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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION  
(of Unesco)

Twenty-first Session of the Executive Council  
Paris, 7-15 March 1988

EXTRACTS OF DECISIONS, RESOLUTIONS AND RECOMMENDATIONS  
OF UN ORGANIZATIONS MEMBERS OF ICSPRO AND OF OTHER  
GOVERNMENTAL ORGANIZATIONS CO-OPERATING WITH THE  
COMMISSION, OR HAVING A BEARING ON ITS WORK

(January - December 1987)

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## General Assembly

QUESTION OF ANTARTICA  
Report of the Secretary-General

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\* Reissued for technical reasons.

II. INVOLVEMENT OF THE RELEVANT SPECIALIZED AGENCIES AND INTERGOVERNMENTAL ORGANIZATIONS IN THE ANTARCTIC TREATY SYSTEM

A. Relationship of the Antarctic Treaty system with the specialized agencies of the United Nations and other international organizations

1. The Antarctic Treaty and Antarctic Treaty Consultative Meetings

(a) General principles of the relationship of the Antarctic Treaty system with the specialized agencies of the United Nations and other international organizations as established by the Antarctic Treaty and Antarctic Treaty Consultative Meetings

1. The involvement of the United Nations specialized agencies and other international organizations in the Antarctic Treaty system was first foreseen by the Antarctic Treaty itself. Article III of the Antarctic Treaty, inter alia, encourages the establishment of co-operative working relations with those specialized agencies of the United Nations and other international organizations having a scientific or technical interest in Antarctica.

2. In 1961, the First Antarctic Treaty Consultative Meeting recommended to the Governments of the Antarctic Treaty Consultative Parties that they should individually encourage the work of international organizations having a scientific or technical interest in Antarctica, including the specialized agencies of the United Nations, and should promote on a bilateral basis, the establishment and development of co-operative working relations with these organizations (Recommendation I-V).

3. In recommendation XI-1 (1981), made with regard to the future régime on Antarctic mineral resources, the Consultative Meeting suggested that the régime should, inter alia, include provisions for co-operative arrangements between the régime and other relevant international organizations. It further suggested that responsibilities that may be exercised in the Antarctic Treaty area by other international organizations should be taken into account in the provisions to be included in the régime so as to ensure that the special responsibilities of the Consultative Parties in respect of the environment in the area are protected.

4. At the Twelfth Consultative Meeting in 1983, a specific responsibility concerning the interaction between the Antarctic Treaty system and the specialized agencies of the United Nations, or other international organizations having a scientific or technical interest in Antarctica, was suggested for the Government of the host country of each Consultative Meeting. According to recommendation XII-6, the Government of such country shall, as and when the representatives of the Consultative Parties consider it appropriate, draw the attention of any of the above-mentioned bodies to any part of the report of the Consultative Meeting, or any information document submitted to the Meeting and made available to the public, relevant to the scientific or technical interest which that agency or organization has in Antarctica.

5. The Twelfth Consultative Meeting also came to the conclusion that, as part of the preparation for each regular Consultative Meeting, the Consultative Parties should consider whether they would be assisted in their discussion of any item of the agenda of the regular Consultative Meeting if a specialized agency of the United Nations or other international organization having a scientific or technical interest in Antarctica were to attend the meeting as an observer when that item was being discussed; and if so, whether the relevant organization should, with the agreement of all Consultative Parties, be invited by the host Government to attend the meeting on that basis.

(b) The relationship of the Antarctic Treaty system with the specialized agencies of the United Nations and other international organizations as demonstrated by the Antarctic Treaty Consultative Meetings

6. The Antarctic Treaty Consultative Meetings provide the forum where, over the years, a number of legally binding recommendations were adopted by the Consultative Parties in connection with the increasing involvement of the specialized agencies and international organizations in the Antarctic Treaty system.

7. In this regard, the following measures were recommended to the Governments of the Consultative Parties for approval and subsequent implementation:

(a) Invitation to an international organization to undertake new Antarctic research, to add new aspects to ongoing research, or to offer advice in specific scientific, technical or environmental fields (recommendations VI-4, VI-5, VII-3, VIII-7, VIII-14, IX-3, X-1, X-3, X-4, XII-2, XII-3, XIII-4, XIII-5);

(b) Encouragement of, and invitation to, an international organization to continue its interest and work in specific fields of Antarctic scientific investigation (recommendations I-IV, III-X, IV-22, VI-4, VI-9, VII-1, VII-2, VIII-10, VIII-11, VIII-14, IX-4, X-7);

(c) Taking into consideration viewpoints, recommendations, proposals of and measures by the United Nations specialized agencies and international organizations having scientific, technical or environmental interest in Antarctica (recommendations I-XI, II-I, II-II, V-7, VII-1, VII-7, XI-1, XII-1);

(d) Encouragement of, and invitation to appropriate international organizations to co-operate and consult with each other in specific areas of Antarctic research (recommendations V-3, VIII-11, VIII-13, X-7);

(e) Invitation to a specialized agency to provide help and advice in the exchange of meteorological data, and to give consideration to and undertake actions in specific aspects of the problem (recommendations VI-3, X-3, XII-1);

(f) Issuance and adoption as voluntary guidelines of the general rules of conduct with regard to the conservation of Antarctic fauna and flora, as recommended by an international organization (recommendations I-VIII, VII-1);

(g) Invitation to observers from specialized agencies and appropriate international organizations to attend meetings on Antarctic telecommunications (recommendations I-XI, V-2);

(h) Providing an international organization with specific types of information on Antarctica (recommendations VIII-7, X-3);

(i) Facilitation of the exchange of information regarding plans for scientific programmes carried out through international organizations (recommendation I-I);

(j) Co-ordination of meetings and symposiums organized by the Governments of Consultative Parties on Antarctic logistic problems with similar action undertaken by an international organization (recommendation II-II);

(k) Adoption of specific measures for co-operation in transport in Antarctica, as recommended by an international organization (recommendation IX-4);

(l) Expression of gratitude to an international organization for the devoted service which it has given to the achievement of a better understanding of the Antarctic and to the development of the Antarctic Treaty system (recommendation X-9);

(m) Consideration of requests to meet costs incurred by an international organization when responding to requests for advice by the Antarctic Treaty Consultative Parties (recommendation XII-8);

(n) Invitation to an international organization to appoint its representative as an observer at the Consultative Meetings for the specific purpose of reporting on certain matters within its competence (recommendation XIII-2).

8. A number of the above-mentioned measures were recommended by the Consultative Meetings with reference to activities, viewpoints, recommendations and decisions of specialized agencies and international organizations concerned with Antarctic research (recommendations III-III, V-2, V-3, VII-2, VII-7, VIII-2, VIII-4, VIII-7, VIII-11, VIII-13, IX-1, IX-3, IX-4, IX-5, X-3, X-6, X-9, XII-1, XII-2, XII-5, XII-8, XIII-4, XIII-5, XIII-7, XIII-8).

9. According to article IX, paragraph 4, of the Antarctic Treaty, recommended measures "shall become effective when approved by all the Contracting Parties whose representatives were entitled to participate in the meetings held to consider those measures". Among the recommendations referred to in the above paragraphs, the following are not yet in effect:

(a) Recommendations of the thirteenth Consultative Meeting referred to in subparagraphs (a) and (n) of paragraph 7 and paragraph 8 above;

(b) Recommendations of the Twelfth Consultative Meeting referred to in paragraphs 4 and 8, and in subparagraphs (a), (c), (e), and (m) of paragraph 7 above;



### 3. Convention on the Conservation of Antarctic Marine Living Resources

13. The Convention was adopted in 1980 at a diplomatic conference convened by the Antarctic Treaty Consultative Parties. Besides States, it was also attended by observers from an intergovernmental organization of regional economic integration (EEC) as well as from a specialized agency of the United Nations (FAO) and intergovernmental and non-governmental international organizations (IOC, IUCN, IWC, SCAR and SCOR). Fifteen States and EEC became parties to this Convention, which entered into force in 1982.

