UNOLS National Expeditionary Planning Committee

Summary of Workshop

December 7, 1984 - San Francisco, California

Introduction On November 16, 1984 in a letter to the UNOLS community (Appendix I) the Chairman reviewed the background of UNEPC, announced a workshop and solicited Notices of Intent to use UNOLS ships in an expeditionary mode.

UNEPC was established in 1983 to *"provide communication among scientists, operating institutions and funding agencies that will allow the timely and effective planning of major expeditionary operations by UNOLS Member Institutions...(and) provide community wide information on probable and possible future vessel operations pertaining to extended or logistically complex voyages and shall provide preliminary schedules for these vessels."*

The UNEPC invited individual investigators to submit *Notices of Intent to use UNOLS ships in an expeditionary mode during 1986, 1987 or 1988.* Summaries of these notices will be used for advanced planning of UNOLS ship schedules and operations.

The UNEPC Workshop in 1984 centered around presentations by program managers and coordinators on their current plans and projections that might entail expeditionary use of UNOLS ships in 1986 and beyond. The Workshop was successful in that the presentations provided much useful information on program direction over the next several years together with cogent (but necessarily tentative) projections of UNOLS ship use over the next several years.

Dr. Robert Corell, Chairman, ALVIN Review Committee noted recent changes to the schedule for ALVIN/ATLANTIS II. In a series of workshops and meetings during the week beginning December 1, 1984, the ALVIN Review Committee heard from prospective ALVIN users, the ALVIN operations group and funding agencies. On the basis of this information, the Committee reached a set of modifying recommendations (Appendix II) for ALVIN/ATLANTIS II operations.

Experience in 1984 demonstrates that the period between ALVIN overhauls should be no more that for 300-350 dives (i.e. 24-30 months), especially when a significant number of those dives are to more than 3000 meters.

Indications from potential investigators and from other sources suggest important ALVIN research in the Atlantic as well as in both the Eastern and Western Pacific. *Therefore the ALVIN Review Committee recommends to funding agencies the following schedule, 1985 through 1988:*

complete current schedule for 1985,
conduct a full overhaul of ALVIN early in 1986,
conduct a modest Atlantic diving program in mid 1986

Appendix IV). Program management structure and descriptions were given for: marine geology/geophysics ($10 million/year), Arctic Sciences ($8 million/year), Remote Sensing ($750 thousand/year), Ocean Acoustics ($3 million/year) and Underwater Acoustics ($3 million/year). Special focus programs are included appropriately in descriptions within that program structure. Detailed ship need projections are included, and UNOLS ships are summarized:

Program	1986 Days	1987 Days	1988 Days	Remarks
Geology/Geophysics	130-150	130-240	90-270	large ships
	30	30	30	ALVIN/AII
Arctic Programs*		30		ALPHA HELIX
Ocean Acoustics	17	15	?	NEW HORIZON

*other uses shown for non-UNOLS ships

Dr. Worth Nowlin, TAMU, and Co-Chairman U.S. Scientific Steering Committee for WOCE used slides (Appendix V) to describe the relationship of the World Ocean Circulation Experiment (WOCE) to the World Climate Research Program (WCRP). WOCE goals are to collect data necessary to develop and test ocean models useful for predicting climate change and then to determine the representativeness of those data sets for long term behavior of the ocean and to find methods for determining long term changes in ocean circulation. Bases for observations would include satellites, neutrally buoyant and surface drifters, ships of oppportunity, volunteer observing ships, hydrography, CTDs, etc., and tracer techniques. Special regional observations in critical areas would employ more current meter arrays, tide gage networks, acoustic tomography and towed instrumentation.

WOCE plans for ship use remain tentative. (Plans should become more definitive in six months to one year.) Generally there could be NSF funding support for 8-10 ship years during the period 1987-1994 (including TTO). Additional ship time would require new money. A specialized "R/V WOCE" may be designed and operated for some regional observation programs. (This is not a new ship, but a concept and a specialized suite of equipment that would transfer from one dedicated-for-the-period ship to another on about two year intervals.)

There is the possibility of significant NASA funding for *in situ* work.

Dr. Peter Hacker, U.S. TOGA Project Office (in NOAA) described U.S. TOGA efforts, project relationship to WOCE and projected ship needs (Appendix VI). The U.S. TOGA would begin in June, 1985, and be a ten year program. Observation nets would likely be combined with those of WOCE in tropical regions.

The estimated ship needs (Appendix VI and summarized below) for the years 1986-1988 will depend crucially on available agency funding for TOGA; the higher levels *require* additional resources over levels now available.

of passive margins. He noted that very little U.S. science has been proposed for in the Western Pacific, citing only University of Hawaii and ALVIN work in the Mariana region.

A letter from Dr. Peter Wilkness, Director, Division of Polar Programs, NSF (Appendix IX) provided information on DPP plans and potential support. As had been earlier stated (UNEPC meeting October 25), DPP sees introduction of the POLAR DUKE as providing capabilities for ocean research not available with R/V HERO. The POLAR DUKE will not be equipped for marine geology and geophysics, however, DPP will continue to rely on UNOLS ships for MG&G: specifically in austral summer 1985/86 or 1986/87. DPP may also support a two ship marine biology project in 1985/86.

The meeting was adjourned at 11:55 a.m.

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

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

UNOLS Office, WB-15
School of Oceanography
University of Washington
Seattle, Washington 98195
(206) 543-2203

November 16, 1984

Dear Colleagues:

This letter, together with the attached announcement and forms to note interest, is to advise you of a UNOLS workshop to generate planning information for the expeditionary use of UNOLS ships. The letter also solicits from investigators Notices of Intent or interest for using any UNOLS ship for expeditionary research during 1986, 1987 or 1988.

Background: Over the past several years it has become apparent that the task of matching time on ships and platforms operated by UNOLS with requests from skilled investigators for the use of those facilities is becoming critical and requires careful advanced planning. The situation is especially critical in two instances: The ALVIN deep submersible, operated as a National Oceanographic Facility in UNOLS, generates many more requests for dive time than can be accommodated. With the advent of the ATLANTIS II as support ship for ALVIN, operations can be considered throughout the world's oceans. Secondly, the oceanographic community's need for UNOLS ships to support extended expeditions to remote areas or to mount investigations requiring significant amounts of ship time or multi-ships operations over several years requires careful advanced planning to be scheduled efficiently. (Use of ALVIN is being addressed in a separate letter and in a separate workshop.)

The UNOLS Expeditionary Planning Committee, George Shor, Jr., Chairman, established in 1983 to "provide communications among scientists, operating institutions and funding agencies that will allow the timely and effective planning of major expeditionary operations by UNOLS Member Institutions. The UNEPC shall establish such communicstions mechanisms as are desirable and necessary to provide community wide information on probable and possible future vessel operations pertaining to extended or logistically complex voyages and shall provide preliminary schedules for these voyages. The UNEPC together with the ALVIN Review Committee and appropriate operating institutins, shall coordinate the planned use of special facilities such as SEABEAM, Multichannel Seismic, Submersible Operations and others deemed necessary with the expeditionary voyage schedules."

