UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

SUMMARY REPORT

SHIP-USE FORECAST MEETINGS
1978

CONTENTS

APRIL 1978

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

An association of Institutions
for the coordination and support
of university oceanographic facilities

UNOLS Office
Woods Hole Oceanographic Institution
Woods Hole, Massachusetts 02543

SUMMARY REPORT

Ship-Use Forecast Meetings, 1978

I. BACKGROUND & PURPOSE

In December of 1976, the UNOLS' Advisory Council suggested holding three "ship-use forecast meetings", two of which were to be regional in character and the third to be a meeting of the Distant Water Operating Group (DWOG). This was done last year and found to be a useful forum to discuss informally developing ship schedules two or more years in advance in concert with Federal funding agencies.

Accordingly, Ship-Use Forecast Meetings were scheduled as follows in 1978:

DWOG	9 January	(Scripps)
East & Gulf Coast Regional	10 February	(Baltimore-Washington Airport)
West Coast Regional	31 March	(University of Washington)

Summary reports on these meetings appear following.

II. Distant Water Operating Group (DWOG) Ship-Use Forecast Meeting

1900, 9 January 1978, Room 141, G.W. Scripps Building
Scripps Institution of Oceanography, La Jolla, California

1. Mr. E. Tierney, NOAA/FGGE, reviewed ship participation in the First GARP Global Experiment (FGGE). Briefly, there are two Special Observing Periods: January-February and May-June 1979 at 10°S-10°N. From participating ships one or two technicians will launch balloons from small vans to sound the upper air.

   Government vessels scheduled to particpate at this time are OCEANOGRAPHER, RESEARCHER, CHAUVENET, and WILKES. UNOLS vessels which may participate are: GILLISS, ISELIN, WASHINGTON, THOMPSON, MOANA WAVE or alternate.

2. Miss Johrde, NSF/OCE, placed the following table on the board.

	Est. Funding for CY 1978
NSF	$15.8M
ONR	2.2
Other Navy	.7
ERDA	1.3?
BLM	.27?
USGS	.17
NOAA/EPA	.29
Other	.7?
	$21.43M

Support Requested:

28.5 R/Vs @ $24.9M

Reduced Schedules Reduced Support Required to $24.1M

Projected Shortfall = ca$.3M

3. Ship Scheduling contacts present reviewed what was known of their institution's plans for 1979 and beyond. What follows is extremely tentative and has no official standing. Where handouts were provided, they are included.

   (a) HAWAII: M. WAVE (or repl.) engaged in NORPAX shuttle. K. KEOKI sees 1.5 mo. biology, 2-2.5 mo.Riviera Ocean Seismic Experiment (ROSE), 1-2 mo. cooperative ONR-USSR seismic work.

   (b) ALASKA: ACONA's work will probably center about PROBES and baseline studies. Scheduling meeting for 1979 not yet held.

   (c) WASHINGTON: For THOMPSON projected was 60d ONR (ROSE), 120d PROBES, 20d Biology (Lorenzen), 28d Chemistry (Murray), 25d other for a total of 253d.

   (d) OREGON: See tentative schedule page 5.

   (e) SCRIPPS: See tentative schedule page 7.

   (f) TAMU: For GYRE, possibly 1 mo. for State, 1 mo. ERDA/BLM, 6 mo. NSF, 3 of which might accommodate staff with remainder being made up from outside.

   (g) MIAMI: Local scheduling meeting had not been held. Some staff have desire to go to Indian Ocean (INDEX).

   (h) DUKE: Possibly 70d work for ERDA, 40d NSF in Caribbean, remainder undeveloped.

   (i) L-DGO: CONRAD to start year off west coast of Central America, VEMA off New Zealand with a layup of ~3 mo. (Aug.-Nov.) at Fiji Is.

(j) U.R.I.: See tentative schedule, p. 10 . Work in Med and for return is very tentative. R. Heath (URI) is looking for 20d in eastern Panama Basin.

(k) W.H.O.I.: See tentative request list for 1979, p. 12.

4. Attendees:

G. Anderson, U. of Wash.
F. Campbell, HIG
R. Dinsmore, W.H.O.I.
R. Fisher, SIO
S. Gerard, L-DGO
J. Gibbons, RSMAS
R. Haines, SIO
R. Heath, URI
M. Johrde, NSF
K. Kaulum, NORDA
G. Keller, OSU
O. Pilkey, Duke
R. Sexton, URI
T. Stetson, UNOLS
E. Tierney, NOAA/FGGE
T. Treadwell, TAMU

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EAST AND GULF COASTS
SHIP USE FORECAST MEETING

Baltimore-Washington Airport
Friendship International Hotel
10 February 1978

ATTENDEES

M. Gross, Ch.	CBI	J. Gibbons	RSMAS
H. Carter	Stonybrook	D. Moller	USGS
H. Clark	UNOLS	W. Owen	U/DEL
R. Dinsmore	WHOI	O. Pilkey	DUKE
R. Elder	NSF	R. Whaley	CBI
D. Folger	USGS		

Gulf Coast Representatives Absent

WHOI - Of pressing concern is necessary re-engining of AII which will require about 5 months late '78 and into 1979.
- Ship requirements in Indian Ocean (INDEX) and off Galapagos in early '79 also of concern at this time.

