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UNITED NATIONS EDUCATIONAL,
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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

REPORT ON THE FIRST SESSION OF THE COMMISSION

Unesco, Paris 19-27 October 1961

I. INTRODUCTION

1. The Intergovernmental Oceanographic Commission established by resolution 2.31 adopted by the General Conference of Unesco at its eleventh session, and in conformity with the recommenda- tion of the Intergovernmental Conference on Oceanic Research (Copenhagen 11- 16 July 1960) met for its first session in Paris at Unesco Headquarters from 19 to 27 October 1961.

2. By the end of the session, a total of 40 States had become members of the Commission. These are: Argentina, Australia, Belgium, Brazil, Canada, Chile, China, Cuba, Denmark, Dominican Republic, Ecuador, Finland, Federal Republic of Germany, France, Ghana, India, Israel, Italy, Ivory Coast, Japan, Korea, Mexico, Mauritania, Monaco, Morocco, Netherlands, Norway, Pakistan, Poland, Rumania, Spain, Switzerland, Thailand, Tunisia, Union of Soviet Socialist Republics, United Arab Republic, United Kingdom, United States of America, Uruguay, Viet-Nam. Of these States only four, Chile, Ivory Coast, Pakistan and Rumania, did not send delegations to the first session of the Commission. Rumania was represented at the meeting by the Permanent Delegate to Unesco in the capacity of an observer. Observers from the following States not mem-bers of the IOC were also present: Ceylon, Guatemala, Honduras, Iceland and South Africa.

3. Representatives and observers of the following intergovernmental and non-governmental organizations also attended the session: International Atomic Energy Agency (IAEA), Food and Agriculture Organization (FAO), World Meteorological Organization (WMO), World Health Organization (WHO), Intergovernmental Maritime Consultative Organization (IMCO), International Civil Aviation Organization (ICAO), International Council of Scientific Unions (ICSU), International Union of Geodesy and Geophysics (IUGG), International Association of Physical Oceanography (IAPO), International Union of Biological Sciences (IUBS), Special Committee on Oceanic Research (SCOR), Permanent Association of Navigational Congresses. International Hydrographic Bureau (IHB), International Council for the Exploration of the Sea (ICES), Inter-American Tropical Tuna Commission.

4. The session was opened by the Acting Director- General of Unesco, Mr. René Maheu, who welcomed the delegates on behalf of Unesco (see Annex D and stressed the importance of the newly created Commission as an instrument for solving those problems of oceanography which require concerted international action.

5. The Commission received the following cable from the Soviet Oceanographic Expedition aboard the research vessel "Vityaz":

> "ON BEHALF OF MEMBERS SOVIET OCEANOGRAPHIC EXPEDITION ON BOARD VITYAZ IN CENTRAL PACIFIC OCEAN I AM SENDING MY BEST WISHES TO PARTICIPANTS OF CONFERENCE AND WISH EVERY SUCCESS IN CREATING INTERNATIONAL PROGRAMS FOR STUDYING OCEANS DIRECTED TOWARDS GOOD OF ALL MANKIND
>
> Professor KORT"

This cable was announced to the plenary meeting and the answering cable was approved and sent to the Chief of the Expedition, Professor V.G. Kort.

"ON BEHALF MEMBERS INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION THANKS YOUR CABLE BEST WISHES FOR SMOOTH SAILING AND SUCCESSFUL VOYAGE

BRUUN"
Chairman

II. ORGANIZATION OF THE SESSION

6. In accordance with Article 7 (3) of the IOC Statutes, the Commission formally invited those intergovernmental and non-governmental organizations which had been informed by the Director-General of UNESCO of the convening of the first session of the Commission to participate in the work of the Commission. (List of Organizations at Annex II).

7. The Commission also decided that, in view of the importance of the first session, it would be desirable to elect first a temporary Bureau and a Steering Committee to serve during the first session only. A Permanent Bureau would, in accordance with Article 6 of the Statutes, be elected by the end of the session. A change was accordingly made in Article 10 of the Draft Provisional Rules of Procedure submitted to the Commission. (See Annex Ill).

8. The Commission set up its Bureau for the duration of the session as follows:

Chairman:	Dr. A. BRUUN (Denmark)
Vice-Chairmen:	Dr. W. M. Cameron (Canada)
	Vice-Admiral V.A. Tchekourov (Union of Soviet Socialist Republics)

This Bureau, together with the following eight selected representatives, constituted the Steering Committee of the session:

Captain R. H. R. Bagnati (Argentina)
Professor H. Lacombe (France) - Rapporteur
Dr. D.G. Meseck (Federal Republic of Germany)
Dr. N.K. Panikkar (India)
Mr. M. Toda (Japan)
Professor S. Szymborski (Poland)
Vice-Admiral Sir Archibald Day (United Kingdom)
The Hon. James Wakelin Jr. (United States of America).

9. Subject to the change indicated in paragraph 7 above, the Commission approved at the beginning of its session the Draft Provisional Rules of Procedure submitted to it in document IOC/l- 2. It decided. however. to review these Rules at the end of its session and adopted a revised set of Provisional Rules of Procedure which is reproduced in Annex III of this report.

10. The Commission adopted the Agenda of the session after adding two major items:

Item 9:	Fritjof Nansen Memorial Session
Item 10:	Other business; Revision of Provisional Rules of Procedure; Election of the Bureau; Date and place of the second session of the IOC.

Also, several sub-items were added to Items 4 and 5:

Item 4(b):	Advisory Committee on Fisheries Aspects of Oceanography.
4(e):	Discussion of Provisional Rules of Procedure in connexion with the relations of IOC with other organizations.
5(f):	Preliminary consideration of UNESCO Programme in Marine Sciences in 1963-1964.

Consideration of the programme of the Charles Darwin Station on the Galapagos Islands was included under sub-item 5(a). (See approved Agenda - Annex IV).

11. The Commission unanimously approved the Report of the Secretariat (document NS/IOC/1-8) presented by Dr. Wooster, Director of the Office of Oceanography of UNESCO and Secretary of the Commission.

12. At the end of the first plenary meeting the representative of the USSR made a declaration stressing that the success of international co-operation in oceanography depended upon the participation in the work of the Commission of all States active in oceanographic research. In this connexion, the USSR delegation expressed regret at the absence from the Commission of the lawful delegates of the People's Republic of China, and denied the right of the representative of Taiwan to represent China with its 650, 000, 000 people, at the meeting. This statement was commented upon by the representative of China who pointed out that his right to represent China was based upon the decision of the General Conference of UNESCO.

13. The Commission, after preliminary discussion in plenary session of certain items of its Agenda, appointed three working groups to examine related problems in detail and to prepare draft resolutions to be submitted to the Commission for approval. These drafts were examined and re-vised by the Steering Committee before presentation to the plenary meeting.
The working groups were constituted as follows:

Working Group No. 1: For Item 4 of the Agenda - Relationship between the IOC and other organizations.

1 . India (Chairman, Dr. Panikkar)
2. Australia
3. USSR
4. U. S. A.
5. Brazil
6. Norway
7. United Kingdom
8. Germany
9. Canada

with observers from FAO, WMO, IAEA, ICES, ICSU, SCOR and other organizations present at the meeting.

Working Group No. II For Item 5 of the Agenda - Co-operative International Programmes of Oceanographic Investigations.