UNEPC announces and will host a workshop to generate planning information for expeditionary ship use. The workshop (see and distribute to your co-workers the attached announcement) will be held

December 7, 1984
9 a.m. - 3 p.m.
Room 304, Civic Auditorium
Civic Center
San Francisco, California

2. Notices are solicited for any use of UNOLS ships that entails expeditionary mode to remote or logistically difficult areas, multi-ship operations, repeat requirements over one or more years (as in mooring deployments and recovery), or uses wherein time constraints or other factors demand careful advanced planning in scheduling.

3. Notices are solicited for 1986-1988, except that those investigators who have already submitted Ship Time Requests for 1986 to the UNOLS Office or to UNOLS Member Institutions need not submit.

4. These Notices of Intent are to gain information for the advanced planning of UNOLS ship schedules and operations. They do not replace Ship Time Requests, which should be submitted according to UNOLS and individual institution announcements (generally one year in advance of the year of requested operations).

Sincerely,

George Shor, Jr.

Distributed by

William D. Barbee
Executive Secretary, UNOLS

Attachments: (2)

UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

ANNOUNCEMENT

The

UNOLS NATIONAL EXPEDITIONARY PLANNING COMMITTEE

Will hold an OPEN WORKSHOP

to generate Planning Information on

EXPEDITIONARY INVESTIGATIONS TO BE SUPPORTED BY
UNOLS SHIPS

TIME: FRIDAY, DECEMBER 7, 1984

9 a.m. - 3 p.m.

PLACE: Room 304, Civic Auditorium
Civic Center
San Francisco, California

(In conjunction with AGU/Winter-ASLO/Ocean Sciences meetings)

Everyone with interest in expeditionary oceanographic investigations (to remote areas or logistically complex) that would require support from UNOLS ships is welcome. Program managers and coordinators have been invited to present 1986-1988 projections on TOGA, WOCE, the Environmental Sciences and Geophysics Division of ONR, NSF's Division of Polar Programs and Ocean Drilling, Ocean Drilling's Indian Ocean and Western Pacific Programs and Tropic Heat. For further information contact:

William D. Barbee
UNOLS Office, WB-15
School of Oceanography
University of Washington
Seattle, WA 98195

DRAFT OF
December 5, 1984

ALVIN REVIEW COMMITTEE

Recommendations of December 3, 1984

Operations of the AII-ALVIN for Late 1985 Through 1988

The Alvin Review Committee, following the 1984 Long Range Planning Workshop in San Francisco, recommended a revised general framework for ALVIN operations for late 1985 through 1988. The Committee's recommendations are based upon two key considerations:

(1) The experience with an expanded (over 175 dives/year vs 150 dives/year in previous years) AII—ALVIN operations during 1984 has clearly demonstrated that it will not be possible to extend the overhaul period from the current practice of once every 12-15 months to 36 months as had been planned for the next few years. It is now clear that safe and prudent operations require an overhaul after 300-350 dives, or every 24-30 months, particularly on a schedule that includes a significant number of dives exceeding 3000 meters. Specifically, the Committee feels that an expedition to a deep, remote project area such as the Mariana, could not succeed without first completing a major overhaul (3-4 months).

(2) The projected needs for the best possible program of deep submergence investigations for the ALVIN as outlined by investigators in the Letter of Intent process, and by the presentations given by research investigators at the ARC/UNOLS annual Long Range Planning Workshops in both 1983 and 1984, and as projected by the funding agencies (NSF/ONR/NOAA). Important ALVIN supported research has been proposed in the Atlantic as well as in both the eastern and western Pacific.

Therefore, the committee recommends to the funding agencies the following schedule for the period late 1985 through 1988.

Complete the 1985 schedule for ALVIN as tentatively outlined in the schedule date November 6, 1984.

Conduct a full overhaul of ALVIN during the first 3 to 4 months of 1986.

Conduct a modest deep diving program in the Atlantic during the middle of 1986.

Conduct an expanded diving program in the Pacific (both eastern and western) in late 1986 and through much of 1987. The Committee reaffirms its earlier recommendations for several projects in the Mariana region, but must recommend that they be deferred to 1987. The Committee will entertain requests for additional projects throughout the Pacific for late 1986 and 1987.

The program for 1988 is open, and will be guided by ARC Long Range Planning Workshops. It should be noted that ALVIN will require an overhaul in mid-to-late 1988.