RSMAS - To date, 382 days of ISELIN have been requested, 180 of which are for FGGE projects. The forecast for the GILLISS is to leave Miami January 1979 for work in the Mediterranean, Red Sea and Indian Ocean. This remains highly tentative pending clarification of INDEX requirements and negotiations with USGS for a long term committed ship.

DUKE - EASTWARD's '78 schedule firm--considerable requests are in hand for '79 including some work in the Great Lakes.

CBI - WARFIELD schedule is solid for 1978, open for 1979.

U/DEL - CAPE HENLOPEN's work is about 30% in-house.

USGS - Ship requirements for East and Gulf Coasts were presented totalling up to 278 days on all size categories. (see attachment). Progress was also reported being made on negotiations with NSF to develop an interagency agreement to provide a mechanism to pass through funds for ship operations. These funds could total up to $1,000,000 annually.

SUMMARY:

- A matter of considerable urgency was the setting up of a coordinating mechanism between east and west coast operators for 1979 Indian Ocean Expedition. R. Elder agreed to check with NSF program managers to best estimate R/V needs and coordinate with the operators involved.

- The concensus was the regional ship use forecasting meetings are an effective tool for discussing future requirements and they should continue. Given the present funding scenario it would be more productive to hold future meetings in Washington, D.C., where agency representatives could easily be caucussed.

H. L. Clark

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

Department of Oceanography
Marine Superintendent

In reply, refer to
File: #5052/50
3 April 1978

Mr. Tom Stetson
Executive Secretary, UNOLS
Woods Hole Oceanographic Institution
Woods Hole, Mass. 02543

Dear Tom,

A Western Regional meeting of UNOLS Ship Operators was held at the University of Washington on 31 March 1978. Attendees were as per enclousure (a).

The meeting was called to order at 9 a.m. and proceeded with each operator giving a brief run-down on their tentative schedule as of the present date. Additionally each operator presented the funding status of each proposed program as they know it.

At the conclusion of the above mentioned run-down on ship schedules it was apparent that there were three problem areas and the discussion then centered on attempting to resolve these conflicts. These problem areas or conflicts are as follows.

1. PROJECT ROSE

   This is a seismic experiment which is requesting funding from both NSF and ONR. It is to be a multi-ship operation and timed for the period Jan/March 1979 in the Gulf of California area. At the present time the following ships are committed to the program.

R/V THOMPSON	University of Washington
R/V KANA KEOKI	University of Hawaii
R/V CONRAD	Lamont Doherty
R/V IDA GREEN	University of Texas, Galveston
Unknown Navy R/V	USN

2. PROJECT NORPAX

   This project as now envisioned will require a ship for a 16-month period commencing January 1979 to shuttle between Hawaii and Tahiti on a monthly basis. Scheduling for this program can be adequately cared for except for about two to two and one-half months in the January to mid-March period of 1979. This is caused by the fact that KANA KEOKI is committed to ROSE and GYRE cannot be made available any earlier than mid-March.

Telephone: (206) 543-5062 or 543-5648 / TWX: 910-444-1430

3 April 1978

3. ALVIN SUPPORT

Just prior to the meeting a call was received from NSF indicating a need for major ship support for ALVIN as follows:

Jan/Mar 1979	Galapagos Area
June 1979	S. Calif. Area
Nov 1979	Galapagos Area
Dec 77/Jan 80	Panama Basin

This need was discussed and Brad Veek of USC pointed out that his Vessel, VELERO IV, is committed to the June 79 period. There seems to be no other vessel available for the other requirements.

It would appear that the major problems are therefore the conflict between ROSE and NORPAX and the need for a vessel for the period Jan - mid-March 79 for NORPAX, and the lack of a support vessel for ALVIN in the Jan/March 79,Dec 79/Jan 80 period. The status of the GILLIS was not known for these periods. Also the possibility (feasibility) of using the CAYUSE or VELERO was also discussed. More information may be forthcoming from a ROSE meeting to be held on April 7.

Sincerely,

George C. Anderson
Professor and Associate Chairman
for Research

GCA:nl
Encl.

ATTENDEES - UNOLS Western Region
Ship Operations Meeting

Boyce Watkins	University of Washington
J. Frisbee Campbell	Hawaii Institute of Geophysics
Bob Haines	Scripps Institute of Oceanography
Carl Lorenzen	University of Washington
Dave Cutchin	NORPAX/SIO
T.K. Treadwell	Texas A & M
Tom Forhan	OFS/NSF
John Goering	University of Alaska
Dolly Dieter	University of Alaska
Robby Moore	University of Alaska
Brad Veek	University of Southern California
George Keller	Oregon State
George C. Anderson	University of Washington

United States Department of the Interior

GEOLOGICAL SURVEY

Office of Marine Geology
Woods Hole, MA 02543
(617) 548-8700

9 February 1978

From: Donald Moller
U.S. Geological Survey
Quissett Campus
Woods Hole, MA 02543

TO: UNOLS Members

Subj: Estimated 1979 ship needs for offshore investigations.

The attached schedule lists the estimated 1979 ship requirements for offshore investigations by this Branch of the U.S. Geological Survey. Consideration of these needs by UNOLS members would be appreciated. It is requested that UNOLS ship operators who can meet any of these requirements notify this office at the earliest possible date.

cc: D. Folger

2/9/78

U.S.G.S. BRANCH ATLANTIC - GULF OF MEXICO
SHIP NEEDS 1979

GILLISS - type vessel:

TIME: 80-120 day block between May 1 and September 30.

