. May be double booked with one on NEW HORIZON. If so, cruise will go on NEW HORIZON.

NEW HORIZON

Bishop is NOPP instead of Navy; put NOPP 99 in proposal number slot. Last NAVO cruise should be Phys. Ocean. instead of SCORE; can move to Jan 02 if need be. Rudnick cruise needs to be synchronized with Fairall cruise on BROWN. Childress cruise needs to be synchronized with ATLANTIS.

LONGHORN

NAVO cruise ok.

POINT SUR

Schedule ok.

SEA DIVER

Phinney and Miller funded.

SEWARD JOHNSON

Joe Pawlik not scheduled; perhaps on WALTON SMITH? Needs 14-16 days in May, June, July and room for 25 in science party. Can fit Balch in sometime between 26 Feb and 16 April. Find out if timing is ok or too early. Need to check on Williams NOPP to see if he should be going to sea.

SPROUL

Is Pineda one or more cruises? Can SPROUL be used to help unsnarl the Pacific tangle?

BARNES

MacCready won't go in 2001; if funded will go in 2002, at the earliest. Devol still pending, proposal number is OPP 0085162.

BLUE FIN

Jahnke, Paffenhofer, and Hollibaugh all funded.

PELICAN

Walsh and Paul cruises go on WALTON SMITH. Ruttenberg needs to be considered. Powell NSF number should be OCE 0000351. Rabalais still may have fewer days. Hwang cruise should be checked into.

LAURENTIAN

Potentially weak schedule – maybe less than 50 days. Cuhel still pending. Moore cruise may not be compatible with ship. Eadie has only 24 days. Kerfoot should be scheduled for 7 or 14 days – see BLUE HERON comments.

URRACA

Need to submit a schedule! Need to participate in scheduling process – at least electronically. Fourteen NSF days.

WALTON SMITH

Paul Grant number is OCE 9811319. The NAVO cruise should be Mayport instead Of Florida Straits. Some NAVO scheduling problems need to be straightened out.

ATLANTIS

Transit times for Smith and LWAD cruises may be shortened. NSF may need an additional 15 dives for Lutz in Bermuda. Engineering dives may only be one day for each agency. Can NAVO Hawaii cruise fit in here?

EWING

Fisher cruise ok on EWING if equipment problems can be worked out. Gaherty has instrumentation problems and may have to go later in year. Might affect Fisher cruise. Johns prefers later date; may not be practical.

BROWN

Fairall cruise needs coordination with Rudnick on NEW HORIZON. Depending on funding, more ship days may happen in July – August time.

KOK

166 days scheduled - mostly NSF/NOAA time HOTS. Malahoff, NSF cruise not scheduled – up to 10 days ship time.

KNORR

Simard schedule ok. NAVO looking at gravity survey off Puerto Rico after Simard; may take priority over Hawaii multi-beam.

Others – No closure done on big ships in Pacific. Alternative schedules being worked on to see what gets left off. At end of the meeting the tangle included:

ROV Problems: Coffin has no vehicle and no ship as yet. Johnson will get heat transfer cruise done. For his LEXEN initiative there were three possibilities: 1.) Postpone until

2002; 2.) Go immediately after heat transfer dive; 3.) Go in September if a vehicle can be found that is available.

Honolulu Problems: Chave cruise is hanging. May be able to go on WECOMA after Anderson, but Chave is balking at this option because of vessel capabilities. Sansone cruise has to go in June/July; is also left hanging. NAVO wants a ship near Honolulu for up to 45 days (but see comments at KNORR). Can be done in one, two, or three separate cruises, but prefer one cruise. Will attempt to find an alternative schedule that can allow Chave, Sansone, Coffin, and NAVO(?) to go in summer in Honolulu. Coffin also needs an ROV – see above.

WECOMA, THOMPSON/REVELLE Problems: Wheeler and Barth cruises must coincide. They can miss each other by 4-5 days at most. Wheeler's earliest time is a mid-May start and second cruise has to end in August. Whichever ship Wheeler's first cruise has, must be used for her second cruise.

LWAD Problems:

LWAD 01 Gulf of Mexico – All is ok

LWAD 02 Far East – missing one large ship

LWAD 03 Southern California – missing one large ship.

See Cruise Tracks, **Appendix II**

See Estimate of Costs, **Appendix III**

POST-MEETING SCHEDULING PROCESS

Due to the number of outstanding issues, in particular with large ship in the Pacific, a number of conference calls and email correspondence took place to arrive at the best possible solutions. The following is a summary of the outcome of the follow on deliberations.

Here is a summary of the results of the conference calls and work on the 2001 Schedules in the Pacific for REVELLE, MELVILLE, THOMPSON, EWING, ATLANTIS, WECOMA and KOK

1. The schedules that are being proposed as the "final solution" are the Thompson_2 LOI, Revelle_3 (email format only from Rose Dufour Monday, October 2, 2000 1:07 PM) and Melville's posted schedule all dated Oct. 2, 2000. They are included at the bottom of this message.
2. There is no set of solutions that we have been able to develop that do not leave some work on the beach altogether or defers work to 2002.
3. Some of the work being scheduled in 2001 has already been deferred from 2000 or earlier. These are the cruises for Becker, Chadwell, Silver, Van Dover, Fryer and Levin.
4. Some of the work being scheduled in 2001 are follow on cruises to work already started where deployed equipment could not be recovered or time series values would be disrupted. These include: Levin, Johnson, Home Projects, Spiess and ASIA-Ex.
5. For many of the cruises being scheduled there have been serious constraints due to the availability of ROV's, weather windows, coastal processes, multiple ship operations and coordination with larger operations or exercises.

6. ROV availability and shipping time requirements result in the ROV JASON being scheduled for Van Dover, Johnson, Silver and Schouten. JASON is not available for Levin, who will use a smaller leased vehicle; Coffin, who is pursuing other options, and Johnson's Lexen Cruise which is being deferred to 2002.

7. Solutions using the R/V RONALD BROWN have not been possible at this point in time due to the uncertainty of their funding status and the level of support needed for the NOAA work. BROWN would not be available for LWAD - 02 due to conflict with other work.

8. Fisher will be scheduled on EWING in order to free up time on REVELLE schedule. This should be acceptable to the PI.

9. The following cruises are not scheduled, are deferred or in less than desired time slots under this proposed set of schedules.

a. Hildebrand is being deferred until 2002 due to the inability to have a ship in Hawaii at the right time for a long enough period. PI is aware of this and although not particularly happy about it, has accepted it. This is supposed to be an annual measurement. SIO needs to send note to NSF ship ops program manager or PI needs to inform his program manager.

b. Worcester/Chave - First Deployment cruise not in optimal window, they are at the earliest possible weather window for deployments in order to utilize available ship (REVELLE) and still get their gear in the water before the rest of the HOME project cruises later in the year. Chave cannot go much earlier due to availability of equipment.

c. Chadwell- already delayed two years and scheduled later than desired in 2001 due to need for specific ship in a location off South America.

d. Becker- already delayed two years and later in 2001 due to specific ship/equipment needs in remote area.

e. Lisa Levin - already delayed six months later and required to complete second cruise in a different year using a different ROV than originally requested due to conflicts in ROV schedule.

f. Rick Coffin - Not scheduled with either a ship or ROV due to conflicts with other projects for use of ROV (Johnson and Silver) and Ship (LWAD and COAST). PI and Program manager are aware and looking for alternatives.

g. Paul Johnson (LEXEN) This cruise is deferred until 2002 due to conflicts with ROV schedule and COAST project. PI is aware of this and it is acceptable to him.

h. LWAD - 02 (Japan) - Only one of the two ships requested is provided (MELVILLE). The change to later dates creates a hole in the MELVILLE schedule between ASIA-EX and LWAD up to a month long, depending on how much time ASIA EX actually uses. This hole is not long enough to pick-up any work in Hawaii or the South Pacific. These LWAD dates also mean that MELVILLE cannot get to Hawaii in time to carry out the Worcester mooring turn-around cruise before Flip gets underway for HOME project. The second possible ship for LWAD-02 is the THOMPSON, however having THOMPSON steam to Japan for LWAD would adversely impact the NSF COAST project in the Pacific Northwest and would not allow the THOMPSON to conduct the Worcester turnaround cruise for HOME. The COAST project is a two-ship operation that must be coordinated with WECOMA and must include two separate field expeditions that fall within a fairly narrow upwelling season, all within the same year. Failing to do part of this project would put at risk the entire project, which would affect four cruises on WECOMA (Barth & Levine) and two cruises on THOMPSON (Wheeler). Providing THOMPSON for LWAD - 02 would require that they make a

deadhead transit from Seattle to Japan and then back again for the two-week LWAD project. REVELLE is not available at the requested time because they are deployed to South America to conduct cruises that have already been deferred for one or more years. For these reasons we are proposing to only provide one UNOLS ship for LWAD - 02 (MELVILLE).