14. The Convention established its functional bodies, namely the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and its Scientific Committee. The general principles for the interaction between the Commission and the Scientific Committee on the one hand, and international bodies on the other, are formulated in article XXIII of the Convention. This article provides that the Commission and the Scientific Committee:

(a) Shall co-operate, as appropriate, with the Food and Agriculture Organization of the United Nations and with other specialized agencies;

(b) Shall seek to develop co-operative working relationships, as appropriate, with intergovernmental and non-governmental organizations which could contribute to their work, including SCAR, SCOR, and IWC.

18. At their second meetings and also at subsequent meetings, the Commission and the Scientific Committee discussed, among other things, their co-operation with other organizations in accordance with article XXIII of the Convention. At the meetings held in 1983, the Committee and the Commission confirmed their interest in further developing and maintaining non-formalized working, co-operative relations with FAO, SCAR, SCOR, IWC, IOC and the IUCN. It was noted at these sessions that the secretariat of the Commission had established direct links with the functional bodies of the above-mentioned organizations, including sending observers to their meetings.

### 5. Intergovernmental Oceanographic Commission of UNESCO

36. IOC has established links with the Antarctic Treaty system through its Programme Group for the Southern Ocean (IOCSOC). The Programme Group maintains working relations with CCAMLR. The two bodies exchange representatives at their meetings. At present, the Chairman of the Scientific Committee of CCAMLR is also the Chairman of IOCSOC. Working relationships are also established by IOCSOC with IWC, SCAR and SCOR.

37. At the last, fourth session of IOCSOC in 1983, IOC reiterated its interest in the southern ocean, first stated in 1967. At this session, the Programme Group addressed a number of issues concerning IOC involvement in international scientific programmes in the southern ocean such as WCRP, BIOMASS, IGOSS, PSMSL. The Group decided to form a task team on data management for the southern ocean to examine the data management requirements for the region. This study is to be carried out in close consultation with other international bodies, including SCOR and SCAR.

38. The Programme Group also stressed the necessity and vital importance of co-operation with all organizations concerned with research in the southern ocean. The Group felt that in particular, close co-operation and liaison was needed between IOCSOC and SCOR and ACMRR, as scientific advisory bodies of the Commission and their relevant working groups, as well as with SCAR and its Group of Specialists on Southern Ocean Ecosystems and their Living Resources for the BIOMAS programme. The Programme Group further expressed its interest in the important work carried out by CCAMLR and IWC.

39. At present, IOC and CCAMLR are jointly organizing a scientific seminar on Antarctic Ocean variability and its influence on marine living resources, particularly krill, to be held in Paris, from 2 to 6 June 1987, immediately before the fifth session of the IOCSOC.

#### 4. Convention on the Conservation of Antarctic Marine Living Resources

78. The Convention establishes a Commission (CCAMLR) and a Scientific Committee which convene annually in August and September at the Commission's headquarters. These bodies produce information about the operation of the Convention (para. 68). Informal working groups may be convened during intersessional periods.

79. The Convention is the only Antarctic Treaty system forum which has invited United Nations specialized agencies to participate as observers. Under the rules of procedure of the Commission, observers receive reports of those meetings they have attended. Observers may attend public and private meetings although Commission members may request that meetings be restricted to Commission members and original signatories on any particular agenda item. FAO and the IOC/UNESCO attend meetings of the Commission and its Scientific Committee.

80. Five meetings of the Commission and the Scientific Committee have been held to date. All the reports of those meetings are publicly available from the Executive Secretary, CCAMLR, Hobart, Australia.

#### D. Information resulting from the interaction of the Antarctic Treaty system with United Nations specialized agencies and programmes and the Scientific Committee on Antarctic Research

##### (b) Intergovernmental Oceanographic Commission of UNESCO

100. Co-operation with the IOC has included contributions by the ATCPs to the IOC Programme Group for the Southern Oceans (IOCSOC). 2/ For example, in 1983, the Programme Group noted the importance of co-ordinated activities in the southern ocean, and the need for sharing logistics, especially on research vessels, and that information transfer is essential to such sharing although it is often either incomplete or not disseminated sufficiently in advance of planned activities to ensure effective logistical co-ordination. The Programme Group recommended that the IOC secretariat and the relevant national offices make every attempt to improve the description of national oceanographic programmes and declared national oceanographic programmes. It also requested its Chairman to circulate information about national oceanographic programmes as it becomes available. The Programme Group also recommended that the IOC invite member States to identify national correspondents for such information so that it is properly distributed, and that the UNESCO IMS Newsletter include information on southern ocean programmes as it becomes available.

101. In a submission to the fourth session of the IOCSOC, 3/ one ATCP suggested that IOCSOC should enhance its co-ordinating role in the execution of the IOC/WMO Programme on Climate Research and ensure the rapid exchange of information on national programmes in the southern ocean.



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LAW OF THE SEA  
Report of the Secretary-General

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#### D. Marine science and technology

73. The present period is one of great significance for the future course of international co-operation in the marine sciences. Ever-increasing interest in ocean space and its resources, new ocean-observing technologies and prospects for better understanding of major ocean phenomena and processes and their effects on resources, weather and climate have led to the emergence of long-term, large-scale and multidisciplinary co-operative investigations and ocean-observing systems. These require broad-scale integration and co-ordination of scientific effort, and the involvement of a greater number of States, particularly for regionally based activities. <sup>40/</sup> At the same time, many regional scientific activities are needed to improve knowledge of more localized phenomena and processes. Co-operative activities must also serve the important purpose of expanding States' capabilities in science and technology.

74. The main international ocean science programmes are those relating to living resources and non-living resources, ocean mapping, ocean dynamics and climate, and marine pollution research and monitoring. The ocean service programmes are designed to yield the oceanographic and meteorological data and products necessary for scientific investigation and for the operations of ocean users. New ocean-observing technologies <sup>41/</sup> and improved data collection, storage and exchange and computer modelling capabilities, as well as the general management of marine information are important issues for both the science and services programmes.

##### 1. Ocean science and non-living resources

75. Planning for this jointly sponsored United Nations/Intergovernmental Oceanographic Commission (IOC) programme has made good progress. Highest priority has been given to the coastal zone and to study of sea-level changes due to climatic and/or tectonic processes, since these factors determine the occurrence of offshore minerals. This work will have a natural focus on the West Pacific region, where tectonics not only provide the framework for mineral occurrence but also for geological hazards, earthquakes, volcanic eruptions, tsunamis and landslips. The unravelling of the unusually complex processes in this region will help establish a general principle for the evolution of sedimentary sequences. The ocean science and non-living resources programme will thus have a close working relationship with the Committee for Co-ordination of Joint Prospecting for Mineral Resources in South Pacific Offshore Areas (CCOP/SOPAC). The research and training activities of that organization have also seen considerable development of late and an International Workshop on Geology, Geophysics and Mineral Resources in the South Pacific (planned for 1989) will review current programmes and draw up an eventual research plan for the region.