AREA: Atlantic continental shelf,slope and rise; Georges Bank to Florida and the Gulf of Mexico.

WORK: Geophysical studies: high resolution multi-channel seismic system with sparker and air guns, integrated navigation/ gravity system, magnetics.

OCEANUS - type vessel:

TIME: 3 blocks - 14 days each - January, May and September.

AREA: Atlantic continental shelf from Georges Bank to Blake Plateau.

WORK: Physical Oceanography: C.M. moorings, tripods, XBT, CTD.

OCEANUS - size vessel:

TIME: 18 days in late August.

Bum AREA: Atlantic continental shelf from Georges Bank to Cape Hatteras.

WORK: Suspended sediment studies: water catching.
REQUIRES BERTHING FOR NLT 12 SCIENTISTS.

OCEANUS - size vessel:

TIME: 2 blocks - 14 days each - between June 1 and September 30.

AREA: Georges Bank and S.E. Georgia Embayment.

WORK: Vibracoring and gravity coring.
REQUIRES OFFSHORE MOORING CAPABILITY (to 100m).

LONGHORN - size vessel:

TIME: 25 days between May 1 and September 30.

AREA: Texas Coast.

WORK: Geophysical studies: mini-sparker system.

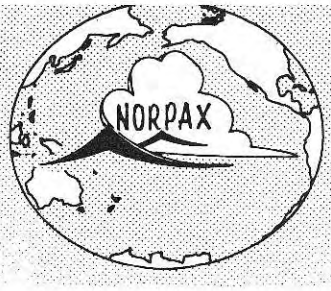
OCEANUS - size vessel:

TIME: 2 blocks - 15 days & 30 days - between May 1 and September 30.

AREA: Eastern Caribbean and South Texas Coast.

WORK: Geophysical studies: mini-sparker system.
Gravity coring.

Sponsored by:
Office of Naval Research
National Science Foundation,
Office for the International
Decade of Ocean Exploration



NORPAX
North Pacific Experiment

4 April 1978

To: Distribution List

From: Dave Cutchin
NORPAX Program Administrator

Subject: Ship time for the NORPAX Equatorial Shuttle, 1979-1980
(second in a series, first memo dated 10 March 1978)

On 31 March 1978 I attended a meeting of west coast research ship operators. A partial list of attendees is as follows: Tex Treadwell, TAMU; George Keller, OSU; Fris Campbell, U. Hawaii; Boyce Watkins and George Anderson, U. Washington; Brad Veek, USC; Tom Forham, NSF-OFS; Bob Hanes, SIO; others from U. Washington and the U. of Alaska.

Problem

The ship operators and I did not firm up a schedule for the NORPAX Equatorial Shuttle. There was a serious problem regarding the availability of ships for January and February of 1978. If I had insisted upon a firm schedule surrounding this time gap it would probably have ended our chances for closing the gap.

The essential problem with January-February 1979 ship time is the result of ship requirements by two other programs. ROSE, a geophysical experiment scheduled for mid-January to mid-March off of Baja California, wants four academic research vessels plus one Navy research ship. They now have commitments from the KANA KEOKI, the CONRAD, the THOMPSON and the IDA GREEN. The second program involves some diving experiments using the ALVIN in the vicinity of the Galapagos. The ALVIN will require one (or two) research vessels as escorts.

Other than the January-February problem, the news for NORPAX is good. The University of Hawaii is still expecting to provide NORPAX with a minimum of four month's ship time on the KANA KEOKI during

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Department of Oceanography
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Program Administrator
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Scripps Institution of Oceanography
A-030
La Jolla, CA 92093
(714) 452-3226

1979. This might be expanded to six months if we can weave into our shuttle legs the free time for some local University of Hawaii work. George Keller of OSU is moving closer to the commitment of the WECOMA late in 1979. Tex Treadwell of TAMU is still enthusiastic about our use of the GYRE but he has now firmly stated that we could not expect it to arrive before early February or, preferably, March. NORPAX must realize that, however, unless these ship operators make firm commitments for certain time slots there is always the danger that the tentative commitments may be eroded.

Possible Solutions

1. Regarding the solution of the January-February problems, I first intend to contact the University of Miami and determine if one of their vessels would be free for this time period. If they do come through, however, I might have to agree to use their vessel for a minimum of four months to make the transit times seem like a reasonable investment. This may, in turn, mean removing the WECOMA or the GYRE from our list. Transit times are a serious concern in this experiment because of the large distances involved.

2. A representative of the ROSE group said he would check to see if there was any sentiments among ROSE scientists about delaying their experiment schedule by two months. The representative said that there was no problem with the weather as long as the delay did not slip them into the early summer. There might even be some advantages to working a little later when the GLOMAR CHALLENGER will also be in the area off Baja. The University of Washington, however, noted that there would be ship scheduling problems for a later time frame. I doubt if we can expect ROSE to change its schedule unless there are strong internal reasons for doing so. The ROSE representative said he would also check with the Navy to see if they could provide another vessel to assist and thereby free up one of the academic R/V's.