i. LWAD - 03 (Southern California) - One large ship (THOMPSON) and one intermediate (WECOMA) are scheduled for this cruise. REVELLE and MELVILLE are deployed to the South Pacific for long standing cruises. Three ships had been tentatively scheduled for this exercise prior to the change of dates to November. One of the requested large ships cannot be provided without completely changing plans for REVELLE and MELVILLE that extend into 2002.

j. Voight and Garcia requests for Alvin and/or ROV are deferred because ATLANTIS will not go to the Pacific Northwest or Hawaii in 2001. ATLANTIS/ALVIN have a shorter operating year than normal due to ALVIN overhaul.

k. A very late request from Weingart at JHU/APL for a large, acoustically quiet vessel in the summer of 2001 in the Pacific Northwest is not scheduled due to conflicts with previously scheduled or requested work.

l. Sansone will be scheduled on KOK, which is acceptable to the PI in order to get the proper time frame, which is critical.

RESULTING SCHEDULES:

REVELLE:

POC: Rose Dufour/Elizabeth Brenner

LAST UPDATED: 29 September 2000

SIO Ship Schedulers

Scripps Institution of Oceanography

University of California, San Diego

9500 Gilman Drive

La Jolla, CA 92093-0210

Tel: 858-534-2841

Fax: 858-535-1817

Email: shipsked@ucsd.edu

R/V Roger_Revelle 2001

CRUISE DATES	MAP INDEX/AREA/PURPOSE	P.I./INSTITUTION/PROPOSAL NO.	PORTS	DAYS/AGENCY/STATUS/CLEARANCE
30 JAN 02 FEB	NP13/Southern Pacific/ Multibeam testing	deMoustier, C./ SIO/General Funds	San Diego San Diego	4/STATE/F
17 FEB 24 FEB	SP3A/Southern E. Pacific/transit NP12/to Hawaii/ transit	transit/na/ na Taylor/NAVO/ na	San Diego Hilo	3/NSF/P 5/NAVY/F
25 FEB 25 Mar 26	NP12/Off Hilo/ bathymetry survey	Taylor, P./NAVO/ N00	Hilo Honolulu	30/NAVY/F
27 28 Mar 10 APR 11	NP12/Off Hawaii/ HOME	Chave, A./WHOI/ OCE98-20759	Honolulu Honolulu	16/NSF/F
12,13 14 APR 27 Apr 28	NP12/off Hawaii/ deployment	Worcester/SIO/ na	Honolulu Honolulu	17/NSF/F
29 Apr 07 May	SP3A/transit/	transit/na/ OCE	Honolulu San Diego	9/NSF/F
10 May 16 May	NP9/Off San Diego/ ATV testing/	Spiess F./SIO	San Diego San Diego	7/STATE/P
18 May 06 Jun	NP9/44 N 130W/ Marine Geophysics	Spiess F./SIO/ OCE99-07247	San Diego San Diego	20/NSF/F
10 JUN 21 JUL 22,23	NP13/8.5N 105-85W/ SeaSoar	Kennan, S./NOVA/ OCE	San Diego Pto. Calder Costa Rica	44/NSF/F
24 Jul 13 Aug 14 15,16 17 Aug 19 Aug	NP13/Eastern Pacific 1 N 84/Borehole Instrum. personnel transfer	Becker K./RSMAS/ OCE98-19316 Kurz, M./WHOI/ OCE00-02461	Pto. Caldera Guayaquil Guayaquil Pto. Ayora	22/NSF/F Ecuador
20 Aug 15 Sep	NP13/Galapagos Hotspot/towed camera	Kurz M./WHOI/ OCE00-02461	Pto. Ayora Pto. Ayora	27/NSF/F Ecuador

16 Sep	NP9/Transit/	Kurz, M./WHOI/	Pto. Ayora	05/NSF/P
20 Sep		OCE00-02461	Guayaquil or	Guayquil
21,22				
23,24				
25 Sep	SP3A/Nazca S.A. Plate/	Chadwell, D./SIO/	Guayaquil	40/NSF/F
31 OCT	Marine Geophysics	OCE98-20026	Valparaiso	Peru
1,2				
3,4,5				
06 NOV	SP3A/Off Chile - 18-2/	Naar, D./USF/	Valparaiso	42/NSF/F
13 DEC	gravity, mags. dredging	OCE00-02313	Easter Island	Chile
14				
15 DEC	SA3/transit/	Coale, K./MLML/	Easter Island	15/NSF/P
30 DEC	transit	OCE	Lyttleton	Chile, New Zealand

(Cross date line, lose a day)

Agency	Funded	Proposed	TOTAL
NAVY	35	0	35
NSF	237	28	265
STATE	4	7	11
TOTAL	276	35	311

MELVILLE:

POC: Rose Dufour/Elizabeth Brenner LAST UPDATED: 2 October 2000
 SIO Ship Schedulers
 Scripps Institution of Oceanography
 University of California, San Diego
 9500 Gilman Drive
 La Jolla, CA 92093-0210
 Tel: 858-534-2841
 Fax: 858-535-1817
 Email: shipped@ucsd.edu

R/V Melville 2001

CRUISE DATES	MAP INDEX/AREA/PURPOSE	P.I./INSTITUTION/PROPOSAL NO.	PORTS	DAYS/AGENCY/STATUS/CLEARANCE
25,26				
27 DEC	SP2/Tonga Trench/	Yayanos, A./SIO/	Apia	26/NSF/F
25 JAN	LEXEN	OCE99-07651	Noumea	
26,27	[Cross date-line loss]			
to Thompson				
?? JAN	NP12/Off Hawaii/	Worcester, P./SIO/	Honolulu	0/NSF/F
?? ???	HOME Fairfled	OCE98-19525	Honolulu	
28 JAN	SP1//	n.a./n.a./	Noumea	10/NSF/P
06 FEB	transit to Guam	n.a.	Guam	
7,8,9				
10 FEB	NP10/Mariana Forearch/	Fryer, P./SOEST/	Guam	23/NSF/F
01 MAR	Hawaii MR1, dredging	OCE99-07063	Guam	
2,3				
04 MAR	NP10//	Bloomer S./OSU/	Guam	39/NSF/F

12 APR	Hawaii MR-1, dredging /Mariana forear/ Hawaii MR-1	OCE001876 Fryer, P./SOEST/ OCE99-07063	Guam	5/NSF/F
13,14				
15 APR	/transit/	transit//	Guam	6/NAVY/F
20 APR			Naha	
20,21,22,23,24,25				
26 APR	NP7/East China Sea/	Dahl, P/APL-UW/	Naha	29/NAVY/F
27 MAY	ASIAEX	N0000-xxxxxxx	Naha	PRC, Taiwan, Japan, Korea
28,29				
30 MAY	NP7/East Sea/	Watts, R./URI/	Naha	3/NAVY/F
01 JUN	transit	N00014-98-1-0200	Pusan	
2				
03 JUN	NP7/East Sea/	Watts, R./URI/	Pusan	16/NAVY/F
17 JUN	Mooring Recovery	N00014-98-1-0200	Pusan	
18 JUN	/LWAD 01-2/	Burdette, J./Naval	Pusan	3/NAVY/F
20 JUN	transit	Air Warfare/N.A.	Naha	
21 JUN	/Off Korea & Japan/	Burdette, J./Naval	Naha	0/NAVY/P
14 JUL	non-op	Air Warfare/N.A.	Naha	
15,16				
17 JUL	/Off Korea & Japan/	Burdette, J./Naval	Naha	23/NAVY/F
05 AUG	LWAD 01-2	Air Warfare/N.A.	Naha	
6				
07 AUG	NP12//	transit//	Naha	10/NAVY/P
16 AUG			Lae	
17,18				
19 AUG	SP1/Papua New Guinea/	Silver/UCSC/	Lae	40/NSF/F
23 SEP	ROV Jason & AMS120	OCE99-07153	Lae	Papua New Guinea
24,25				
26 SEP	IN5/from Lae to	transit/n.a./	Lae	14/NSF/P
07 OCT	Honolulu/transit	n.a.	Papeete	
	[cross date line gain a day]			
8,9,10				
11 OCT	SP3/16S-11S, 113-120W/	Forsyth D./Brown/	Papeete	55/NSF/F
30 NOV	multibeam, airgun, dre	OCE99-11729	Easter Island	
1				
14				
?? ???	NP12/Off Hawaii/	Taylor, P./NAVO/	Honolulu	0/NAVY/F
?? ???	bathymetry	n.a.	Honolu	