##### 2. Marine pollution research and monitoring

76. There has been a marked increase in co-operative activities for environmental research and monitoring and in co-ordination as among IOC, IMO, <sup>42/</sup> UNEP, the Food and Agriculture Organization (FAO), IAEA and the United Nations, much of it centring on the work of the various groups of experts under the IOC Global Investigation of Pollution in the Marine Environment (GIPME) and on the work of the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP). Such developments are of considerable significance also for the planning and conduct of co-operative scientific investigations.

77. "Vulnerable areas" are the focus of much attention, as noted in the 1986 report (A/41/742). The Marine Environmental Protection Committee is currently working towards the establishment of an inventory of sea areas beyond the territorial sea that are or will be protected; development, if necessary, of criteria for the selection of particularly sensitive areas; and initiation of protective action, where appropriate. IOC work in the field of biological effects measurements is of particular importance in this area. 43/

78. GESAMP, jointly supported by eight United Nations organizations, advises them on a wide range of matters, including those of direct significance to the regulatory controls on marine pollution (e.g. for MARPOL 73/78). Its current work deals with the review of potentially harmful substances; coastal modelling (concerning wastes discharged and dumped in coastal regions, including shelf areas); and consequences of low-level contamination of the marine environment. This last work includes study of ecological changes due to low persistent concentrations or slow build-up of contaminants that may enter the sea from coastal discharges or come from atmospheric inputs, accidents and dumping; and consideration of what is involved in recovery of damaged ecosystems and habitats. This work and that on coastal modelling is followed closely by the London Dumping Convention Consultative Meetings.

. . .                    E. The régime for marine scientific research

80. Part XIII of the Convention, in its section 2, establishes the general principles of international co-operation for the promotion of marine scientific research for peaceful purposes and for the creation of favourable conditions for its conduct. The coastal State's exclusive right to regulate marine scientific research conducted within its jurisdiction by foreign researching States and international organizations, and the conditions thereon, are set forth in the following provisions.

81. A coastal State is entitled to require its consent for the carrying out of any maritime scientific research in its exclusive economic zone or on the continental shelf. However, in normal circumstances coastal States shall grant their consent for marine scientific research projects. This consent may be withheld in certain circumstances, e.g. if the research is of direct significance for the exploration and exploitation of natural resources, involves drilling into the continental shelf, the use of explosives or the introduction of harmful substances into the marine environment, or involves the construction, operation or use of artificial islands, installations and structures established for economic purposes.

82. The researching State must comply with certain conditions. For example, it must allow the coastal State to participate or be represented in the marine scientific research project, if requested, or it must provide the coastal state with the final results after the completion of the research.

83. One overall effect of the consent régime is a much greater direct involvement by Governments in the conduct of marine scientific research, which consequently calls for more efficient communication mechanisms and channels. 46/ Another is the rising costs of planning projects to ensure effective participation of developing country personnel and assisting with assessment and interpretation of research results. A 1987 United Nations study (ST/ESA/191) has warned that national and international funding agencies must be prepared to support additional costs of international scientific co-operation.

84. Scientists and administrators from both developed and developing countries have reported some difficulties with the application of the consent rule and the modalities for granting consent. On the one hand some researching States report unreasonable refusal for projects, even where the oceanographic cruise has been officially announced by IOC, and refusal for ships to make ports of call for crew changes, equipment transfer and victualling. On the other hand, some coastal States have reported difficulties over access to full sets of data from approved projects.

85. The problems for multilateral co-operation were quite apparent at the fourteenth IOC Assembly this year. Concerns focused on the planning of major and complex ocean climate research, particularly on the World Ocean Circulation Experiment, where many more ships and more nations will be involved than in the Tropical Ocean component of the World Climate Research Programme (WCRP), requiring a higher degree of co-ordination of major resources and the ability for research vessels to operate in all parts of the ocean. Scientists look to IOC to ensure the necessary international co-operation and for the strengthening of co-ordination among the many intergovernmental component groups that make up large programmes like the World Climate Research Programme.

86. Researching States at the Assembly emphasized the need to strengthen the role of IOC in facilitating access to marine areas under national jurisdiction by research vessels participating in co-operative programmes, in facilitating transfrontier shipment of equipment, and in making data from those zones available. Various coastal States disagreed: it was not within the competence of IOC to facilitate access by research vessels and such activities remain subject to the Convention's consent régime. 47/

87. This basic question on the role of IOC has been central to the amendment of the relevant paragraph of the IOC statutes, for which a series of consultations was necessary to produce a compromise text. In that process stress was placed on the importance of not establishing two régimes - IOC and United Nations Convention on the Law of the Sea - for the conduct of marine scientific research in zones under national jurisdiction. The relevant provision requires IOC to "promote scientific investigation of the oceans and application of the results thereof for the benefit of all mankind and assist, on request, member States wishing to co-operate to these ends. Activities undertaken under this subparagraph shall be subject, in accordance with international law, to the régime for marine scientific research in zones under national jurisdiction". 48/

88. The large-scale research projects increasingly employ greatly advanced and expensive technologies, particularly satellite-based remote sensing and increasingly sophisticated data management systems, which have the effect of further widening the scientific gap between developed and developing countries. Without a working understanding of the modes and requirements of scientific investigation and analysis, effective implementation of the consent régime becomes more difficult, with implications also for training opportunities and for transfer of technology.

89. Developing country scientists have attributed some of the problems encountered to inadequate attention to the scientific and related technological aspects of marine development and lack of understanding as to the complexity of the marine environment and its resources. They have called for mechanisms promoting an appreciation of the economic value of the marine sciences, among officials and user communities. Certainly, a considerable part of any difficulty with the consent régime has to be attributed to inadequate resources in qualified personnel facilities and infrastructure. Solutions to such fundamental problems will only be possible with international and regional co-operation, augmented by assistance from developed countries and from the United Nations system.



90. There is need for a better understanding of the consent régime embodied in the Convention in order to promote harmonious application and to benefit both coastal States and the scientific community at large. The Office for Ocean Affairs and the Law of the Sea has already compiled national legislation and regulations on the subject for publication early next year. The next step is to determine actual practice and the true nature of the problems that exist and those that can be anticipated. The Office will be collaborating closely with IOC in this endeavour, the aim being to promote the necessary co-operation among States and more uniform and consistent application of the Convention through the publication of an explanation in practical terms of the régime for marine scientific research embodied in the Convention.

## 2. Indian Ocean Marine Affairs Co-operation

128. The Indian Ocean Marine Affairs Co-operation Conference (IOMAC) held in January 1987 was a major undertaking involving some 34 countries. Its basic objective was to increase awareness of the potential for co-operation among States of the region and for co-operation with the United Nations system as well as the developed countries. The Conference set down the framework for co-operation and drew up a programme and plan of action that emphasizes pooling and sharing of scarce scientific and technical facilities and expertise, exchange and centralization of information and data and general improvement of communications at the regional level to optimize resources and avoid duplication of effort. It furthermore institutionalized co-operation in the establishment of an IOMAC secretariat and a 17-member Standing Committee. That group has already set some policy priorities: initiation and rapid development of a marine affairs information network (using national focal points); organization of inventories of national facilities and capabilities; and identification of training needs. International organizations are asked to liaise with IOMAC in building the necessary information network.

