REPORT OF THE UNITED STATES DELEGATION

TO THE

FIRST SESSION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

PARIS, FRANCE

19 - 27 OCTOBER 1961

Submitted to the Secretary of State

James H. Wakelin, Jr.
Chairman of the Delegation

9 November 1961

Prepared by: Steven N. Anastasion
CDR, USN

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REPORT OF THE UNITED STATES DELEGATION
TO THE
INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

I. BACKGROUND.

The General Conference of the United Nations Educational, Scientific, and Cultural Organization, at its Eleventh Session in November 1960 adopted the proposal of the Intergovernmental Conference on Oceanographic Research, held at Copenhagen from 11 to 16 July 1960, to establish an Intergovernmental Oceanographic Commission (IOC) within the United Nations Educational, Scientific, and Cultural Organization (UNESCO). The purpose of the Commission, as stated in the UNESCO resolution, is "to promote scientific investigations with a view to learning more about the nature and resources of the oceans, through the concerted action of its members."

The First Session of the Intergovernmental Oceanographic Commission was convened by the Director-General of UNESCO and held at the UNESCO Headquarters, Paris, France, from 19 to 27 October 1961. This session, in addition to deciding organizational matters required for the continuing work of the Commission, considered substantive programs and other technical items needed to fulfill the purpose of the Commission.

II. AGENDA.

1. The Provisional Agenda submitted by the IOC Secretariat were somewhat extended and modified by the Commission. The final agenda as adopted are presented in Annex I.

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III. PARTICIPATION.

1. Annexes appended hereto outline participation during the Commission proceedings as follows:

Annex II: Countries and International Organizations represented at the First Session of the IOC. A list of members of some of the principal delegations is also included.

Annex III: The Delegation of the United States.

Annex IV: The Principal Officers of the IOC during the First Session.

Annex V: The Principal Working Groups established for Specific Purposes.

2. In addition to the United States Delegation listed in Annex III, the following unofficial United States representation was noted as present and observing part or all of the proceedings:

Senator Norris Cotton, Senate Commerce Committee.

Senator John Marshall Butler, Senate Commerce Committee.

Congressman John Dingle, Acting Chairman, Committee on Oceanography of the House Merchant Marine and Fisheries Committee.

Congressman George Miller, Chairman, House Committee on Science and Astronautics.

Congressman W. K. Van Pelt, House Merchant Marine and Fisheries Committee.

Mr. C. F. Ducander, Chief Counsel, House Committee on Science and Astronautics.

Mr. John M. Drewry, Chief Counsel, House Merchant Marine and Fisheries Committee.

Mr. Paul Bauer, Special Consultant, House Merchant Marine and Fisheries Committee.

Mr. Daniel B. Markel, Special Consultant, Senate Commerce Committee.

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Dr. Dixie Lee Ray, National Science Foundation.

Dr. Adrian F. Richards, Office of Naval Research,
London.

Dr. J. B. Hersey, Woods Hole Oceanographic Institution.

Rear Admiral Rawson Bennett, USN (Ret.), Consultant
to the Assistant Secretary of the Navy (Research
and Development).

Commander Walter C. Sands, USN, Office of Naval
Research, London.

Commander John A. Davis, USN, Office of Chief of
Naval Operations.

3. Participants from the United States representing
other agencies were:

Dr. M. B. Schaefer, Inter-American Tropical Tuna
Commission (IATTC).

Mr. R. G. Snider, Special Committee on Oceanic
Research (SCOR).

Rear Admiral R. W. Knox, International Hydrographic
Bureau (IHB).

IV. WORK OF THE CONFERENCE.

1. The session was opened by M. Rene Maheu, the Acting Director-General of UNESCO, who welcomed the participants to this First Session. He reviewed the history leading to the organization of the Intergovernmental Oceanographic Commission and spoke of the need for international action in the study of the seas. M. Maheu urged recognition of limits of responsibilities as well as the provision of a flexible organizational procedure which would enhance close cooperation with the World Meteorological Organization (WMO), Food and Agriculture Organization (FAO), International Atomic Energy Agency (IAEA), and other agencies. Although he commented that the responsibilities of the IOC in its activities must be "purely oceanographic" research and training, and that the primary responsibilities of agencies such as WMO, FAO, and IAEA and others must be recognized, he concluded his opening remarks by stating to the Commission that "your interests are as wide as the ocean itself."

2. M. Maheu continued by suggesting that the Commission consider the election of a temporary Chairman and two Vice-Chairmen to serve only during the First Session. The Commission agreed. Dr. Anton F. Bruun (Denmark) was unanimously elected as Chairman. Immediately following Dr. Bruun's assumption of the Chairmanship, Vice Admiral V. A. Tchekourov (USSR) made a statement deploring the representation of China by the Taiwan representative and expressed hope that Communist China would soon have its rightful place in the United Nations and its specialized agencies. Dr. Keh Ming Chao (China) pointed out that the IOC was established by the General Conference of UNESCO, of which the Republic of China is a member. He stated that the communist rebellion has neither actual nor legal control of the seas around China. Dr. Chao then asked that the Chairman not entertain any such political questions at this session. There was no further discussion on this point.

3. The Commission then proceeded to the election of the two Vice-Chairmen. The following were unanimously elected:

Vice Admiral V. A. Tchekourov	(USSR)
Dr. William M. Cameron	(Canada)

4. Dr. Bruun suggested the formation of a Steering Committee of eight to assist the Bureau (Chairman and Vice-Chairmen) during this First Session. The Commission agreed and unanimously elected the following Steering Committee:

Captain R. H. R. Bagnati	(Argentina)
Vice Admiral Sir Archibald Day	(UK)
Dr. Gerhard Meseck	(Federal Republic of Germany)
Dr. N. K. Panikkar	(India)
Dr. Stanislaw Szimborski	(Poland)
Mr. Morikuni Toda	(Japan)
Dr. J. H. Wakelin, Jr.	(USA)
Professor H. Lacombe - Rapporteur	(France)

5. The next order of business was consideration of the provisional Rules of Procedure. After considerable discussion, Dr. Wakelin (USA) suggested that the Rules of Procedure be adopted provisionally and that, in consideration of the agenda, an item be included to provide for such changes as may be found appropriate as a result of the activities of the First Session. This suggestion was adopted. The Commission then proceeded to modify and adopt the agenda for the Session (Annex I).

6. Discussion in plenary session regarding relationships between the IOC and other organizations, including advisory bodies, was lengthy and diverse. After considerable commentary involving the composition of the Special Committee on Oceanic Research (SCOR), the nature of an advisory group on fisheries, the interplay of interests and necessary cooperation between IOC and other international bodies, and the role of the Secretariat in these matters, Dr. Bruun suggested that the Bureau and the Steering Committee meet to organize a working group to study these problems. Dr. Bruun subsequently reported that the Steering Committee had organized Working Group One (Relationship between IOC and International Organizations, including Fisheries Aspects) for these purposes (see Annex V). He also stated that the Steering Committee itself would undertake consideration of the Rules of Procedure.

7. The next major plenary discussion centered around the international oceanographic program, and the exchange of oceanographic data (Items 5 and 6 of the Agenda). Dr. William Cameron (Canada) suggested that each nation inform all others, via the Secretariat, of its past and present programs, as well as its future plans. Dr. M. B. Schaefer (IATTC) introduced the Program of Study of the Eastern Tropical Pacific Ocean developed by the Eastern Pacific Oceanic Conference. Dr. Roger Revelle (USA) fully described the proposals of the United States and offered to the Commission for its review and consideration the United States National Plan for Systematic Investigation of the Oceans. Dr. Wakelin (USA) proposed that this work of the Commission go forth in Working Groups. After some discussion and compromise with the delegation of the USSR, The Chairman, Dr. Bruun, established two working groups (Annex V) as follows:

Working Group No. 2 - Cooperative International Program
of Oceanic Investigation.

Working Group No. 3 - Coordination of National Programs,
and Technical Questions.

Subsequently, the Steering Committee met and elected the following Chairmen for these working groups:

Working Group No. 2 - Commodore K. P. Ryzhkov (USSR)

Working Group No. 3 - Dr. Roger Revelle (USA)

8. In the plenary discussion of Agenda Item 7, Standardization and Intercalibration of Methods and Instruments, Dr. Wooster, Secretary to the IOC, indicated that the International Council for the Exploration of the Seas (ICES) had given considerable attention to some of the problems involved and has requested UNESCO to organize a small group of scientists to meet and further explore these problems. Dr. Wooster stated that UNESCO would probably call together representatives from ICES, Special Committee on Oceanic Research (SCOR), and International Association of Physical Oceanography (IAPO) for this purpose.

9. Agenda Item 8, International Oceanographic Vessel (IOV), was discussed at some length in plenary. Vice Admiral Tchekourov (USSR) indicated general objection to the IOV concept, basing his argument in part on the uncertain legal status of such a vessel under international law. Dr. Wooster, IOC Secretary, indicated that legal studies showed that this problem was not insurmountable. The main issue, he stated, was whether such a vessel was actually required. Further discussion indicated that there was not too much support for the IOV or for further consideration of it. Captain de Frigata da Silva (Brazil) stated that no IOV was required since Brazil was offering one of her own by inviting aboard scientists of any nation who wished to participate in its operations. However, Dr. Panikkar (India) suggested that the matter not be closed but kept open for further study and discussion at another session. Dr. Revelle (USA) supported India by stating that the time did not appear ripe to consider such an imaginative program. He suggested that the subject be kept open for discussion at some future session of the IOC. This view gained general acceptance. The Chairman, Dr. Bruun, then appointed a special working group (Annex V) to draft a resolution indicating the sense of the Commission relative to further considerations of the IOV.

10. The resolutions prepared by the working groups in response to the Agenda were presented and discussed in the plenary session. The Commission adopted the resolutions set forth in Annex VI. These are summarized briefly as follows:

- (a) That the members submit to the Secretary their views on the establishment of scientific advisory channels to the Commission in all fields of oceanography, including fisheries, for consideration at the second session.
- (b) That Member States wishing to initiate programs for cooperative international participation convene working groups of other interested members to plan these programs and to insure that all aspects of oceanographic studies and publication of findings be fully considered. Possible international cooperative programs suggested by various Member States were listed.
- (c) That UNESCO be invited to appeal to governments to establish the career positions and incentives necessary to attract young people into the marine sciences.
- (d) That the Secretary assume such coordinating functions with respect to the International Indian Ocean Expedition as can be worked out in consultation with SCOR and other appropriate bodies.
- (e) That a world-wide ground-based system of long-range radio navigation be developed and established as soon as possible with priority to be given to these areas for which no aids are presently available and for which large-scale oceanographic investigations are planned; and that the IHB, International Civil Aviation Organization (ICAO), and Intergovernmental Maritime Consultative Organization (IMCO) be requested to cooperate with IOC in development and establishment of this navigational system. Other systems such as satellite navigation should be actively pursued.