Agency	Funded	Proposed	TOTAL
NAVY	80	10	90
NSF	188	24	212
TOTAL	268	34	302

02 MAY JASON ROV-methane seep UAF(CA)-99-15 Seattle
Allow four days at homeport to mobilize ROV, before trip.

14 MAY NP9/Oregon/Wash. Wheeler, P/OSU/ Seattle 23/NSF/F
05 JUN Coast/COAST OCE-9907854 Seattle
21 days of science operations with a day to/from station at each end. This
is
the first of two cruises, the dates for which have been approved by the PIs
(in
an e-mail of 9/25)--held in conjunction with Wecoma cruises.

08 JUN NP9/Puget Sound/ McDuff, R/UW/ Seattle 4/STATE/F
11 JUN Student Instruction n/a Seattle

17 JUN NP9/Juan de Fuca/ Johnson, P/UW/ Seattle 17/NSF/F
03 JUL hydrothermal system th OCE-9907212 Seattle Canada
ROV Jason--allow 4 days to re-mobe ROV before cruise. This is a
continuation of work performed in CY-2000.

07 JUL NP9/Puget Sound/ McDuff, R/UW/ Seattle 21/STATE/F
27 JUL Student Instruction n/a Seattle

04 AUG NP9/Oregon/Wash. Wheeler, P/OSU/ Seattle 23/NSF/F
26 AUG Coast/COAST OCE-9907854 Seattle
21 days of science operations with a day to/from station at each end. This
is the second of two cruises, the dates for which have been approved by the PIs
(in an e-mail of 9/25)--held in conjunction with Wecoma cruises. If
Thompson performs this cruise, she will be unavailable for the Japan LWAD
exercise.

29 AUG NP9/North Pacific/ Worcester, P/SIO/ Seattle 8/NSF/F
05 SEP Transit to Hawaii/HOME OCE-9819525 Honolulu

1
07 SEP NP9/North Pacific/ Worcester, P/SIO/ Honolulu 13/NSF/F
18 SEP HOME/Farfield: recover OCE-9819525 Honolulu
Recovery of moorings installed by another vessel north of the Hawaiian
chain. One day of mobilization at Honolulu.

19 SEP NP9/North Pacific/ Worcester, P/SIO/ Honolulu 4/NSF/F
22 SEP HOME/Farfield: turnaro OCE-9819525 Honolulu

23 SEP NP9/North Pacific/ Worcester, P/SIO/ Honolulu 15/NSF/F
05 OCT HOME/Farfield: re-depl OCE-9819525 Honolulu

2
Re-deployment of moorings south of Hawaiian chain. Two
de-mobilization/provisioning days at end of cruise, before return transit.

08 OCT NP9/North Pacific/ Worcester, P/SIO/ Honolulu 8/NSF/F
15 OCT HOME/Farfield: return OCE-9819525 Seattle

18 OCT NP9/Cascadia Basin/ Emerson, S/UW/ Seattle 12/NSF/F
28 OCT Geochem Redox-sensitiv OCE-9911103 San Diego

1
Cores & pore water analysis. Ten days of science and one day for transit to
first station, and one-day de-mobilization at San Diego. Cruise will begin
at Seattle and end at San Diego, positioning ship for following LWAD
mobilization.

30 OCT NP9/Southern California/ Burdette,J/NAWCAD/ San Diego 20/NAVY/F
 18 NOV Southern California LW n/a San Diego
 Includes mobilization and de-mobilization days at San Diego.

21 NOV NP9/Pacific Coast/ Clark,D/NASA/ San Diego 28/NASA/F
 16 DEC EOS MRIS Initialization unknown Seattle Mexico
 This cruise was originally scheduled for CY-2000. Some funding has been reserved this year and remainder to be acquired next year, when the cruise will actually be run. Request changed to Nov. 2001 by PI on 8/14/00. Two days mobilization allowed for at beginning of trip. Science Ops/Transect will be from San Diego, down to Baja then up to Seattle.

20 DEC NP9/Puget Sound/ McDuff,R/UW/ Seattle 4/STATE/F
 23 DEC Student Instruction n/a Seattle

Agency	Funded	Proposed	TOTAL
NASA	28	0	28
NAVY	20	0	20
NOAA	12	0	12
NSF	165	0	165
STATE	45	0	45
TOTAL	270	0	270

ROV: (SOME OF THE DATES ON THIS SCHEDULE MAY NEED TO BE UPDATED)

POC: Jon Alberts LAST UPDATED: 25 September 2000
 Marine Operations
 Woods Hole Oceanographic Institution
 38 Water St.
 Mail Stop-37
 Tel: 508-289-2277
 Fax: 508-457-2185
 Email: jalberts@whoi.edu

Letter Of Intent
R/V ROV 2001

CRUISE DATES	MAP INDEX/AREA/PURPOSE	P.I./INSTITUTION/PROPOSAL NO.	PORTS	DAYS/AGENCY/STATUS/CLEARANCE
24,25,26 MAR				
27 MAR	IN3/Central Indian Ridge/Vents, JASON	Van Dover/W & M/ OCE-9712358	Seychelles	35/NSF/F
05 MAY	IN3/Indian Ocean/ Jason, DSL-120	Fornari, D./WHOI/ OCE-	Seychelles	KNORR /NSF/F
	IN3/Indian Ocean/ Jason, DSL-120	Humphris, S./WHOI/ OCE-		/NSF/F
	IN3/Central Ind. R/ Jason, DSL-120, ArgoII	Vrijenhoek, R./ MBARI/OCE9910799		10/NSF/F
6,7 MAY				
18,19,20				
21 APR	NP9/Calif. Coast/	Levin,L/SIO/	Seattle	12/NOAA/F
02 MAY	JASON ROV-methane seep	UAF(CA)-99-15	Seattle	R/V THOMPSON
Allow four days at homeport to mobilize ROV, before trip.				

?? JUN /Hawaii/ Coffin, R./NRL/ Honolulu xx/DOE/F
 ?? JUL CO2, Jason DE-A126-99FT40623 Honolulu
 Requires large ship, 18 days, un-scheduled at present

17 JUN NP9/Juan de Fuca/ Johnson, P./UW/ Seattle 17/NSF/F
 03 JUL hydrothermal system th OCE-9907212 Seattle Canada
 R/V THOMPSON
 ROV Jason--allow 4 days to re-mobe ROV before cruise. This is a
 continuation of work performed in CY-2000.

16,17,18
 19 AUG SP1/Huon Gulf/ Silver, E./UCSC/ Lae, Papua 41/NSF/F
 23 SEP Jason, DSL-120 OCE-9907153 Lae, Papua R/V
 24,25 MELVILLE

25,26,27 Oct
 28 OCT /EPR/ Schouten, H./WHOI/ Manzanillo 34/NSF/F
 25 NOV Alvin, DSL-120 OCE-9819261 Manzanillo ATLANTIS
 26, 27 Nov

?? ??? NP9/Juan de Fuca/ Johnson, P./UW/ Seattle /NSF/F
 ?? ??? Jason OCE-9911523 Seattle Canada,
 R/V
 THOMPSON

Lexen program 1st of 2 cruises
 14 days on station, funded
 Un-scheduled at present

Agency	Funded	Proposed	TOTAL
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NOAA	17	0	17
NSF	143	0	143
-----	-----	-----	-----
TOTAL	160	0	160