3. It was further suggested that NORPAX might use a much smaller ship for the January-February time period. This vessel, perhaps either the USC VALLERO IV or the OSU CAYUSE, might be able to refuel and resupply out of the Line Islands. The CAYUSE has an open schedule for this time and the VALLERO IV is booked up. The VALLERO IV has greater range and size. It was then suggested that the CAYUSE could sail south from Oregon to the Los Angeles area and take over some of the VALLERO responsibilities. This would free the VALLERO to do January-February shuttle work for NORPAX.

4. One obvious possibility is to delay the start of the NORPAX Shuttle until 1 March 1979 and extend it by two months at the end. I dislike this solution for two reasons: a) we could not support FGGE SOP I; b) if we get the shuttle started in late 1978 on the MOANA WAVE, this will punch an awkward hole in our long time-series. On the other hand, Fris Campbell said that the MOANA WAVE will probably have to go in the yard around mid-November so that it will be ready to turn over to the Navy on 1 January. This would interrupt the time series even before January-February.

5. If the Navy didn't need the MOANA WAVE in January-February we could use it for the shuttle and our problems would be solved. Fris Campbell, however, doesn't think that we can alter the Navy schedule.

Other Considerations

At the meeting I mentioned that Bob Knox and David Halpern, NORPAX principal investigators, were concerned about the danger of doing heavy mooring operations aboard the KANA KEOKI. Fris Campbell said that he was anxious to resolve this problem one way or the other and would appreciate comments by Knox and Halpern on how the KANA KEOKI could be suitably modified.

The major ship operators under consideration for the NORPAX Shuttle expressed their opinion that their vessels could spend 25 days per month on the shuttle legs. This would represent no problem for them and we should remember this when scheduling our activities.

I mentioned to the ship operators that we have had a number of inquiries regarding our announcement of opportunity for piggy-back experiments on the NORPAX Shuttle. Apparently repeated shuttle runs look very attractive to a large number of geochemists and biologists. One of the most interesting piggy-back proposals was put forward by Dr. Keeling of Scripps who said the area and schedule matched almost perfectly his requirements for a seasonal study of atmospheric and ocean surface CO_2. Ship operators said that they could probably fulfill Dr. Keeling's request for thermally insulated water line from the sea chest to the labs.

Summary

In summary, we are still closer to a workable arrangement for ship time with the notable exception of the January-February problem. If you have any comments on the above, please contact me.

Late Breaking News

Dr. Hank Perkins, of the University of Miami, says that the R/V GILLIS may be available for NORPAX equatorial work during the first four or five months of 1979.

Distribution List

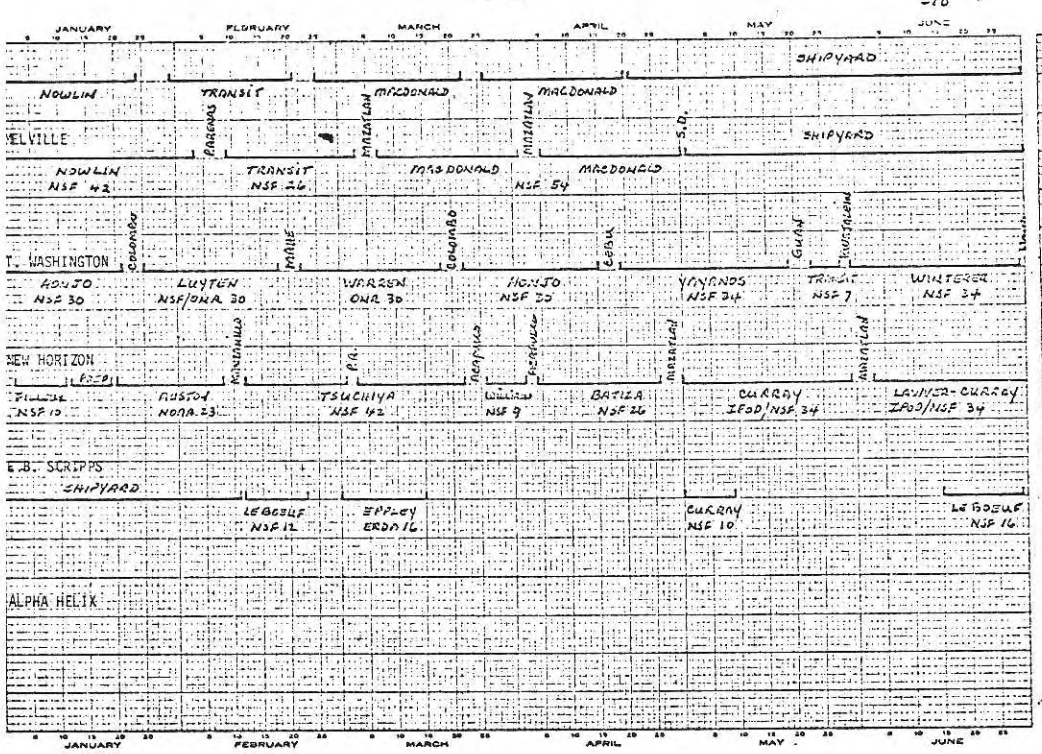
F. Campbell, Univ. of Hawaii
C. Collins, NSF
D. Greenfield, NSF
M.J. Gutierrez, OSU
B. Haines, SIO
D. Halpern, PMEL/NOAA
M. Johrde, NSF
R. Knox, SIO
W. Patzert, SIO
T. Stetson, UNOLS
T. Treadwell, Texas A&M
B. Watkins, Univ. of Washington
K. Wyrtki, Univ. of Hawaii
E. Tiernan, NOAA
R. Elder