OCEAN SCIENCES (422) 6.1 PROGRAM

ALAN I. WEINSTEIN

(202) 696–4532

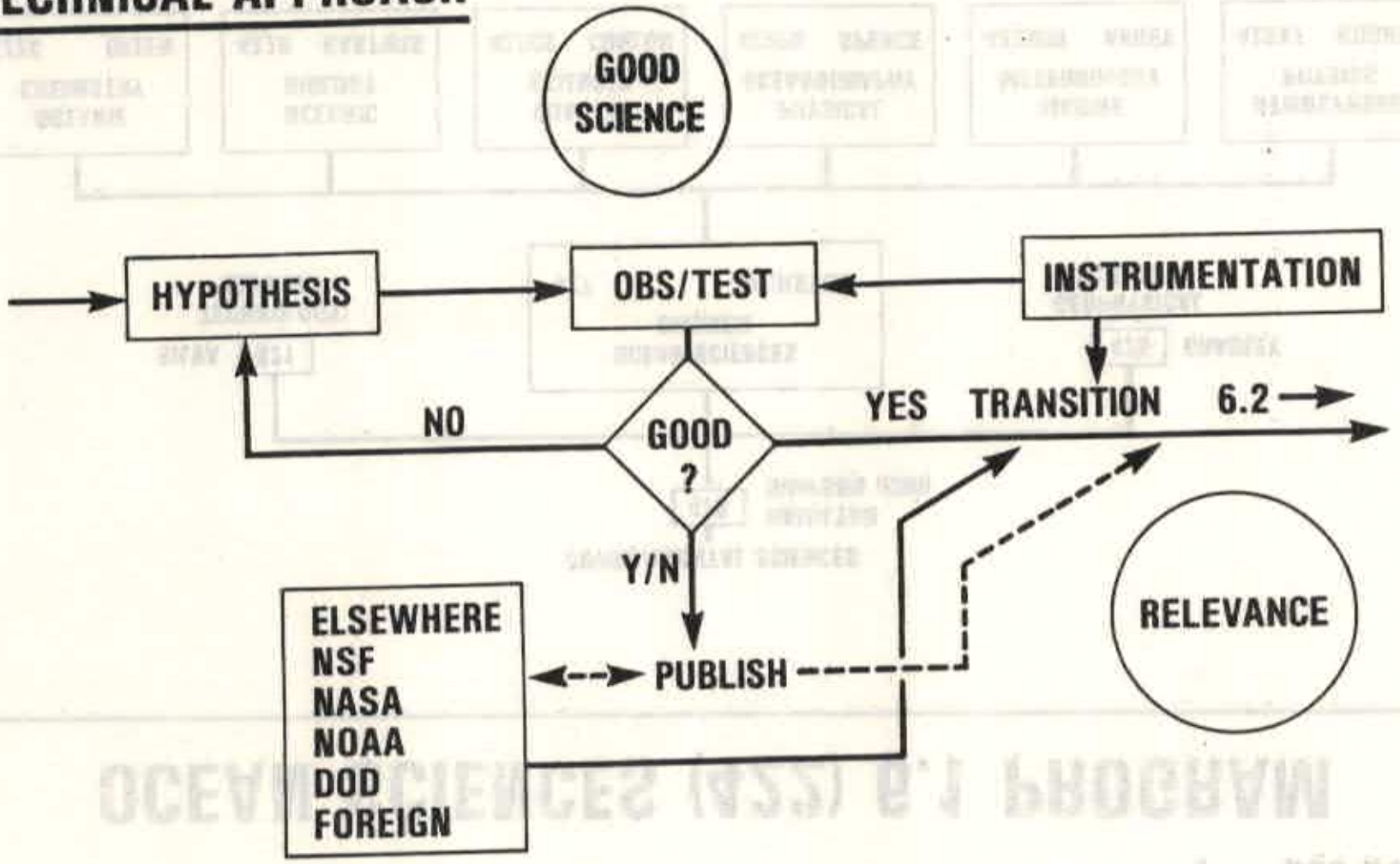
AV 226–4532

7 DECEMBER 1984

Appendix III

OCEAN SCIENCES (422) 6.1 PROGRAM

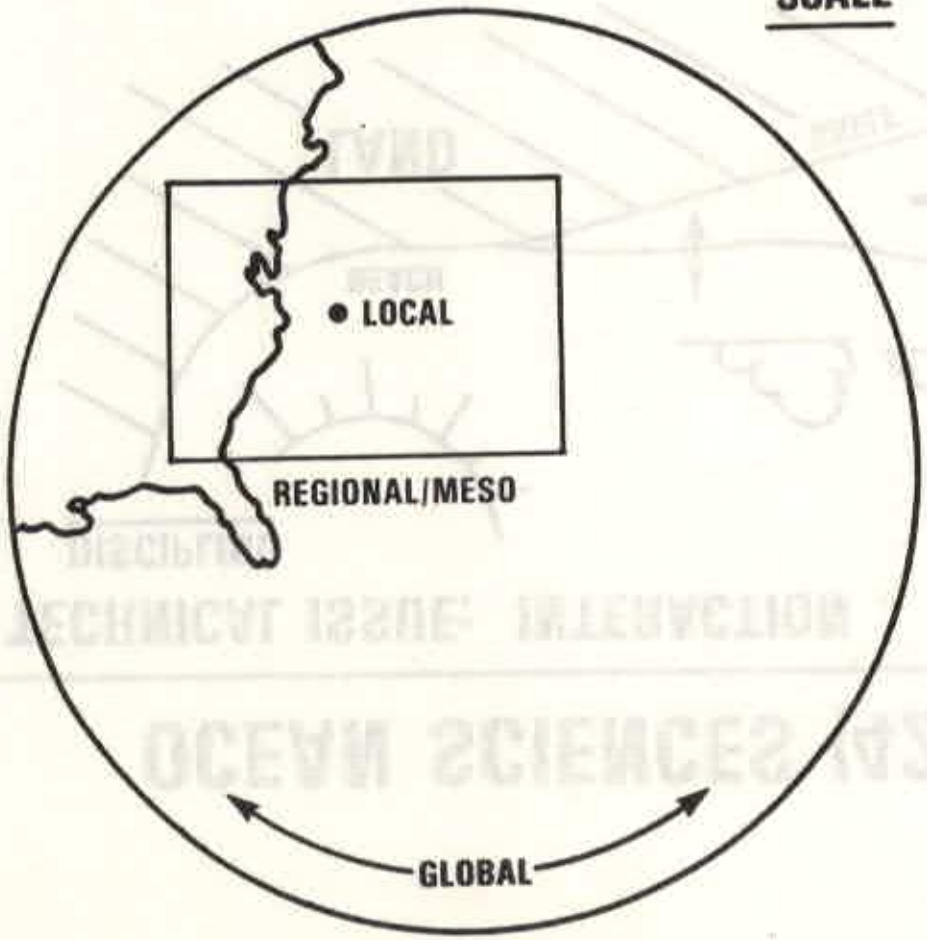
TECHNICAL APPROACH



7 DEC 84

OCEAN SCIENCES (422) 6.1 PROGRAM

TECHNICAL ISSUE: INTERACTION



GLOBAL – WORLDWIDE (10,000'S km)
SEASON → YEARS

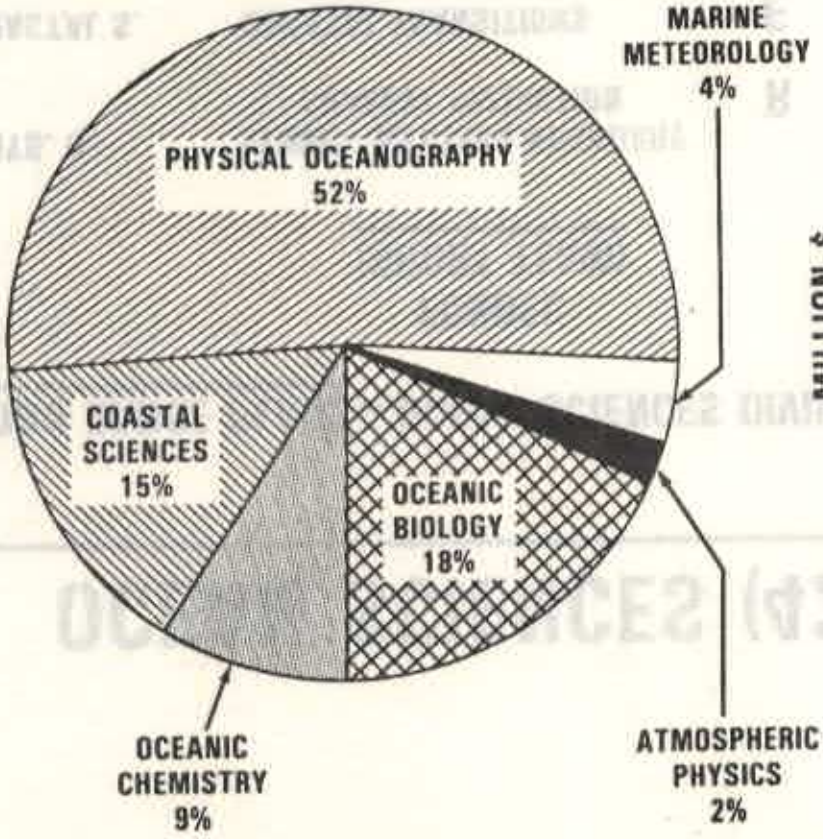
REGIONAL (MESO) – OCEAN BASIN
(10'S km → 1000'S km)
HOURS → WEEKS