APPENDIX I

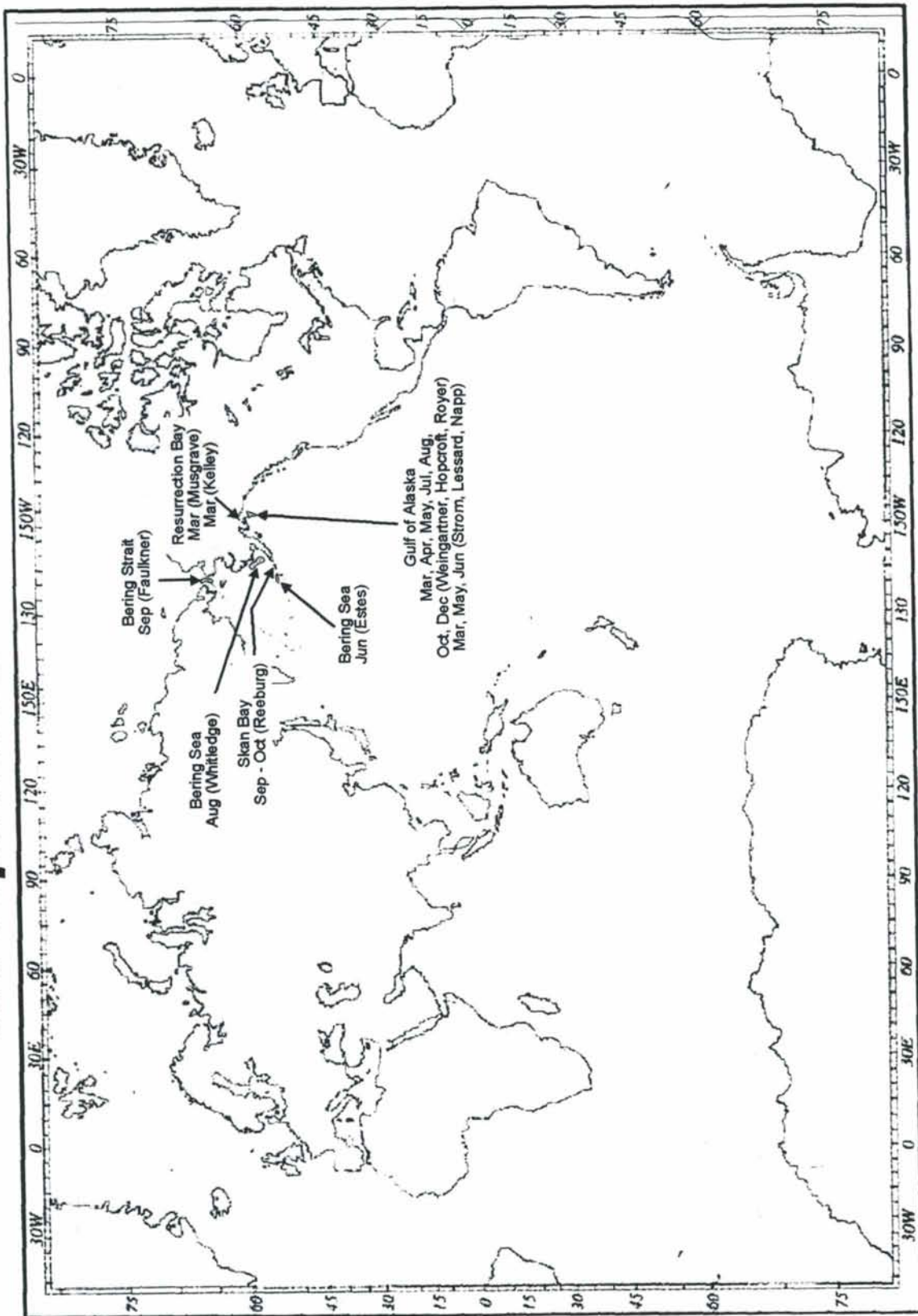
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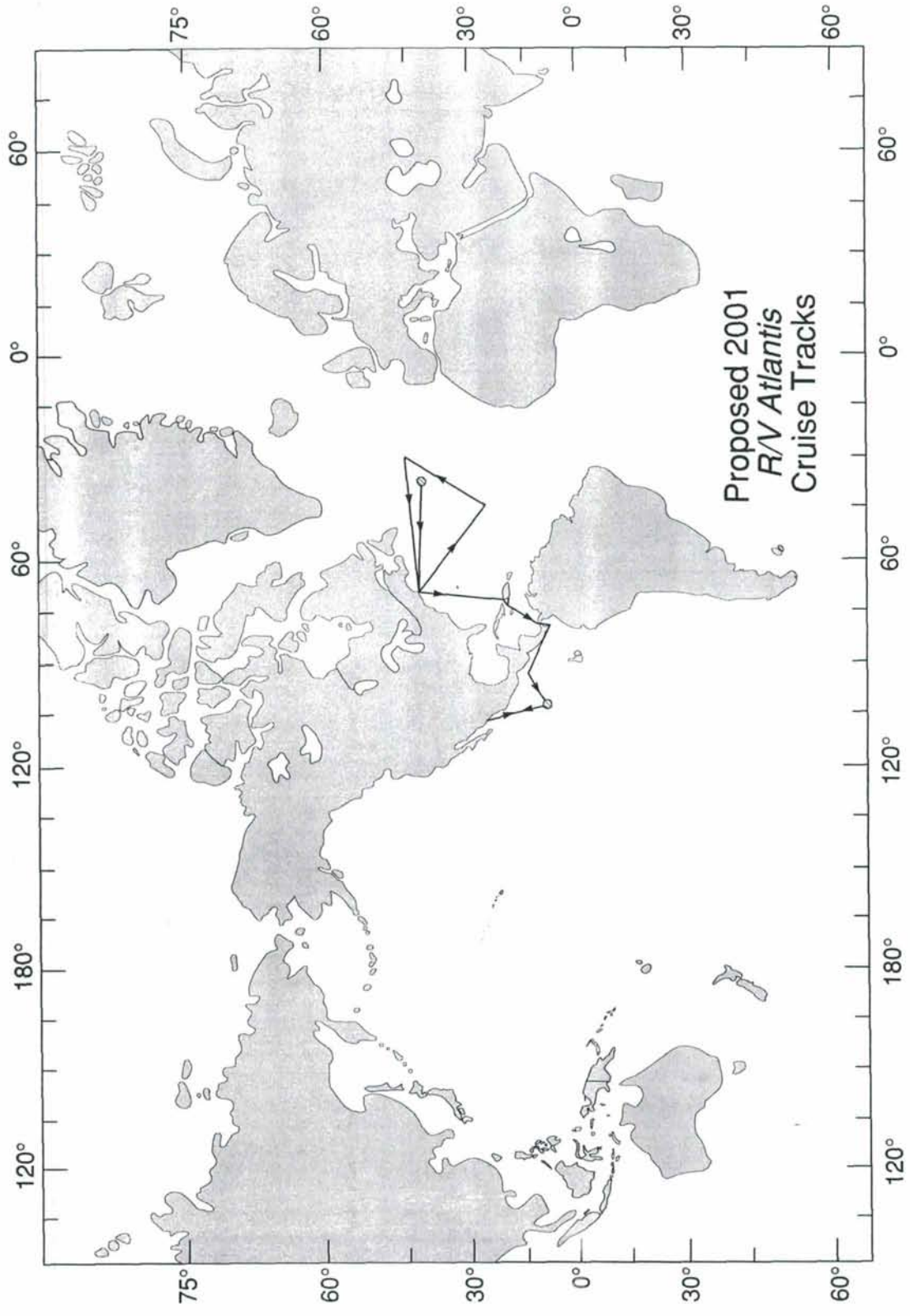
List of Attendees