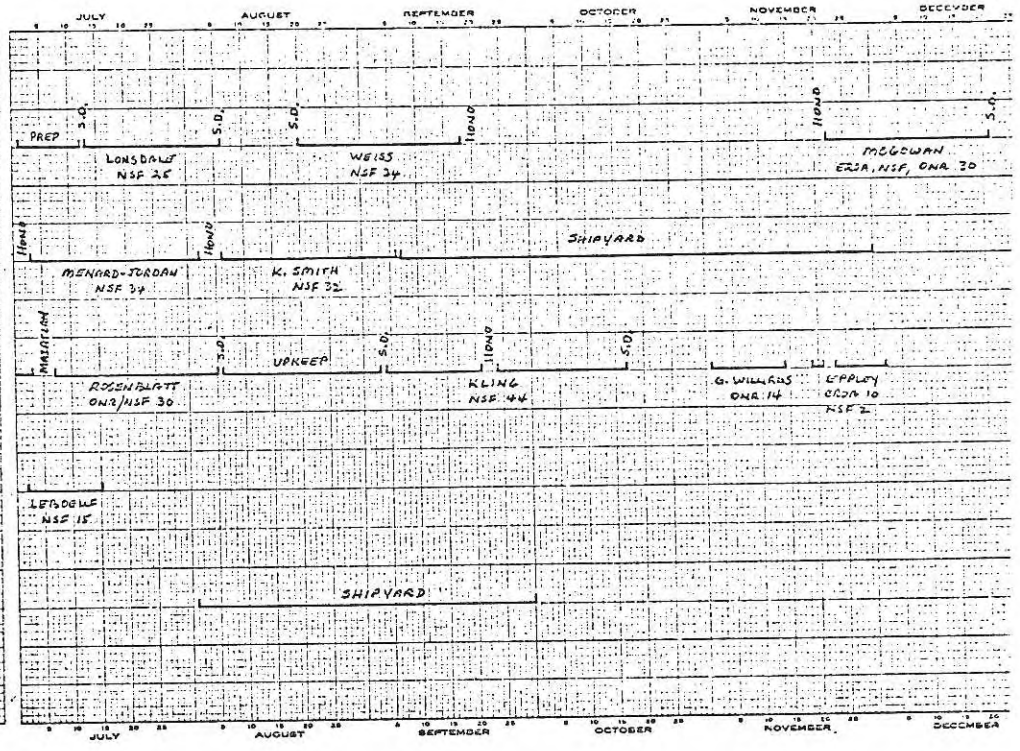
Summary of likely ship needs by discipline and investigator at Oregon State for 1979 and 1980. Overlaps with 1978 are noted. See schedule for other 1978 use.

Notes: 1) Many of the proposed cruises are related to a western Pacific trip for study of the Kurshio in September 1978 and March 1979 planned by P. Niiler. Interest by others is in the intervening time.

2) The designation W30 means 30 days on WECOMA, C30 means 30 days on CAYUSE.

	1978	1979	1980	Usual source of funds	Operating area	Season
Physics						
Caldwell		W14-21	W14-21	NSF	Oregon	summer-fall
Huyer		W21	W21	NSF	Oregon	spring-fall
Johnson, R.		C7	C7	ONR	Oregon	spring-fall
Neshyba	W35 or KNORR			NSF	West Wind Drift off S. Amer.	austral summer
Niiler (Taft, Osborne)	W60+ ----------			NSF	Kuroshio at 27°N	Sept. '78, Mar.'79
Pak/Zaneveld		W10	W10	ONR	Oregon	spring-fall
" "		W10	W10	NASA	Oregon	spring-fall
Paulson		W14	W14	ONR		
Pillsbury - no report						
Smith, R. - no report						
Chemistry						
Corliss-Dymond		W30		NSF	Blanco fracture zone	Sept.
Gordon		W5+5	W5+5	NSF	Oregon	5 winter, 5 summer
Biology						
Carey	W10/C10	W17/C20	W17/C15	W-NSF,C-Sea Gr.	Oregon	scattered bits of time
Hancock			W7		Oregon	
Miller		C20	C20	NSF, Sea Gr.	Oregon	upwelling season
Holton			C8		Oregon	
Pearcy	W30 ----------			ONR	Equat. Pacific	open
"		W21/C14	W21/C14	ONR	Oregon	summer
Richardson/Pearcy		C21		Sea Gr.	Oregon	3 day blocks/1.5 mo.
Geology						
Suess	W30 ----------			NSF	Kuriles	decent weather
Kulm	Some interest in western Pacific					
Scheidegger	" " " "					
Geophysics						
Couch/Johnson, S.	W60 ----------		W30	ONR	Tonga Trench	decent weather
	Alternate interest in Central America, Alaska					


1979
1/6/78
E10
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
SHIPYARD
NOWLIN
TRANSIT
MACDONALD
MACDONALD
ELVILLE
SHIPYARD
NOWLIN NSF 42
TRANSIT NSF 26
MACDONALD NSF 54
T. WASHINGTON
HONJO NSF 30
LUYTEN NSF/ONR 30
WARREN ONR 30
HONJO NSF 30
YARNDS NSF 34
TRANSIT NSF 7
WINTERER NSF 34
NEW HORIZON
FIELDS NSF 10
AUSTON NONR 23
TSUCHIYA NSF 42
BATIZA NSF 26
CURRAY IEOD/NSF 34
LAVINER-CURREY IEOD/NSF 34
E.B. SCRIPPS
SHIPYARD
LEBOEUF NSF 12
EPPLEY ERDA 16
CURRAY NSF 10
LE BOEUF NSF 16
ALPHA HELIX