All interested members were invited to work in this group under the chairmanship of the representative of the USSR, Commodore K. P. Ryzhkov.

Working Group No. III For Items 5 and 6 of the Agenda - Co-ordination of National Programmes and Technical Questions including Exchange of Data.

All interested members were invited to work in this group under the the chairmanship of the representative of the United States of America, Dr. Roger Revelle. This group was further split into four *ad hoc* working parties concerned with different technical questions.

III. CONSIDERATION OF THE MAJOR ITEMS OF THE AGENDA

Item 4: Relations between the IOC and other organizations

Discussions concentrated mainly upon the relationship between IOC and FAO and SCOR. Some members suggested that a new Consultative Committee on the Fisheries Aspects of Oceanography should be established by the IOC. At the same time, the Commission was informed of the proposed creation by FAO of its own Advisory Committee on Marine Resources Research and the intention of SCOR to establish a Working Group on Fisheries Aspects of Oceanography. Many speakers emphasized that existing relations between the IOC and other organizations already provided all the channels necessary for the transmission of appropriate advice from these organizations and their committees or working groups to the IOC. A good spirit of co-operation dominated this discussion and

general understanding of the necessity to simplify the whole system of organizations interested in oceanography was widespread.

(See resolution 1 - Annex V)

Item 5: International oceanographic programme

Working paper NS/I0C/1-6 served as a basis for the discussion. However the opinion was expressed, and further supported, that the IOC should not only co-ordinate co-operative international programmes, but also assist in the distribution of information of international interest in respect to declared national programmes of international interest. No specific recommendation was agreed upon in connexion with initiating new large-scale co-operative oceanographic programmes. Rather a series of such pro- grammes was referred back to the States members of the Commission and to the Secretariat for further development. It was the general feeling in connexion with the Indian Ocean Expedition that the IOC should gradually take over from SCOR the co- ordinating functions with respect to this expedition by working out, together with SCOR, appropriate steps in this direction. Technical questions were mainly referred to working groups of experts, the establishment of which was recommended in the resolutions, or to appropriate international organizations.

Strong support was shown for the development of a comprehensive programme for world ocean study, and the Secretariat was requested to initiate its preparation.

An opinion was expressed by the representative of the United Kingdom that: "The Secretary should ensure that any proposals laid before the Commission for its approval and co-ordination shall in their final form contain estimates of the contributions in resources and manpower that Member States would be invited to make".

It was also suggested by the representative of France that some previous recommendations should be re-emphasized, especially those accepted at the Copenhagen meeting with respect to training and the importance of providing careers for young marine scientists.

(See resolutions 2,3, 4, 5, 6, 7 - Annex V)

A group of Latin American States introduced a declaration concerning the development of oceanography in that region. In this connexion a resolution was adopted urging in-creased support to developing countries interested in participating in international oceanographic programmes.

(See resolution 8 and declaration - Annex V)

During the preliminary discussion of the UNESCO Draft Programme in Marine Sciences for 1963-1964 some delegates (China, Japan, USSR) expressed their opinions on the priority of certain regions in applying UNESCO assistance for the development of marine sciences. Some representatives raised a question concerning UNESCO's financial support of IOC activities. Representatives of India and USSR stressed the importance of the role UNESCO might play in the creation of an international pool of equipment proposed by Spain. It was suggested that the UNESCO book coupons might be useful in solving immediate currency difficulties. The representative of the USSR introduced a draft resolution recommending some redistribution of budgetary means in the proposed UNESCO Marine Science Programme for 1963-1964. However, in view of the declaration of the group of Latin American States and the corresponding resolution adopted (see above), the representative of the USSR did not insist on the Commission's making a separate decision on the Soviet draft resolution, and asked only that it be included in the report of the meeting.

(See Annex VI)

Item 6: Data centres, exchange of data and publications connected with Intergovernmental Oceanographic Commission activities

Document NS/IOC/1-7 served as a basis for discussion at the plenary meeting. However, the discussion took place mainly in Working Group No. Ill and in the ad hoc group under the chairmanship of the representative of the Federal Republic of Germany, Dr. Bohnecke. The importance of data exchange was stressed, not only in connexion with

co-operative international programmes, but also for the declared national and regional programmes of international interest.

It was recognized that immediate exchange of oceanographic data in accordance with the Data Centre's Manual of the International Geophysical Year should be started for such programmes commencing from 1 January 1960. Ways and means of exchange of bathymetric data were also discussed at length. The problem of publishing a new General Bathymetric Chart of the Oceans was raised several times and the opinion was expressed that Unesco might assist financially in this matter. However, no specific recommendation was made in this connexion in view of the forthcoming International Hydrographic Conference in May 1962.

It was the general feeling that an oceanographic newsletter, which the Office of Oceanography of Unesco proposes to publish, should contain information concerning national programmes of international interest.

It was also suggested that Unesco should study the feasibility and practicability of the creation of an international pool of equipment.

(See resolution 9 ~ Extract from IGY Data Centre Manual and resolution 10 - Annex V)

Item 7: Standardization and intercalibration of methods and instruments

The importance of any work in this field was stressed many times and it was the general feeling that the best way of carrying out inter calibration work would be to bring together scientists and equipment aboard oceanographical vessels for joint oceanographic tests. As an example, the recent Unesco-SCOR inte rc alib ration tests at Honolulu and aboard "Vityaz" and "Gascoyne" were cited. Representatives expressed the opinion that the distribution of standard equipment could be put into effect through the proposed international pool of equipment. It was felt that the task of planning new steps in the programme of standardization and intercalibration of methods and equipment should be delegated to SCOR because of the essentially scientific nature of this task.

(See resolution 11 - Annex V)

Item 8: International research and training vessel

The summary report on the international research and training vessel (document NS/I0C/1-4) prepared by the Office of Oceanography of UNESCO, served as a basis for the discussion. The majority of speakers expressed the opinion that at the moment there was no vital necessity to have an international oceanographic research and training vessel and that the tasks which might be assigned to such a vessel could be more efficiently and cheaply carried out aboard national vessels.

Different representatives, especially the representative of Brazil, informed the Commission of the possibilities offered by their countries to take on board scientific or technical personnel of other countries for training.

At the same time, the representatives of India and Viet-Nam and of one or two other States, still considered the International Oceanographic Research and Training Vessel both necessary and useful.

A special drafting committee was appointed to summarize opinions. It was decided not to close the issue permanently and to reserve the possibility for the IOC to return to the question at some appropriate future time.

(See resolution 12 - Annex V)

Item 9: Fritjof Nansen Memorial Session

Professor A. D. Dobrovolsky from Moscow State University gave a lecture honouring the memory of the great explorer and humanist Fritjof Nansen. He described his life and work and the enormous impact which his oceanographical achievements made and still make on the development of marine sciences.

Dr. Bohnecke (Federal Republic of Germany) followed Professor Dobrovolsky with his own recollections of Nansen's influence on his own scientific progress.

Professor Mosby from the University of Bergen gave a short talk of his own contacts with Nansen and showed some original slides depicting certain of Nansen's expeditions.

(See Annex VII)

Item 10: Election of the Bureau, creation of a Consultative Committee, date and place of the second session of the IOC

At the end of the session, the Bureau, comprising:

Chairman:	Dr. A. BRUUN (Denmark)
Vice-Chairmen:	Dr. W. M. Cameron (Canada)
	Vice-Admiral V.A. Tchekourov (USSR)

was re-elected for a full term of office expiring at the end of the second session.

