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Third Session

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FINAL REPORT

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Secretary drew attention to the Report on GEBCO (document UNESCO/IOC/III INF-58) and to the letter received from the IHB and given as Annex III to the Report of the Secretariat (document UNESCO/IOC/III-4 (S-3)). As the discussion between IHB, USSR and IOC was to be held after the third session, delegates refrained from going deeply into this matter. The representative of IHB underlined the efforts undertaken by the States Members of the IHB in preparing the 1:1,000,000 plotting sheets and informed the Commission that by 1970 the whole work of renewing these 550 odd plotting sheets would be finished and a completely revised version of GEBCO would be ready. The IHB would be unable to speed up the preparation of plotting sheets unless additional sources of finance were found to provide help to the hydrographic services involved in this work. After some further discussion, the Commission agreed, upon the suggestion of the U.S. delegation, on two courses of action in relation to GEBCO:

1. The Commission urged its members to submit to the International Hydrographic Bureau (IHB), or to the appropriate Hydrographic Office charged with the compilation of the 1:1,000,000 plotting sheets of the area in question, all oceanic soundings currently in their possession. This applied particularly to sounding records obtained during the course of oceanographic expeditions.
2. Since the IHB had reported that the delay in completion of the 1:1,000,000 plotting sheets was caused primarily by insufficient staff at the 17 hydrographic offices of Member States responsible for the compiling of these sheets, the Commission strongly urged these governments concerned to provide such additional staff and funds as may be needed to ensure the expeditious completion of the 1:1,000,000 plotting sheets assigned to them.

The U.K. delegation further introduced a draft resolution on GEBCO which was adopted by the Commission (Annex II, resolution III-6).

(g) Installation and Maintenance of Tide Gauges

The Secretary introduced briefly the Report on the Installation and Maintenance of Tide Gauges (document UNESCO/IOC/III-9) prepared by the Permanent Service for Mean Sea Level, in accordance with resolution 9 of the second session of the Commission, and the U.K. proposal for antarctic tide gauges, adopted by SCAR and agreed by SCOR.

The Director of the Permanent Service for Mean Sea Level, Dr. Rossiter, gave additional information regarding this Report and the Commission agreed to the Chairman's suggestion to establish an ad hoc Working Group under the Chairmanship of Dr. H.B. Stewart in order to consider the Report in detail and to propose necessary action in this field. The following countries agreed to participate in this Working Group: Argentina, Brazil, Canada, Denmark, France, Germany, Italy, Japan, Netherlands, New Zealand, Spain, U.K., U.S.A., USSR, as well as the following institutions and agencies: Food and Agriculture Organization, Permanent Service for Mean Sea Level, and International Hydrographic Bureau. The Report of this Working Group is given in Annex VIII to this report and the Group's recommendations are summarized in resolution III-7 approved by the Commission (see Annex II).

(h) Tsunami Warning System

When introducing this item the Secretary drew the Commission's attention to Annex IV of document UNESCO/IOC/III-4 (S-3), containing a resolution adopted at the Intergovernmental Meeting on Seismology and Earthquake Engineering, held from 21 to 30 April 1964 at Unesco. The Secretary was of the opinion that since that resolution did not propose any action for the IOC, this item of the agenda should be treated merely as an item of information nature.

A U.S. delegate referred to the recommendations of resolution 10 of the second session of the Commission and pointed out that the U.S.A., USSR and Japan were already operating in the Pacific warning services which might represent a fairly complete Tsunami Warning System, but that he too would welcome assistance from IOC, WMO, IUGG and so on. A USSR delegate seconded the remarks made by the U.S. delegate but deplored the fact that WMO was not mentioned at all in the resolution adopted at the Intergovernmental Meeting on Seismology and Earthquake Engineering, but only Unesco, a body least appropriate to undertake this task. The WMO delegate informed the Commission that a Working Group had been formed by WMO to look into the communications network,

which made it all the more strange that WMO had not been referred to in the resolution under discussion. Finally, the Head of the Division of International Co-operation in Scientific Research and Documentation of the Department of Advancement of Science of Unesco, who had been Secretary of the Intergovernmental Meeting referred to above, was invited to attend the plenary session and to answer the USSR delegate's question. Dr. Fournier d'Albe informed the Commission that omission of WMO or of any other pertinent agency from the said resolution had not been due to any under-estimation of the importance of these agencies to further this project, but because Unesco was responsible for a much wider scope of problems than communications only or any other specialized aspect. Thereupon the Chairman proposed the establishment of a small ad hoc Working Group consisting of experts from USSR, U.S.A., Japan and WMO who would submit to the Commission a proposal as to what further course of action should be taken and giving particular consideration to the necessity for research on Tsunamis. The Chairman's proposal met with the Commission's unanimous support. The Report of this ad hoc Group is given in Annex IX to this report and proposals of the Group are summarized in resolution III-8 (see Annex II).