- (f) That the Bureau establish a working group of experts on radio communications to study and determine oceanographic radio communication requirements; the initial report to be ready for the next study session of the Administrative Radio Conference.
- (g) That fuller use be made of weather ships for oceanography; that UNESCO, in consultation with IMCO, take steps to clarify the legal status of unmanned and manned observing buoys; that the Bureau, in consultation with appropriate advisory bodies, establish a working group to plan ocean-wide network of fixed stations for meteorological and oceanographic observations.
- (h) That members will exchange all oceanographic data obtained in declared national programs; that national oceanographic data centers should be established in order to facilitate the exchange of oceanographic data; that USA, USSR, and UK, together with WMO, IHB, and ICES, form a working group of experts to meet at the call of the Secretary to organize data exchanges, standardization, preparation of catalogues, and to assist in the development of national data centers.
- (i) That members and regional organizations submit to the Secretary for transmission to members descriptions of their existing and planned programs, cruise plans of international interest (including berths available for scientists from other countries), reports of results, descriptions of new instrumentation and techniques; that the Secretary consider the creation of an international pool of scientific equipment.
- (j) That SCOR be requested to examine the needs for standardization and intercalibration of methods and instruments in different fields of marine sciences and to recommend programs for such intercalibration and standardization.
- (k) That members continue to consider the proposal for international vessels and that this item be included in some future agenda of the IOC;

in the meantime members operating oceanographic research vessels should invite young marine scientists from other countries aboard for training.

11. In addition to these substantive recommendations, two other items were considered. First, Dr. Jorgo Carraza (Mexico) introduced a Joint Declaration by Argentina, Brazil, Cuba, Ecuador, Mexico, Uruguay, and the Dominican Republic which invited the IOC to recommend that the Director-General of UNESCO provide increased funds for the support of oceanographic research and training in Latin America. Dr. Cameron (Canada), support by Vice Admiral Day (UK), stated that it would not seem proper for the IOC to become a transmitting agent for special areas in their desires for increased support through budgets outside the purview of the IOC. Vice Admiral Tchekourov (USSR) stated that the declaration deserved IOC support. Dr. Bruun, Chairman, suggested that those delegations interested meet under the Chairmanship of Captain de Frigata da Silva (Brazil) to draft a resolution providing the IOC's recommendations. The resolution which was subsequently adopted was prepared during the working group session by Dr. Wakelin (USA), Dr. Revelle (USA), Dr. Wooster and Dr. Hilliard Roderick (UNESCO), and recommended that the South American countries include marine science projects in their program requests for Technical Assistance; that these countries should request Special Fund assistance for marine science projects and that UNESCO consider the possibility of an increase in the oceanographic budget to assist countries participating in international cooperative oceanic programs.

Second, Vice Admiral Tchekourov (USSR) introduced a resolution bearing on UNESCO 1963-64 budget in oceanography and relating to increases in assistance to Ghana, India, and Latin American research in the vicinity of the Galapagos Islands. This resolution was withdrawn in the Steering Committee and was not acted on by the Commission. Documents relating to these two items are included in Annex VII.

12. Prior to the presentation by the Chairman, Dr. Bruun, of the changes to the provisional Rules of Procedure recommended by the Steering Committee, the Acting Director-General of UNESCO asked to speak to the plenary.

M. Maheu explained his views regarding the relationship between the IOC and UNESCO, pointing out that he wished the IOC to operate with the maximum independence possible

consistent with the spirit of the resolution adopted by the General Conference of UNESCO. In particular, he amplified the change recommended to Rule 22. The initial wording which reads: "In carrying out his functions the Secretary shall act under the authority and on behalf of the Director-General of UNESCO" would be changed to read: "In carrying out his functions as defined in Article 8 of the Statutes, on behalf of the Commission, the Secretary shall act under the authority of the Director-General of UNESCO." M. Maheu's interpretation of this was that since the IOC Secretariat's duties are performed by the UNESCO Office of Oceanography, the words "under the authority of the Director-General" provided the administrative framework within which the Secretariat could operate.

Inasmuch as the oceanographers at the Intergovernmental Oceanographic Conference at Copenhagen in 1960 had recommended the establishment of the IOC under UNESCO, the IOC must be guided by the general policies established by the General Conference of UNESCO to which M. Maheu, as Director-General, and the rest of the Secretariat as well, were obliged to adhere. Further, as part of UNESCO, the personnel of the Secretariat provided by UNESCO were bound by fixed UNESCO administrative policies which also offered the Secretariat personnel all the rights, privileges, duties, and responsibilities of the UNESCO staff.

With regard to the scientific and technical operations and functions, the Secretariat would serve on behalf of the Commission and be fully responsive and responsible to it. M. Maheu considered this a satisfactory and flexible arrangement which would meet all the requirements of the IOC for independent action.

The recommended changes were adopted unanimously and are set forth as presented to the plenary in Annex VIII.

13. The Commission next considered the election of officers to serve through the Second Session of the IOC. Dr. Wakelin (USA) proposed that the present Bureau continue in this capacity.

Chairman	Dr. Anton Bruun	(Denmark)
Vice-Chairman	Vice Admiral Tchekourov	(USSR)
Vice-Chairman	Dr. William M. Cameron	(Canada)

Vice Admiral Tchekourov agreed and further proposed that, until the beginning of the next session, the Bureau have the assistance of a Consultative Committee consisting of representatives from:

USA
India
Australia
Japan
Brazil

Poland
Argentina
UK
France (Rapporteur)
Germany

Both proposals were unanimously adopted by the IOC.

V. FUTURE MEETINGS.

The Second Session of the IOC will be convened at UNESCO House in Paris in the early autumn of 1962 on a date selected by the Secretary after review of other international meetings which might be in conflict.

The Delegation of Monaco offered its facilities to the IOC for the Second Session. It was the sense of the Commission, however, that during the formative stages of the IOC, its meetings should be held in Paris using the facilities and assistance offered by UNESCO.

VI. CONCLUSIONS.

1. The conduct of the First Session of the IOC was exemplified by a general sense of unity and harmony among all participants. Although there were some differences on technical or procedural aspects, they were of relatively minor consequence to the major objectives of organizing the IOC for its future efforts in international oceanographic studies and of initiating some cooperative actions at this First Session. The Delegation believes that these objectives were fulfilled admirably. All actions were taken unanimously.

2. In several private discussions with the Soviet Delegation and in two reciprocally hosted luncheons with them, they showed an evident desire to come to common agreements with us for the success of the meetings.

3. A review of the resolutions adopted at this First Session indicates that there will be a considerable amount of effort required in order that the United States participate effectively in the operations of the Commission. There must be within the Federal Government not only an office designated to represent the United States officially in its relations with the IOC, but also provision for the necessary technical activity in response to approved programs and for necessary support of working group memberships.

4. There was one agenda item considered during this Session which was a problem during the Copenhagen Conference in 1960 and which remains a controversial issue still. This is the problem of the nature and organization of advisory channels and bodies to the IOC. As before, the Commission is still unresolved concerning the position of SCOR and the relationship of the FAO to the fisheries oceanographic advice to be provided. As indicated in paragraph 10(a) of Section IV, each member has been requested to submit its views to the Secretary for consideration at the Second Session. This area must be thoroughly and promptly studied in order that the United States present a unified and firm proposal acceptable to the oceanographic community and the interested Federal agencies.

5. This Session was an open meeting to discuss unclassified organizational and technical matters concerning international cooperation and coordination of oceanographic studies. Consequently, a supplemental classified report will not be submitted. Copies of conference documents are being forwarded to the Office of International Conferences direct by the Office of the United States Permanent Representative to UNESCO.

VII. RECOMMENDATIONS.

1. That the United States maintain a strong and continuing interest in the IOC and its operations in cooperative international oceanographic studies. In addition to formal participation of the United States Delegation in the Sessions of the IOC, the Department of State should make adequate provision to enable individual representatives to participate fully in working groups between Sessions.

2. That the Department of State designate an office within the Department which will provide the official contact between the U. S. Government and the Commission.

3. That the Interagency Committee on Oceanography (ICO) consider the establishment of a panel on International Oceanographic Programs to develop the plans and requirements of the United States in fulfilling its obligations as agreed to in the resolutions adopted by the Commission. It is suggested that this panel be headed by the Office of the Science Advisor of the Department of State and that the membership include other appropriate State representatives in addition to representatives of other appropriate Departments included in the ICO.

4. That the ICO Panel on International Oceanographic Programs appoint as soon as possible two ad hoc working groups to consider the following:

(a) The Statutes of the Commission and the Rules of Procedure.

(b) The nature and organization of advisory channels to the Commission.

The first working group should include in its membership representatives of the Departments of Interior, Commerce, Defense, and National Science Foundation. It would be the responsibility of this working group to study and consider in detail the Statutes and Rules in order that a consolidated United States position be established, well in advance of the Second Session of the IOC, with respect to changes in these documents if such appear necessary.

The second working group should include in its membership representatives of the Departments indicated above, and from the various oceanographic disciplines of the scientific community as well. It would be the responsibility of this group to prepare the United States response to the request for governmental views requested in paragraph 3 of the Resolution on "Relationships between the IOC and Other Organizations" (NS/IOC/Res Item 4) adopted at the First Session.

5. That the State Department forward to the Secretary of the IOC, the nomination of Dr. W. Jacobs, Director of the National Oceanographic Data Center, as the representative of the United States to the IOC working group on Oceanographic Data Exchanges, as requested in the adopted resolution on exchange of oceanographic data NS/IOC/Res Item 6(1); the State Department, acting on advice of the ICO, should also forward to the Secretary of the IOC the names of US experts on oceanographic radio communications and on fixed stations for possible appointment to the working groups provided for by the Resolutions on these subjects.