The Commission also decided to establish a consultative committee to work with the Bureau and the Secretariat in the development of the programme of the Commission during the period prior to the beginning of the second session. This committee consists of representatives of France, India, U. S.A., Argentina, Japan, United Kingdom, Federal Republic of Germany, Poland. Brazil, Australia and others as needed.

The Commission had previously received an invitation from the Government of Monaco to hold the second session in the Principality. The Commission heartily welcomes this gesture of recognition and expresses its gratitude to the Government of Monaco. However, a fairly strong tendency was demonstrated among the delegates towards hold-ing the second session of the IOC in Unesco Headquarters. The Commission decided in favour of that opinion, but asked its Secretariat to inform the Government of Monaco that it was favourably disposed to holding a future session in Monaco. It was therefore agreed that the second session of the IOC take place in Paris in September/October of 1962 and that the Provisional Agenda should be distributed three months in advance to all Member States, which recommendation was introduced into the Revised Provisional Rules of Procedure. The importance of not conflicting with the dates of the 1962 meet-ing of ICES was pointed out.

The representative of the USSR proposed that a second paragraph should be added to Rule 6 of the Provisional Rules of Procedure stipulating that the provisional agenda for each session of the Commission should be distributed to Member States six months in advance of the session. The Commission decided not to accept the proposal in that form, but considered it an important suggestion for the work of the Secretariat which should be incorporated in the report of the session.

In closing the first session of the Commission, its Chairman, Dr. Bruun, on behalf of the Bureau, expressed his thanks for the help received during the session from all representatives and observers, members of the Secretariat and UNESCO, including interpreters and technical staff, and especially noted the sincere spirit of international co-operation which had dominated the whole session. He also expressed, on behalf of the re-elected Bureau, their appreciation of the Confi-dence manifested by the Commission.

In issuing this Summary Report, the Secretariat of the Commission wishes to record its deep sorrow at the passing away of its distinguished Chairman. Dr Bruun died in Copenhagen on 13 December 1961. He leaves in the memories of all those who worked with him in Paris in October the memory of a wise and eminent man of science devoted to the cause of international co-operation in oceanography.

ANNEX I

**ADDRESS BY MR. RENE MAHEU,
ACTING DIRECTOR- GENERAL OF UNESCO,
AT THE OPENING OF THE FIRST SESSION OF THE
INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION**

Paris, 19 October 1961

Ladies and Gentlemen,

It is with great pleasure that I welcome you to this inaugural meeting of the Intergovernmental Oceanographic Commission. As you all know, the purpose of this Commission is to contribute to the development of scientific research through the concerted efforts of its members to obtain a better knowledge of the nature and resources of the oceans. The meeting in this hall of the representatives of 40 nations shows clearly how much the creation of the Commission, decided by Unesco's General Conference less than a year ago, meets a need of the international community.

Science has a long tradition of international cooperation behind it. The scientific study of the oceans is one of the best examples by which to illustrate the need for this kind of co-operation. The very vastness of the seas necessitates the combination and co-ordination of efforts and resources in order to make research work a success. The oceans, whose waters mingle and circulate over the whole surface of the planet, cover approximately three-quarters of the earth's surface and, beyond the limits of territorial waters, the high seas are a truly international area.

The scientific study of the ocean has become more important to mankind than ever before. There are several reasons for this. The sea is a principal means of communication, used by a considerable portion of world trade. It is a source of mineral wealth, some of which is dissolved, the rest deposited on the sea bed. Being a reservoir of water and heat, it regulates meteorology and climates. With its store of proteins, it nourishes hungry millions. It is also a gigantic ditch into which man discharges the waste from his organic exchanges and the detritus, as it were, of his civilization. In order to master the sea and to make rational use of the possibilities it offers, one must have a thorough knowledge of the complex natural phenomena which take place within it. Moreover, it may be said that, on the whole, scientists are less interested in solving immediate practical problems than in satisfying their ardent curiosity for the truth. The sea offers an almost unlimited field for such research.

At the time of the first great oceanographic expedition, carried out by the British vessel "Challenger" in 1873-1876, a single ship could collect an enormous amount of new data. But as their knowledge increased, scientists felt more and more the need for numerous, detailed and systematic observations. There can be no doubt that in our own time, the solution of many important oceanographic problems requires the simultaneous and closely coordinated action of a large number of vessels.

This international action, which had been steadily developing over a decade, gained strong impetus from the International Geophysical Year. In the North Atlantic and the Pacific, interna-

tional cooperation made it possible to study vast regions of the ocean. The international Indian Ocean Expedition, which is now being organized by the Special Committee on Oceanic Research and which Unesco has agreed to sponsor, will provide an opportunity for more than 20 nations and 40 ships to work together on the exploration of an immense and still largely unknown ocean.

Other aspects of oceanography also require concerted action by all nations concerned. For this research to be successful, it is essential to obtain rapidly and in convenient form the results which have already been gathered from a study of the same or similar problems. Thus the exchange of oceanographic data and information is of international importance. No doubt new documentation centres will have to be added to those that already exist. But more than a purely quantitative effort is required. The free exchange of information poses the capital problem of their quality and comparability; hence the need for the standardization of methods and the calibration of instruments on an international basis. Nor is that all, The examination of technical questions relating

to navigational aids, the distribution of radio frequencies for oceanographic research, and the operation of recording stations submerged in international waters - here are further problems the solution of which depends, to varying degrees, on collaboration between nations.

During the last few years, governments, National Commissions for Unesco and govermnental and non-governmental scientific organizations have frequently drawn Unesco's attention to these problems and invited it to extend its programme of marine sciences.

Realizing the need for dynamic and coordinated international action in this field, Unesco's General Conference, at its tenth session, held in Paris in November 1958, adopted a resolution (resolution 2.42) which provided for the convening of an intergovernmental conference on oceanographic research. This conference - in the preparation of which the United Nations, FAO, WMO and IAEA were closely associated, and I should like to thank them once again - was held in Copenhagen in July 1960. It considered and approved a body of measures designed, on the one hand, to ensure the common use by the Member States concerned of international services for oceanographic research and the training of personnel and, on the other hand, the immediate application of an international research and training programme in the marine sciences.

The principal recommendation of the Copenhagen Conference was that an Intergovernmental Oceanographic Commission be set up with the help, and within the framework, of Unesco, with the task of recommending to Member States concerted action in oceanographic research.

At its eleventh session, in November- December 1960, the General Conference adopted the recommendations of the Copenhagen Conference and set up within the framework of Unesco the Intergovernmental Oceanographic Commission. The General Conference approved the funds needed to run the Commission, and in particular those required to set up an Office of Oceanography to assure its Secretariat.

The office is attached to the Department of Natural Sciences of Unesco. This administrative arrangement will, I feel sure, make it possible for the work of the Commission and of Unesco, whose programme embraces activities closely related to the Commission's field of work, especially as regards promoting the development of research institutions and the training of research workers, to progress harmoniously, side by side. It is, in my opinion, highly desirable that the plans to be drawn up and executed by your Commission and Unesco's plans should be systematically but flexibly co-ordinated, while at the same time, as its sponsors requested, the Commission should be guaranteed that freedom of action which is essential to the advancement of its work.