## III. CO-OPERATION WITHIN THE UNITED NATIONS SYSTEM

177. Previous resolutions on the law of the sea adopted by the General Assembly, including resolution 41/34, have recognized "that the United Nations Convention on the Law of the Sea encompasses all uses and resources of the sea and that all related activities within the United Nations system need to be implemented in a manner consistent with it". Consequently, the Office has continued to co-operate with and to assist in the work of United Nations agencies and bodies, other departments of the United Nations, and intergovernmental bodies involved in ocean-related matters. In particular the Office will continue to co-operate with the Department of International Economic and Social Affairs on matters of mutual interest, including the preparation of reports to the Economic and Social Council, as appropriate. A special effort has been made to undertake activities on global, regional and subregional bases, and to maintain and strengthen the established working relationship, including joint activities as appropriate, with organizations within the United Nations system, such as ICAO, IMO, UNESCO/IOC, FAO, ILO, the United Nations Conference on Trade and Development (UNCTAD) and UNEP. Concurrently, the Office has co-operated and assisted the regional commissions of the United Nations in their marine affairs activities and programmes. As in previous years, the regional commissions, especially those from the Asian, African and Latin American regions, have requested that assistance and information be provided by the Office of the Special Representative. The Office will continue to co-operate with regional commissions in the convening of regional groups of experts on marine survey and technology. The Office has also participated in the work of several specialized agencies and has been represented at meetings when appropriate. On the other hand, it continues to receive valuable assistance and co-operation from all the organizations within the United Nations system.

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## V. LAW OF THE SEA INFORMATION SYSTEM

179. During the past year, the Office has proceeded with the further development of its computerized Law of the Sea Information System (LOSIS). The system is composed of a group of data bases containing information relating to the law of the sea and related issues, which are updated on a continuing basis.

180. One of these data bases, the Country Marine Profile Data Base, contains 98 categories of information for each of more than 160 countries and 80 additional entities (e.g. islands, dependent territories, etc.). The information is of an economic or demographic nature (e.g. GNP, population, fishery import/export, shipping tonnage, etc.), geographical data (e.g. land area, length of coastline, area of the exclusive economic zone), limits of national jurisdiction (breadth of the territorial sea, contiguous zone, exclusive economic zone, fishery zone and the continental shelf), membership in regional or interest groups or in specialized agencies with ocean-related activities (e.g. IMO, FAO, IOC/UNESCO, the International Hydrographic Organization (IHO) and the International Maritime Satellite), and United Nations regional commission membership. This data base also includes current information on the position of each State regarding the Convention on the Law of the Sea, such as signature of the Final Act, signature of the Convention, ratifications and declarations. The data base has the ability to retrieve information by specific country, region, affiliate groups or relevant organizations and extract the pertinent data from a chosen subset of the 98 categories available.

181. The National Marine Legislation Data Base (LEGISLAT) has been expanded since its inception last year from 1,060 to over 1,440 individual national laws and regulations entries.

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III. RECOMMENDATIONS OF THE SECOND COMMITTEE

37. The Second Committee recommends to the General Assembly the adoption of the following draft resolutions:

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DRAFT RESOLUTION III

International co-operation in the field of the environment

The General Assembly,

Having considered the report of the Governing Council of the United Nations Environment Programme on the work of its fourteenth session, 25/

Having also considered the report of the Executive Director of the United Nations Environment Programme on international conventions and protocols in the field of the environment, 26/

Taking note of the Environmental Perspective to the Year 2000 and Beyond 27/ and the report of the World Commission on Environment and Development, 28/

Noting the implications for the work of the United Nations Environment Programme of the Nairobi Forward-looking Strategies for the Advancement of Women 29/ and of the system-wide medium-term plan for women in development,

Aware that serious environmental problems are arising in both developed and developing countries,

Reaffirming the importance of taking fully into account the interrelationships between resources, environment, people and development in development policies and strategies,

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25/ Official Records of the General Assembly, Forty-second Session, Supplement No. 25 (A/42/25 and Corr.1).

26/ UNEP/GC.14/18 and Corr.1 and Add.1.

27/ Official Records of the General Assembly, Forty-second Session, Supplement No. 25 (A/42/25 and Corr.1), annex II.

28/ A/42/427, annex.

29/ Report of the World Conference to Review and Approve the Achievements of the United Nations Decade for Women: Equality, Development and Peace, Nairobi, 15-26 July 1985 (United Nations publication, Sales No. E.85.IV.10), chap. I, sect. A.

Conscious that environmental considerations must be taken into full account by each country in framing and implementing its development plans in accordance with its development objectives,

Recognizing the importance of the international exchange of experience and knowledge and of the promotion of the transfer of technology for the protection and enhancement of the environment in accordance with respective national laws, regulations and policies,

1. Takes note with appreciation of the report of the Governing Council of the United Nations Environment Programme on the work of its fourteenth session and endorses the decisions contained therein, 25/ as adopted;

2. Expresses its appreciation for the development of international co-operation in the field of the environment and the work of the United Nations Environment Programme during the fifteen years since the United Nations Conference on the Human Environment, held at Stockholm from 5 to 16 June 1972, and calls for further action-oriented co-operation for the protection and enhancement of the environment;

3. Takes note with appreciation of decision 14/13 of 19 June 1987 30/ by which the Governing Council adopted the Environmental Perspective to the Year 2000 and Beyond 27/ and decision 14/14 of 19 June 1987 30/ by which the Council accepted the report of the World Commission on Environment and Development 28/ as a guideline to be taken into account in further work of the United Nations Environment Programme;

4. Considers that evaluation is an integral part of the programming cycle of the United Nations Environment Programme and should be undertaken, using a methodology developed in consultation with the partners of the Programme in the United Nations system and with Governments;

5. Welcomes the annual reports on the state of the environment, in particular the report on the state of the world environment 1987, 31/ fifteen years after the United Nations Conference on the Human Environment, and requests that these reports be given wide dissemination and be drawn upon fully in the preparation of reports within the United Nations system on the world economic and social situation;

6. Agrees with the Governing Council that importance should be attached by the United Nations Environment Programme to the problem of global climate change and that the Executive Director should ensure that the Programme co-operates closely with the World Meteorological Organization and the International Council of Scientific Unions and maintains an active, influential role in the World Climate Programme;

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30/ Official Records of the General Assembly, Forty-second Session, Supplement No. 25 (A/42/25 and Corr.1), annex I.

31/ UNEP/GC.14/6.

7. Takes note of Governing Council decision 14/26 of 17 June 1987 30/ regarding the rationalization of international conventions on biological diversity, in which it requested the Executive Director, in consultation with Governments and within available resources, to establish an ad hoc working group of experts to investigate in close collaboration with the Ecosystems Conservation Group and other international organizations the desirability and possible form of an umbrella convention to rationalize current activities in this field, and to address other areas which might fall under such a convention;

8. Welcomes the importance given by the Governing Council to forest ecosystems and, bearing in mind existing programmes and expertise in this field, section I of decision I 8 of 17 June 1987, 30/ in which the Governing Council took note of and welcomed the initiative of the Executive Director to pursue consultations among countries owning tropical forests and other forest ecosystems, and other interested countries, aimed at finding ways and means to consider, through the appropriate international mechanisms, including the International Tropical Timber Organization, practical collaborative action for the sustainable use and conservation of significant areas of forest ecosystems and the genetic resources they contain;

9. Expresses its appreciation for the leading role played by the United Nations Environment Programme in achieving the entry into force of the Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River system, the adoption of the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, the entry into force of the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region and, in particular, the adoption of the Montreal Protocol on Substances that Deplete the Ozone Layer, and encourages the United Nations Environment Programme, through its Governing Council, to continue such efforts;

10. Welcomes decision 14/30 of 17 June 1987, 30/ in which the Governing Council approved the Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Wastes, 32/ and the steps taken by the United Nations Environment Programme to develop a global convention on environmentally sound transboundary movement of hazardous wastes, supports the Goals and Principles of Environmental Impact Assessment 33/ adopted by the Governing Council in its decision 14/25 of 17 June 1987 and its recommendations regarding their application, welcomes the adoption by the Governing Council in its decision 14/27 of 17 June 1987 of the London Guidelines for the Exchange of Information on Chemicals in International Trade 34/ and encourages further steps in this regard;

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32/ UNEP/GC.14/17, annex II.