(i) International Biological Programme

In introducing this item the Secretary referred to the proposals for a Programme on the Productivity of Marine Communities, the "International Biological Programme" (IBP) (document IBP Marine 1/64), prepared by the IBP Sub-Committee C. He urged that the Commission regard this programme as belonging to the province of IOC and indicated that Unesco was prepared to assist this programme financially. The proposed programme entitled "The Biological Basis of Productivity and Human Welfare" would cover the following broad fields of study:

1. Organic production on the land, in fresh waters, and in the seas, so that adequate estimates may be made of the potential yield of new as well as of existing natural resources;
2. Human adaptability to changing conditions.

A representative of ACMRR pointed out that, in proposing such a programme, it was considered essential that it should be limited to basic biological studies related to productivity and human welfare which would benefit from international collaboration, and that these studies were urgent because of the rapid rate of environmental changes taking place throughout the world. After the exchange of opinions which followed, the Commission unanimously agreed that this programme deserved its attention and assistance and established an ad hoc Working Group with the general terms of reference: "What can IOC do to make IBP a success?"

The ad hoc Group met on 16 June under the chairmanship of Dr. C.E. Lucas (U.K.) and the following countries and organizations took part in this meeting: Australia, Finland, France, Germany, India, Italy, Japan, Monaco, Netherlands, Norway, Philippines, Rumania, Switzerland, United Kingdom and Hong Kong, United States of America, Union of Soviet Socialist Republics; PSA, SCOR, ICNAF, Unesco. As a result of this meeting a draft resolution was submitted to the Commission which subsequently approved it as resolution III-9 (Annex II).

(j) Observations on Standard Sections

The Secretary introduced this item, referring to the documents UNESCO/IOC/III-3 (S-3) resolution 6 and NS/IOC/B-13, in which the Bureau considered and approved the Secretary's proposal to study the possibility of arranging a regional co-ordinated programme of observations on standard sections in the North Atlantic with the aid of a scientist who would help the Secretariat to discuss various aspects of such a programme with scientists of interested countries. The Bureau approved the Secretary's intention to co-operate with SCAR in examining possibilities of co-ordinated work on standard sections in Antarctic waters in line with recent SCAR recommendations on oceanographic research in those waters. In the discussion which followed this introduction, a representative of USSR pointed out that this type of work required a great deal of time and that it would therefore be necessary to organize such research over a period of at least five-ten years. The programme of observations on standard sections as such would not cost very much, but it would take a long time, although it would in the end afford great possibilities for the future of forecasting, fishing, etc. The USSR delegate emphasized his opinion that oceanographers were perhaps rather late with such a programme and should start forthwith, recommending the various governments to assist where possible. Several delegates thereafter fully endorsed the views given by the USSR delegate and, in summing up, the Chairman suggested:

Resolution III, 8. Tsunami Warning System.

The Intergovernmental Oceanographic Commission,

Desiring to encourage the improvement of a system for providing international advance warning of the arrival of destructive seismic sea waves (tsunami) by combining the efforts of the various organizations concerned,

Noting the previous actions and resolutions of this Commission and those of the World Meteorological Organization (WMO), the International Union of Geodesy and Geophysics (IUGG), and the Unesco Intergovernmental Meeting on Seismology and Earthquake Engineering, but feeling that further careful study and research are required,

Recognizing further the recent and proposed future expansion of the present tsunami warning system in the Pacific brought about by the close co-operation of the Hydrometeorological Service of the USSR, the Japanese Meteorological Agency and the United States Coast and Geodetic Survey, together with the eleven other nations of the Pacific Basin co-operating in this system,