1979
1/6/7
E10
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
PREP
LONSDALE NSF 25
WEISS NSF 34
MCGOWAN ERDA, NSF, ONR 30
SHIPYARD
MENARD-JORDAN NSF 34
K. SMITH NSF 32
UPKEEP
ROSENBLATT ONR/NSF 30
KLING NSF 44
G. WILLARD ONR 14
EPPLEY ERDA 10 NSF 2
LEBOEUF NSF 15
SHIPYARD

SCRIPPS

University of Rhode Island, Kingston, R.I. 02881
Graduate School of Oceanography, Narragansett Bay Campus

6 January 1978

R/V ENDEAVOR Cruises--CY1979

EN-030

Professor H. Thomas Rossby, chief scientist, will run a POLYMODE cruise of 28 days in the south Sargasso Sea. SOFAR floats will be set and tracked, CTD-O_2 and XBT stations run to study the flow and hydrography in the area. This program is funded under NSF-IDOE.

EN-031

Professor John Sieburth will be chief scientist on this cruise from West Palm Beach, Florida, to Belem, Brazil. Enroute, chemical and biological studies will be run with particular emphasis placed on the Amazon outflow. STD, hydrographic and XBT stations will be taken while water chemistry is studied. Funding is by NSF.

EN-032

Professor Jean-Guy Schilling will continue his geological-geophysical studies from CY1978 by studying the fracture zone in the mid-Atlantic Ridge near Ascension Island, at approximately 9°S, 14°W. Rock dredges will be taken, and bathymetric, magnetic and seismic profiles run. This is a continuation of NSF-funded program.

EN-033

Professors Kester/Winn/Stommel (WHOI) will undertake studies along the West African Coast from Abidjan to Cadiz, Spain. Kester will study a highly productive upwelling area where numerous chemical parameters will be sampled and CTD-O_2/hydrographic stations run. Funding is by NSF. Winn will study the bioacoustics and behavior of marine mammals in the vicinity of the Cape Verde Islands. Mammal listen/record stations will be occupied with continuous daytime watches for whale and porpoise. Funding is by NSF or ONR. Stommel will run STD and hydrographic stations. Funding is by NSF.

EN-034

Professor James Kennett and Robert Thunell, research associate, will be co-investigators on this cruise. The main purpose will be paleoceanographic studies of quarternary biogenic and anoxic sediments of the Mediterranean. Piston and Kasten cores will be taken with associated hydrographic stations, and XBT's and 3.5 kHz seismic reflection profiles will be run. Funding is anticipated from NSF.

EN-035

Open. Transit: Mediterranean to Narragansett.

EN-036

Professors Watts and Wimbush will work off Cape Hatteras and the East Bermuda Rise. Watts will deploy Inverted Echo Sounders (IES) and run hydrographic studies off Cape Hatteras. Wimbush will deploy a bottom time-lapse photographic instrument on the East Bermuda Rise. Funding is by NSF and ONR.

EN-037

Professor Theodore Samyda as Chief Scientist will run experiments on the physiological state and growth rates of marine phytoplankton along the Continental Shelf from Cape Hatteras to Nova Scotia. Biochemical productivity, STD and XBT stations will be run. Funding is by NSF.

EN-038

Professors Robert Duce and James Fasching, co-investigators, will study the effects of atmospheric pollutants at the air-sea interface and transport of atmospheric particulates. Surface microlayer, subsurface samples and atmospheric samples will be studied. Hydrographic and XBT stations will be run. Funding is through the NSF-IDOE program.

EN-039

Edward Laine, Research Associate and Professors Silva and Wimbush will combine efforts to study areas of the East Continental Slope and the East Bermuda Rise. Laine/Silva will run piston coring, geophysical studies and associated hydrographic stations. Wimbush will retrieve his photographic instrument deployed on EN-036. Funding is by NSF.

EN-040

Professor Randy Watts will retrieve his IES instruments deployed on EN-036 and continue hydrographic studies in the Cape Hatteras region. Funding is by NSF and ONR.

EN-041

Associate Professor Elijah Swift, chief scientist, will study various plankton samples in an area in the tropical Atlantic. Plankton tows and trawls will be made. Bioluminescent stations and transparency tests will be run along with hydrographic and XBT stations. Funding is by NSF.

EN-042

Open.