DISTRIBUTION:

Department of State, Office of International Conferences	(12)
Members, Delegation of the United States	(26)
Members, Interagency Committee on Oceanography	(36)
Federal Council for Science and Technology	(4)
Committee on Oceanography, National Academy of Sciences	(10)
National Oceanographic Data Center	(2)
Chairman, Commerce Committee, United States Senate	(2)
Chairman, Sub-Committee on Oceanography, Merchant Marine and Fisheries Committee, House of Representatives	(2)
Chairman, Committee on Science and Astronautics, House of Representatives	(2)

ANNEX I
PROVISIONAL AGENDA

1. Introduction.
 - (a) Opening of the Session and introductory remarks.
 - (b) Formal invitation of intergovernmental and non-governmental organizations' representatives to take part in the meeting as observers.
2. Organization of Commission.
 - (a) Election of Chairman.
 - (b) Adoption of provisional Rules of Procedure.
 - (c) Election of other officers.
 - (d) Adoption of Agenda.
3. Report of the Secretariat.
4. Relationship between the Intergovernmental Oceanographic Commission and other organizations.
 - (a) Special Committee on Oceanic Research.
 - (b) Advisory Committee on Fisheries Aspects of Oceanography.
 - (c) United Nations and its Agencies.
 - (d) Other intergovernmental and non-governmental organizations.
 - (e) Discussion of provisional Rules of Procedure in connection with relations of IOC with other organizations.
5. International Oceanographic Programme.
 - (a) Comments on previous recommendations (including the Programme of Charles Darwin Station on Galapagos Islands).
 - (b) New proposals.

ANNEX I (Continued)

- (c) Joint programme.
- (d) Aids to navigation.
- (e) Recording stations.
- (f) Preliminary consideration of UNESCO program in marine sciences for 1963-1964.

- 6. Data Centres - Exchange of data and publications connected with the Intergovernmental Oceanographic Commission activities.
- 7. Standardization and intercalibration of methods and instruments.
- 8. International research and training vessel.
- 9. Fridtjof Nansen Memorial Session.
- 10. Other business. Revision of provisional Rules of Procedure, date, and place of the Second Session of the IOC.

ANNEX II

A. LIST OF COUNTRIES REPRESENTED BY DELEGATIONS.

<u>Country</u>	<u>Delegates</u>	<u>Country</u>	<u>Delegates</u>
Argentina	2	Korea	4
Australia	2	Mauritania	2
Belgium	3	Mexico	3
Brazil	1	Monaco	4
Canada	2	Morocco	2
China	1	Netherlands	3
Cuba	2	Norway	3
Denmark	3	Poland	1
Dominican Republic	2	Spain	1
Ecuador	2	Switzerland	2
Federal Republic of Germany	7	Thailand	2
Finland	1	Tunisia	1
France	6	United Arab Republic	1
Ghana	1	United Kingdom	4
India	1	USA	12
Israel	2	USSR	7
Italy	8	Uruguay	1
Japan	3	Viet-Nam	1

In addition, the following countries were listed as members of the Commission; no information was available on their delegation or attendance:

Chile
Ivory Coast
Pakistan

ANNEX II (Continued)

B. LIST OF COUNTRIES REPRESENTED BY OBSERVERS.

<u>Country</u>	<u>Observers</u>	<u>Country</u>	<u>Observers</u>
Guatemala	1	Romania	1
Honduras	1	South Africa	1
Iceland	2		

C. LIST OF INTERNATIONAL ORGANIZATIONS REPRESENTED.

<u>Agency</u>	<u>Number of Representatives</u>
International Atomic Energy Agency (IAEA)	5
Food and Agriculture Organization (FAO)	2
World Meteorological Organization (WMO) and World Health Organization (WHO)	1
Intergovernmental Maritime Consultative Organization (IMCO)	1
International Civil Aviation Organization (ICAO)	1
International Council of Scientific Unions (ICSU)	1
International Union of Biological Sciences (IUBS)	1
Special Committee on Oceanic Research (SCOR)	2
Permanent Association of Navigational Conferences	1
International Hydrographic Bureau (IHB)	1
International Council for the Exploration of the Sea (ICES)	3
Inter-American Tropical Tuna Commission (IATTC)	1

ANNEX II (Continued)

D. LIST OF MEMBERS OF SOME OF THE PRINCIPLE DELEGATIONS.

<u>Country</u>	<u>Delegates</u>
Federal Republic of Germany	Dr. Gerhard Meseck Head of the Delegation Federal Ministry of Food and Agriculture
	Dr. G. Bohncke Secretary, Special Committee on Oceanic Research German Hydrographic Institute Hamburg
	Dr. G. Zwiebler President, German Hydrographic Institute Hamburg
	Professor Dr. G. Dietrich Director, Oceanographic Institute of the University of Kiel
	Professor Dr. Lundbeck Department of Maritime Fisheries in the Federal Research Institute for Fisheries
	Dr. Mocklinghoff Federal Ministry of Food and Agriculture
	Professor Dr. Otto von Simson Permanent Delegate to UNESCO Paris

ANNEX II (Continued)

<u>Country</u>	<u>Delegates</u>
France	M. Louis Fage M. Pierre Drach Directeur-Adjoint au CNRS M. Jean Furnestin Directeur, L'Institut Scientifique et Technique des Peches Maritimes Vice-Admiral Monaque President du Comite Central d'Oceanographic et d'Etude des Cotes Professeur H. Lacombe Directeur, Laboratory of Physical Oceanography, Museum of Natural History, Paris Dr. M. Peres Professeur, Faculty of Sciences of Marseille
United Kingdom	Vice-Admiral Sir Archibald Day Head of the Delegation Admiralty, London Dr. G. E. R. Deacon Director, National Institute of Oceanography, Wormley Dr. J. B. Tait Marine Laboratory, Aberdeen Lt. Cdr. D. F. D. Scott Admiralty, London

ANNEX II (Continued)

<u>Country</u>	<u>Delegates</u>
U.S.S.R.	Vice-Admiral V. A. Tchekourov Head of the Delegation Head of the Hydrographic Service Leningrad Commodore K. P. Ryzhkov Hydrometeorological Service Moscow Professor L. A. Zenkevitch Chairman, National Committee on Oceanography Academy of Sciences of the USSR Moscow Dr. N. N. Sysoev Acting Director, Institute of Oceanology Academy of Sciences of the USSR Moscow Professor A. D. Dobrovolsky Department of Oceanography Moscow State University Moscow Dr. A. P. Alekseev Deputy Director Polar Institute of Oceanography and Fisheries Murmansk Dr. N. A. Belinsky Central Institute of Forecasting Hydrometeorological Service Moscow

ANNEX III

DELEGATION OF THE UNITED STATES

Representatives

The Honorable James H. Wakelin, Jr. Assistant Secretary of the Navy for Research and Development	Chairman of the Delegation
Rear Admiral H. Arnold Karo Director, U. S. Coast & Geodetic Survey Department of Commerce	Member of the Delegation
Mr. Donald L. McKernan Director, Bureau of Commercial Fisheries Department of the Interior	Member of the Delegation
Dr. Roger Revelle Scientific Advisor to the Secretary Department of the Interior	Member of the Delegation
Rear Admiral E. C. Stephan Hydrographer of the Navy Department of the Navy	Member of the Delegation

Advisors

Dr. Andrew W. Anderson Regional Fishery Attache (Europe) American Embassy, Copenhagen	Advisor to the Delegation
Dr. W. M. Chapman Director, Van Camp Foundation San Diego, California	Advisor to the Delegation
Dr. Robert L. Fisher Research Marine Geologist Scripps Institution of Oceanography La Jolla, California	Advisor to the Delegation
Mr. Michael G. Kelekos First Secretary American Embassy, Paris	Advisor to the Delegation

ANNEX III (Continued)

Advisors (Continued)

Dr. John Lyman
National Science Foundation
Washington, D. C.

Advisor to the
Delegation

Dr. Arthur Maxwell
Office of Naval Research
Department of the Navy
Washington, D. C.

Advisor to the
Delegation

Dr. Harris B. Stewart, Jr.
Chief Oceanographer
U. S. Coast & Geodetic Survey
Department of Commerce

Advisor to the
Delegation

Observers

CAPT William Moran
Naval Aide to Chairman of Delegation

Observer

CDR S. N. Anastasion
Assistant to Chairman of Delegation

Observer

MAJOR Harold E. Roland, Jr.
Marine Aide to Chairman of Delegation

Observer

Mrs. Janice S. Gemmell
Secretary to Chairman of Delegation

Observer

ANNEX I/

PRINCIPAL OFFICERS OF THE CONFERENCE

UNESCO

M. Rene Maheu	Acting Director-General
Dr. H. Roderick	Acting Director, Department of Natural Sciences
M. C. Lussier	Acting Legal Adviser
Mr. R. Scott	Office of Legal Adviser

SECRETARIAT OF COMMISSION

Dr. W. S. Wooster	Director, Office of Oceanography, UNESCO, Secretary of the IOC
Dr. K. N. Fedorov	Assistant Secretary of the IOC
Dr. Y. Takenouti	Assistant Secretary of the IOC
Dr. Howell-Rivero	Assistant Secretary of the IOC

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

Bureau for the First Session:

Chairman	Dr. A. F. Bruun	Denmark
Vice-Chairman	Dr. William M. Caneron	Canada
Vice-Chairman	Vice Admiral V. A. Tchekourov	USSR

ANNEX IV (Continued)

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (Continued)

Steering Committee to Assist Bureau for the First Session:

Captain R. H. R. Bagnati	Argentina
Vice Admiral Sir Archibald Day	United Kingdom
Dr. Gerhard Meseck	Federal Republic of Germany
Dr. N. K. Panikkar	India
Dr. Stanislaw Szimborski	Poland
Mr. Morikuni Toda	Japan
Dr. J. H. Wakelin, Jr.	USA
Prof. H. Lacombe (Rapporteur)	France

ANNEX V

THE PRINCIPAL WORKING GROUPS ESTABLISHED FOR SPECIFIC PURPOSES*

WORKING GROUP ONE: Relationship between IOC and International Organizations, including Fisheries Aspects

Chairman	-- Dr. N. K. Panikkar	(India)
Rapporteur	- Dr. J. B. Tait	(UK)
	Dr. G. F. Humphrey	(Australia)
	PROF L. A. Zenkevitch	(USSR)
	Mr. D. A. McKernan	(USA)
	CAPT de F. Castro M. da Silva	(Brazil)
	Dr. G. Rollefson	(Norway)
	Dr. G. Bohncke	(Germany)
	Dr. H. B. Hachey	(Canada)
	Dr. D. B. Finn	(FAO)
	Dr. K. Langlo	(WMO)
	PROF I. Hela	(IAEA)
	Dr. M. B. Schaefer	(IATTC)
	Dr. A. Fredriksson	(ICES)

* In addition to the initial working group members listed herein, other members of delegations to the meeting of the Commission participated in the discussions from time to time. Representatives of the international organizations participated in an advisory capacity.