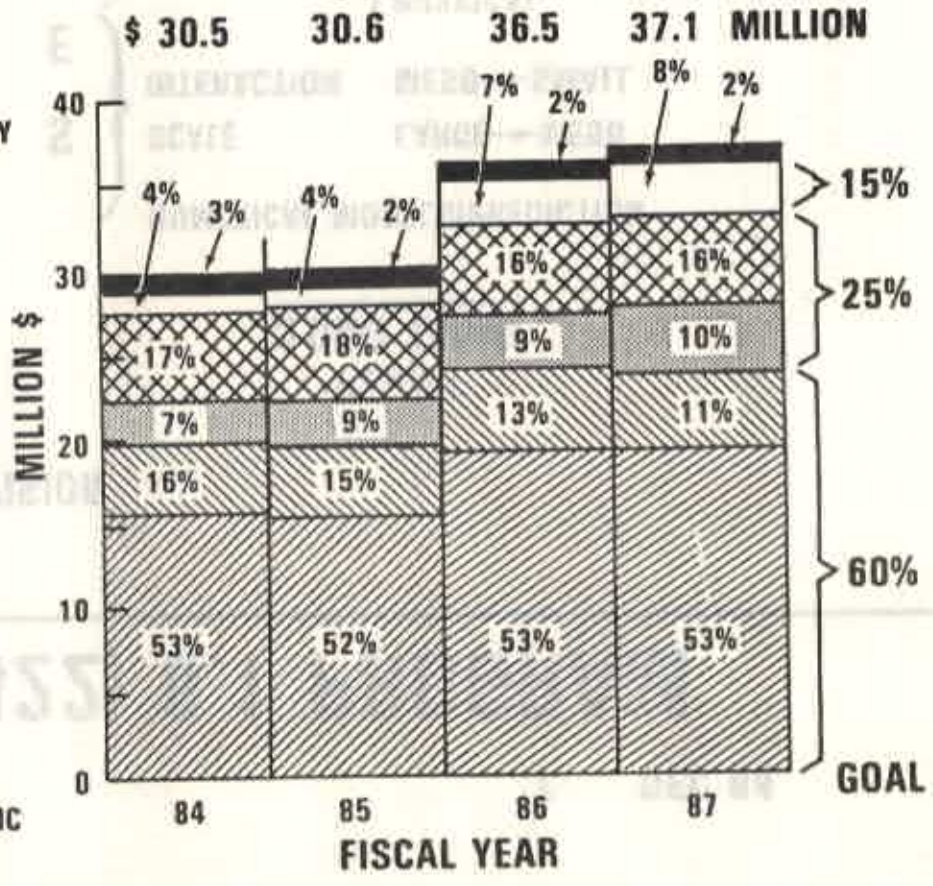
LOCAL – CLOSE BY
(mm → km)
SECONDS → HOURS

7 DEC 84

OCEAN SCIENCES (422) 6.1 PROGRAM

FISCAL SUMMARY (%)
FY 85





7 DECEMBER 1984

OCEANIC SCIENCES (422) 6.1 PROGRAM

ANTICIPATED SHIP USAGE

PROGRAM		YEAR 86		87		88
PHYSICAL OCEANOGRAPHY (ALL LARGE CLASS)	FASINEX	JAN 2 MOS NEAR BERMUDA	JUN 1 MON	←	SPRING 5-10 DAYS	→
	OCEAN STORMS	NOV 1 MON NW PACIFIC	→	POSSIBLE DELAY ←	SPRING 5-10 DAYS	→
	FINE SCALE	SUMMER ½ MON CALIF	SPRING ½ MON GIBRALTAR	SUMMER GULF STREAM	← 15-20 DAYS →	WINTER TBD
	MESO SCALE	FALL 2 MONTHS INDIAN OCEAN		SUM/FALL 2 MONTHS INDIAN OCEAN		SPRING 1 MONTH S.ATL/IO
		SPRING 1 MONTH		SUMMER 2 MONTHS		FALL/WINTER 2 MONTHS

← NORTH ATLANTIC →

ANTICIPATED SHIP USAGE (CONTINUED)

PROGRAM	YEAR 86	87	88	89
OCEANIC				
BIOLOGY				
BIOLUMINESCENCE	← SPRING/SUMMER →			
	1 WEEK	1 MONTH	FEW DAYS	
	← OCEANUS CLASS →			
	← NORTH ATLANTIC →			
HOT VENTS	← TIME VARIABLE AS CONVENIENT →			
	← ALVIN →			
	2 WEEKS	2 WEEKS	2 WEEKS	
	← (NOT NECESSARY CONSECUTIVE) →			
BIOACOUSTICS	← SPRING-FALL →			
	2-1 WEEK	2-1 WEEK	2-1 WEEK	
	← COASTAL CLASS →			
	← ATLANTIC COAST (N.C.-- FLORIDA) →			
METEOROLOGY				
HEAVY WEATHER	JAN		JAN/FEB	
	FEW WEEKS TOTAL		MONTH	
	(CAPE HATERAS)		(OCEANUS CLASS)	
	OFF N.C. COAST		NORTH ATLANTIC	

19 DECEMBER 1984

GEOPHYSICAL SCIENCES DIVISION

MARINE GEOLOGY AND GEOPHYSICS

* DR. G. B. MORRIS, PROGRAM MANAGER
SEISMIC PROPAGATION, SOUTHERN OCEANS, MULTIBEAM, CRUSTAL STRUCTURE

DR. J. H. KRAVITZ
SEDIMENT DYNAMICS

MR. J. G. HEACOCK
PHYSICAL PROPERTIES OF MATERIALS
GRAVITY, GEODESY AND GEOMAGNETISM

DR. D. EPP, IPA

ARCTIC SCIENCES

* DR. G. L. JOHNSON, PROGRAM MANAGER
ARCTIC SCIENCE, MIZEX, ARCTIC ASW

MR. R. F. OBROCHTA
UNDERWATER ACOUSTICS

REMOTE SENSING

*MR. C. A. LUTHER
REMOTE SENSING, SAR

OCEAN ACOUSTICS

* DR. J. M. MCKISIC
ENVIRONMENTAL ACOUSTICS

* MR. M. A. BLIZARD
OCEAN OPTICS

UNDERWATER ACOUSTICS

* DR. R. M. FITZGERALD
SOURCES, PROPAGATION - SHALLOW WATER ACOUSTICS

DR. R. L. STERNBERG
FLOW NOISE

*DENOTES SPEAKERS

19 DECEMBER 1984

MARINE GEOLOGY/GEOPHYSICS

MULTIBEAM ECHO SOUNDERS SFP

OBJECTIVE

- UPDATE THE BATHYMETRIC SOUNDING CAPABILITIES OF ACADEMIC RVs THROUGH A COMBINATION OF CAPTIAL PURCHASE AND IMPROVEMENTS IN SIGNAL PROCESSING.