Schedule No. '

Date 6 January 1978

CY 1979 - see notes at bottom

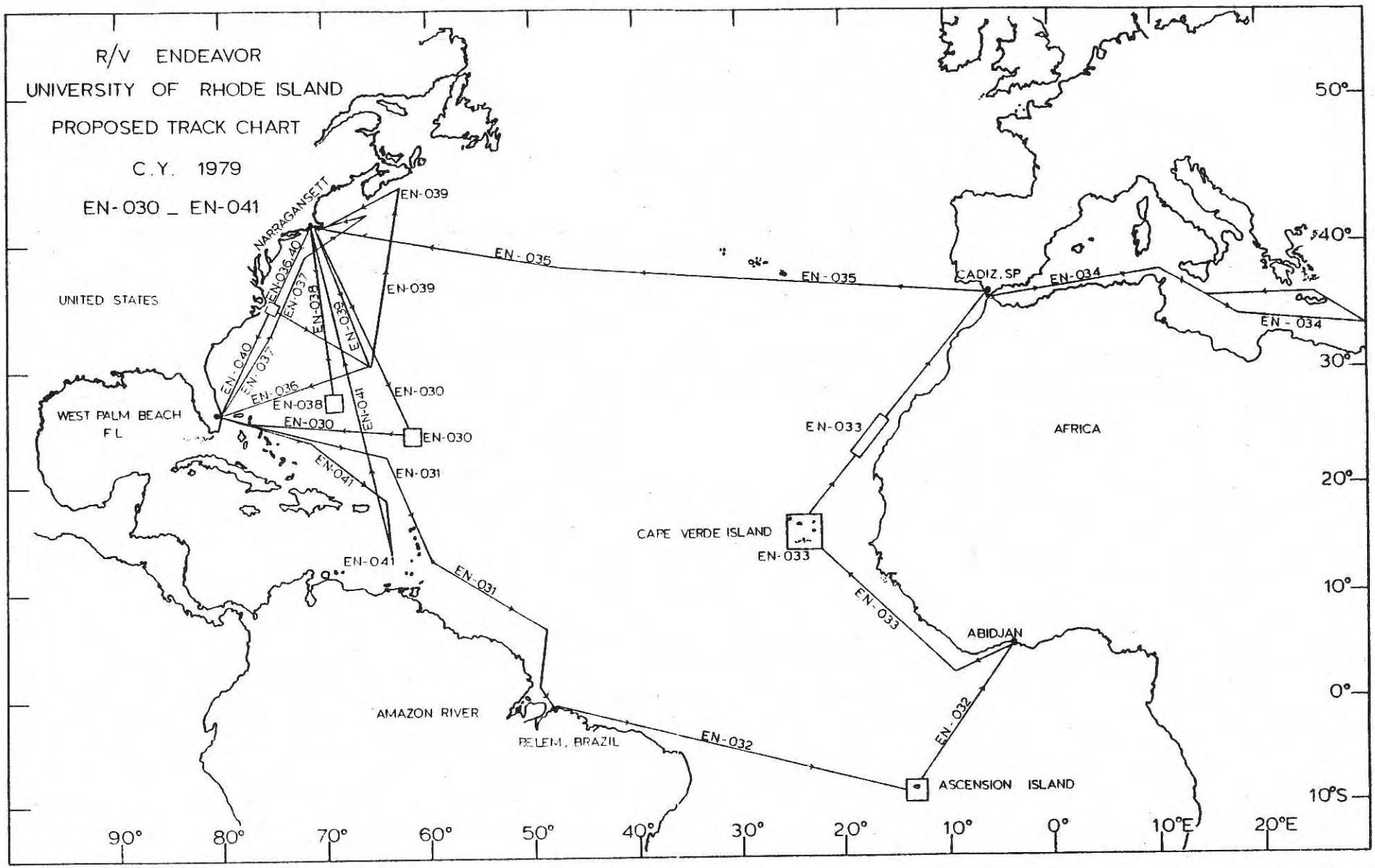
R/V ENDEAVOR Tentative Ship Schedule

Cruise No.	Scientist(s)	Area	Arrive	Depart	Days at Sea	Funding Source
----------Ship Maintenance----------			Jan, 1	Jan, 19		
EN-030	Rossby	Sargasso (POLYMODE)	Jan, 20 Narra.	Feb, 17 W.Palm Bch,	28	NSF IDOE
EN-031	Sieburth	Caribbean/Amazon	Feb, 20 W.Palm Bch,	March 26 Belem, Br,	35	NSF
EN-032	Schilling	Ascension Island	March 30 Belem	April 29 Abidjan	30	NSF
EN-033	Kester/Winn/Stommel	Cape Verde Is./ W. Africa Coast	May 3 Abidjan	May 30 Cadiz, Sp,	28	NSF
EN-034	Kennett/ Thunnell	Mediterranean	June 4 Cadiz	June 23 Cadiz	20	NSF
EN-035	Open - transit	North Atlantic	June 24 Cadiz	July 4 Narra,	11	
----------Ship Maintenance 19		days ----------	July 5	July 23		
EN-036	Watts/Wimbush	Hatteras/Bermuda Rise	July 24 Narra,	Aug, 2 W.Palm Bch,	10	NSF ONR
EN-037	Smayda	N.E. Continental Shelf	Aug, 5 W.Palm Bch,	Aug, 25 Narra,	21	NSF/IDOE ERDA
EN-038	Duce/Fasching	Sargasso	Aug, 28 Narra.	Sept, 17 Narra.	21	NSF IDOE
EN-039	Laine/Silva/Wimbush	E. Cont. Slope & Rise E. Bermuda Rise	Sept. 20 Narra.	Oct. 14 Narra.	25	NSF IDOE
EN-040	Watts	Hatteras	Oct. 17 Narra.	Oct. 30 W.Palm Bch.	14	NSF ONR
EN-041	Swift	Caribbean	Nov. 3 W.Palm Bch.	Nov. 22 Narra.	20	NSF ONR
EN-042	Open		Nov. 26			
----------Ship Maintenance----------						