Unesco looks upon your Commission as an instrument which can be of great assistance in solving those problems of oceanography for which, as I said before, concerted international action is imperative. In performing this task, you may be assured of Unesco's assistance and support. However, it should, no doubt, be said that there are many other problems which need to be examined by scientists, institutions or specialized laboratories, research work in which it is not the Commission's function to direct or to co-ordinate. Nor, it must be remembered, is it the Commission's duty to carry out meteorological research - that is a function of WMO - nor fishery research, which comes within the field of competence of FAO.

It is, moreover, desirable that in executing its programmes the Commission should co-operate closely with other institutions of the United Nations family, particularly the United Nations Food and Agriculture Organization (FAO), the World Meteorological Organization (WMO), the International Atomic Energy Agency (IAEA) and all other competent intergovernmental and non-governmental organizations, respecting their various fields of competence, but working together with them to arrange meetings and other forms of useful collaboration.

What I have just said needed to be said, I think, but it does not alter the fact that the tasks which your Commission is called upon to perform and the opportunities that lie before it within the field of action which I have just indicated are as wide as the oceans themselves and are of the utmost importance for the advancement of science and the good of mankind. Unesco, therefore, is greatly honoured by your presence, and cordially wishes you success in your endeavours. With high hopes, therefore, I declare the first session of the Intergovernmental Oceanographic Commission open.

ANNEX II

LIST OF ORGANIZATIONS INFORMED OF CONVENING OF THE FIRST SESSION OF THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

INTERGOVERNMENTAL ORGANIZATIONS

1. International Hydrographic Bureau
2. Commission for Fisheries Research in the West Pacific
3. International Whaling Commission
4. International Commission for the Scientific Exploration of the Mediterranean Sea
5. Caribbean Commission
6. South Pacific Commission
7. Commission for Technical Co-operation in Africa South of the Sahara
8. General Fisheries Council for the Mediterranean
9. Indo-Pacific Fisheries Council
10. International Council for the Exploration of the Sea
11. Pan American Institute of Geography and History
12. Inter-American Tropical Tuna Commission
13 .International Commission for the North West Atlantic Fisheries
14. International North Pacific Fisheries Commission
15. International Pacific Halibut Commission
16. Permanent Commission for the Conservation and Exploitation of the Maritime Resources of the South Pacific
17. Permanent Commission of the International Fisheries Convention
18. International Pacific Salmon Fisheries Commission
19. North- West Pacific Fisheries Commission
20. International North Pacific Fur Seal Commission

NON- GOVERNMENTAL ORGANIZATIONS

1. International Council of Scientific Unions (ICSU)
   (a) International Union of Geodesy and Geophysics (IUGG)
   (b) International Union of Biological Sciences
   (c) International Association of Physical Oceanography (of IUGG)
   (d) Special Committee on Oceanic Research (of ICSU)
   (e) International Geographical Union
2. Union of International Engineering Organizations
3. Permanent International Association of Navigation Congresses
4. International Union for the Conservation of Nature and of Natural Resources
5. Pacific Science Association
6. Gulf and Caribbean Fisheries Institute

ANNEX III

PROVISIONAL RULES OF PROCEDURE

(Revised text adopted by the Commission at its first session)

Section I - Membership

Rule 1

The Intergovernmental Oceanographic Commission (hereinafter called the Commission) is composed of States which have given notice of their willingness to participate in oceanographic programmes which require concerted action, in accordance with the procedure laid down in Article 2 of the Statutes of the Commission as adopted by the General Conference of Unesco at its eleventh session.

Rule 2

Each State member of the Commission shall notify the Secretariat of the Commission of the names of its designated representatives as well as of advisers and experts.

Section II - Sessions

Rule 3

The first session of the Commission shall be convened by the Director~ General of Unesco. The place and date of that session shall be communicated in advance to all interested States and Organizations.

Rule 4

Other sessions shall be convened by the Secretary of the Commission under instructions from the Bureau of the Commission.

Section III - Agenda

Rule 5

The provisional agenda of the first session of the Commission shall be prepared by the Director- General of Unesco.

Rule 6

1. The provisional agenda of other sessions of the Commission shall be prepared by the Secretary of the Commission in consultation with the members of the Bureau and the Director-General of Unesco.

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

The provisional agenda of a session of the Commission shall include:

(a) Items whose inclusion has been decided by the Commission itself;
(b) Items proposed by any State member of the Commission;
(c) Items proposed by the United Nations or by any of the Agencies of the United Nations system;
(d) Items which the Director-General of Unesco or the Secretary of the Commission may deem necessary to raise.

Rule 8

At the beginning of each session the Commission shall adopt the agenda for that session.

Rule 9

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.

Section IV - Bureau

Rule 10

1. At the beginning of its first session, the Commission shall elect a Chairman and two Vice-Chairmen who shall remain in office until the end of that session.

2. The Commission shall also at its first session and for the duration of that session constitute a Steering Committee composed of the Chairman, the Vice-Chairmen and of eight other elected members.

Rule 11

Thereafter the Chairman and Vice-Chairmen shall be elected and shall hold office in accordance with the provisions of Article 6 of the Statutes of the Commission.

Rule 12

If the Chairman is unable to act at any meeting or any part thereof, he shall be replaced alternatively by one of the two Vice-Chairmen. A Vice-Chairman acting as Chairman shall have the same powers and duties as the Chairman.

Rule 13

The Chairman or a Vice-Chairman acting as Chairman shall participate in the meetings of the Commission in that capacity and not as the representative of the State by which he is accredited. In such a case, an alternate representative shall be entitled to represent the State member concerned in the meetings of the Commission and shall exercise the right to vote.

Rule 14

If the Chairman ceases to represent a State member of the Commission or is so incapacitated that he can no longer hold office, a Vice-Chairman shall become Chairman for the unexpired portion of the term of office. If that Vice-Chairman also ceases to represent a State member of the Commission or is so incapacitated that he can no longer hold office, the other Vice-Chairman shall become Chairman for the unexpired portion of the term of office.

Rule 15

Members of the Bureau are eligible for re-election.

Section V - Committees

Rule 16

Committees set up by the Commission in accordance with Article 5 of the Statutes of the Commission shall meet in accordance with the decisions of the Commission, or of the Bureau.

Rule 17

These Committees shall elect their own Chairman, Vice-Chairman and, if necessary, their own Rapporteur.

Rule 18

These rules of procedure shall apply to the proceedings of committees unless the Commission decides otherwise.'

Section VI - Secretariat

Rule 19

The Director of the Unesco Office of Oceanography shall be the Secretary of the Commission. He shall act in that capacity at all meetings of the Commission, of the Committees and of the Bureau. He may designate another member of the Secretariat of the Commission to take his place at any meeting.

Rule 20

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

Rule 21

The Secretary or his representatives may make oral as well as written statements to the Commission or its Committees and to the Bureau concerning any question under consideration.

Rule 22

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

Section VII - Languages

Rule 23

English, French, Russian and Spanish shall be the working languages of the Commission.

Rule 24

Any representative may make a speech in a language other than the working languages currently in use for a particular session of the Commission or of a committee, on the condition that he provide for the interpretation of his speech into one or the other of the said working languages.

Section VIII - Conduct of business

Rule 25

All meetings of the Commission shall be open to the public unless the Commission decides otherwise.