AREAS OF EMPHASIS

- HULL-MOUNTED AND TOWED SYSTEMS
- SIGNAL PROCESSING/IMAGE PROCESSING

PLANS

- TOWED SYSTEM ACCURACY
- REAL TIME DATA ANALYSIS

INTERACTIONS

- CO-FUNDED WITH NSF/MATCHING UNIVERSITY FUNDS
- DMA, NAVOCEANO (DIRECT TRANSITION)

OTHER CONSIDERATIONS

- GOAL IS THREE COMPLETE SYSTEMS
- NAVOCEANO HAS ARRAYS AND PLANS TO UPDATE PROCESSING

19 DECEMBER 1984

ARCTIC SCIENCE

OBJECTIVE

- UNDERSTAND THE ENVIRONMENT OF THE ARCTIC AND MARGINAL ICE ZONE INCLUDING SEA ICE CHARACTERISTICS AND DYNAMICS, ACOUSTIC PROPERTIES, OCEAN FRONTAL FEATURES, ATMOSPHERIC CONDITIONS AND GEOLOGY AND GEOPHYSICS.

AREAS OF EMPHASIS

- ARCTIC ACOUSTICS
- AIR-ICE-SEA INTERACTIONS
- PHYSICAL OCEANOGRAPHY
- REMOTE SENSING
- GEOLOGY/GEOPHYSICS

PLANS

- CORE PROGRAM HEAVILY SUPPORTIVE OF SPECIAL FOCUS PROGRAMS (MIZEX, ARCTIC ASW)
- ANALYSIS OF MIZEX-84 DATA
- DYNAMICS OF FRAM STRAIT AREA
- ATCTIC INTERNAL WAVE EXPERIMENT (JOINT WITH P/O)

INTERACTIONS

- PROGRAM IS NOTED FOR STRONG INTERACTION WITH ALL NAVY COMMUNITIES FROM 6.2 TO OPERATIONAL FORCES.
- NAVELEX, ONR 200, OPNAV, NAVY LABS (NUSC, NRL, NORDA)
- JOINT PROGRAMS WITH P/O, MA, OA

OTHER CONSIDERATIONS

- SIZEABLE PORTION OF OPERATING BUDGET FOR LOGISTICS

19 DECEMBER 1984

ARCTIC SCIENCE

ARCTIC ASW SFP

OBJECTIVE

- UNDERSTANDING OF UNDERWATER ACOUSTICS IN BOTH THE MARGINAL ICE ZONE AND THE PERMANENT ICE PACK.

AREAS OF EMPHASIS

- HIGH FREQUENCY UNDER ICE REVERBERATION
- PHYSICAL PROCESSES THAT GENERATE AMBIENT NOISE
- USE OF TOMOGRAPHY TO INFER UNDER ICE WATER MASS PROPERTIES

PLANS

- FIELD YEARS ARE FY87 AND FY88
- SMALL FIELD TESTS THAT ARE FOCUSSED IN SCOPE AND RESULTS

INTERACTIONS

- WILL DRAW HEAVILY ON CORE FUNDS
- NAVELEX, NAVSEA PROGRAMS ARE TIGHTLY COUPLED

OTHER CONSIDERATIONS

- MAJOR EQUIPMENT PURCHASES IN MID-YEARS
- PROGRAM BEGINS THIS YEAR
- FIVE YEAR MGT PLAN IN FORCE

19 DECEMBER 1984

OCEAN ACOUSTICS

OBJECTIVE

- FUNDAMENTAL LIMITATIONS IMPOSED BY THE OCEAN ENVIRONMENT IN THE USE OF UNDERWATER ACOUSTICS.

AREAS OF EMPHASIS

- ACOUSTIC TOMOGRAPHY
- BOUNDARY SCATTERING OF ACOUSTIC ENERGY.
- SEISMIC INVERSE METHODS (STRONG COOPERATION HERE WITH MARINE G/G).
- AMBIENT NOISE.
- VERY LOW FREQUENCY PROPAGATION

PLANS

- AN EXTENDED RECIPROCAL TRANSMISSION EXPERIMENT
- EXPERIMENT IN A REGION WITH HIGH INTERNAL WAVE LEVELS.
- THE BASIC PHYSICS OF AMBIENT NOISE GENERATION.
- OBS BEAMFORMING EXPERIMENT

INTERACTIONS

- 422PO, 425GG, 411, DARPA, NSF, NAVELEX AND OPNAV, ONR 200

OTHER CONSIDERATIONS

- STRONGLY COMPLEMENTS PHYSICAL OCEANOGRAPHY PROGRAM.
- CLOSELY COUPLED TO UNDERWATER ACOUSTICS.

19 DECEMBER 1984

UNDERWATER ACOUSTICS
SHALLOW WATER ACOUSTICS SFP

OBJECTIVES
- °DEVELOP QUANTITATIVE UNDERSTANDING OF THE FACTORS CONTROLLING THE SHALLOW WATER ACOUSTIC FIELD
- °DETERMINE CLASSIFICATION CLUES THAT CAN BE USED FOR TARGET IDENTIFICATION IN SHALLOW WATER

AREAS OF EMPHASIS
- °FACTORS CONTROLLING IMPULSE RESPONSE
- °FREQUENCIES BELOW 1 KHZ
- °EXTRAPOLATION OF MEASURED ACOUSTIC PROPERTIES FROM ONE GEOGRAPHIC REGION TO OTHER GEOLOGICALLY SIMILAR REGIONS

PLANS
- °SHALLOW WATER EXPERIMENTS TO BE CONDUCTED IN SUCCESSIVELY MORE COMPLEX AREAS
- °FUNDING CUTS TO BE APPLIED TO CLASSIFICATION SUBPROJECT

INTERACTIONS
- °JOINT SPONSORSHIP WITH ONR 425GG AND WITH NAVELEX 612
- °COORDINATED WITH ONR 200 SHALLOW WATER PROGRAM AND WITH ELEX BOTTOM INTERACTION PROGRAM

19 DECEMBER 1984

OCEAN OPTICS

BIOLUMINESCENCE/OPTICS SFP

OBJECTIVE

- DEVELOPMENT OF AN UPPER OCEAN PREDICTIVE MODEL WHICH RELATES OPTICAL PROPAGATION AND BIOLUMINESCENCE TO THE PHYSICAL FORCING FUNCTIONS.

AREAS OF EMPHASIS

- BIOLOGICAL PROCESSES THAT GENERATE BIOLUMINESCENCE AS WELL AS STRONGLY INFLUENCE LIGHT SCATTERING AND ABSORPTION
- NUTRIENT AND LIGHT LEVEL IMPACT ON THE VERTICAL LAYERING OF BIOLOGICAL SPECIES

PLANS

- STUDY OF THE COUPLING BETWEEN FLUID MOTION, BIOLOGICAL PROCESSES AND OPTICAL PROPERTIES IN A WELL CHARACTERIZED OCEANIC REGION.
- DEVELOPMENT OF A CREDIBLE BATHYPHOTOMETER.