33/ UNEP/GC.14/17, annex III.

34/ UNEP/GC.14/17, annex IV.

11. Expresses its satisfaction at the results achieved at the first and second sessions of the African Ministerial Conference on the Environment, held, respectively, at Cairo, from 16 to 18 December 1985, and at Nairobi, from 4 to 6 June 1987, the first Arab Ministerial Conference on Environmental Considerations in Development, held at Tunis from 13 to 15 October 1986, and the fifth Intergovernmental Regional Meeting on the Environment in Latin America and the Caribbean, held at Montevideo in April 1987;

12. Agrees with the Governing Council on the desirability of creating and operating regional networks of non-governmental environmental organizations, especially in the developing countries;

13. Reaffirms the need for additional financial resources from donor countries and organizations to assist developing countries in identifying, analysing, monitoring, preventing and managing environment problems in accordance with their national development plans, priorities and objectives;

14. Reaffirms the need for developed countries and appropriate organs and organizations of the United Nations system to strengthen technical co-operation with the developing countries to enable them to develop and enhance their capacity for identifying, analysing, monitoring, preventing and managing environmental problems in accordance with their national development plans, priorities and objectives;

15. Reaffirms also the need for technical co-operation among developing countries in the field of the environment, and invites the appropriate organs and organizations of the United Nations system to assist, upon request of the parties concerned, in the promotion and strengthening of such co-operation;

16. Concurs with decision 14/6 of 17 June 1987, 30/ in which the Governing Council decided that the clearing-house mechanism within the United Nations Environment Programme should focus its efforts on strengthening the capacity of developing countries to promote sustainable development by supporting policy planning and institution building, enabling the developing countries to give adequate priority to environmental considerations, and that it should, inter alia, support a limited number of programmes of regional significance;

17. Takes note of Governing Council decision 14/10 of 18 June 1987 30/ on the environmental impact of apartheid on black agriculture in South Africa;

18. Recalls the essential catalytic and co-ordinating role of the United Nations Environment Programme within the United Nations system concerning the environment, requests that that role be further developed in the light, particularly, of Governing Council decisions 14/13 and 14/14, and calls upon the Designated Officials for Environmental Matters to improve their effectiveness, bearing in mind those decisions;

19. Agrees with the Governing Council on the importance it attached, in the annex to its decision 14/12 of 18 June 1987, 30/ to the preparation of the system-wide medium-term environment programme for the period 1990-1995, guided by the Environmental Perspective to the Year 2000 and Beyond, and urges the Administrative Committee on Co-ordination to develop an effective way of monitoring the implementation of the system-wide programme and of evaluating critical programmes (herein that involve a number of organizations);

20. Expresses its appreciation to those countries which have contributed regularly to the Environment Fund, and urges all countries that have not contributed to the Fund to do so for 1988 and in future years so that the financial base of the Fund may be expanded;

21. Urges all contributing countries to increase their contributions to the Environment Fund for 1988 in future years so as to enable the approved programme of activities to be fully implemented.

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#### RESOLUTION V

##### The Environmental Perspective to the Year 2000 and Beyond

###### The General Assembly,

Recalling its resolution 38/161 of 19 December 1983 on the process of preparation of the Environmental Perspective to the Year 2000 and Beyond, by which it, inter alia, welcomed the desire of the Governing Council of the United Nations Environment Programme to develop the Environmental Perspective and transmit it to the General Assembly for adoption, benefiting in carrying out that function from its consideration of the relevant proposals made by a special commission, which adopted the name World Commission on Environment and Development,

Welcoming the Environmental Perspective to the Year 2000 and Beyond, 36/ prepared by the Intergovernmental Inter-sessional Preparatory Committee of the United Nations Environment Programme, referred to in General Assembly resolution 38/161, and further considered and adopted by the Governing Council of the United Nations Environment Programme at its fourteenth session, by its decision 14/13 of 19 June 1987, 37/ as a basis for the further elaboration of its programme and operations, while acknowledging that different views exist on some aspects,

Appreciating that concepts, ideas and recommendations contained in the report of the World Commission on Environment and Development 38/ have been incorporated into the Environmental Perspective,

1. Expresses its appreciation for the efforts of the Governing Council of the United Nations Environment Programme and its Intergovernmental Inter-sessional Preparatory Committee in the preparation of the Environmental Perspective to the Year 2000 and Beyond; 36/

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36/ Official Records of the General Assembly, Forty-second Session, Supplement No. 25 (A/42/25 and Corr.1), annex II.

37/ Ibid., annex I.

38/ A/42/427, annex.

2. Adopts the Environmental Perspective to the Year 2000 and Beyond, as annexed to this resolution, as a broad framework to guide national action and international co-operation on policies and programmes aimed at achieving environmentally sound development, and specifically as a guide to the preparation of further system-wide medium-term environment programmes and the medium-term programmes of the organizations and bodies of the United Nations system, in the light of Governing Council decision 14/13;

3. Notes that the perceptions generally shared by Governments of the nature of environmental problems, and their interrelations with other international problems, and of the efforts to deal with them include the following:

(a) An international atmosphere of peace, security and co-operation, free from the presence and the threat of wars of all types, especially nuclear war, and from the waste of intellectual and natural resources on armaments by any nation, would greatly enhance environmentally sound development;

(b) The imbalance of present world economic conditions makes it extremely difficult to bring about sustained improvement in the world's environmental situation. Accelerated and balanced world development and lasting improvements in the global environment require improved world economic conditions, especially for the developing countries;

(c) Since mass poverty is often at the root of environmental degradation, its elimination and ensuring equitable access of people to environmental resources are essential for sustained environmental improvements;

(d) The environment provides constraints as well as opportunities for economic growth and social well-being. Environmental degradation, in its various forms, has assumed such proportions as can cause irreversible changes in ecosystems, which threaten to undermine human well-being. Environmental constraints, however, are generally relative to the state of technology and socio-economic conditions, which can and should be improved and managed to achieve sustained world economic growth;

(e) Environmental issues are closely intertwined with development policies and practices. Consequently, environmental goals and actions need to be defined in relation to development objectives and policies;

(f) Although it is important to tackle immediate environmental problems, anticipatory and preventive policies are the most effective and economical in achieving environmentally sound development;

(g) The environmental impacts of actions in one sector are often felt in other sectors; so internalization of environmental conditions in sectoral policies and programmes and their co-ordination are essential to achieve sustainable development;

(h) Since conflicts of interest among population groups, or among countries, are often inherent in the nature of environmental problems, the participation of the concerned parties is essential to determine effective environmental management practices;



(i) Environmental degradation can be controlled and reversed only by ensuring that the parties causing the damage will be accountable for their action, and that they will participate, on the basis of full access to available knowledge, in improving environmental conditions;

(j) Renewable resources, as part of complex and interlinked ecosystems, can have sustainable yields only if used while taking into account system-wide effects of exploitation;

(k) Safeguarding of species is a moral obligation of humankind and should improve and sustain human well-being;

(l) Building awareness at various levels of environmental conditions and management, through the provision of information, education and training, is essential for environmental protection and improvement;

(m) Strategies to deal with environmental challenges have to be flexible and should allow for adjustments to emerging problems and evolving environmental management technology;

(n) The growing number and variety of international environmental disputes need to be resolved by peaceful means;