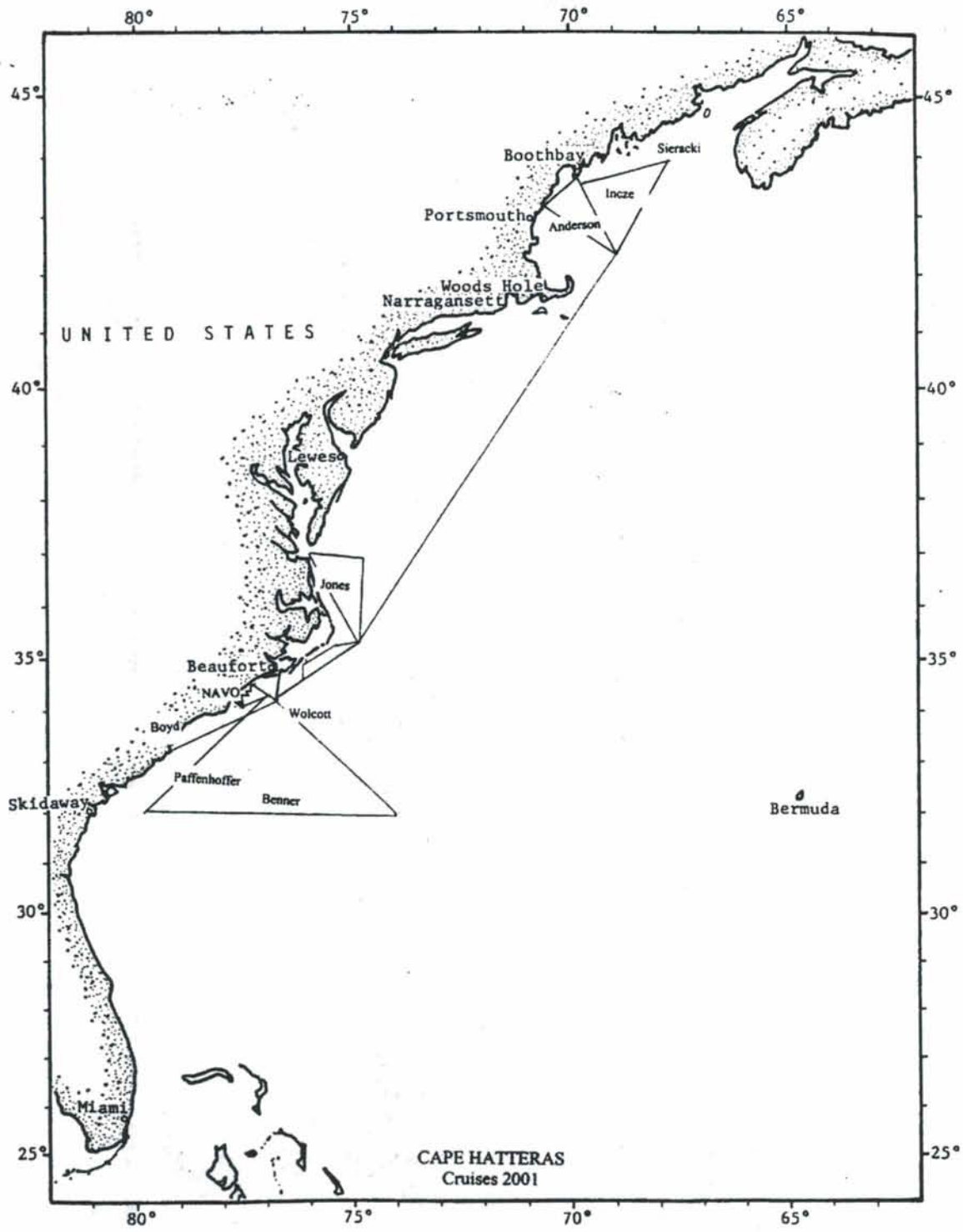
NAME	INST/ORG.	PHONE	FAX	E-MAIL
Alberts, Jon	WHOI	(508) 289-2277	(508) 457-2185	jalberts@whoi.edu
Askew, Tim	HBOI	(561) 465-2400 X262	(561) 465-2116	taskew@hboi.edu
Diebold, John	LDEO	(845) 365-8367	(845) 359-6817	marscico@ldeo.columbia.edu
Gardner, Joan	NRL	(202) 404-1094	(202) 767-0167	gardner@gur.nrl.navy.mil
Knox, Robert	UNOLS	(858) 534-4729	(858) 535-1817	rknox@ucsd.edu
Osgood, Kenric	NOAA	(301) 713-3338X135	(301) 713-4044	Kenric.Osgood@noaa.gov
Pfeiffer, Tim	ONR	(703) 696-6999		Timothy_Pfeiffer@onr.navy.mil
Prince, Mike	UNOLS	(831) 632-4410	(831) 632-4413	office@unols.org
Rabalais, Steve	LUMCON	(504) 851-2808	(504) 851-2863	srabalais@lumcon.edu
Rossmann, Fred	NOAA	(301) 713-2465 X184		Frederick.w.Rossmann@noaa.gov
Schwartz, Dan	UNOLS/UW	(206) 543-5062	(206) 543-6073	schwartz@ocean.washington.edu
Taylor, Paul	NAVO	(228) 688-5843	(228) 688-5602	taylorp@navo.navy.mil
Ustach, Joe	UNOLS	(252) 504-7579	(252) 504-7651	joeu@duke.edu
White, Douglas	UDEL	(302) 645-4225	(302) 645-4007	dw@udel.edu
White, Elizabeth	NOAA	(301) 713-3435X135	(301) 713-1541	Elizabeth.white@noaa.gov
Wilkes, Gordon	NAVO	(228) 688-4376	(228) 688-4639	wilkesg@navo.navy.mil
Epp, David	NSF	(703) 292-8582		Depp@nsf.gov
Taylor, Phil	NSF	(703) 306-1587		Prtaylor@nsf.gov
Dieter, Emma	NSF	(703) 306-1576	(703) 306-0390	Edieter@nsf.gov
Smith, Holly	NSF	(703) 306-1576	(703) 306-0390	Hesmith@nsf.gov
Daly, Kendra	NSF	(703) 306-1587		Kdaly@nsf.gov
Itsweire, Eric	NSF	(703) 306-1587		Eitsweir@nsf.gov