INTERACTIONS

- SP202, NRL CODE 4350, SLC, NAVAIR-370, NOSC, NORDA CODE 500
- JOINT PROGRAM WITH 422 B/O

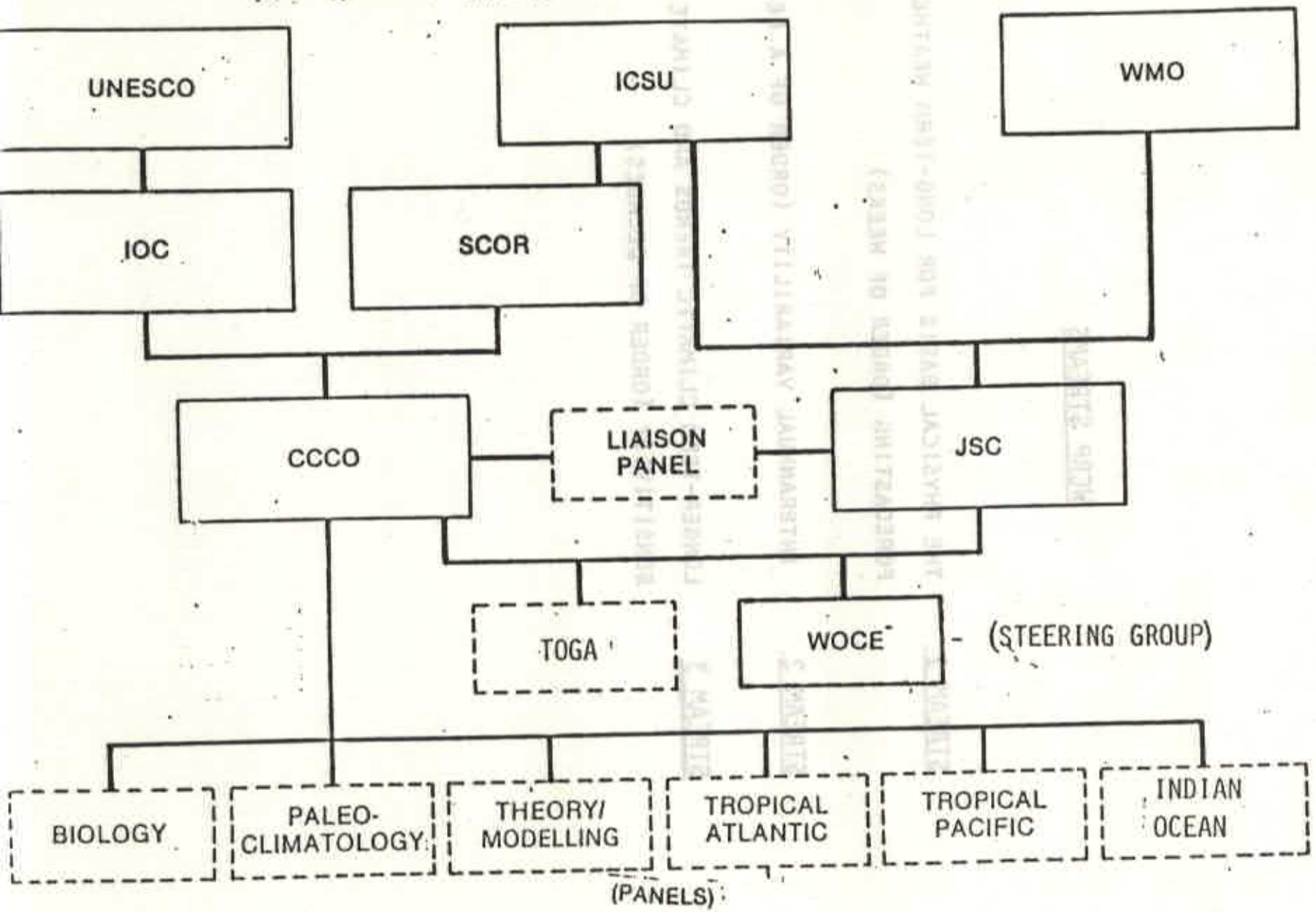
OTHER CONSIDERATIONS

- FIRST YEAR OF SFP
- PRIMARY FIELD-ORIENTED, INTERDISCIPLINARY PROGRAM

ARCTIC PROGRAMS

	FY 86	FY 87	FY 88
SEAMOUNT EXPLORATION NR-1	NORWEGIAN SEA SUMMER	----	----
MELTBACK FOLLOW RETREATING MIZ ALPHA-HELIX	----	30 DAYS BERING SEA SPRING	----
FRAM STRAIT NORWEGIAN & GERMAN SHIPS	12 DAYS	12 DAYS	12 DAYS
WINTER MIZEX	----	60 DAYS N. GREELAND SEA FEB - MAR	----
CHUCKI BORDERLAND USGS ICEBREAKER GLACIER	30 DAYS ARCTIC AUG-SEPT	----	----
MIZ ACOUSTICS ICE-REINFORCED SHIPS	----	----	60 DAYS GREENLAND SEA SPRING

WORLD CLIMATE RESEARCH PROGRAMME



INTERNATIONAL WOCE GOALS

GOAL 1: TO COLLECT THE DATA NECESSARY TO DEVELOP AND TEST OCEAN MODELS USEFUL FOR PREDICTING CLIMATE CHANGE.

GOAL 2: TO DETERMINE THE REPRESENTATIVENESS OF THE WOCE DATA SETS FOR THE LONG TERM BEHAVIOR OF THE OCEAN, AND TO FIND METHODS FOR DETERMINING LONG TERM CHANGES IN THE OCEAN CIRCULATION.

WOCE

The Major Elements

Models.

"Models" are an essential ingredient of WOCE. The term is used in its widest sense to include:

Eddy resolving general circulation models (ECGM's).

By the early 1990's, these models are expected to exist on ocean basin scales and have realistic thermodynamic components.

Global Circulation Models (GCM's).

Such models already exist (GFDL...), will improve over the next decade and will be coupled to atmospheric GCMS.

Process Models.

Many different types, including mixed layer models, bottom-water-convective models, ice dynamics, ...

Inverse Models.

Includes simple box models as well as "assimilation" in EGCM's of full WOCE data sets. General data synthesis procedures.

Theory.

Involved intimately in all of the above.

JSC/CCCO SCIENTIFIC STEERING GROUP FOR WOCE

MEMBERSHIP: F. BRETHERTON (U.S.A.) CHAIRMAN, D. ANDERSON (U.K.), W. JENKINS (U.S.A.), R. KIMURA (JAPAN), M. LEFEBVRE (FRANCE), K. HASSELMANN (FRG), A. SARKYSIAN (U.S.S.R.), J. WOODS (FRG), C. WUNSCH (U.S.A.)