Rule 26

A simple majority of the States members of the Commission shall constitute a quorum.

Rule 27

Experts and observers may. with the authorization of the Chairman, make oral or written statements before the Commission and its Committees.

Rule 28

The Chairman of the Commission shall declare the opening and closing of each meeting, direct the discussions, ensure observance of these Rules, accord the right to speak, put questions to the vote and announce decisions. He shall rule on points of order and, subject to these Rules, shall have control of the proceedings and over the maintenance of order at meetings.

Rule 29

The Chairman shall call upon speakers in the order in which they have expressed the desire to speak.

Rule 30

During the discussion on any matter. a representative may at any time raise a point of order and the point of order shall be forthwith decided by the Chairman. Any representative may appeal against the ruling of the Chairman which can only be overruled by a majority of the members present and voting. A representative may not in raising a point of order speak on the substance of the matter under discussion.

Section IX - Voting

Rule 31

Each State member of the Commission shall have one vote.

Rule 32

1. Except on matters for which the Commission shall decide that a majority of two-thirds is required, decisions shall be made by a majority of the members present and voting.

2. Decisions as to the matters which require a two-thirds majority shall be made by a majority of the members present and voting.

3. For the purpose of these Rules, the phrase "members present and voting" means members casting an affirmative or negative vote. Members who abstain from voting are considered as not voting.

Rule 33

Voting shall normally be by show of hands, except that any member may request a roll-call. The vote and abstention of each member participating in a roll- call shall be inserted in the record.

Rule 34

1. When an amendment is moved to a proposal, the amendment shall be voted on first. When two or more amendments are moved to a proposal, the Commission shall first vote on the amendment furthest removed from the original proposal and then on the amendment next furthest therefrom, and so on, until all amendments have been put to a vote. lf one or more amendments are adopted. the amended proposal shall then be voted on. If no amendment is adopted, the proposal shall be put to the vote in its original form.

2. A motion is considered an amendment to a proposal if it adds to, deletes from or revises that proposal.

Rule 35

All elections shall be decided by secret ballot unless, in the absence of objections, the Commission decides otherwise.

Rule 36

If a vote is equally divided on matters other than elections, the proposal shall be regarded as rejected.

Section X - Records

Rule 37

1. Summary records of the meetings of the Commission shall be prepared by the Secretariat of the Commission and circulated to its members.

Section XI - Reports

Rule 38

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

2. The Commission shall submit reports on its activities to each ordinary session of the General Conference of Unesco.

3. Copies of these reports shall be circulated by the Director-General of Unesco in accordance with Article 10 of the Statutes of the Commission.

Section XII - Amendments

1. The Commission may amend these Rules of Procedure by a majority of the members present and voting.

2. Suspension of any of these Rules shall require a two-thirds majority of the members present and voting.

ANNEX IV

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

First Session

Paris, UNESCO, 19- 27 October 1961

A G E N D A

1. Introduction

   (a) Opening of the session and introductory remarks
   (b) Formal invitation of intergovernmental and non-governmental organizational 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 Specialized Agencies
   (d) Other intergovernmental and non-governmental organizations
   (e) Discussion of provisional Rules of Procedure in connexion 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
   (c) Joint programme
   (d) Aids to navigation
   (e) Recording stations
   (f) Preliminary consideration of' Unesco programme 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. Fritjof Nansen Memorial Session

10. Other business. Revision of provisional Rules of Procedure. election of the Bureau, date and place of the second session of the IOC

ANNEX V

RESOLUTIONS ADOPTED BY THE COMMISSION AT ITS FIRST SESSION

RESOLUTION I-1

RELATIONSHIP BETWEEN THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION AND OTHER ORGANIZATIONS

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 co-ordinated and integrated international programme 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 oceanography 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 forth-coming conference the establishment of an Advisory Committee on Marine Resources Research,

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 co-operation in oceanic research,

Aware also that the Special Committee on Oceanic Research is in process of establishing a work-ing group of experts in fisheries and oceanographic sciences:

1. Invites the United Nations and its Specialized Agencies and other intergovernmental and non-governmental organizations concerned with oceanography in its various disciplines, to co-operate 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 co-operate actively with the Secretariat of the Com-mission, the extent of such co-operation 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 on oceanographic matters and other intergovernmental and non-governmental organizations of a world-wide or regional nature, which could contribute to the development of international programmes 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.

RESOLUTION I-2

POSTS AND CAREERS IN MARINE SCIENCES

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.

RESOLUTION I-3

CO-OPERATIVE INTERNATIONAL OCEANOGRAPHIC PROGRAMMES

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 co-operative effort, would add materially to man's knowledge of the world ocean,

Bearing in mind that to proceed with such co-operative 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 programme for an eventual world ocean study,

Recommends for earnest consideration by such States as may desire to participate in the co-operative programmes, each of the following proposals, (initiated by the member body indicated below) as parts of a general study of the world ocean:

(a) North Atlantic Synoptic Survey (U. S.A),
(b) Co-operative programme of study of the Eastern Tropical Pacific Ocean (EPOC and IATTC)
(c) North Atlantic Expedition for studying fields of currents (USSR)
(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 programme to study time changes in characteristics of the ocean (USSR)
(h) North Pacific Synoptic Survey (U. S.A.)
(i) Australian-Asiatic Seas Expedition (Naga II) (Thailand, South Viet-Nam)
(j) Gulf of Mexico and Caribbean Study (Mexico, Cuba and Dominican Republic)
(k) Currents of the Drake passage (Argentina, document NS / I0C / INF. 13)

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, co-ordination and cooperation (including consultation with appropriate national and international organizations) to prepare specific programmes, and to take appropriate and early action with a view that all aspects of oceanographic study should be taken into account where possible, and that all their findings be fully published upon the completion of each programme

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 Secretariat to initiate the preparation of a comprehensive programme for world ocean study through the most effective means he deems appropriate.

RESOLUTION I-4

INDIAN OCEAN EXPEDITION

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

Recognizing that the foregoing programme would benefit by the voluntary co-operation of Member States of the Commission,

Appreciating that SCOR has taken and will continue to take a prominent part in the co-ordination of that expedition, and that the appropriate role of the Commission in that programme has not yet been clarified,

Bearing in mind that the proposed programmes would also profit from the advice and co-operation 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 co-ordinating functions with respect to that Expedition as can be worked out in consultation with SCOR and other appropriate bodies.

RESOLUTION I-5

AIDS TO NAVIGATION

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;

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 co-operate with IOC in the expeditious development, 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 h 50 m. and position accuracy + 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.

RESOLUTION I-6

COMMUNICATIONS

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.

RESOLUTION I-7

FIXED STATIONS

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.

ADDENDUM TO RESOLUTION I-7
(NS / I0C / INF. 16)

REPORT OF THE WORKING PANEL ON OBSERVING STATIONS AND WEATHER SHIPS

From the contributions at this, and other, conferences[1] 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, other 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 in 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.

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 I.G.Y.. 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.

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[1] See example document: IOC / 1-6, I0C / INF. 1, I0C / INF. 11, and Ocean / 92(1), and NS / 163 of Paris Conference of March 1960.

A network of island stations can be a very important part of a programme of detailed research and survey in an ocean area. Such a network is an integral part of the EPOC plan for a co-operative 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 islands 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 un-used, 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 maybe added to the present routine weather observation in con-sultation with interested specialists.