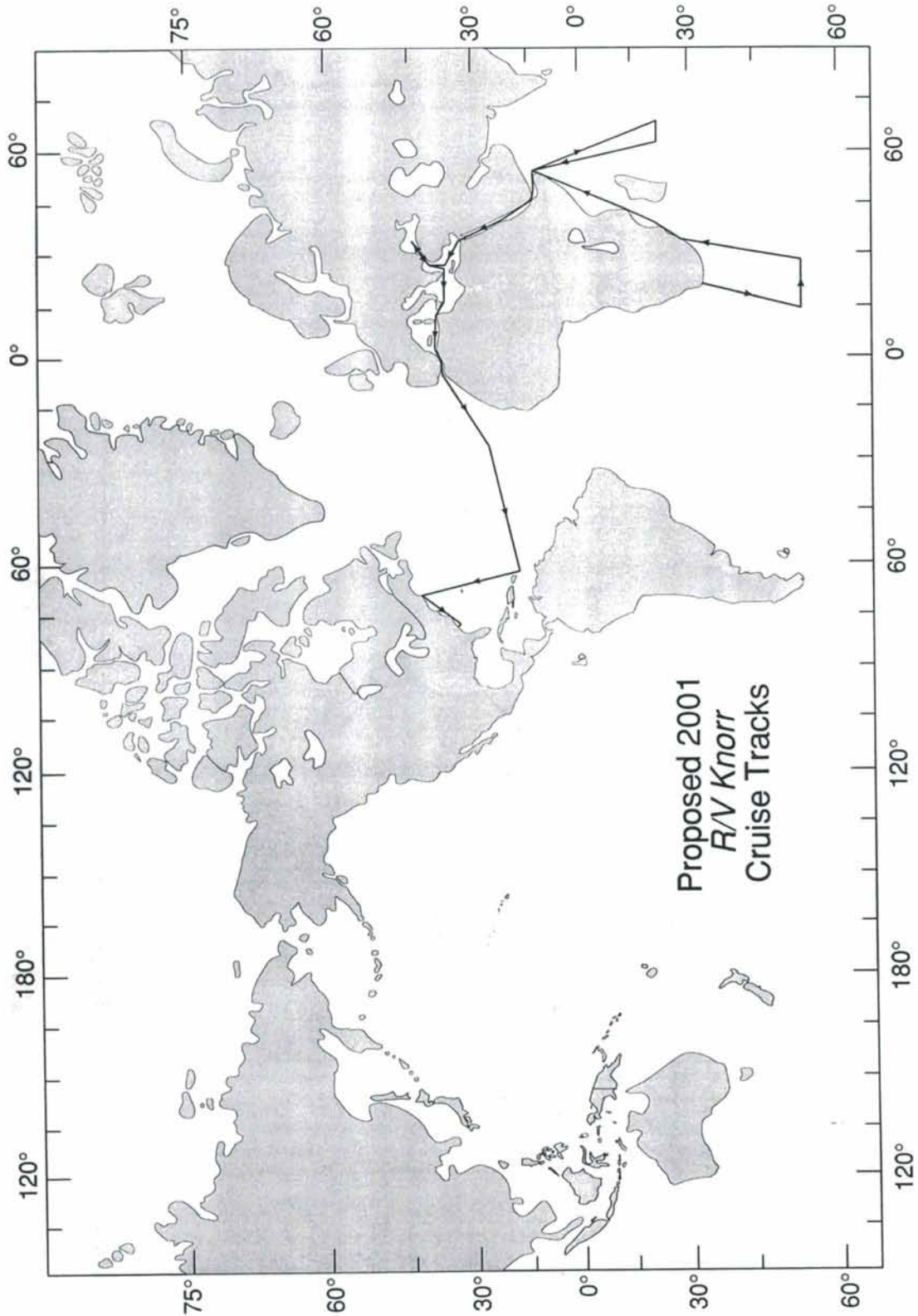
APPENDIX II

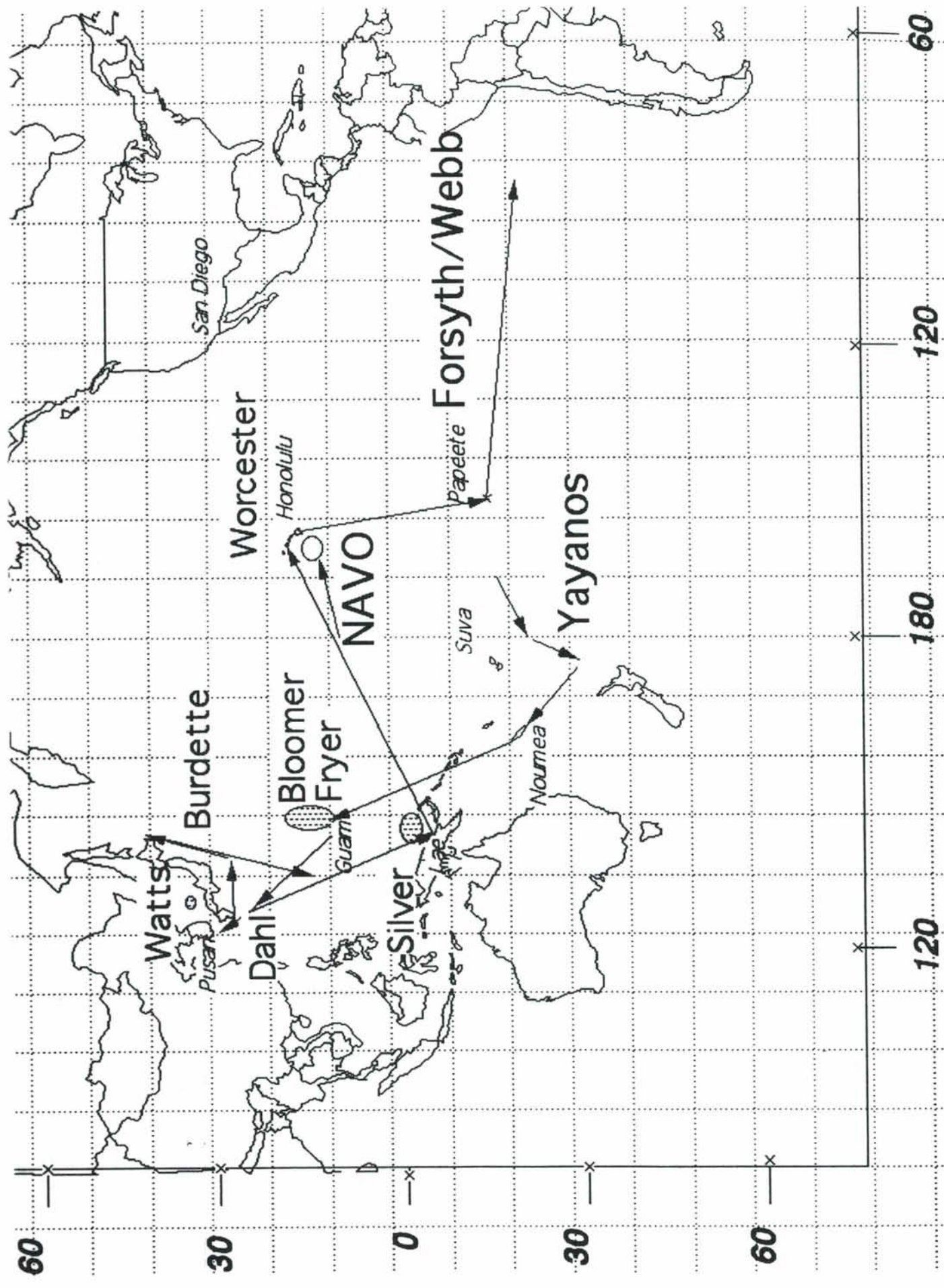
R/V Alpha Helix - CY2001





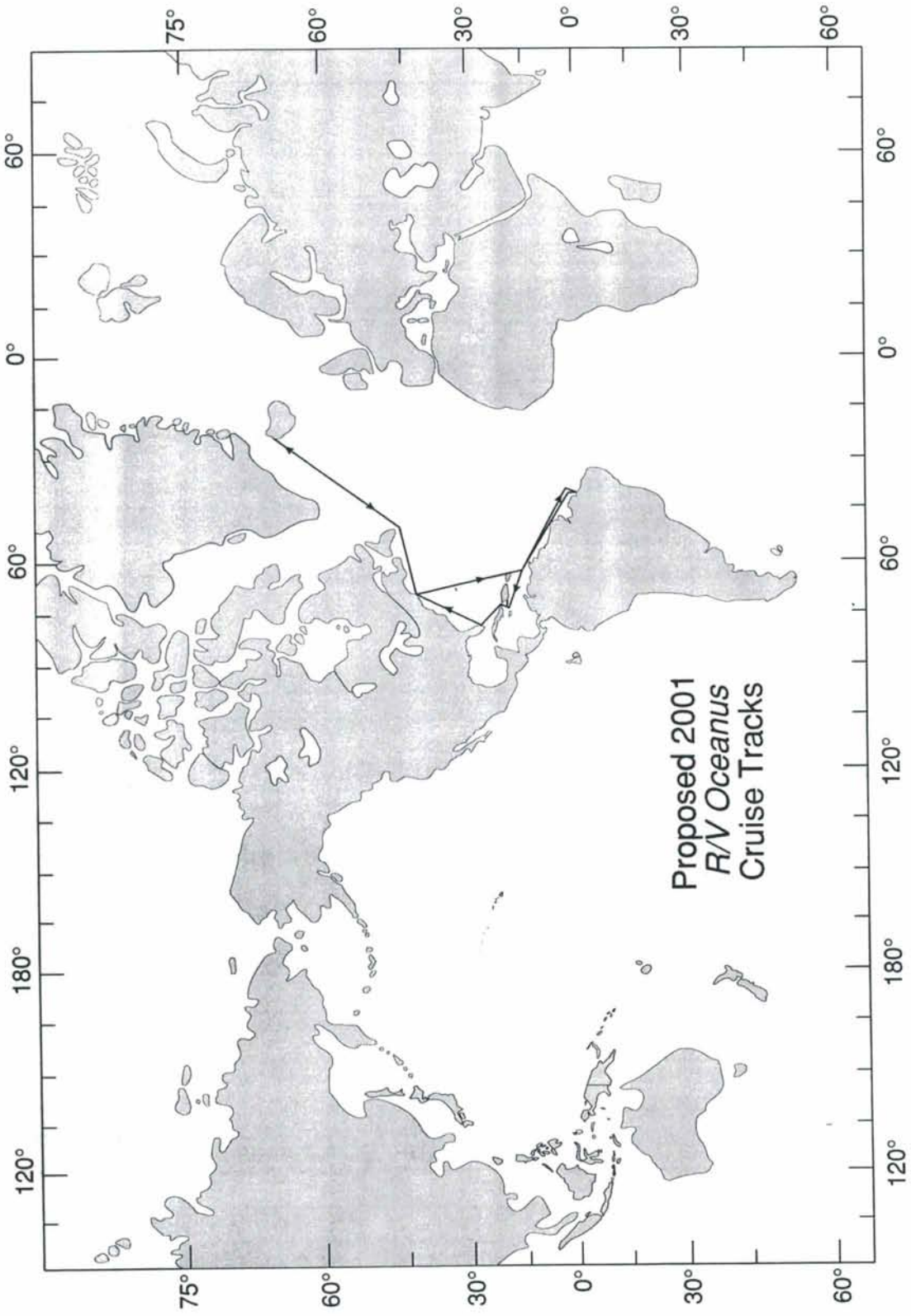


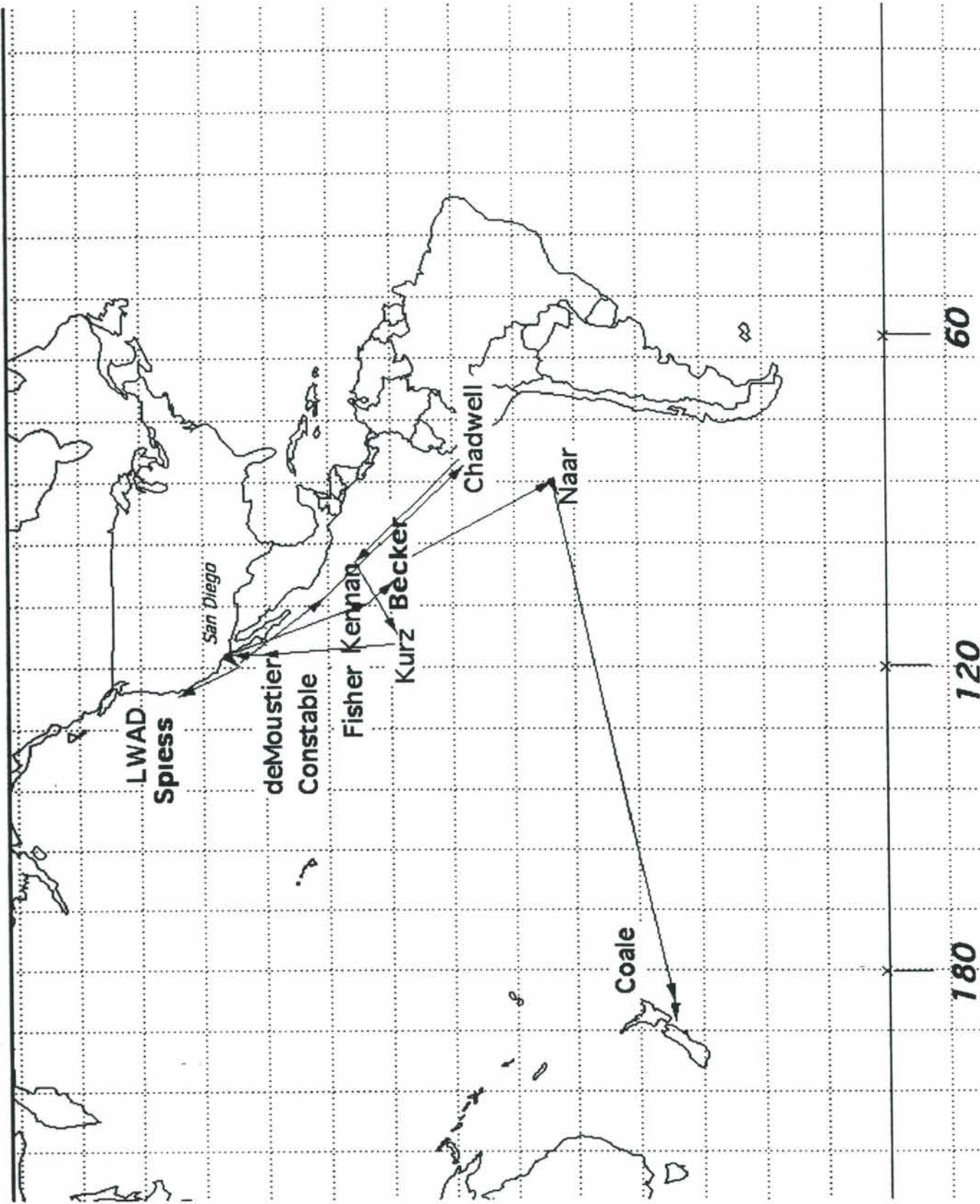




Scripps Institution of Oceanography

R/V Melville 2001





Scripps Institution of Oceanography
R/V Roger Revelle 2000

APPENDIX III

2001 SHIP COSTS

Ship	Navy				Grant Agency				TOTAL			Daily Rates			Total
	Sum of Operating Days & Ship Costs	NOAA	NSF	OTHER	NOAA	NSF	OTHER	TOTAL	Ship	Tech	Total				
Alpha_Helix	0	108	53	27	483,678	188	246,402	1,715,688	\$	9,126	\$	1,103	\$	10,229	
Atlantis	33	1	191	0	709,500	41,065,000	0	4,837,500	\$	21,500	\$	1,820	\$	23,320	
Blue_Heron	0	6.5	40	16	284,364	160,000	64,000	250,000	\$	4,000	\$	650	\$	4,650	
Cape_Hatteras	36	44	101	11	284,364	797,799	86,889	1,516,608	\$	7,899	\$	1,018	\$	8,917	
Cape_Henlopen	19	22	111	0	123,500	721,500	0	988,000	\$	6,500	\$	1,400	\$	7,900	
Clifford_A._Barnes	15	0	42	28	27,000	75,600	50,400	153,000	\$	1,800	\$	1,800	\$	1,800	
Edwin_Link	0	0	0	0	0	0	0	0	\$	10,200	\$	1,590	\$	11,790	
Endeavor	112	0	130	0	1,153,600	1,339,000	0	2,492,600	\$	10,300	\$	1,900	\$	12,200	
Gyre	64	0	10	58	576,000	90,000	522,000	1,188,000	\$	9,000	\$	450	\$	9,450	
Knorr	55	0	229	0	1,017,500	4,236,500	0	5,254,000	\$	18,500	\$	1,860	\$	20,360	
Laurentian	0	50	45	0	0	0	0	95	\$	0	\$	0	\$	0	