Approved: _____, Ship Committee Chairman

Date _____

1. IDOE - International Program
2. Heath requested 20 days, May, West Gulf of Mexico
3. Rossby may request 40 days, Sargasso, POLYMODE, late summer
4. Stommel - participation to be confirmed


R/V ENDEAVOR
UNIVERSITY OF RHODE ISLAND
PROPOSED TRACK CHART
C.Y. 1979
EN-030 _ EN-041
NARRAGANSETT
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WEST PALM BEACH
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EN-031
EN-033
AFRICA
CAPE VERDE ISLAND
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AMAZON RIVER
BELEM, BRAZIL
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W.H. 1979 Ship Requests
14 November 1977

ATLANTIC

NAME	REGION	DURATION	SEASON	COMMENTS
Katz	Western Tropical Atlantic On equator, out of Hawaii	18 days 18 days	September, 1979 Dec., 1979/Jan., 1980	
Uchupi/Heirtzler	Cape Blanc/Canary Islands Geophysics survey	2 months	Late spring/early summer	ATLANTIS II Multi-channel system
Gagosian	Walvis Bay	1 month	Early 1980	
Jenkins Bowen Jenkins	Woods Hole to Barbados Barbados to Paramaribo Paramaribo to Woods Hole	30 days 21 days 31 days	July-October, 1979	OCEANUS
Thompson/Bryan/ Dick	Kane Fracture Zone	30 days	Late summer/early fall, 1979	SEAPROBE
VonHerzen/Slater	Northwest Atlantic (Heat Flow Work)	1 month	September, 1979 or summer	
Fofonoff	Western North Atlantic (Mid-Atlantic Ridge-- Buoy Work) Woods Hole-Woods Hole	30-40 days	Spring/summer 1979	OCEANUS can be used, but not preferred
Fox (Albany)	Oceanographer Fracture Zone	30 days	Late summer/early fall	
Schmitz/Rossby	SOFAR Floats	20-30 days 30-40 days	Spring October/November	OCEANUS
Armi	Sohm Abyssal Plain	25 days 5 days	Late summer 1980	
Hays	Woods Hole-Woods Hole	1 month	Fall, 1979	OCEANUS
Worthington	Gulf Stream	21 days	March-April	OCEANUS

ATLANTIC
(Continued)

NAME	REGION	DURATION	SEASON	COMMENTS
Sanford	Off Continental Shelf	3 days 7 days	Spring Summer	OCEANUS
Orr	Shelf and Rise	Two two-week periods	Winter or early spring; summer	OCEANUS
Jannasch/Murphy	North West Atlantic Woods Hole-Woods Hole or Bermuda-Woods Hole	Two ten-day cruises	Late spring or late summer	OCEANUS
Hollister	So. of Cape Hatteras Woods Hole-Pacific	Two weeks "	Summer	ALVIN/LULU and Escort "
	Nova Scotia Cont. Rise	Two weeks		
Watson	Woods Hole-Woods Hole	3 weeks	Spring	OCEANUS
Wiebe	Warm-core rings	Three 3-week cruises	June-October	
Backus	Gulf Stream	25 days	Early 1979	

1979 Ship Request
14 November 1977

PACIFIC OCEAN

NAME	REGION	DURATION	SEASON	COMMENTS
Sayles	New Zealand-New Zealand	30 days	January, 1979	
Bowin	New Zealand-Samoa	70 days	February-March	
Heath/Ross/ Brewer (MANOP)	Hawaii Panama	30 days	May, 1979	KNORR Hold Request
Bowen	South of Equator Samoa-Tahiti Tahiti-Hawaii	 30 days 30 days		
Spencer/Brewer/ Honjo	Panama Basin	25 days 25 days	Prior to June, 1979 Late 1979	ALVIN Escort
Ewing	So. of Gulf of Calif.	2 months	Early 1979 January-March	KNORR
Von Herzen/ Sclater	Hawaii-Panama	1 month		
Ballard/Grassle/ Edmon/Jenkins	Galapagos Rift	2-1/2 months	January-April	KNORR Ideal
Ballard	East Pacific Rise 21° N.	1 month		ALVIN Escort
Rowe	Coast of Chili or Argentine Basin	3-6 weeks on either		
McCartney	Drake Passage	42 days	Late 1979/Early 1980	
Dick	Bouvet Triple Junction 11° E.	6-7 days		

INDIAN OCEAN

NAME	REGION	DURATION	SEASON	COMMENTS
Eriksen	Western Indian Ocean	30 days	April-May	ATLANTIS II
Luyten	Western Indian Ocean	45 days	May-June	ATLANTIS II
Spencer/Brewer/ Honjo	Western Indian Ocean	30 days	June-July	ATLANTIS II
Bruce	Western Indian Ocean	30 days	July August	ATLANTIS II
Warren	Western Indian Ocean	30 days	August-Sept.	ATLANTIS II
?				
Haedrich	Red Sea	30 days	Sept.-October	
Wiebe/Hulburt	Red Sea	15 days	Oct.-November	
Haedrich	Red Sea, East. Med.	3-4 weeks		ATLANTIS II
Farrington	Black Sea	3 weeks	Early 1980	
Ross/Milliman	Mediterranean	15 days	Nov.-December	ATLANTIS II
Stommel	Eastern Atlantic	30 days	Dec.-January	ATLANTIS II