It is also possible to employ a local network of anchored instrument buoys in connexion with a weather ship, the data being gathered by the ship by the removal of data records or by tele-metering 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 travelling to their stations and their home ports.

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 oceano-grapher, 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 maybe read out by telemetering systems. The telemetering maybe 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 co-operation in developing these new instrument systems could greatly facilitate the solution of such problems.

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 co-operative 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.

RESOLUTION I-8

RESOLUTION M CONNEXION 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 R the UNESCO oceanographic programme to give further assistance to developing countries interested in participating in international oceanographic programmes.

ADDENDUM TO RESOLUTION I-8

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 their inadequate human and economic resources,

Noting that a thorough knowledge of the oceans can be obtained only through more intensive and effective international co-operation, 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,

Invite the Intergovernmental Oceanographic Commission to recommend the Director-General of Unesco to make 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.

RESOLUTION I- 9

EXCHANGE OF OCEANOGRAPHIC DATA

The Intergovernmental Oceanographic Commission,

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

Noting the existence of the data centres listed in document IOC / 1-7, including the centre for bathymetric data under the International Hydrographic Bureau with sub-centres 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 system of World Data Centres established during the International 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 programmes be exchanged under the headings listed and by the methods prescribed in the IGY data centre manual, commencing from 1 January 1960, in accordance with the attached extracts from the manual (IOC / INF. 17);

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

Urges member countries to participate with the I.H.B., in co-operation with World Date Centres A and B for Oceanography, in the preparation of bathymetric plotting sheets for the world ocean on as large a scale as possible;

Recommends to the Governments of the U.S.A. , USSR, and the United Kingdom that they appoint representatives of World Data Centre A, World Data Centre 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 centres.

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.

ADDENDUM TO RESOLUTION I-9

IGY LIST OF DATA TO BE EXCHANGED
(NS / I0C / INF. 17)

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

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 0_2, $Si0_4$, $P0_4$, $N0_2$, $N0_3$, H_2S (if present), $C0_2$, NH_2, H_3B0_3, C_{14}, D_20_1,T_20, and other chemical species, pH, alkalinity and radio-activity. 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 behaviour, etc.

(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 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 hour observations of effective radiation in selected situations.

(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 WDC s. The method used is to be made clear on the transmittal note.

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 IAPO.. 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 WDC s.

(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.

RESOLUTION I-10

CO-ORDINATION OF NATIONAL AND REGIONAL PROGRAMMES

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.

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 he urged to distribute scientific papers and abstracts to the mailing lists referred to in paragraph 2 (b) above.

RESOLUTION I-11

STANDARDIZATION AND INTERCALIBRATION OF OCEANOGRAPHIC METHODS AND EQUIPMENT

The Commission,

Recognizing that there is a pressing need for a co-ordinated programme that ensures 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 programme which includes to varying degrees the standardization, intercalibration and absolute calibration of observational methods and equipment, and that the formulation of such a programme 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 programme should proceed in an orderly fashion so that the 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 IAPO,ICES and ICSEM, and of the recent intercalibrations at Honolulu and aboard "Vityaz" and "Gascoyne" sponsored jointly by SCOR and UNESCO;

Requests SCOR to undertake the following task:

Appoint as soon as possible working groups for the purpose of examining, summarizing, and criticizing 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.

RESOLUTION I-12

INTERNATIONAL RESEARCH AND TRAINING VESSEL

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 eleventh 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.

ANNEX VI

DRAFT RESOLUTION OF 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 give the financial assistance to Ecuador for investigations in the vicinity of the Galapagos Islands, in the conduct of which several countries are interested.

ANNEX VII

Professor A. D. Dobrovolsky
Moscow State University, USSR

FRITJOF NANSEN MEMORIAL

The name of Fritjof Nansen is known the world over but it seems to me that there are two countries to the people of which he is especially dear, that is to say, Norway, of which country he was a faithful son, and the USSR, to whom he was a true friend. Regardless of nationality, all oceanographers of the world respect and cherish this man because he was the founder of marine science. The first session of the IOC would undoubtedly select Nansen as its President if only he had been alive. This thought is not as fantastic as it might appear at first glance, for only 100 years have passed since his birth. Recently I read in the newspaper that in England there was a wedding of a man 102 years old and his bride 73! But it was not the fate of Nansen to live to be 100 years old and the only thing we can do now is to honour his memory by our recollections of him.

In a short talk it is impossible to give, in adequate detail, a full account of Nansen's life. Therefore I will draw your attention only to certain incidents. First of all, it should be noted that Nansen, at only 20 years of age, went to sea, to the waters of Greenland, in the fishing boat "Jason" . This fact alone is not surprising as Norway is a seafaring nation, but what is remarkable is that Nansen went to sea as a scientist. His first scientific problem was a study of the feeding of seals. However, already in this first expedition, he paid attention to the ice movements and currents. Already he had the idea of the Greenland crossing and was thinking over the plan of this enterprise.

To visit the central regions of the Greenland ice plateau was a thought in many people's minds at that time, but only Nansen's attempt to cross this plateau was successful. This fact can be accounted for primarily by his careful planning and thorough preparation of the Expedition, which characterized all other expeditions undertaken by Nansen. Already in 1888, when he had crossed Greenland, he was thinking of the journey to the North Pole. Even when proposing to his future wife after his return from Greenland, he warned her that he would go to the North Pole and in fact did so.

In 1893 his ship "Fram" sailed on a voyage which many at that time regarded as crazy. Indeed it was considered a very complicated way of committing suicide! Really, Nansen's fundamental idea in that expedition was an act of defiance: instead of fighting the ice as his predecessors had, he decided to surrender to it. Nansen knew that Siberian trees had been found on the east coast of Greenland and that the wreckage of the American ship " Jeanette " which perished near our New Siberian Islands had been brought to the same place (these facts were established by the Norwegian Mohn). Certainly, then a ship could take the same route. If one assumed that the ice floes follow the shortest route along the great circles of the globe, then to get to the North Pole it would be necessary to enter the ice floes near the New Siberian Islands. So Nansen did just this.

However, for the success of the expedition, it was necessary to have a specially designed ship which would withstand the pressure of the ice floes. Here again, Nansen didn't follow the straightforward idea that such a ship must be of extremely solid construction, but suggested a very clever idea whereby the ship, s hull was rounded to permit its being pushed upward by the lateral pressure of the ice floes. This idea was successfully incorporated in the design of "Fram" by the shipbuilder Colin Archer.

However, Nansen never actually arrived at the North Pole. The "Fram" did not drift along a great circle, so Nansen and Johansson made a brave attempt to walk to the Pole on foot. Eventually they were forced to turn back without reaching their goal. But this did not discourage Nansen. From the very beginning, his purpose was a scientific study of the Arctic Ocean, not merely an adventure for its own sake. In this purpose he succeeded. We can say with assurance

that it was Nansen who discovered for us the great depths of the Arctic Ocean. Thanks to him we knew the oceanographical characteristics of this Ocean, the movement of its ice floes, its interchange with the Atlantic Ocean, etc.

Apart from its geographical and regional importance, the work of that expedition had also a theoretical significance concerning the ice drift. Nansen established that the speed of the ice drift was approximately 1 / 50th of the wind speed and the direction of the drift was about 30 degrees to the right of the wind. Several years ago these rules were supplemented by Professor Zubov (USSR) who showed that the ice was drifting along isobars (lines of equal atmospheric pressure) and that the speed of the drift was proportional to the pressure gradient.