ANNEX V (Continued)

WORKING GROUP TWO: Cooperative International Program of Oceanic Investigation

Chairman	- Commodore K. P. Ryzhkov	(USSR)
Rapporteur	- Dr. W. Chapman	(USA)
	Dr. G. F. Humphrey	(Australia)
	CAPT de F. M. da Silva	(Brazil)
	Dr. H. E. Steemann Nielsen	(Denmark)
	Miss E. Lisitzen	(Finland)
	Dr. A. E. Maxwell	(USA)
	Dr. G. Dietrich	(Germany)
	Dr. K. Terada	(Japan)
	Dr. H. Mosby	(Norway)
	Mr. B. Indrambaraya	(Thailand)
	Dr. J. B. Tait	(UK)
	Dr. A. P. Alekseev	(USSR)
	Dr. N. A. Belinsky	(USSR)
	M. J. F. Carlise	(Mexico)
	Dr. K. Langlo	(WMO)
	Dr. R. G. Snider	(SCOR)
	Mr. R. W. Knox	(IHB)
	Dr. A. Frediksson	(ICES)

ANNEX V (Continued)

WORKING GROUP THREE: Coordination of National Programs and
Technical Questions

Chairman - Dr. Roger Revelle (USA)
Rapporteur - Dr. H. B. Hachey (Canada)

SUB-GROUP I - Exchange of Data, Personnel, Instruments, and Plans

Chairman	- LCDR D. F. D. Scott	(UK)
	PROF A. D. Dobrovolsky	(USSR)
	Dr. A. Fredriksson	(ICES)
	Dr. K. Langlo	(WMO)
	Rear Admiral E. C. Stephan	(USA)
	Dr. J. Lyman	(USA)
	Dr. G. Rollefson	(Norway)
	Dr. G. Bohncke	(Germany)

SUB-GROUP II - Intercalibration, Inter-comparison, and
Standardization of Instruments and Techniques

Chairman	- Dr. H. E. Steemann Nielsen	(Denmark)
	Dr. N. N. Sysoev	(USSR)
	Dr. Ken Sugawara	(Japan)
	Dr. Erik Bertelsen	(Denmark)
	Dr. H. B. Stewart	(USA)
	CAPT Amporn Penyapol	(Thailand)
	PROF U. D'Ancona	(Italy)
	Dr. H. Postma	(Netherlands)

ANNEX V (Continued)

WORKING GROUP THREE (Continued):

SUB-GROUP III - Navigation and Radio Communications

Chairman - Rear Admiral H. A. Karo	(USA)
Vice Admiral Sir A. Day	(UK)
CAPT de Corveta Aragno	(Argentina)
CAPT E. Debrazzi	(Italy)

SUB-GROUP IV - Weather Ships and Observing Stations

Chairman - Dr. M. B. Schaefer	(IATTC)
PROF P. Groen	(Netherlands)
PROF H. Lacombe	(France)
Com. Jacques Cousteau	(Monaco)

SPECIAL WORKING GROUP: International Oceanographic Vessel

Chairman - PROF H. Lacombe	(France)
PROF A. D. Dobrovolsky	(USSR)
LCDR D. F. D. Scott	(UK)

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ANNEX VI

NS/IOC/Res.
Item 4
Paris, 23 October 1961
Original: English

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

Relationship between the IOC and Other Organizations
(Draft Resolution by the Working Group No. 1)

The Commission

Recalling that the Statutes of the Commission prescribe that the purpose of the Commission shall be to promote scientific investigation with a view to learning more about the nature and resources of the oceans, through the concerted action of its members;

Bearing in mind the very wide scope of oceanography and the many important fields in which scientific investigation of the nature and of the resources of the oceans is pursued, in particular those concerned with fisheries of the world;

Bearing in mind further the interest and valuable work of many organizations, intergovernmental and non-governmental, world-wide and regional, in oceanography or directly related fields and that these organizations could contribute to the development and implementation of a well-coordinated and integrated international program in oceanography;

Noting that the Economic and Social Council, at its thirty-second session, expressed the hope that the Commission would take fully into account the activities and interests of all organizations concerned with oceanography;

Appreciating that oceanographic and fishery research are complementary undertakings and that the Food and Agriculture Organization of the United Nations has the primary responsibility within the United Nations family for fisheries;

Appreciating further that the Food and Agriculture Organization plans to consider at its forthcoming Conference the establishment of an Advisory Committee on Marine Resources Research;

NS/IOC/Res. Item 4 (Continued)

WS/1061.146
Aware that the Special Committee on Oceanic Research of the International Council of Scientific Unions is now serving UNESCO as an advisory body on oceanography and has, since its inception in 1957, contributed greatly towards the development of international cooperation in oceanic research;

Aware also that the Special Committee on Oceanic Research is in process of establishing a working group of experts in fisheries and oceanographic sciences;

1. Invites the United Nations and its Specialized Agencies and other inter-governmental and non-governmental organizations concerned with oceanography in its various disciplines, to cooperate with the Commission to the fullest possible extent;

2. Expresses the hope that the Food and Agriculture Organization, the World Meteorological Organization and other interested agencies of the United Nations family will find it possible to designate members of their Secretariats to cooperate actively with the Secretariat of the Commission, the extent of such cooperation to be decided by agreement between these organizations and UNESCO;

3. Requests the Members to submit to the Secretary of the Commission their views on the establishment of advisory channels to the Commission in all fields of oceanography, including fisheries oceanography, for consideration by the Commission at its Second Session;

4. Requests the Bureau and the Secretary of the Commission, in the interim, to seek and receive the advice of those organizations which now advise UNESCO in oceanographic matters, which could contribute to the development of international programs in oceanography.

5. Requests the Secretary of the Commission to submit to members, at least three months before the Second Session of the Commission, a draft report on the matters raised in 3 and 4 above.

Distribution: Limited

NS/IOC/Res

Item 5

Paris, 24 October 1961

Original: English

UNITED NATIONS EDUCATIONAL
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO House, 19-27 October 1961

Draft Resolution for Working Group 2

The Intergovernmental Oceanographic Commission

Having received numerous proposals for oceanographic research which, to be effective, would require the concerted action of several member states;

Recognizing that each proposal, by cooperative effort, would add materially to man's knowledge of the world ocean;

Bearing in mind that to proceed with such cooperative research the implications of each proposal should be carefully examined and weighed by all states considering participation; and being

Cognizant that the Commission might also contribute significantly to the formulation of a comprehensive program for an eventual world ocean study;

Recommends for earnest consideration by such states as may desire to participate in the cooperative programs, each of the following proposals, (initiated by the member or body indicated below) as parts of a general study of the world ocean:

- (a) North Atlantic Synoptic Survey (U.S.)
- (b) Cooperative Program of study of the Eastern Tropical Pacific Ocean (EPOC and IATTC)
- (c) North Atlantic Expedition for studying fields of currents (USSR)

10/10/21

10/10/21

10/10/21

10/10/21

NS/IOC/Res. Item 5 (Continued)

- (d) West Pacific Expedition for studying fields of currents (USSR)
- (e) West African Guinean Year (CCTA, CSA, and U.S.A.)
- (f) South Atlantic study (Regional agreement between Brazil, Uruguay, and Argentina)
- (g) Standard Section program on time changes in physical characteristics of the ocean (USSR)
- (h) North Pacific Synoptic Survey (U.S.)
- (i) South China Seas Expedition (Naga II) (Thailand, South Viet-Nam)
- (j) Gulf of Mexico and Caribbean study (Mexico, Cuba, Dominican Republic)
- (k) Study of Drake Passage. Currents (Argentina) and further,

Noting that there may be other projects suitable for such consideration which have not been brought to the attention of the Commission at this time;

Recommends that an initiating member or body, in consultation with the Bureau and with the assistance of the Secretariat, convene a working group consisting of all interested members and bodies to explore avenues of planning, coordination, and cooperation (including consultation with appropriate national and international organizations) to prepare specific programs, and to take appropriate and early actions with a view that all aspects of oceanographic study should be taken into account where possible, and that all the findings be fully published upon the completion of each program;

Requests the Secretariat to collate all proposals on oceanographic research submitted by member states and by other bodies prior to the next meeting of the Commission, and

Requests the Secretary to initiate the preparation of a comprehensive program for world ocean study through the most effective means he deems appropriate.

UNESCO/NS/IOC/RES Item
5(a)
PARIS, 27 October 1961
Translated from the
French

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, 19-27 October 1961

(Resolution submitted by the French Delegation)

The Commission,

Noting the present shortage of experts in the marine sciences, which may well delay their development for many years, although

Welcoming the considerable financial effort already made by UNESCO and planned for future years to further the advancement of these sciences, but

Convinced that an effort by the various countries is also required to ensure their full development, and

Repeating the invitation set forth in paragraph 5 of the recommendation concerning the training programme submitted by the Intergovernmental Conference on Oceanographic Research held in Copenhagen,

Recommends that UNESCO be invited without delay to address an urgent appeal to governments for the creation by them, within the specialized organs, of permanent posts and assured careers for the many young scientists and technicians who are attracted by the marine sciences.

Distribution: Limited
Original: English

NS/IOC/Res
Item 5 (c) - 2
Paris, October 25, 1961

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

INDIAN OCEAN EXPEDITION

(Draft resolution presented by the
plenary meeting by Working Group No. 2)

The Intergovernmental Oceanographic Commission, having considered the international research program for the Indian Ocean (the International Indian Ocean Expedition); and

Recognizing that the foregoing program would benefit by the voluntary cooperation of member states of the Commission;

Appreciating that SCOR has taken and will continue to take a prominent part in the coordination of that Expedition, and that the appropriate role of the Commission in that program has not yet been clarified;

Bearing in mind that the proposed programs would also profit from the advice and cooperation of international agencies presently concerned in oceanic research;

Commends the International Indian Ocean Expedition to its members for possible participation; and

Instructs the Secretary to assume such coordinating functions with respect to that Expedition as can be worked out in consultation with SCOR and other appropriate bodies.