4. Welcomes as the overall aspirational goal for the world community the achievement of sustainable development on the basis of prudent management of available global resources and environmental capacities and the rehabilitation of the environment previously subjected to degradation and misuse, and the aspirational goals to the year 2000 and beyond as set out in the Environmental Perspective, namely:

(a) Achievement over time of such a balance between population and environmental capacities as would make possible sustainable development, keeping in view the links among population levels, consumption patterns, poverty and the natural resource base;

(b) Achievement of food security without resource depletion or environmental degradation and restoration of the resource base where environmental damage has been occurring;

(c) Provision of sufficient energy at reasonable cost, notably by increasing access to energy substantially in the developing countries, to meet current and expanding needs in ways which minimize environmental degradation and risks, conserve non-renewable sources of energy and realize the full potential of renewable sources of energy;

(d) Sustained improvements in levels of living in all countries, especially the developing countries, through industrial development that prevents or minimizes environmental damage and risks;

(e) Provision of improved shelter with access to essential amenities in a clean and secure setting conducive to health and to the prevention of environment-related diseases, while alleviating serious environmental degradation;

(f) Establishment of an equitable system of international economic relations aimed at achieving continuing economic advancement for all States based on principles recognized by the international community in order to stimulate and sustain environmentally sound development, especially in developing countries;

5. Agrees that the recommendations for action contained in the Environmental Perspective should be implemented, as appropriate, through national and international action by Governments, intergovernmental and non-governmental organizations and scientific bodies;

6. Requests the Governing Council of the United Nations Environment Programme to keep under review the extent to which the long-term environmental actions recommended in the Environmental Perspective have been implemented and to identify any new environmental concerns that may arise;

7. Calls special attention to section IV of the Environmental Perspective, which spells out "instruments of environmental action", to be used as support in addressing, as appropriate, problems dealt with in previous sections of the Environmental Perspective;

8. Stresses the essential role of the United Nations Environment Programme within the United Nations system in catalyzing environmentally sound and sustainable development and agrees with the Governing Council that this role should be strengthened and that the resources of the Environment Fund should be substantially increased with greater participation;

9. Endorses the priorities and functions for the United Nations Environment Programme stated in paragraph 117 of the Environmental Perspective;

10. Decides to transmit the Environmental Perspective to all Governments and to the governing bodies of the organs and organizations of the United Nations system as a broad framework to guide national action and international co-operation on policies and programmes aimed at achieving environmentally sound and sustainable development;

11. Calls upon the governing bodies of the organs and organizations of the United Nations system to consider the Environmental Perspective and take it into account in the development of their own medium-term plans and programmes as relevant to their own mandates;

12. Requests the governing bodies of relevant United Nations organizations to report regularly to the General Assembly on the progress made in achieving the objectives of environmentally sound and sustainable development in line with paragraph 114 of the Environmental Perspective;

13. Invites the Governing Council of the United Nations Environment Programme to report on the implementation of the present resolution and the relevant aspects of the Environmental Perspective to the General Assembly at its forty-fourth session.

## RESOLUTION VI

### Report of the World Commission on Environment and Development

#### The General Assembly,

Concerned about the accelerating deterioration of the human environment and natural resources and the consequences of that deterioration for economic and social development,

Believing that sustainable development, which implies meeting the needs of the present without compromising the ability of future generations to meet their own needs, should become a central guiding principle of the United Nations, Governments and private institutions, organizations and enterprises,

Recognizing, in view of the global character of major environmental problems, the common interest of all countries to pursue policies aimed at sustainable and environmentally sound development,

Convinced of the importance attached to a reorientation of national and international policies towards sustainable development patterns,

Recalling that, in its resolution 38/161 of 19 December 1983 on the process of preparation of the Environmental Perspective to the Year 2000 and Beyond to be prepared by the Governing Council of the United Nations Environment Programme, it welcomed the establishment of a special commission, which later assumed the name World Commission on Environment and Development, to make available a report on environment and the global problématique to the year 2000 and beyond, including proposed strategies for sustainable development,

Recognizing the valuable role played in the development of the report of the World Commission by the Intergovernmental Inter-sessional Preparatory Committee of the Governing Council of the United Nations Environment Programme, as envisaged by the General Assembly in its resolution 38/161,

Recalling that in resolution 38/161 it decided that, on matters within the purview of the United Nations Environment Programme, the report of the World Commission should in the first instance be considered by the Governing Council of the Programme, for transmission to the General Assembly, together with its comments, and for use as basic material in the preparation of the Environmental Perspective, for adoption by the Assembly, and that on those matters which were under consideration or review by the Assembly itself, it would consider the relevant aspects of the report of the World Commission,

Noting Governing Council decision 14/14 of 19 June 1987 39/ transmitting the report of the World Commission to the General Assembly,

Noting further that the Environmental Perspective to the Year 2000 and Beyond 40/ has taken account of the main recommendations in the World Commission's report,

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39/ Official Records of the General Assembly, Forty-second Session, Supplement No. 25 (A/42/25 and Corr.1), annex I.

40/ Ibid., annex II.

Recognizing the instrumental role of the Commission in revitalizing and reorienting the discussion and deliberation on environment and development and in enhancing the understanding of the causes of present environmental and development problems, in demonstrating the ways in which they transcend institutional frontiers and in opening new perspectives on the interrelationship between environment and development as a guide to the future,

Emphasizing the need for a new approach to economic growth, as an essential prerequisite for eradication of poverty and for enhancing the resource base on which present and future generations depend,

1. Welcomes the report of the World Commission on Environment and Development entitled Our Common Future; 41/

2. Notes with appreciation the important contribution made by the Commission to raise the consciousness of decision-makers in Governments, intergovernmental and non-governmental international organizations, industry and other forms of economic activity, as well as of the general public, in regard to the imperative need for making the transition towards sustainable development, and calls upon all concerned to make full use in this regard of the report of the Commission;

3. Agrees with the Commission that, while seeking to remedy existing environmental problems, it is imperative to influence the sources of those problems in human activity, and economic activity in particular, and thus to provide for sustainable development;

4. Agrees further that an equitable sharing of the environmental costs and benefits of economic development between and within countries and between present and future generations is a key to achieving sustainable development;

5. Concurs with the World Commission that the critical objectives for environment and development policies which follow from the need for sustainable development must include preserving peace, reviving growth and changing its quality, remedying the problems of poverty and the satisfaction of human needs, addressing the problems of population growth and of conserving and enhancing the resource base, reorienting technology and managing risk, and merging environment and economics in decision-making;

6. Decides to transmit the report of the World Commission to all Governments and to the governing bodies of the organs, organizations and programmes of the United Nations system, and invites them to take account of the analysis and recommendations contained in the report of the World Commission in determining their policies and programmes;

7. Calls upon all Governments to ask their central economic and sectoral agencies to ensure that their policies, programmes and budgets encourage sustainable development and to strengthen the role of their environmental and natural resource agencies in advising and assisting central and sectoral agencies in that task;

8. Calls upon the governing bodies of the organs, organizations and programmes in the United Nations system to review their policies, programmes, budgets and activities aimed at contributing to sustainable development;

9. Calls upon the governing bodies of other relevant multilateral development assistance and financial institutions to commit their institutions more fully to pursuing sustainable development in setting their policies and programmes in accordance with the national development plans, priorities and objectives set by the recipient Governments themselves;

10. Requests the Secretary-General, through the appropriate existing mechanisms, including the Administrative Committee on Co-ordination, to review and co-ordinate on a regular basis the efforts of all the organs, organizations and bodies of the United Nations system to pursue sustainable development and to report thereon to the General Assembly through the Governing Council of the United Nations Environment Programme and the Economic and Social Council;