The fact that the drift did not coincide with the direction of the wind forced Nansen to consider that this was in effect caused by the earth's rotation (Coriolis force). He also correctly came to the conclusion that this force should influence the development of currents. On the basis of this suggestion the young Swedish scientist Wilfrid Ekman, to whom Nansen proposed the mathematical solution of this problem, created an elegant theory of wind-driven currents. This theory is still important and is being developed and generalized by present-day scientists.

The scientific results of the "Fram" expedition are published in five volumes, of which Volume 3 - Oceanography (1902) is especially interesting. I am sure that every oceanographer of our time will find there many interesting and fresh thoughts. As well, it is an excellent example of clarity and logic of expression which may serve as a model to both young and old in the scientific world.

One of the questions studied by Nansen on the basis of "Fram's" observations, was the question of water exchange between the Central Arctic Basin and the Greenland Sea, but there was not enough data for solving this problem at the time. Therefore Nansen undertook a new journey to the Spitzbergen region on the small schooner "Veslamo" (1913). This was, one might say, a family affair. Aboard, together with Nansen, were his son and daughter. From this expedition came very interesting material for clarifying the problem of water exchange and also for the study of mixing processes (especially of winter convection and tidal currents). After this expedition, he wrote the book " Spitzbergen Waters" which even today has not lost its interest.

Later, Nansen, together with another Norwegian scientist Helland Hansen, conducted several expeditions in the northern part of the Atlantic on the small vessel "Armauer Hansen,' . The results of these studies, published in 1925 jointly by both scientists, are of exceptional interest. The authors examined extensive material and showed many features pertaining to the hydrology of this part of the World Ocean. Here, by the way, was first successfully applied the method of T-S analysis for the characterization of water masses. In this region were also found great internal waves with amplitudes up to 100 metres. At about the same time, Nansen became especially interested in the possibilities of studying the Arctic from the air. He had an excellent sense of reality and a gift for seeing into the future. He was able to see in aviation, then very weak, a powerful means of future investigation. He was the first Chairman of the International Aero-Arctic Society and his foresight has since been justified. Recent aircraft expeditions to the Central Arctic Basin conducted by the U. S.A., Canada and especially the USSR, have permitted the collection of extremely interesting and important data. 1 think that the underwater Lomonosov Ridge, extending from the New Siberian Islands to Greenland and discovered by Soviet expeditions landed on ice floes, represents so far the greatest geographical discovery of the second half of this century.

Another fascinating example of Nansen's ability to look into the future, is his book "To the Land of the Future" which he wrote after journeying across Siberia. On the ship "Correct" he went through the Barents and Kara Seas into the Gulf of Yenisei, and then up along the river by mainland. Now we can quite distinctly see the contours of this "land of the future": the most powerful hydroelectric power station in Bratsk, the longest electric railroad from Moscow to Baikal the vast expanse of newly cultivated land, numerous industrial centres, the new scientific centre in Novosibirsk, etc. What was to Nansen merely a dream of the future has become for us a reality.

Nansen is also famous through the fact that he himself designed the equipment for his investigations and worked out himself methods of data processing. It is enough to remind you that we still work with the Nansen Bottle, with a Nansen Plankton Net, with Nansen's Clamp and Nansen's Magnifying Glass for reading thermometers, etc.

Nansen suggested a very interesting device for measuring bottom currents, based on the, principle of a pendulum- weather vane and also proposed a very interesting way of calculating currents from ice drift observations, etc.

I think that our Commission should take into account the fruitful experience of Nansen when studying the oceans and when organizing international co-operation. If in our work we remember about Nansen, then I think our efforts cannot but be successful.

ANNEX VIII

LIST OF MEMBER COUNTRIES AND PARTICIPANTS OF THE SESSION

A. DELEGATIONS OF MEMBER COUNTRIES

	Country		Name and Title
1.	Argentina	Delegate	Captain R. H. R. BAGNATI Head of Delegation Chief, Naval Hydrographical Service BUENOS AIRES
		"	Captain de Croveta ARAGNO Chief, Department of Oceanography Naval Hydrographical Service BUENOS AIRES
2.	Australia	"	Dr. G.F. HUMPHREY Chief, Division of Fisheries and Oceanography CSIRO Marine Laboratory CRONULLA
		"	Dr. Gardner DAVIES Australian Permanent Delegate to Unesco
3.	Belgium	"	Professor A. CAPART Director of the Royal Belgium Institute of Natural Sciences
		"	Mr. M. DELOZ Assistant Adviser to the Administration of Scientific Research of the Ministry of Education and Culture
		Observer	Dr. E. LE LOUP Director of the Institute of Marine Studies OSTEND
4.	Brazil	Delegate	Captain of Frigate "Castro Moreira da Silva" Brazilian Navy RIO DE JANEIRO
		Observer	Dr. M. VANNUCCI National Research Council SAO PAULO
5.	Canada	Delegate	Dr. William M. CAMERON Head of Delegation Director of Oceanographic Research Department of Mines and Technical Surveys OTTAWA
		"	Dr. H.B. RACHEY Chief Oceanographer Fisheries Research Board of Canada Secretary, Canadian Committee on Oceanography OTTAWA

	Country		Name and Title
6.	Chile		No representative present
7.	China	Delegate	Dr. KEH-MING-CHA0 Deputy Permanent Delegate to UNESCO
8.	Cuba	"	Dr. Dario GUITART Head of the Delegation Director of the National Aquarium HAVANA
		"	Dr. A. Alvarez de LOS RIOS Cultural Attaché Cuban Embassy PARIS
9.	Denmark	Delegate	Professor Dr. H.E. STEEMAN NIELSEN Head of the Delegation Professor, High School of Pharmacy COPENHAGEN
		"	Dr. Erik BERTELSEN Director, Danish Institute for Fisheries and Marine Research CHARLOTTENLUND
		"	Dr. A.F. BRUUN Lecturer in Oceanology University of Copenhagen COPENHAGEN
10.	Dominican Republic	"	Rev. F. Robles TOLEDANO Permanent Delegate of the Dominican Republic
			Mr. Parra MURGA First Secretary of the Delegation of the Dominican Republic
11.	Ecuador	"	Mr. Cristobal BONIFAZ JIJON Ambassador of Ecuador to France
		"	Mr. Fernand SUARES Consul of Ecuador in Dunkirk
12.	Finland	"	Miss Eugenie LISITZIN, Dr. Sc. Acting Head Finnish Oceanographic Institute HELSINKI
13.	Federal Republic of Germany	"	Dr. MESECK Head of the Delegation Federal Ministry of Food and Agriculture BONN
		"	Dr. G. BOHNECKE Secretary, Special Committee on Oceanic Research Neuer Wall 34, HAMBURG 36