NS/IOC/RES
Item 5(d)
Paris, 24 October 1961
Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

AIDS TO NAVIGATION

(Presented to the plenary meeting
by Working Group No. 3)

The Commission

Recognizing that accurate navigation is essential for detailed systematic oceanographic investigations; and further

Recognizing that systems of aids to navigation presently available for use do not generally meet the requirements of detailed oceanographic investigation except for limited specific areas and that such systems, if possessing the required accuracy should continue to be established in the interim;

Aware that several systems of aids to navigation, are presently under development which show promise of meeting the long-range ocean-wide requirements of detailed systematic oceanographic investigation;

Resolves that the Commission through its member governments actively encourage and support the continued development and subsequent establishment of a ground based long-range radio navigation system capable of meeting the world-wide requirements for detailed systematic oceanographic investigations; and

Recommends that in the establishment of the accepted world-wide ground based system of long range radio navigation, priority be given to those areas for which no aids are presently available and for which large scale oceanographic investigations are planned;

NS/IOC/RES - Item 5(d) (Continued)

Further recommends that the International Hydrographic Bureau at Monaco, Intergovernmental Maritime Consultative Organization, and the International Civil Aviation Organization be requested through their member Governments to cooperate with IOC in the expeditious developments and subsequent establishment of a single national and international ground-based long distance radio navigation aid capable of meeting the accuracy requirements for detailed systematic oceanographic investigation (repeatability $\pm$ 50 meters and position accuracy $\pm$ 0.25 nautical miles).

Further recommends that steps be taken by member states to assist those countries having ships taking part in the international cooperative oceanographic investigations to obtain and effectively use the equipment required for these navigational systems.

Further recommends that the development of other promising and economical systems of navigation even of lesser accuracy such as certain methods of satellite navigation, be actively pursued.

NS/IOC/RES
Item 5 (d, e)
Paris, 24 October 1961
Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

COMMUNICATIONS

(Draft Resolution presented to the plenary
meeting by Working Group No. 3)

The Commission

Recognizing the vital role that communications play in any
substantive oceanographic investigations, and

Recognizing further that existing frequencies in the radio
communications spectrum are almost completely absorbed,

Aware that the continued development of new instrumentation
and techniques will further complicate the problem,

Aware that we must move aggressively forward to a solution of
this vital problem,

Authorizes the Bureau of the Commission to establish a working
group of experts on radio communications to be responsible for
the study and establishment of oceanographic radio communica-
tion requirements. The working group should render its
initial report with recommendations in time for approval,
adoption, and presentation by the Commission and its member
Governments to the next Study Session of the Administrative
Radio Conference.

The expenses, including travel, of the individual members of
the working group should be met by the member Governments and
organizations having experts on the working group or by UNESCO.

Distribution: Limited

NS/IOC/Res
Item 5 (e)
25 October 1961
Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

FIXED STATIONS

(Draft Resolution presented to the plenary
meeting by Working Group No. 3)

The Intergovernmental Oceanographic Commission

Considering the attached report NS/IOC/INF-16, prepared by the
ad hoc working group on fixed stations:

1. Recommends to member states that they provide the Secretariat of IOC annually with full information on what stations of the various types are in operation, what data are being gathered from them and at what time intervals, and on plans for future developments (including technical information on engineering and instrumental matters);
2. Recommends to member states concerned that they make fuller use of weather ships for the needs of oceanography;
3. Recommends to UNESCO that steps be taken in consultation with IMCO to clarify the legal status of unmanned and manned observing buoys;
4. Requests the Bureau to establish a working group of experts from member states, WMO and other appropriate international organizations, to study the existing network of fixed stations and the needs of extending it (types, number, locations, kinds of observations and their spacing in time) and prepare proposals for meeting these needs. The working group should report to the next session of the IOC. Expenses of the individual members, including travel, should be met by the member governments and organizations having representatives on the working group, or by UNESCO.

Distribution: Limited

NS/IOC/INF-16
Paris, 25 October 1961
Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

REPORT OF THE WORKING PANEL ON OBSERVING
STATIONS AND WEATHER SHIPS

From the contributions at this, and other conferences⁺, it is evident that the employment of 'fixed' stations for taking oceanographic observations is of increasing importance to modern oceanography, and that the establishment of networks of such stations is of interest to many member states. Information gathered continuously, or at frequent intervals, from fixed stations is obtainable at relatively small cost and is indispensable for the solution of several types of oceanographic problems. Series of data from fixed points, closely spaced in time, make possible the study of time variations in oceanographic parameters; some of these vary importantly with frequencies of a few minutes, others with frequencies of days, months, or years. A network of fixed stations at suitable locations can provide sets of truly synoptic observations which can be employed to monitor changes in the ocean circulation and the distribution of properties, and thus can assist in the solution of problems of forecasting. Such data, taken on conjunction with observations by moving ships, which cannot themselves be truly synoptic, can assist in the proper interpretation of the information from such moving ships.

The fixed stations now in use, or in the advanced planning stage, are of four kinds. Coastal and island stations, ocean station vessels (weather ships), unmanned anchored buoys, and manned anchored platforms.

+ Footnote See example document; IOC/1-6, IOC/INF-1; IOC/INF-11; and Ocean/92(1); and NS/163 of Paris Conference of March 1960

Coastal and Island Stations

A large number of stations are presently being maintained at coastal and some island locations for the recording of sea level (tides) and a few for long-period wave records. At most of these there are taken records, at least daily, of surface temperature and salinity. During the IGY, there were also taken near a number of such stations, especially at oceanic islands, shallow casts for temperature and salinity, at daily and weekly intervals, for computing steric sea level.

It appears most desirable to increase the number of such stations, especially on off-shore oceanic islands and at them to obtain not only sea level, temperature, and salinity observations, but also to obtain meteorological data, data on chemical constituents of the ocean at various depths, solar radiation and simple biological observations.

A network of island stations can be a very important part of a program of detailed research and survey in an ocean area. Such a network is an integral part of the EPOC plan for a cooperative study of the Eastern Tropical Pacific, and is a part of the plan for the Indian Ocean Expedition. In the tropical Atlantic there exist a series of oceanic island which could be similarly employed in that region.

Ocean Station Vessels (Weather Ships)

These platforms, operating at fixed points in the open sea for weather observations and air-sea rescue, under the auspices of ICAO and other agencies offer a magnificent, but largely unused, opportunity for obtaining time-series data on physical, chemical, and biological parameters both at the surface and at various depths. To take advantage of this opportunity, all such ships should be provided with suitable oceanographic winches and other oceanographic equipment, and with a small team of oceanographic observers. Supplementary meteorological observation of special interest to oceanography may be added to the present routine weather observation in consultation with interested specialists.

It is also possible to employ a local network of anchored instrument buoys in connection with a weather ship, the data being gathered by the ship by the removal of data records or by telemetering to obtain time-series at a number of points simultaneously.

Weather vessels can also be of great value in obtaining repeated hydrographic and biological sections when traveling their stations and their home ports.

WS/1061.157

Manned Anchored Platforms

Light ships have for many years been employed to collect various types of oceanographic data. Their continued and expanded use should be encouraged. In order to obtain time series, at fixed locations in deep water, of some types of data, which are not currently amenable to automatic instrumental recording, there are under development special-purpose manned stations, such as the FLIP stations of the Scripps Institution of Oceanography, and the similar station being developed for use in the Mediterranean by the group at Monaco. Such stations are costly, and will, therefore, probably be used in only small numbers, but they will have capabilities not possible in the small unmanned buoys.

Unmanned Stations (Buoys)

Although oceanic islands and weather ships offer good possibilities for obtaining important synoptic and time-series oceanographic data, their locations are not under control of the oceanographer, and there are large areas of the sea in which they do not exist. In order to obtain, at deep sea locations, such data at reasonable cost, there are being developed in a number of laboratories, anchored data-collecting systems which can be placed where needed.

A network of such instrument-systems needs to be established at suitable points in the World Ocean and especially at such critical points as the regions where deep water is formed, at current boundaries, at places where the mixed-layer depth is highly variable, etc.

From such stations can be taken automatically data from the atmosphere, such as barometric pressure, wind direction and velocity, and solar radiation, and data from the sea, such as temperature at various depths, current direction and velocity and transparency. Instruments under development will make possible the automatic recording of salinity, oxygen, and some simple biological parameters. Such data may be stored in the buoy and retrieved by ships, or may be read out by telemetering systems. The telemetering may be at long-range to shore stations, or by short-range telemetering on demand to aircraft or satellites.

Technical problems which are not yet fully or satisfactorily solved include anchoring systems, data transducers, data storage devices, power sources, data readout and telemetering systems. Close cooperation in developing these new instrument systems could greatly facilitate the solution of such problems.

NS/IOC/INF-16 (Continued)

Action by the IOC

The greater and more effective use of fixed observing stations of the various types noted above could be promoted by the cooperative efforts of the member states of IOC in a number of ways:

1. Collection and dissemination of information on what stations of the various types are now in operation, what data are being gathered from them, at what time intervals, and plans for future developments.
2. Planning for the types, numbers and locations of stations needed for an ocean-wide synoptic network.
3. Arriving at joint decisions on time-intervals at which various kinds of observations should be taken and setting, where necessary, standard observing hours.
4. Promoting necessary intergovernmental or other international arrangements for establishment of coastal and island stations.
5. Clarify the legal status of unmanned and manned anchored buoys - i.e., the rights and duties of persons and states placing them in the sea.
6. Joint action with ICAO and other agencies for the use of ocean station vessels for oceanography.
7. Exchanging of technical information on engineering and instrumental problems with relation to development of unmanned anchored stations.

It would be useful if there were established by the IOC a standing committee to carry out these functions on a continuing basis, with the aid of the IOC Secretariat and, where required, (e.g., for items 5 and 7 above) the assistance of other experts.

Distribution: Limited

UNESCO/NS/IOC/RES
Item 6 (1)
Paris, 25 October 1961
Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

(Draft Resolution presented to the plenary
meeting by Working Group No. 3)

The Intergovernmental Oceanographic Commission

Desiring to foster the full and expeditious exchange of
oceanographic data;

Noting the existence of the data centers listed in document
IOC/1-7, including the center for bathymetric data under the
International Hydrographic Bureau with sub-centers at various
national hydrographic offices;

Reiterates the recommendation made by the Intergovernmental
Conference on Oceanographic Research at Copenhagen in July
1960 that oceanographic data should be exchanged and that the
system of World Data Centers established during the Inter-
national Geophysical Year should be continued in future;

Recommends that all oceanographic data taken by ships and
recording stations outside territorial waters within the
limits of declared national programs be exchanged under the
headings listed and by the methods prescribed in the IGY data
center manual, commencing from January 1st, 1960, in accordance
with the attached extracts from the manual;

Recommends to member countries the establishment of national
oceanographic data centers in order to facilitate the collection,
processing, analysis, and exchange of oceanographic data;

Urges member countries to participate with the IHB, in cooperation
with World Data Centers A and B for Oceanography, in the
preparation of Bathymetric plotting sheets for the world ocean
on as large a scale as possible;

UNESCO/NS/IOC/RES (Continued)

WS/1061.167 Recommends to the governments of the USA, USSR, and UK that they appoint representatives of World Data Center A, World Data Center B, and the Permanent Service for Mean Sea Level to a working group of experts on the organization of oceanographic data exchanges and invites the International Council for the Exploration of the Sea, The International Hydrographic Bureau, and the World Meteorological Organization to designate representatives to this working group.