MEETINGS:		
	3-5 AUGUST 1983	WOODS HOLE, U.S.A.
	23-28 JANUARY 1984	WORMLEY, U.K.
	5-8 NOVEMBER 1984	VENICE, ITALY

U.S. WOCE WORKING GROUPS

WITH CHAIRMEN

NUMERICAL MODELING
Dale Haidvogel (NCAR)

TECHNOLOGY DEVELOPMENT
Robert Heinmiller (OMNET/MIT)

WOCE/TOGA DATA MANAGEMENT
Ferris Webster (DELAWARE)

OCEAN SURFACE LAYER
Roland deSzoeke (OSU)

TRACER
William Jenkins (WHOI)

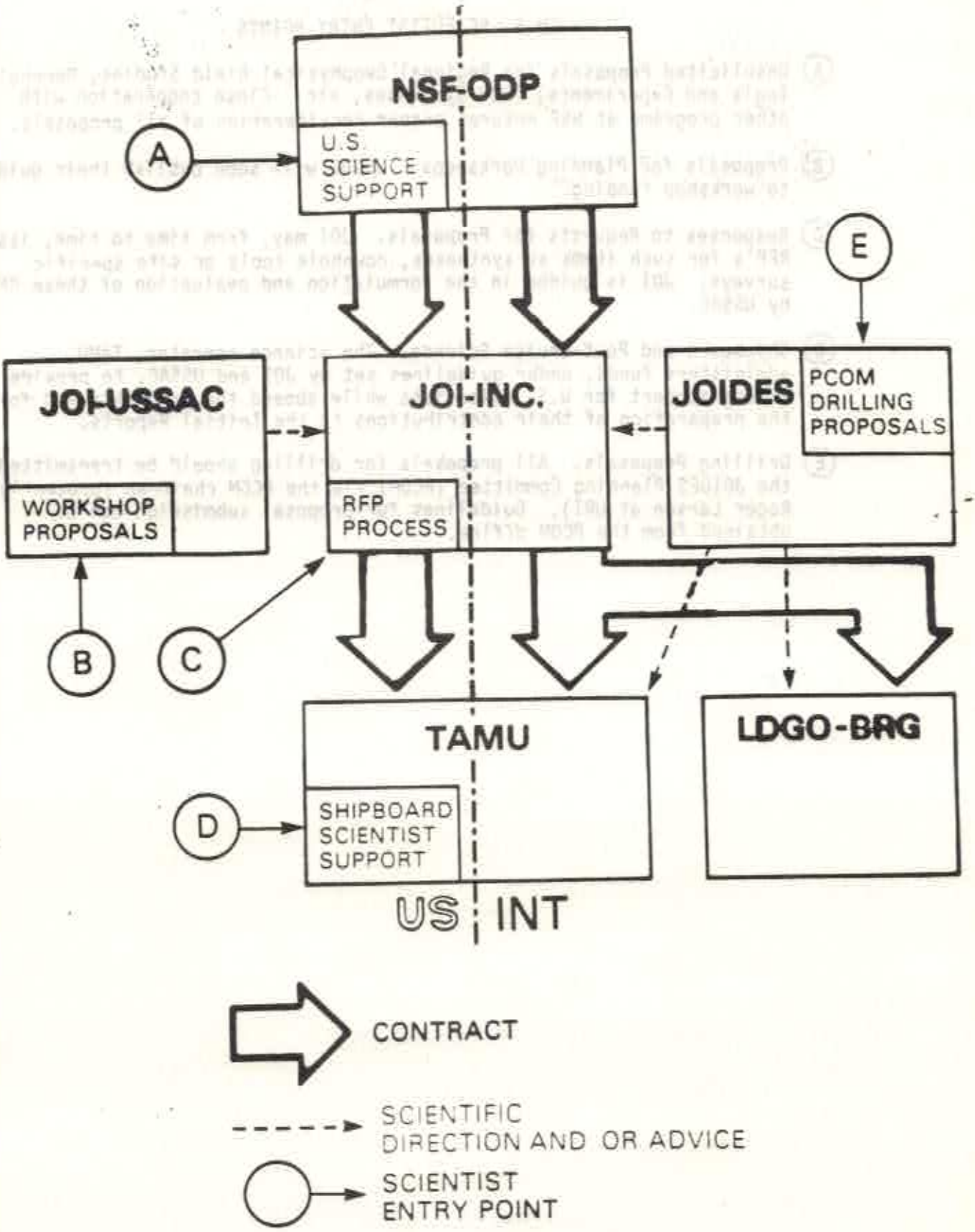
ATMOSPHERE-OCEAN EXCHANGE
William Large (NCAR)

EXPERIMENTAL DESIGN FOR MEASURING GEOSTROPHIC CIRCULATION
James McWilliams (NCAR)

Oct. 1984

PROPOSED ELEMENTS OF TOGA (Ocean)

	SHIP NEEDS
Pacific	
Sea Level Network	
XBT (CTD, Doppler) Lines	Opportunity
Current Meter Moorings + Met.	NOAA
Temperature Moorlings + Met.	NOAA
Circulation Drifters	NOAA
Temperature Chain Drifters	"
Wind Data Sets	"
Heat Flux Data Sets	"
Numerical Modeling	"
Rapid Response Centers + Field Work	NOAA
---	---
Exploratory + Regional Studies	UNOLS
Process Oriented Studies	NOAA/UNOLS
(EPOCS, TROPIC HEAT, ...)	
Atlantic	
Planning Activities	UNOLS
(Continued Monitoring)	
Analysis + Modeling	
Indian	
Planning Activities	



NATIONAL SCIENCE FOUNDATIO
1800 G Street, N. W.
Washington, D. C. 20550

Science Support for ODP

U.S. Drilling Science Support Activities of JOI

SEDCO/BP 471 will sail in January 1985 on Leg 101, the first leg of the Ocean Drilling Program (ODP). Augmenting this drilling effort is a new program of support designed to stimulate and encourage the widest possible community involvement in scientific ocean drilling. The program, which will be managed by Joint Oceanographic Institutions Incorporated (JOI) under a contract from the National Science Foundation (NSF) and with the guidance of JOI's newly established U.S. Science Advisory Committee for ODP (JOI-USSAC), will provide funds for U.S. scientists to conduct planning activities, participate in cruises, and carry out both pre- and post-cruise studies. These activities are intended to complement other drilling-related research funded directly by the National Science Foundation as described in the accompanying article.

Program Elements

It is expected that the JOI Science Support Program will initially consist of the following components:

- Support for U.S. scientists participating in ODP and for necessary follow-up studies related to initial publication of drilling results;
- Planning activites, such as workshops, to define concepts and develop problem-related drilling programs, including U.S. participation in Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES);

In addition, requests for proposals (RFP's) may be issued for other surveys, regional and topical syntheses of existing data, and development of downhole tools and instrumentation as these tasks are identified.

The JOI Science Support Program complements the activities of JOIDES and ODP by encouraging and supporting the participation of members of the U.S. scientific community. JOIDES, the international body responsible for scientific direction of ODP, has established specific guidelines for the submission of proposals (contact the JOIDES Office, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI 02882 for further information). Accordingly, drilling proposals formulated by scientists or groups of scientists as a result of activities supported by the JOI Science Support Program will be presented by their originators to JOIDES for review and consideration. Similarly, the incorporation of innovative downhole tools or experiments into the drilling program is subject to the prioritization of JOIDES. Conversely, when JOIDES has identified specific ODP programmatic needs, for example, for site surveys or for particular downhole instruments or systems, the JOI Science Support Program can aid in supporting members of the U.S. scientific community who respond to the identified need.