Country		Name and Title
13. Federal Republic of Germany (continued)	Delegate	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 BONN
	"	Professor Dr. Otto von SIMSON Permanent Delegate to Unesco PARIS
		Mr. Frenke SEIFERT HAMBURG
14. France	"	Professor H. LACOMBE Head of the Delegation Director, Laboratory of Physical Oceanography, Museum of Natural History PARIS
	"	Mr. Jean FURNESTIN Directeur L'Institut Scientifique et Technique des Pêches Maritimes
	"	Vice-Admiral MONAQUE Président du Comité Central d'Océanographie et d'Etude des Côtes
	"	Dr. M. PERES Professor of the Faculty of Sciences MARSEILLE
	Observer	Dr. MONCEAUX PARIS
15. Ghana	Delegate	Dr. Walter POPLE Lecturer of University GHANA
16. India	Delegate	Dr. N.K. PANIKKAR Secretary, Indian National Committee on Oceanic Research NEW DELHI
17. Israel	Delegate	Dr. M. MENAT HAIFA

Country	Name and Title

17. Israel (continued)		"	Mr. D. PELEG Scientific Counsellor Israeli Embassy PARIS
18.	Italy	Delegate	Professor Paulo DORE Head of Delegation Professor of Bologna University BOLOGNA
		"	Professor Umberto d'ANCONA Instituto di Zoologia e Anatomia Comparata PADUA
		"	Dr. Gaetano CANNONE Chief, Fisheries Section Ministry of Merchant Marine ROME
		"	Capt. Ernesto DEBRAZZI Director, Italian Hydrographic Institute of the Navy GENOA
		"	Professor Carlo MALDURA Laboratorio Centrale di Idrobiologia ROME
		"	Professor Mario PICOTTI Instituto Sperimeritale Talscografico TRIESTE
		Observer	Dr. Sergio PAROLETTI Fisheries Section Ministry of Merchant Marine ROME
19.	Ivory Coast		No representative present
20.	Japan	Delegate	Mr. Morikuni TODA Permanent delegate to Unesco Counsellor, Japanese Embassy PARIS
		"	Professor Dr. Ken SUGAWARA Nagoya University NAGOYA
		"	Dr. Kazuhiko TERADA Chief, Marine Division Japan Meteorological Agency TOKYO

Country	Name and Title

21.	Korea	Delegate	Ambassador Sun Yup PAIK Head of the Delegation Embassy of Korea PARIS
		"	Mr. Bae Dong HWAN Chief, Fisheries Section Ministry of Agriculture and Forestry SEOUL
		"	Mr. Young Chan LOW Third Secretary Embassy of Korea PARIS
		"	Mr. Young Chul LEE Expert of the Delegation
		Observer	Mr. Hong Soon YONG Student SEOUL
22.	Mexico	Delegate	Dr. Jorge CARRANZA Director Biological Station VERACRUZ
		Delegate	Mr. Julio Faesler CARLISE Commercial Attaché Embassy of Mexico LONDON
23.	Mauritania	Delegate	Mr. Gusseynou DIOP Conseiller d'Ambassade PARIS
		"	Mr.PEDOYA Conseiller d'Ambassade PARIS
24.	Monaco	Delegate	Mr. Arthur CROVETTO Head of the Delegation Ministre Plénipotentiaire Ministère d'Etat MONACO
		"	Commandant Jacques-Yves COUSTEAU Director, Oceanographic Museum MONACO
		“	René NOVELLA General Secretary National Commission for UNESCO MONACO

	Country		Name and Title
25.	Morocco	Delegate	Mr. LARAKI Director- General of the Merchant Marine CASABLANCA
		"	Mr.VARLET Director of Scientific Institute of Fisheries CASABLANCA
26.	Netherlands	Delegate	Professor P. GROEN Head of the Delegation Senior Scientific Officer Royal Netherlands Meteorological Institute DE BILT
		"	Dr. H. POSTMA Zoological Station DEN HELDER
		"	Professor Dr. P. KORRINGA Director, Ryksinstituut voor Visseryonddrzock IJMUIDEN
27.	Norway	Delegate	Professor Dr. H. MOSBY Head of the Delegation Geophysical Institute University of BERGEN
		"	Professor Dr. T. BRAARUD Institute of Marine Biology University of OSLO
		"	Dr. G. ROLLEFSEN Directorate of Fisheries BERGEN
28.	Pakistan		No representative present
29.	Poland	Delegate	Dr. Stanislaw SZIMBORSKI Director, Polska Akademia Nauk SOPOT
30.	Rumania	Observer	Dr. Arthur NEDELCU-KARASSI Permanent Delegate of Rumania to Unesco PARIS
31.	Spain	Delegate	Mr. José Maria ULLRICH Secretary to Spanish Embassy PARIS
32.	Switzerland	Delegate	Professor Adolf PORTMANN Head of the Delegation Director, Zoological Institute at the University of Basle BASLE
		"	Mrs. MANGOLD WIRZ Zoological Institute BASLE

	Country		Name and Title
33.	Thailand	Delegate	Mr. Boon INDRAMBARAYA Dean of the Faculty of Fisheries University of Agriculture BANGKOK
		"	Capt. Amporn PENYAPOL, R.T.N. Chief of Oceanographic Division Royal Thai Navy BANGKOK
34.	Tunisia	Delegate	Mr. Brahm DOUIK
35.	United Arab Republic	Delegate	Professor Hamed Abdel Fattah GOHAR University of Cairo CAIRO
36.	United Kingdom	"	Vice-Admiral Sir Archibald DAY Head of the Delegation Office of the Minister for Science 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
37.	Uruguay	Delegate	Capt. of Frigate "Munoz Basso" Oceanographic Service MONTEVIDEO
38.	United States of America	Delegate	The Hon. James H. WAKELIN.Jr. Head of the Delegation Asst. Secretary of the Navy for Research and Development WASHINGTON D. C.
		"	Rear-Admiral H. Arnold KARO Director U. S. Coast and Geodetic Survey WASHINGTON, D.C.
		"	Mr. Donald L. Mc KERNAN Department of the Interior WASHINGTON, D.C.
		"	Dr. Roger REVELLE Scientific Adviser to the Secretary Department of the Interior WASHINGTON, D.C.

Country		Name and Title
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	"	Dr. John LYMAN National Science Foundation WASHINGTON, D. C.
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	"	Cdr. John A. DAVIS Jr. U. S. Navy CHEVY CHASE, Maryland
	"	Hon. John D. DINGLE Chairman of the Sub-committee of Oceanography Member of Congress WASHINGTON, D.C.
	"	Hon. John DREWRY Chief, Counsel of the House Merchant Marine and Fisheries Committee WASHINGTON, D.C.

Country		Name and Title
38. United States of America (continued)	Observer	Mr. Paul S. BAUER Special Consultant Merchant Marine and Fisheries Committee United States Congress WASHINGTON, D.C.
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	"	Senator Norris COTTON Lebanon, NEW HAMPSHIRE
	"	Senator J. M. BUTLER BALTIMORE
	"	Miss J.S. GEMMEL Secretary to Chairman of the Delegation WASHINGTON, D. C.
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	"	Mr. Daniel MARKEL Senate Committee on Commerce WASHINGTON, D.C.
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40.	Viet-Nam	Delegate	Mr. Ngnen Dinh HUNG Director Institute of Oceanography NWATRANG
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SECRETARIAT OF THE COMMISSION

Dr. W.S. WOOSTER, Director, Office of Oceanography,
Secretary of the IOC
Dr. K.N. FEDEROV, Assistant Secretary of the IOC
Dr. Y. TAKENOUTI, Assistant Secretary of the IOC
Dr. HOWELL-RIVERO, Assistant Secretary of the IOC