The mission of this working group shall be the facilitating of exchanges of oceanographic data, the standardization of forms for reporting and coding data, the encouragement of the preparation of data catalogues, and the assistance of development of national oceanographic data centers.

The working group should meet at the call of the Secretary of the Intergovernmental Oceanographic Commission and should report to the next session of the Intergovernmental Oceanographic Commission. Expenses of the individual members, including travel, should be met by the member governments and organizations having representatives on the working group, or by UNESCO.

Requests the Secretary and the Bureau of the Commission to seek advice from appropriate bodies on the volume and nature of the data to be exchanged in the future.

Distribution: Limited

NS/IOC/INF-17
25 October 1961

English only

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

IGY LIST OF DATA TO BE EXCHANGED

Projects

- (a) Shore stations recordings of
 - (i) Sea level
 - (ii) Long period waves
- (b) Afloat
 - (i) Serial station for depth, temperature, salinity, and chemical analysis
 - (ii) Colour and transparency
 - (iii) State of sea and swell
 - (iv) Currents
 - (v) Bottom sediments
 - (vi) Bathymetry
 - (vii) Bathythermography
 - (viii) Meteorology and actinometry
 - (ix) Biology

NS/IOC/INF-17 (Continued)

Description and Presentation of Data

- (a) Sea-level records. These will be the mean monthly sea levels computed from hourly observations from a recording gauge or alternatively according to standard observations on a tide staff.
- (b) Long Period Wave Records will be retained at the appropriate Institutions and parts of them made available on request together with relevant details at cost of reproduction. Periods of observations and the range of frequencies covered should be reported for inclusion in WDC indexes.
- (c) Serial Station Records
 - (i) Depth as accurately as possible using suitable standard depths.
 - (ii) Temperature in °C to + 0.01°.
 - (iii) Salinity by accurate method to + 0.02 per cent.
 - (iv) Concentrations of O₂, SiO₄, PO₄, NO₂, NO₃, H₂S (if present), CO₂, NH₂, H₃BO₃, C₁₄, D₂O₁, T₂O, and other chemical species, pH, alkalinity and radioactivity. Whenever non-standard methods of analysis are used, specifications are to be given.
- (d) Colour and transparency. Data at selected stations should be included with serial station records.
- (e) State of sea and swell. Visual observations and averaged results of instrumental measurements of height, period, and direction of waves, expressed in the customary units. Full details of scales to be furnished with tabulated results.
- (f) Currents. Observational data on currents along sections and at anchor stations, at specified levels, and with information about the method and circumstances of measurement - e.g., ship behavior, etc.

NS/IOC/INF-17 (Continued)

- (g) Bottom sediments. A field description of each bottom sample in accordance with the specifications in USHO Publication No. 607, p. 155.
- (h) Bathymetry
 - (i) The sounding at each station to be included with the data under (c).
 - (ii) For echo soundings the system preferred is an overlay of the ship's track chart showing all navigational fixes on a chart of scale about 1:400,000 (1:250,000 to 1:600,000) showing soundings as closely spaced as they can conveniently be written. If an overlay cannot be furnished, tabulated soundings at an interval of not more than $2\frac{1}{2}$ miles are desired. In either case, full details of the assumed speed of sound, corrections (if any) to sounding for actual speed, and any corrections to frequency standard are to be furnished.
 - (iii) Original echograms will be handled similarly to long wave records. Para. (b).
- (i) Bathythermography. Tabulations of temperatures at standard depths as on Form IBM 8180850, with data on time, date, and location.
- (j) Meteorology
 - (i) Tabulated data for standard marine observations of air temperature, ocean surface temperature, absolute or relative humidity, speed and direction of wind, barometric pressure, cloud, visibility, and other atmospheric phenomena, and precipitation. If scales used are not explicit c.g.s. units, conversion tables should be furnished.
 - (ii) Upper air data. Radiosonde observations of temperature, humidity, and pressure using WMO format. Speed and direction of wind with a description of method used.
 - (iii) Actinometry. Daily observations of the total, direct, diffused, and reflected radiation carried out during daylight and the results of 24-hr observations of effective radiation in selected situations.

NS/IOC/INF-17 (Continued)

- (k) Biology. Data on quantity and composition of plankton standard layers, if feasible.

Other observations

References should be given for inclusion in WDC Indexes, of any types of data obtained, e.g., submarine geology, submarine geophysics, special echo soundings and marine biological observations.

General

- (a) Results should be presented chronologically for each expedition beginning with its first day of work.
- (b) Each table heading is to contain the date, time, and the name of the observing ship (or station) and be accompanied by a chart showing the positions of ship stations. An indication is to be given of how positions have been fixed, e.g., dead reckoning, observation, bearing, etc.
- (c) The time in use is to be stated, e.g., GMT or time zone; and in the case of a serial station the time is that of dropping the messenger for the first cast.
- (d) Data should be presented in final processed form after all instrumental corrections have been made, but, in the case of serial stations, interpolation to standard depths is to be omitted if this will delay transmission.

Time Schedules and Transmission

Cruise data are to be forwarded as expeditiously as possible and, in any case, not later than 6 months after completion of the cruise. In the case of Antarctic expeditions and similar long cruises during which analysis may be conducted on board, three months is the desirable interval after the end of the voyage. All other data should be forwarded within one year after collection.

One copy of the data is to be sent to both WDCs whenever feasible. Alternatively, data should be sent in duplicate to one of the WDCs. The method used is to be made clear on the Transmittal Note.

NS/IOC/INF-17 (Continued)

Data which are already being sent to certain organizations will continue in accordance with established schedules and in addition to transmission to WDCs, e.g.

- (a) Mean Sea-level observations to the Liverpool Observatory and Tidal Institute, The Observatory, Birkenhead for the Mean Sea Level Committee of the IAPC. It is hoped that a copy of all mean sea-level observations will be sent direct to the LTI for the MSL Committee as well as to one or both WDCs.
- (b) Bathymetric data to the International Hydrographic Bureau, Quai des Etats-Unis, Monaco, for the Carte Bathymétrique Internationale des Océans.
- (c) North Atlantic Serial Station data to the International Council for the Exploration of the Sea.

NS/IOC/RES
Item 6(2)
25 October 1961
Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

COORDINATION OF NATIONAL AND REGIONAL PROGRAMMES

(Draft Resolution presented to the plenary
meeting by Working Group No. 3)

The Commission recommends that:

1. (a) Regional organizations and member countries, as soon as possible, should submit to the Secretariat of the IOC, information on their existing national and regional programmes;
- (b) Plans of cruises of international interest projected for the future should also be submitted together with information on berths available for scientists of other countries; likewise scientists prepared to carry out work at sea should submit details of their availability for future cruises;
- (c) Reports on the general results of all cruises should be forwarded expeditiously as the cruises are completed;
- (d) Descriptions of newly-developed instruments and techniques should also be forwarded to the Office of Oceanography of UNESCO.
2. (a) The oceanography newsletter which the Office of Oceanography of UNESCO proposes to publish should contain a brief summary of the information mentioned above.
- (b) The newsletter should be reproduced by any rapid and economical method of publication and sent as quickly as possible to mailing lists furnished by each member country.

NS/IOC/RES (Continued)

3. The Secretariat of the IOC, in consultations with the Bureau of the Commission, SCOR, and other appropriate agencies, should consider the feasibility and practicality of the creation of the international pool of scientific equipment and study means whereby such a pool can be created. Such a pool might be created even on a partial basis in time for the International Indian Ocean Expedition.
4. Member states should be urged to distribute scientific papers and abstracts to the mailing lists referred to in paragraph 2(b) above.

NS/IOC/RES
Item 7
Paris, 24 October 1961
Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

STANDARDIZATION AND INTERCALIBRATION OF OCEANOGRAPHIC
METHODS AND EQUIPMENT

(Draft Resolution presented to the plenary
meeting by Working Group No. 3)

The Commission

Recognizing that there is a pressing need for a coordinated program that insures that oceanographic observations will be more meaningful and useful for oceanographic research in general,

Recognizing further that this can be accomplished by a carefully planned program which includes to varying degrees the standardization, intercalibration and absolute calibration of observational methods and equipment, and that the formulation of such a program should be carried out by those scientists most intimately involved in the collection and use of such data,

Convinced that in order to have comparable results this will probably involve some standardization of methods and equipment but equally convinced that world-wide standardization of all oceanographic techniques is not now desirable,

Aware that such a program should proceed in an orderly fashion so that final results will be the assurance that accurate oceanographic data can be mutually exchanged among oceanographers,

Further aware of the excellent work in this field being carried out by IAP0, ICES, and ICSEM, and of the recent inter-calibrations at Honolulu and aboard "VITYAZ" and "GASCOYNE" sponsored jointly by SCOR and UNESCO.

NS/IOC/RES - Item 7 (Continued)

Requests SCOR to undertake the following task:

Appoint as soon as possible working groups for the purpose of examining, summarizing, and criticising the present oceanographic methods and equipment in common use to determine where these methods or equipment do not provide universally usable, accurate data, or where such data cannot presently be utilized to the utmost, and to recommend by report to the IOC appropriate steps whereby these methods or equipment should be made universally usable. This may in some cases be accomplished by standardization or by intercalibration, or by such methods as these experts may determine.