11. Stresses the essential role of the United Nations Environment Programme within its mandate in catalyzing the sustainable development efforts of the United Nations system, while fully taking into account the co-ordinating responsibilities of the Economic and Social Council, and agrees with the World Commission that that role should be strengthened and that the resources of the Environment Fund should be substantially enlarged, with greater participation;

12. Considers that the Governing Council of the United Nations Environment Programme, within its mandate and with participation, when appropriate, at the ministerial level, should keep under examination the long-term strategies for realizing sustainable development on a periodic basis, and should include the results of its examinations in its reports to be submitted to the General Assembly through the Economic and Social Council;

13. Agrees that the catalytic and co-ordinating role of the United Nations Environment Programme in the United Nations system should be reinforced in its future work on environmental and natural resource issues;

14. Reaffirms the need for additional financial resources from donor countries and organizations to assist developing countries in identifying, analysing, monitoring, preventing and managing environment problems in accordance with their national development plans, priorities and objectives;

15. Reaffirms the need for developed countries and appropriate organs and organizations of the United Nations system to strengthen technical co-operation with the developing countries to enable them to develop and enhance their capacity for identifying, analysing, monitoring, preventing and managing environmental problems in accordance with their national development plans, priorities and objectives;

16. Invites Governments, in co-operation with the regional commissions and the United Nations Environment Programme and, as appropriate, intergovernmental organizations, to support and engage in follow-up activities, such as conferences, at the national, regional, and global levels;

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17. Calls upon Governments to engage non-governmental organizations, industry and the scientific community more fully in national and international activities to support efforts towards sustainable development;

18. Invites the governing bodies of the organs, organizations and programmes of the United Nations to report, as appropriate, to the General Assembly, not later than at its forty-fourth session, through the Economic and Social Council, on progress made in their organizations towards sustainable development; and to make such reports available to the Governing Council of the United Nations Environment Programme at its next regular session;

19. Also invites the Governing Council of the United Nations Environment Programme to provide comments on matters concerning progress on sustainable development that fall within its mandate, on these reports and other developments for submission to the Economic and Social Council at its second regular session of 1989 and to the General Assembly at its forty-fourth session;

20. Requests the Secretary-General to submit to the General Assembly at its forty-third session, through the Economic and Social Council, a progress report on the implementation of the present resolution and to the Assembly at its forty-fourth session a consolidated report on the same subject;

21. Decides to include in the provisional agenda of its forty-third session a sub-item entitled "A long-term strategy for sustainable and environmentally sound development" under the agenda item entitled "Development and international co-operation".



## General Assembly

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Agenda item 32

### LAW OF THE SEA

Algeria, Antigua and Barbuda, Australia, Bangladesh, Brazil,  
Cameroon, Canada, Cape Verde, Chile, China, Denmark, Djibouti,  
Egypt, Ethiopia, Fiji, Finland, Ghana, Iceland, India,  
Indonesia, Ireland, Jamaica, Kenya, Kuwait, Malaysia, Mexico,  
New Zealand, Nigeria, Norway, Oman, Papua New Guinea, Portugal,  
Saint Kitts and Nevis, Senegal, Sierra Leone, Singapore,  
Sri Lanka, Sweden, Trinidad and Tobago, Tunisia, United  
Republic of Tanzania, Uruguay, Vanuatu and Yugoslavia;  
draft resolution

#### The General Assembly,

Reaffirming its resolutions 37/66 of 3 December 1982, 38/59 A of 14 December 1983, 39/73 of 13 December 1984, 40/63 of 10 December 1985 and 41/34 of 5 November 1986, regarding the law of the sea,

Recognizing that, as stated in the third preambular paragraph of the United Nations Convention on the Law of the Sea, 1/ the problems of ocean space are closely interrelated and need to be considered as a whole,

Convinced that it is important to safeguard the unified character of the Convention and related resolutions adopted therewith and to refrain from any action to apply their provisions selectively, in a manner inconsistent with their object and purpose,

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1/ Official Records of the Third United Nations Conference on the Law of the Sea, vol. XVII (United Nations publication, Sales No. E.84.V.3), document A/CONF.62/122.

87-27913 67512 (E)

/...

Emphasizing the need for States to ensure consistent application of the Convention, as well as the need for harmonization of national legislation with the provisions of the Convention,

Considering that, in its resolution 2749 (XXV) of 17 December 1970, it proclaimed that the sea-bed and ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction, as well as the resources of the area, are the common heritage of mankind,

Recalling that the Convention provides the régime to be applied to the Area and its resources,

Emphasizing that no State should undermine the Convention and the related resolutions of the Third United Nations Conference on the Law of the Sea,

Recognizing also the need for co-operation in the early and effective implementation by the Preparatory Commission for the International Sea-Bed Authority and for the International Tribunal for the Law of the Sea of resolution II of the Third United Nations Conference on the Law of the Sea, 2/

Noting with satisfaction the progress made in the work of the Preparatory Commission since its inception, including the registration of India as a pioneer investor in the mining of the sea-bed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction,

Noting the decision of the Preparatory Commission to convene its General Committee on 7 December 1987 for the purpose of considering the applications of France, Japan and the Union of Soviet Socialist Republics for registration as pioneer investors,

Noting also that the Preparatory Commission has decided to hold its sixth regular session at Kingston from 14 March to 8 April 1988 and that it will decide upon the summer meeting for 1988 during its next session, 3/

Noting further the increasing needs of countries, especially developing countries, for information, advice and assistance in the implementation of the Convention and in their developmental process for the full realization of the benefits of the comprehensive legal régime established by the Convention,

Recognizing that the United Nations Convention on the Law of the Sea encompasses all uses and resources of the sea and that all related activities within the United Nations system need to be implemented in a manner consistent with it,

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2/ Ibid., document A/CONF.62/121, annex I.

3/ A/42/688, para. 132.



Taking note of activities carried out in 1987 under the major programme on marine affairs, set forth in chapter 25 of the medium-term plan for the period 1984-1989, in accordance with the report of the Secretary-General, 4/ as approved in General Assembly resolution 38/59 A, and the report of the Secretary-General, 5/

Recalling its approval of the financing of the expenses of the Preparatory Commission from the regular budget of the United Nations,

Taking special note of the report of the Secretary-General prepared in pursuance of paragraph 13 of General Assembly resolution 41/34, 6/

1. Recalls the historic significance of the United Nations Convention on the Law of the Sea as an important contribution to the maintenance of peace, justice and progress for all peoples of the world;

2. Expresses its satisfaction at the increasing and overwhelming support for the Convention, as evidenced, inter alia, by the one hundred and fifty-nine signatures and thirty-four of the sixty ratifications or accessions required for entry into force of the Convention;

3. Calls upon all States that have not done so to consider ratifying or acceding to the Convention at the earliest possible date to allow the effective entry into force of the new legal régime for the uses of the sea and its resources;

4. Calls upon all States to safeguard the unified character of the Convention and related resolutions adopted therewith;

5. Also calls upon States to observe the provisions of the Convention when enacting their national legislation;

6. Further calls upon States to desist from taking actions which undermine the Convention or defeat its object and purpose;

7. Notes the progress being made by the Preparatory Commission for the International Sea-Bed Authority and for the International Tribunal for the Law of the Sea in all areas of its work;

8. Expresses its satisfaction at the successful resolution of overlaps that had arisen in the claims of applicants for registration as pioneer investors and with those of certain potential applicants under resolution II of the Third United Nations Conference on the Law of the Sea;

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4/ A/38/570 and Corr.1 and Add.1 and Add.1/Corr.1.