Recommends that Member States of the Commission in the Pacific area who are not part of the present Tsunami Warning System establish adequate internal communications and responsible administration, establish and operate seismic and tidal stations, and integrate their system with that currently in operation;

Recommends further that all Member States encourage and promote research on the nature, causes and effects of tsunami, support the development of improved tsunami measuring equipment and methods for warning of locally generated tsunami and provide for the wide dissemination of the results of such research and development,

Requests that those Member States presently operating Ocean Station Vessels (Weather Ships) investigate the possibility of utilizing these ships as platforms for measuring the passage of a tsunami. The availability of these ships for lowering tsunami detectors on demand would encourage the development of such detectors and would improve the existing Tsunami Warning System in the Pacific. The Member States concerned are further requested to communicate the results of such investigations in writing to the IOC Secretariat prior to the next session of the IOC;

Requests the Secretariat of the IOC to arrange for the convening of a meeting, preferably in Honolulu in early 1965, to discuss the international aspects of the Tsunami Warning System with a view towards securing the best possible international co-operation in all phases of the Tsunami Warning System, viz: tidal and seismic monitoring stations, internal and international communications, and the issuance and dissemination of warnings. Invitations shall be extended to all IOC Member States with interests in the Pacific with specific invitations to the U.S. Coast and Geodetic Survey, the Japan Meteorological Agency, the Hydrometeorological Service of the USSR, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Meteorological Organization (WMO), the Tsunami Committee of the International Union of Geodesy and Geophysics (IUGG), the International Telecommunications Union, and such other national or international bodies as may express interest.

Resolution III, 10. Development of Co-operative Oceanographic Programmes.

The Intergovernmental Oceanographic Commission,

Being aware of the fact that the scientific interests and initiative of various countries and international organizations often lead to proposals to the IOC for the development of co-operative oceanographic programmes of a regional nature,

Having received the report of the Secretary on such proposals as the Antarctic Oceanographic Programme (SCAR), the Co-operative Study of the South Mediterranean (Meeting of Directors of North African Marine Institutions, Algiers, 3-6 June 1964) and some others,

Being further aware that other proposals of such nature may appear during the interim period between sessions,

Authorizes the Secretary to follow and report to IOC members and interested organizations the development of such proposals with a view to assisting countries concerned through Unesco and through co-operation with other international organizations in formulating scientific programmes of proposed co-operative investigations, in arranging associated programmes of training and data exchange,

Authorizes the Bureau where appropriate to undertake the following provisional steps: to approve such programmes on the basis of their scientific merit, to commend such programmes to members of the IOC and to the international co-ordinating groups

ANNEX IX

AD HOC WORKING GROUP ON TSUNAMI WARNING SYSTEM

BRIEF REPORT

The Working Group on the Tsunami Warning System met on 17 June with Dr. H.B. Stewart (U.S.A.) as Chairman. Representatives from the following countries and organizations attended: China, Japan, Philippines, USSR, New Zealand, Chile, WMO

The U.S. delegate presented the meeting with a draft resolution for the consideration of the Working Group. With some additions the draft was accepted. The USSR suggested the convening of a meeting by the IOC to look into the international aspects of a Tsunami Warning System pointing out that "international discussions have not been very successful". He felt that an inter-governmental body should be created to "supervise" the system, and that it should be decided with which existing body it would co-operate. New Zealand and Japan both urged research on the means whereby warnings could be issued for locally generated tsunami. Chile added that communications were an important aspect of the problem. He felt that an intergovernmental organization "for co-ordination" might be a good thing, but that the operation of the system should remain with the United States Coast and Geodetic Survey. The Chairman briefly described the present system operating with the participation of some eleven nations of the Pacific region, stressing that the U.S. had the requirement to meet its established internal and international responsibilities for tsunami warning.

The proposed meeting was discussed and it was agreed that Honolulu would be a central Pacific location for such a meeting. The need for convening such a meeting as soon as possible was stressed and early 1965 was agreed upon. The importance of having at this meeting all the intergovernmental and international scientific organizations involved, relevant national groups and IOC Member States in the Pacific region was also stressed.

Since one hour was allotted for this meeting, the Chairman agreed to work out the wording of the part of the resolution relating to the proposed meeting. This having been done, the draft resolution was approved with a one-word change and was submitted for the Commission's approval.