Longhorn	74	0	0	98	296,000	0	392,000	688,000	\$	4,000	\$	650	\$	4,650	
Maurice_Ewing	10	0	286	0	163,860	4,686,396	0	4,850,256	\$	16,386	\$	2,381	\$	18,767	
Melville	101	0	227	0	1,625,393	3,653,111	0	5,278,504	\$	16,093	\$	1,949	\$	18,042	
New_Horizon	70	0	146	51	626,780	1,307,284	456,654	2,390,718	\$	8,954	\$	942	\$	9,896	
Oceanus	0	66	192	0	0	1,881,600	0	2,528,400	\$	9,800	\$	1,600	\$	11,400	
Pelican	62	19	134	37	266,600	576,200	159,100	1,083,600	\$	4,300	\$	650	\$	4,950	
Point_Sur	49	0	81	45	367,500	607,500	337,500	1,312,500	\$	7,500	\$	1,125	\$	8,625	
Robert_Gordon_Sproul	49	0	36	8	327,516	240,624	53,472	621,612	\$	6,684	\$	764	\$	7,448	
Roger_Revelle	35	0	267	6	551,950	4,210,590	94,620	4,857,160	\$	15,770	\$	1,927	\$	17,697	
Sea_Diver	101	20	17	14	585,800	98,600	81,200	881,600	\$	5,800	\$	675	\$	6,475	
Seward_Johnson	40	0	246	20	432,000	2,656,800	216,000	3,304,800	\$	10,800	\$	1,990	\$	12,790	
Thomas_G._Thompson	20	12	165	73	321,420	2,651,715	1,173,183	4,339,170	\$	16,071	\$	2,550	\$	18,621	
Urraca	0	0	14	165	0	54,528	642,647	697,175	\$	3,895	\$	0	\$	3,895	
Walton_Smith	87	62	40	0	574,200	264,000	0	1,247,400	\$	6,600	\$	900	\$	7,500	
Weatherbird_II	0	0	167	0	0	1,335,332	0	1,335,332	\$	7,996	\$	1,110	\$	9,106	
Wecoma	46	31	127	0	549,332	1,516,634	0	2,065,966	\$	11,942	\$	2,028	\$	13,970	
Grand Total	1078	441.5	3097	657	10,579,815	37,751,491	4,576,067	52,733.5	\$	56,247,791	\$	2,028	\$	13,970	