WS/1061.148

Distribution: Limited

UNESCO/IOC/RES

Item 8

Paris, 26 October 1961

Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

(Draft Resolution by Special Working Group)

Noting the proposal for an International Oceanographic Research and Training Vessel to be sponsored by UNESCO;

Following the resolutions adopted at the Intergovernmental Conference on Oceanographic Research, held in Copenhagen in July 1960 and the General Conference of UNESCO at its 11th Session in November/December 1960;

Being of the opinion that it is difficult at the present time for such a vessel to be operated directly by an international organization, that further examination of this problem is required, and that it may well be found that training can be more efficiently and cheaply carried out aboard National Vessels;

Considers that the present time is not suitable for carrying out the proposal;

Recommends that nations operating national oceanographic research vessels be encouraged to accept scientists for training from other nations without such vessels. This offer has already been made by Brazil and by several other countries.

Recommends, in addition, that the Member Nations continue to keep in mind the proposal for one or more International Vessels which could be operated on an international or regional basis and that the item be inserted in the agenda of the Intergovernmental Oceanographic Commission at an appropriate future time.

Distribution: Limited

UNESCO/NS/IOC/1-4
Paris, 25 August 1961
Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

Proposed International Oceanographic Research
and Training Vessel

Summary Report
by the Office of Oceanography of UNESCO

INTRODUCTION

The early history of proposals for an international oceanographic vessel is recounted in the document UNESCO/NS/OCEAN/78 of 5 June 1958. At the Preparatory Meeting for the Intergovernmental Conference on Oceanographic Research, held in Paris, 21-26 March 1960, the proposal was discussed at length, as described in UNESCO/NS/163 of 13 May 1960. At the Intergovernmental Conference on Oceanographic Research, held in Copenhagen, 11-16 July 1960, the following resolution was adopted:

"The Intergovernmental Conference on Oceanographic Research;

Considering that the proposal for an international oceanographic vessel to be sponsored by UNESCO requires further study;

Convinced, at the same time, that the training of oceanographers should be developed by all possible means;

Recommends that the General Conference of UNESCO at its Eleventh Session invite the Director-General to request the proposed Intergovernmental Oceanographic Commission to study with the aid of the Special Committee on Oceanic Research, the desirability and feasibility of UNESCO chartering or acquiring an oceanographic training and research vessel, in comparison with other possible methods that might be employed by UNESCO in a comprehensive world-wide programme of training for oceanographers particularly in countries where oceanographic activities are in early stages of development, and to take the results of this study into account in preparing the programme and budget proposals of UNESCO in marine sciences;

Recommends further that governments strongly support a marked increase in UNESCO's programme for training oceanographers and that the proposed funds budgeted in 1961-1962 for a training vessel be maintained in UNESCO's budget for other oceanographic training activities."

The General Conference of UNESCO, at its Eleventh Session, adopted the following resolution:

"The Director-General is authorized, in cooperation with the United Nations, the Food and Agriculture Organization, the World Meteorological Organization, the Intergovernmental Maritime Consultative Organization, the other interested Specialized Agencies, the International Atomic Energy Agency, and the competent international and regional scientific organizations and councils and on the advice of appropriate advisory bodies, to stimulate and assist study, research and training of research personnel in marine sciences, to participate, at their request, in the activities of Member States which are pursuing these ends, and in particular:

To request the Intergovernmental Oceanographic Commission to study the feasibility and advisability of the operation by UNESCO of an international research and training vessel and to submit the recommendation of the Commission to the Executive Board for comments and for presentation to the General Conference at its Twelfth Session for decision."

To implement this resolution, the following project was included in the Approved Programme and Budget for 1961-1962:

"A study will be made in 1961-1962 by the Intergovernmental Oceanographic Commission, with the assistance of SCOR, on the feasibility and advisability of the operation by UNESCO of an international research and training vessel, in the light of alternatives such as:

Support for national land-based oceanographic training institutions, national training ships, regional training courses;

Expanded fellowship programmes for training in countries where oceanography is well developed;

Aid to national institutions offering the basic scientific education which is prerequisite for oceanography training;

UNESCO/NS/IOC/1-4 (Continued)

Support for regional and international land-based oceanographic research laboratories;

Aid to individual scientists conducting oceanographic research;

Fellowships for participating in oceanographic expeditions organized by various countries and UNESCO, etc.

The study will cover scientific, legal, financial, administrative, and logistic problems, and the utility of UNESCO's operating such a vessel for training purposes.

Other factors which will be considered in the study are as follows: the availability of basic educational facilities in countries where oceanography is in its early stages of development; the number and qualifications of anticipated trainees in the various branches of oceanography in such countries; the availability and possibility of useful employment for these trainees after completion of training; the financial implications to UNESCO of continuing this method of training, and its impact on the future development of marine sciences research in the countries concerned.

The study will also examine whether the UNESCO training on an oceanographic vessel programme for young scientists, supplemented by other training facilities offered by interested countries would be more likely to meet the world requirement for such training than facilities offered voluntarily by national vessels to trainees of other countries.

The findings of the Commission will be submitted to the Executive Board for comments and to the General Conference at its Twelfth Session for decision."

At a meeting in April 1961 of the Executive Board of the Special Committee on Oceanic Research (SCOR) in its capacity as advisory body to the UNESCO programme in marine science, it was recommended that this study might best be done by the Office of Oceanography, using the legal and other facilities of UNESCO. This paper attempts to summarize the various aspects of the question for consideration by the Intergovernmental Oceanographic Commission.

UNESCO/NS/IOC/1-4 (Continued)

The various alternatives to the International Oceanographic Vessel listed in Project 2.32.8 are being implemented to greater or less extent in UNESCO's 1961-1962 regular programme, and form an integral part of planning for future UNESCO work in this field. It seems unlikely that existence of the international vessel would eliminate the need for such action.

Of the problems which it is proposed that the study encompass, the legal aspects have been described in UNESCO/NS/OCEAN/95(7). There seem to be no insurmountable legal difficulties. The administrative and logistic problems are not unique and need not influence the decision as to whether such a vessel should be operated.

The scientific and financial problems, and the utility of UNESCO's operating such a vessel for training purposes, are matters which are basic to this decision. The principal questions to be answered are the following:

1. What purpose would the International Oceanographic Vessel serve?
2. What would it cost?
3. Can the same purposes be served better, or at less cost, by other means?

PURPOSE OF INTERNATIONAL OCEANOGRAPHIC VESSEL

From the beginning the principal purpose proposed for the International Oceanographic Vessel has been research, particularly in waters not now intensively investigated by ships of any country. The training aspects were given less emphasis, although subsequently Project 2.32.8 stressed primarily the training problem.

I. Research

With the development of large scale international oceanographic programmes, such as those of the International Geophysical Year and the International Indian Ocean Expedition, and with the organization of the Intergovernmental Oceanographic Commission, the research requirements originally foreseen seem to be less critical. The regions which are not being intensively investigated become fewer every year. The number of research vessels is increasing steadily. The need of certain groups of scientifically advanced countries for a high-seas research vessel may be met more satisfactorily by regional vessels (see later).

Nonetheless, there are some advantages of the IOV as a research tool:

1. The IOV would presumably be well equipped and well staffed and would be able to do competent work on problems or regions otherwise inadequately treated, thus supplementing the work of national laboratories.
2. It could play an important role in the standardization and inter-comparison of methods.

There are also some disadvantages to the IOV as a research tool:

1. If the training function predominates (see below), an intensive programme of investigations is more difficult to carry out.
2. The international character of the vessel may influence, or make less flexible, the selection of problems or areas where the ship might work. It may also tend to make the research approach conservative because of the difficulty in obtaining agreement on techniques.

II. Training

An important element of oceanographic training is work at sea with experienced scientists. This field training should be preceded by study of the principles involved and of the problems under investigation. Ideally the trainee should participate in the formulation of the experiment or method of attack on the problem, in the making of the measurements or collections, and in their processing and analysis. A simple demonstration of field techniques is inadequate. Mastery of the techniques requires constant repetition, and the measurements should constitute part of a meaningful research programme rather than an artificial exercise.

Such field training is an integral part of the curriculum in the oceanographically advanced countries, and students at institutions there, including those from other countries, obtain the necessary field experience as a matter of course. Trainees from less advanced countries have difficulty in obtaining field experience under proper supervision except where they have the opportunity to work on foreign vessels (as in the case of various national expeditions or the UNESCO shipboard fellowships on ships of the International Indian Ocean Expedition).

UNESCO/NS/IOC/1-4 (Continued)

There are some advantages to training on the IOV:

1. There is more space and facilities for trainees, and the programme can be specifically designed to give them maximum experience (at the same time cutting down on the research capability, as mentioned above).
2. A variety of methods and equipment from different countries should be available.
3. The international atmosphere with staff and trainees from several countries will be advantageous.

There are also some disadvantages to training on IOV:

1. There may be too many trainees aboard, with a resultant difficulty in giving each trainee the individual attention and experience he needs.
2. The best scientists and the most advanced research and equipment will usually be on national ships rather than on the IOV, so that training may tend to be classical rather than progressive.

COST OF INTERNATIONAL OCEANOGRAPHIC VESSEL

The first thing which should be understood about any research vessel is that to construct such a vessel is quite an expensive enterprise. The following table summarizes the cost of different projects presented at previous meetings:

<u>Country</u>	<u>Length overall</u> m	<u>Tonnage</u> (GRT)	<u>Construction Cost</u> \$ million	<u>Operation Cost*</u> \$ million
<u>U.S.A.</u>	47	300	2.0	0.40
	51	500	2.6	0.45
	53	850	3.0	0.50
	56	875	3.5	0.55
	64	1100	4.5	no estimation
	81	1500	7.4	do
	96	4500	12.0	do
<u>France</u>	65	1500	1.6**	0.36
<u>Monaco</u>	64	1300	1.8	no estimation
<u>Germany</u>	77	1950	1.6	no estimation

* not including salaries and expenses of scientific party

** without scientific equipment

UNESCO/MS/IOC/1-4 (Continued)

The chartering or purchasing (with subsequent conversion and/or equipping) of a ship between 45 and 75 m long and between 700 and 1500 displacement tons, could be done at nominal cost; the additional cost of minimum essential conversion and equipping would not exceed \$300,000.

For comparison, some figures can be given:

Total budget of UNESCO in marine sciences

for 1961-1962 -----	\$431,000
for 1963-1964 (as planned) -----	\$498,000

Special Fund projects of marine institutes (if authorized)

in Panama -----	\$1,0 million
in Philippines -----	\$1,5 million
in India -----	\$1,5 million

This means that the project of an International Oceanographic Vessel, if implemented, will take undoubtedly a much greater amount of money than any other part of international oceanographic activity.

This estimate ultimately places the project of the International Oceanographic Vessel beyond the regular budget of UNESCO. It may be difficult to justify Special Fund allocation for this project because it has no immediate economic implications. The only possibility left is pooling of money by interested States with probable further administration of the project by UNESCO or by an organization of the CERN type.