The JOI U.S. Science Advisory Committee (JOI-USSAC), appointed by the JOI Board of Governors, has members drawn from academia, government, and industry (see Table 1). JOI-USSAC will act as the Science Support Program planning committee and will be responsible for the overall long-term scientific direction of the program, including

- Definition of the various components of the annual program plan and budget request submitted to NSF by JOI;
- Guiding JOI in providing support for workshops, regional and topical syntheses, site surveys, downhole experiments, and meetings to disseminate scientific results;
- Assisting JOI with preparation of RFP's and the evaluation of proposals for the above activities;
- General oversight of scientific projects funded through JOI as part of the Science Support Program;
- Appropriate coordination of Science Support Program activities with other groups involved in ODP.

Science support for ODP participants is of the highest priority. Therefore the JOI Science Support Program was designed to provide the opportunity for participants to obtain both salary while at sea and support for postcruise studies. This funding will be administered following guidelines established by JOI and approved by the National Science Foundation.

Other specific tasks deemed necessary by JOI-USSAC, e.g., site surveys, regional and topical syntheses, and development of downhole tools and instrumentation, will be carried out by individuals or groups under contract JOI. Contractors will be selected on the basis of responses to RFP's which will describe the work to be done and the basis upon which the selection will be made. JOI-USSAC is responsible for assisting JOI in developing appropriate work statements for inclusion in RFP's and in evaluating proposals received. Solicitations will be advertised and routinely mailed to a list of appropriate organizations. In the evaluation process, JOI-USSAC may invite comment from qualified scientists from government, industrial, and academic organizations. To maintain impartiality, JOI-USSAC members from institutions that have submitted proposals will be excluded from the review and evaluation process.

Invitation for Workshop Proposals

An important element of the JOI Program is the encouragement and development of long-term planning and innovative problem definition in matters related to ocean drilling and the stimulation of input from the U.S. science community at large. Therefore funds have been made available to support planning activities which will produce explicit programs for drilling-related research. To these ends, JOI-USSAC invites proposals for workshops that will result in the outlining of issues to be addressed and the identification of specific approaches to be taken. Acceptable themes may include, but are not restricted to, the broadly based scientific objectives outlined in the 1981 COSOD Report (*Report of the Conference on Scientific Drilling*, sponsored by JOIDES; copies may be obtained from JOI). It is expected that most of the costs of these workshops will consist of travel for participants and report preparation. A comprehensive report on the accomplishments of each workshop, with specific recommendations for further research, will be required upon its completion. Proposals or inquiries should be addressed to JOI, Suite 316, 2100 Pennsylvania Ave., N.W., Washington, DC 20037.

U.S. Drilling Science Support Activities of NSF

The National Science Foundation's Ocean Drilling Program (ODP) is accepting proposals from U.S. scientists and institutions for scientific and technological activities related to ocean drilling. Support will focus on the following topics:

- Investigations of potential drilling regions, especially by means of regional geophysical field studies;
- The feasibility and initial development of downhole instruments and techniques;
- Downhole geophysical experiments.

In addition, NSF will consider proposals for studies leading to long range definition of future drilling objectives.

To be considered for support, proposed projects should be clearly relevant to the drilling plans of the international drilling community and focus on predrilling or drilling-concurrent activities. Postcruise studies should generally be submitted through other appropriate NSF programs, such as Oceanography, Earth Sciences, Polar Programs, etc., but close coordination at the foundation will ensure that proposals are considered by the appropriate program regardless of where they are sent.

Target dates for proposals are January 1 and July 1. Proposals should be addressed to the ODP office at 1800 G Street, N.W., Washington, DC 20550 (tel. 202-357-9849).

The news item was contributed by John H. Clotworthy, *Joint Oceanographic Institutions Incorporated, Washington, D.C., and* Garrett Brass, *National Science Foundation, Washington, D.C.*

TABLE 2

"Super-Proposal"	Proposals	Thematic Panels	Survey Status R=regional S=site	Site Days
Agulhas Plateau	6,36,53	S T	R=ok, S=needed	9 9
SW Indian Ridge (L-4)	26	L	R=ok, S=needed	1 leg
Crozet Basin	29	S and PCOM	R=ok, S=needed	?
Crozet Plateau	27,59	TS	R=ok, S=needed	?
Davie Ridge	62	TS	R=ok, S=ok? clearance?	?
N. Madagascar Rift Margin	17,40	TS	"	?
W. Somali Basin	13,17, 40,41	TS	R=ok, S=needed	20
Seychelles	19	T	R-ok, S=needed	?
Amirantse Ridge & Trough	19	T	"	?
Mascarene Basin Fossil Ridge	-	L	"	1 leg
Rodriguez Triple	55	L	R=ok, S=ok?	1 leg
N. Somali Basin	21,42	TS	R=ok, S=needed	>1 leg
Owen F.Z.	42	T	"	1 leg
Gulf of Aden	15, 42	TL	R=ok?, S=needed	1 leg
Red Sea	7,16,23, 52, 56	TSL	R=ok, S=needed? s=funded & planned	1 leg
Makran	8	TS	R=ok, S=funded and planned	30-45
Owen Ridge	30,31	TS	R=fair, S=needed	15
Oman Margin	33,43	S	R=very poor, S=needed	

NATIONAL SCIENCE FOUNDATION
WASHINGTON, D.C. 20550
DIVISION OF POLAR PROGRAMS

November 13, 1984

Dr. George G. Shor, Jr.
Chairman, UNEPC
Scripps Institution of Oceanography
La Jolla, California 92093

Dear Dr. Shor:

As we discussed at the UNEPC meeting on October 25, here in Washington, the replacement of R/V Hero by Polar Duke has introduced an additional sea-going research capacity into the U.S. Antarctic Research Program (USARP), although as yet we have no experience with the ship and cannot say precisely where the limits of the added capacity fall.

Because of the much greater size and range of Polar Duke, we presume that oceanographic research projects that in the past had been scheduled on USARP-supported UNOLS ships can now be carried out on Polar Duke. These would include projects that do not require extensive specialized ship-board equipment, but rely on the basic suite of winches and laboratory spaces. At this time we have made a decision not to equip the ship for research in marine geophysics, and will therefore continue to rely on UNOLS ships for this kind of support.

To help the committee in its planning, I want to state that marine geophysics research has a high priority within the U.S. Antarctic Research Program, and that we are prepared to support a marine geophysics cruise, if feasible on scheduling and scientific grounds, in the 1985/86 or 1986/87 austral summer season. We also have received proposals for a two-ship marine biology project for the 1985/86 season which may require UNOLS support.

I would also like to suggest to the committee that since it is in a much more central position with regard to the totality of oceanographic research and its associated ship schedules, it might consider the needs of the USARP when it sees opportunities for antarctic research cruises. The number of southern hemisphere ports suitable for staging antarctic cruises is not large, the weather window is limited, and we do share your interest in making effective use of the UNOLS fleet.

Sincerely,

Peter E. Wilkniss
Division Director