2001 TECH COSTS

Ship	Grant Agency				TOTAL			Daily Rates			
	NAVY	NOAA	NSF	OTHER	188 \$	207,364 \$	Ship	Tech	Total		
Alpha_Helix	0	108	53	27	58,459	29,781	\$	9,126	1,103	\$	10,229
Atlantis	33	1	191	0	347,620	0	\$	21,500	1,820	\$	23,320
Blue_Heron	0	6.5	40	16	26,000	10,400	\$	4,000	650	\$	4,650
Cape_Hatteras	36	44	101	11	102,818	11,198	\$	7,899	1,018	\$	8,917
Cape_Henlopen	19	22	111	0	155,400	0	\$	6,500	1,400	\$	7,900
Clifford_A_Barnes	15	0	42	28	0	0	\$	1,800	1,800	\$	1,800
Edwin_Link	0	0	0	0	0	0	\$	10,200	1,590	\$	11,790
Endeavor	112	0	130	0	247,000	0	\$	10,300	1,900	\$	12,200
Gyre	64	0	10	58	4,500	26,100	\$	9,000	450	\$	9,450
Knorr	55	0	229	0	425,940	0	\$	18,500	1,860	\$	20,360
Laurentian	0	50	45	0	0	63,700	\$	0	0	\$	0
Longhorn	74	0	0	98	0	0	\$	4,000	650	\$	4,650
Maurice_Ewing	10	0	286	0	680,966	0	\$	16,386	2,381	\$	18,767
Melville	101	0	227	0	442,423	0	\$	16,093	1,949	\$	18,042
New_Horizon	70	0	146	51	137,532	48,042	\$	8,954	942	\$	9,896
Oceanus	0	66	192	0	307,200	0	\$	9,800	1,600	\$	11,400
Pelican	62	19	134	37	87,100	24,050	\$	4,300	650	\$	4,950
Point_Sur	49	0	81	45	91,125	50,625	\$	7,500	1,125	\$	8,625
Robert_Gordon_Sproul	49	0	36	8	27,504	6,112	\$	6,684	764	\$	7,448
Roger_Revelle	35	0	267	6	514,509	11,562	\$	15,770	1,927	\$	17,697
Sea_Diver	101	20	17	14	11,475	9,450	\$	5,800	675	\$	6,475
Seward_Johnson	40	0	246	20	489,540	39,800	\$	10,800	1,990	\$	12,790
Thomas_G_Thompson	20	12	165	73	420,750	186,150	\$	16,071	2,550	\$	18,621
Urraca	0	0	14	165	0	0	\$	3,895	0	\$	3,895
Walton_Smith	87	62	40	0	36,000	0	\$	6,600	900	\$	7,500
Weatherbird_II	0	0	167	0	185,370	0	\$	7,996	1,110	\$	9,106
Wecoma	46	31	127	0	257,556	0	\$	11,942	2,028	\$	13,970
Grand Total	1078	441.5	3097	657	5,056,787	516,970	\$	5273.5	7,427.812	\$	13,970

2001 TOTAL COSTS

Ship	Sum of Operating Days & Ship Costs				Grant Agency				TOTAL		Daily Rates		
	NAVY	NOAA	NSF	OTHER	NSF	OTHER	Ship	Tech	Total	Ship	Tech	Total	
Alpha_Helix	0	\$ 1,104,732	53	\$ 483,678	27	\$ 276,183	\$	1,923,052	188	\$	1,103	10,229	
Atlantis	33	23,320	191	4,106,500	0	0	\$	5,247,000	225	\$	1,820	23,320	
Blue_Heron	0	30,225	40	160,000	16	74,400	\$	290,625	62.5	\$	650	4,650	
Cape_Hatteras	36	321,012	101	797,799	11	98,087	\$	1,712,064	192	\$	1,018	8,917	
Cape_Henlopen	19	150,100	111	721,500	0	0	\$	1,200,800	152	\$	1,400	7,900	
Clifford_A._Barnes	15	27,000	42	75,600	28	50,400	\$	153,000	85	\$	1,800	1,800	
Edwin_Link	0	0	0	0	0	0	\$	0	0	\$	1,590	11,790	
Endeavor	112	1,366,400	130	1,339,000	0	0	\$	2,952,400	242	\$	1,900	12,200	
Gyre	64	604,800	10	90,000	58	548,100	\$	1,247,400	132	\$	450	9,450	
Knorr	55	1,119,800	229	4,236,500	0	0	\$	5,782,240	284	\$	1,860	20,360	
Laurentian	0	0	45	0	0	0	\$	0	95	\$	0	0	
Longhorn	74	344,100	0	0	98	455,700	\$	799,800	172	\$	650	4,650	
Maurice_Ewing	10	187,670	286	4,686,396	0	0	\$	5,555,032	296	\$	2,381	18,767	
Melville	101	1,822,242	227	3,653,111	0	0	\$	5,917,776	328	\$	1,949	18,042	
New_Horizon	70	692,720	146	1,307,284	51	504,696	\$	2,642,232	267	\$	942	9,896	
Oceanus	0	0	192	1,881,600	0	0	\$	2,941,200	258	\$	1,600	11,400	
Pelican	62	306,900	134	576,200	37	183,150	\$	1,247,400	252	\$	650	4,950	
Point_Sur	49	422,625	81	607,500	45	388,125	\$	1,509,375	175	\$	1,125	8,625	
Robert_Gordon_Sproul	49	364,952	36	240,624	8	59,584	\$	692,664	93	\$	764	7,448	
Roger_Revelle	35	619,395	267	4,210,590	6	106,182	\$	5,450,676	308	\$	1,927	17,697	
Sea_Diver	101	653,975	17	98,600	14	90,650	\$	984,200	152	\$	675	6,475	
Seward_Johnson	40	511,600	246	2,656,800	20	255,800	\$	3,913,740	306	\$	1,990	12,790	
Thomas_G._Thompson	20	372,420	165	2,651,715	73	1,359,333	\$	5,027,670	270	\$	2,550	18,621	
Urraca	0	0	14	54,528	165	642,647	\$	697,175	179	\$	0	3,895	
Walton_Smith	87	652,500	40	264,000	0	0	\$	1,417,500	189	\$	900	7,500	
Weatherbird_II	0	0	167	1,335,332	0	0	\$	1,520,702	167	\$	1,110	9,106	
Wecoma	46	642,620	127	1,516,634	0	0	\$	2,849,880	204	\$	2,028	13,970	
Grand Total	1078	\$ 11,952,391	441.5	\$ 37,751,491	657	\$ 5,093,037		\$ 63,675,603	5273.5				

2000 SCHEDULE SUMMARY

Sum of Operating Days ship	Grant Agency											USGS	Grand Total	
	DOE	EPA	NASA	NAVY	NOAA	NPS	NSF	ONR	Other	PRIVATE	STATE			
Alpha_Helix 2000 Schedule					48		34		2			40		124
Atlantis 2000 Schedule	2				36		255		4					297
Barnes 2000 Schedule		2		40	10		26					21		99
Blue_Fin 2000 Schedule			5	11	26		80			1		1		124
Blue_Heron 2000 Schedule				6	6		59			0.5		21		86.5
Cape_Hatteras 2000 Schedule			3	47	38		86					16	9	199
Cape_Henlopen 2000 Schedule				38			142		4					184
Edwin_Link 2000 Schedule				47			50		62		10			169
Endeavor 2000 Schedule				95	5		78						5	183
Gyre 2000 Schedule				67			9		81			18		175
Knorr 2000 Schedule				66			208		0					274
Laurentian 2000 Schedule							199							199
Longhorn 2000 Schedule				30			20		7	6	38			101
Maurice_Ewing 2000 Schedule	3						267							270
Melville 2000 Schedule					18		236		0		5			259
New_Horizon 2000 Schedule				52	58		19		18		38			185
Oceanus 2000 Schedule				53			59		0					112
Pelican 2000 Schedule				67	46		56		82					251
Point_Sur 2000 Schedule				3			65	2	83	1	13			184
Robert_Gordon_Sproul 2000 Schedule				26			20		11		32		4	93
Roger_Revelle 2000 Schedule				95			201		0					296
Sea_Diver 2000 Schedule			11	74	16		47		14					162
Seward_Johnson 2000 Schedule				50	79		125		5					259
Thomas_G_Thompson 2000 Schedule				14	13		90		0			55		172
Uracca 2000 Schedule				54	55		15		105					120
Walton_Smith 2000 Schedule							35		10					154
Weatherbird_II 2000 Schedule							128							128
Wecoma 2000 Schedule				21			95		67					183
Grand Total	5	2	19	950	454	17	2704	2	555	8.5	308	18		5042.5