If, however, the ship is donated to UNESCO by some individual or organization, it will remove considerable part of the capital investment. Some conversion and equipping cost will still be necessary and the operating expenses will remain.

CAN THE SAME PURPOSES BE SERVED BETTER OR AT LESS COST BY OTHER MEANS?

It has not been clearly established that the development of marine science is being impeded by a shortage of research vessels, except in special regional or local cases. Nor is it evident that the IOV has great advantages over other vessels for research purposes. The development of marine science is limited, however, by a shortage of competent and experienced scientists. The question is, would the creation of the IOV help to solve this problem?

UNESCO/NS/IOC/1-4 (Continued)

There is a shortage of oceanographers in most of the developed countries (except USSR and Japan) as well as in the newer countries. In the developed countries, the problem is being solved on a national level in most cases and does not appear to be serious. In some countries, the rapid expansion of oceanographic work has not been accompanied by a comparable increase in the number of oceanographers being trained. The law of supply and demand, as well as increased efforts to attract and train students, will solve the problem relatively quickly. In other developed countries, the shortage is due in large part to inadequate organization of the science and to lack of a clear-cut and long-term national programme, and thus to the shortage or absence of attractive employment opportunities. This problem will not be resolved by the creation of the IOV.

In the less developed countries the problem is more complex. Often there is no tradition or understanding of science in the country, no programme of marine work and thus no employment opportunities. Often the best students go into other, more lucrative fields such as law, medicine, or engineering. It seems likely that the occasional qualified student who desires advanced training can be handled under existing fellowship programmes at institutions in the developed countries. It seems unlikely that the IOV would have a significant effect on alleviating the shortage of adequately trained scientists in the less developed countries. A complex approach to this problem is required, in which the shipboard training of young scientists appears relatively minor in importance.

The following table presents a rough estimate of the field training cost per trainee in case of fellowship aboard national ship and additional cost of fellowship aboard international vessel.

	Cost per trainee covered by UNESCO pro- gramme in case of fellowship aboard national ship	Additional cost per trainee due to operational cost of inter- national train- ing vessel (30 trainees per year)	Additional cost per trainee due to cost of the ship construction with amorti- zation in: <u>5 yrs</u> <u>10 yrs</u>
Fellowship for training and research aboard ship (duration 3-4 months)	\$1,500	\$10,000	\$13,000 \$6,500
	Total:	\$300,000 per year	Total: \$2,000,000

UNESCO/NS/IOC/1-4 (Continued)

In the case of implementation of the training programme aboard existing national ships, the cost per trainee will be represented by the first figure of this table and it can be supplied entirely from UNESCO's regular budget.

In the case of an international training vessel, the total cost of one fellowship will include also a certain part of the constructional and operational costs of the ship, which should come from the contributions of participating States.

REGIONAL VESSELS

At the present time, it seems more logical to encourage the development of regional vessels for training and research purposes. These would be international but be supported only by the countries of a given region. For example, the Scandinavian countries find themselves without an adequate ship for high seas work. If these countries were to pool their resources in a jointly owned and operated vessel, this would meet their needs at a reasonable cost to each country. Similarly, there appears to be a need for such a vessel to operate in the Mediterranean, which might be supported by France, Italy, Monaco, and other countries of the region.

Regional vessels are most likely to be developed in the more advanced countries, oceanographically speaking, where their principal purpose would be research, with training important but secondary. However, as part of its 1961-1962 programme, UNESCO, on an experimental basis, is contributing towards the equipping of two regional training vessels, one in the Indian Ocean region and one in Latin America. The use of these vessels, in conjunction with regional training courses, may help to increase the number of experienced field workers in these regions.

Bibliography on an International Oceanographic Vessel

(a) History of the question	- UNESCO/NS/OCEAN/78
(b) Legal aspects	- UNESCO/NS/OCEAN/95(7),
96
(c) Proposals of the Paris
Preparatory Meeting of 1960	- UNESCO/NS/OCEAN/98
- UNESCO/NS/163 pages 3-5

UNESCO/NS/IOC/1-4 (Continued)

- (d) Resolution of Copenhagen Inter- - UNESCO/NS/167
governmental Conference July 1960 pages 3, 9
- (e) Projects of vessels of different - UNESCO/NS/95(1), (2),
types (3), (4), (5), (6)

(These documents could be supplied to participants by the Secretariat of IOC upon their request.)

ANNEX VII

Distribution: Limited

NS/IOC/Res
Item 5(f)
Paris, 26 October 1961
Translated from the Spanish

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

JOINT DECLARATION SUBMITTED BY THE DELEGATIONS OF ARGENTINA,
BRAZIL, CUBA, ECUADOR, MEXICO, URUGUAY, AND THE DOMINICAN
REPUBLIC TO THE PLENARY MEETING OF THE INTERGOVERNMENTAL
OCEANOGRAPHIC COMMISSION AT ITS FIRST SESSION

The delegations of Argentina, Brazil, Cuba, Ecuador, Mexico,
Uruguay, and the Dominican Republic, present at the First Session
of the Intergovernmental Oceanographic Commission,

AWARE of the substantial progress achieved by oceanography
in highly industrialized countries and of the fact that nations
in process of development, despite their efforts to intensify
their activities in this field, are increasingly failing to
keep abreast of this progress because of inadequate trained
scientific personnel and economic resources;

NOTING that a thorough knowledge of the oceans can be
obtained only through more intensive and effective international
cooperation, which makes it urgent to provide a larger number
of oceanographic research centres furnished with equipment
and specialized technical staff;

OBSERVING that the funds so far assigned by UNESCO to
oceanographic research in countries in process of development
have proved insufficient for the purpose; and

BEARING IN MIND that the Latin American countries have
not yet been able to contribute effectively, and as much as
they would like to do, to the advancement of world oceanography
owing to the above-mentioned lack of resources;

NS/IOC/Res (Continued)

INVITE the Intergovernmental Oceanographic Commission to recommend the Director-General of UNESCO to make an appreciable increase in the budget of its Regular Programme and of the Technical Assistance Programme, and to grant special funds for the promotion of oceanographic research, the development of existing institutions and the training of the necessary technical staff, in order to speed up the progress of such research in Latin American countries, so that they may acquire sufficient knowledge and experience to be able to make a real and substantial contribution to implementation of regional oceanographic projects in their respective areas; such as those submitted in Resolution #5 under (b), (f), (j), and (k).

Distribution: Limited

NS/IOC/RES
Item 5(f)-1
Paris, 27 October 1961
Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

RESOLUTION IN CONNECTION WITH THE JOINT DECLARATION
SUBMITTED BY THE DELEGATIONS OF ARGENTINA, BRAZIL,
CUBA, ECUADOR, MEXICO, URUGUAY, AND THE DOMINICAN
REPUBLIC

The Commission

Noting the Joint Declaration submitted by Argentina, Brazil, Cuba, Ecuador, Mexico, Uruguay, and the Dominican Republic;

Appreciating the needs of these Latin American countries for assistance in the training of oceanographers and for the development of oceanographic activities;

Recommends that these interested members include in their requests for Technical Assistance proposals in the marine sciences, and also;

Recommends that these countries initiate and develop projects in the marine sciences under the Special Fund of the United Nations with the assistance of the Office of Oceanography of UNESCO; and

Recommends that the Director-General consider the possibility of increasing or modifying the allocations of the UNESCO oceanographic program to give further assistance to developing countries interested in participating in international oceanographic programs.

Distribution: Limited

UNESCO/NS/IOC/Res
Item 5(b)-2 (Russian)
Paris, 27 October 1961
Translated from the Russian

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

RESOLUTION ON THE REPORT BY THE SECRETARIAT CONCERNING
THE PLANNED UNESCO BUDGET FOR 1963-1964 IN THE SPHERE
OF OCEANOGRAPHY

(Proposal by the USSR Delegation)

The Intergovernmental Oceanographic Commission, having heard the report by the Secretariat concerning the planned UNESCO budget for 1963-1964 in the sphere of oceanography,

Recommends, within the limits of proposed expenditure for 1963-1964, that:

- (a) Provision be made for an increase in assistance to the development of oceanographic research in the countries of Africa which have acceded to independence in recent years, and in particular Ghana.
- (b) Provision be made for an increase in the volume of resources supplied to India for the creation of an oceanographic centre in Cochin.
- (c) Provision be made to divide the financial assistance granted to Ecuador for investigations in the vicinity of the Galapagos Islands, in the conduct of which several countries are interested.

ANNEX VIII

Distribution: Limited

NS/IOC/RES

Item 10

Paris, 26 October 1961

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19-27 October 1961

AMENDMENTS TO THE PROVISIONAL RULES OF PROCEDURE

(Suggested by the Sub-Committee of the Steering
Committee on Rules of Procedure)

The Sub-Committee met on Thursday, 26 October 1961, at 11 a.m., to review the Provisional Rules of Procedure adopted by the Commission. It had before it proposals submitted by Argentina, the Union of Soviet Socialist Republics, and the United Kingdom, as well as some draft changes proposed by the Secretariat.

The Sub-Committee recommends that the following changes be made in the Provisional Rules of Procedure.

Rule 6

Add a paragraph as follows:

"2. The Provisional Agenda shall be communicated to the members of the Commission at least three months before the opening of each session."

Rule 7

Amend sub-paragraph d) to read:

"d) Items which the Director-General of UNESCO or the Secretary of the Commission may deem necessary to raise."

Rule 9

Amend the Rule to read:

"The Commission may, during a session, modify the order of items on the Agenda. A majority of two-thirds shall be required for the addition or deletion of items during a session."

NS/IOC/RES Item 10 -(Continued)

Rule 16

Add at the end of the sentence the words "... or of the Bureau."

Rule 20

Amend the Rule to read:

"The Secretary shall direct the members of the Secretariat of the Commission provided in accordance with Article 8, paragraph 1 of the Statutes."

Rule 22

Amend the Rule to read:

"In carrying out his functions as defined in Article 8 of the Statutes, on behalf of the Commission, the Secretary shall act under the authority of the Director-General of UNESCO."

Rule 23

Delete the second sentence.

Rule 26

Add the word "simple" before the word "majority".

Section XI

Rule 38. 1) Change the title to "REPORTS"

2) Add a new paragraph 1 as follows:

"1. The Secretary shall submit an annual report to the Commission."

3) Renumber existing paragraphs accordingly.