5/ A/C.5/42/2/Rev.1.

6/ A/42/688.

/...

9. Further expresses its satisfaction at the historic decision of the Preparatory Commission on 17 August 1987 to register the first pioneer investor, namely India, and at the decision of the Preparatory Commission to convene its General Committee in December 1987 for the purpose of considering the applications of France, Japan and the Union of Soviet Socialist Republics for registration as pioneer investors;

10. Expresses its appreciation to the Secretary-General for his efforts in support of the Convention and for the effective execution of the major programme on marine affairs set forth in chapter 25 of the medium-term plan for the period 1984-1989;

11. Further expresses its appreciation for the report of the Secretary-General prepared in pursuance of General Assembly resolution 41/34 and requests him to continue to carry out the activities outlined therein, as well as those aimed at the strengthening of the legal régime of the sea, special emphasis being placed on the work of the Preparatory Commission, including the implementation of resolution II of the Third United Nations Conference on the Law of the Sea;

12. Calls upon the Secretary-General to continue to assist States in the implementation of the Convention and in the development of a consistent and uniform approach to the legal régime thereunder, as well as in their national, subregional and regional efforts towards the full realization of the benefits therefrom and invites the organs and organizations of the United Nations system to co-operate and lend assistance in these endeavours;

13. Approves the decision of the Preparatory Commission to hold its sixth regular session at Kingston from 14 March to 8 April 1988 and takes note that the Preparatory Commission will decide upon the summer meeting for 1988 during its next session; 3/

14. Requests the Secretary-General to report to the General Assembly at its forty-third session on developments pertaining to the Convention and all related activities and on the implementation of the present resolution;

15. Decides to include in the provisional agenda of its forty-third session the item entitled "Law of the Sea".

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General Assembly

Distr.  
LIMITED

A/42/L.20/Add.1  
18 November 1987

ORIGINAL: ENGLISH

Forty-second session  
Agenda item 32

LAW OF THE SEA

Algeria, Antigua and Barbuda, Australia, Bangladesh, Brazil,  
Cameroon, Canada, Cape Verde, Chile, China, Denmark, Djibouti,  
Egypt, Ethiopia, Fiji, Finland, Ghana, Iceland, India,  
Indonesia, Ireland, Jamaica, Kenya, Kuwait, Malaysia, Mexico,  
New Zealand, Nigeria, Norway, Oman, Papua New Guinea, Portugal,  
Saint Kitts and Nevis, Senegal, Sierra Leone, Singapore,  
Sri Lanka, Sweden, Trinidad and Tobago, Tunisia, United  
Republic of Tanzania, Uruguay, Vanuatu and Yugoslavia;  
draft resolution

Addendum

Add the following countries to the list of sponsors of the draft resolution:

Austria, Bahamas, Byelorussian Soviet Socialist Republic, German Democratic  
Republic, Madagascar, Malta, Philippines, Ukrainian Soviet Socialist Republic  
and Union of Soviet Socialist Republics.

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General Assembly

Distr.  
LIMITED

42/169  
30 November 1987

ORIGINAL: ENGLISH

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Forty-second session  
SECOND COMMITTEE  
Agenda item 12

REPORT OF THE ECONOMIC AND SOCIAL COUNCIL

Draft resolution submitted by the Vice-Chairman of the Committee,  
Mr. Henricus Gajentaan (Netherlands), on the basis of informal  
consultations held on draft resolution A/C.2/42/L.32/Rev.1

International Decade for Natural Disaster Reduction

The General Assembly,

Recalling its resolution 3345 (XXIX) of 17 December 1974, in which it requested the Secretary-General to take appropriate measures to provide facilities for co-ordinated multidisciplinary research also at the regional level aimed at synthesizing, integrating and advancing existing knowledge on the interrelationships between population, resources, environment and development, in order to assist Member States, particularly the developing countries, and the organizations of the United Nations system in their efforts to cope with the complex and multidimensional problems related to this field in the context of social and economic development,

Noting with appreciation the important contribution made by the World Commission on Environment and Development, 1/ which calls for new national and international approaches in dealing with the various factors affecting the environment, including natural disasters,

Considering that natural disasters, such as those caused by earthquakes, windstorms (cyclones, hurricanes, tornadoes, typhoons), tsunamis, floods, landslides, volcanic eruptions, wildfires and other calamities of natural origin,

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1/ A/42/427, annex.

have claimed about 3 million lives world wide in the past two decades, adversely affected the lives of at least 800 million more people and resulted in immediate damages exceeding \$23 billion,

Considering also that among disasters of natural origin, drought and desertification are resulting in enormous damage, particularly in Africa, where the recent drought threatened the lives of more than 20 million people and uprooted millions of others,

Recognizing that the effect of such disasters may damage very severely the fragile economic infrastructure of developing countries, especially the least developed, land-locked and island developing countries, and thus hamper their development process,

Recalling the report of the Secretary-General on the work of the Organization, particularly the section concerning natural disasters and the merits in proposals that have been made to stimulate international study, planning and preparations on this subject over the next decade under the auspices of the United Nations, 2/

Also taking note with appreciation of the report of the Secretary-General concerning the existing mechanisms and arrangements within the United Nations system for disaster and emergency assistance and co-ordination, 3/

Recognizing the responsibility of the United Nations system for promoting international co-operation in the study of natural disasters of geophysical origin and in the development of techniques to mitigate risks arising therefrom, as well as for co-ordinating disaster relief, preparedness and prevention, including prediction and early warning,

Convinced that concerted international action for the reduction of natural disasters over the course of the 1990s would give genuine impetus to a series of concrete measures at the national, regional and international levels,

Recognizing that the primary responsibility for defining the general goals and directions of efforts undertaken in the framework of an international decade for natural disaster reduction and for implementing the measures that would result from its activities lies with the Governments of the countries concerned,

Considering that the concept of a global programme for natural disaster reduction is predicated on collaborative efforts among culturally and economically diverse nations, together with relevant organizations of the United Nations system and other national and international non-governmental organizations, including the scientific and technological institutions concerned,

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2/ Official Records of the General Assembly, Forty-second Session, Supplement No. 1 (A/42/1), sect. II.

3/ A/42/557.

1. Recognizes the importance of reducing the impact of natural disasters for all people, and in particular for developing countries;

2. Recognizes further that scientific and technical understanding of the causes and impact of natural disasters and of ways to reduce both human and property losses has progressed to such an extent that a concerted effort to assemble, disseminate and apply this knowledge through national, regional and world-wide programmes could have very positive effects in this regard, particularly for developing countries;

3. Decides to designate the 1990s as a decade in which the international community, under the auspices of the United Nations, will pay special attention to fostering international co-operation in the field of natural disaster reduction, and to take a decision at its forty-third session on the content and modalities of United Nations participation therein after having considered the report of the Secretary-General referred to in paragraph 9 of the present resolution;

4. Decides that the objective of this Decade is to reduce through concerted international actions, especially in developing countries, loss of life, property damage and social and economic disruption caused by natural disasters, such as earthquakes, windstorms (cyclones, hurricanes, tornados, typhoons), tsunamis, floods, landslides, volcanic eruptions, wildfires and other calamities of natural origin, such as grasshopper and locust infestations, and that its goals are:

(a) To improve the capacity of each country to mitigate the effects of natural disasters expeditiously and effectively, paying special attention to assisting developing countries in the establishment, when needed, of early warning systems;

(b) To devise appropriate guidelines and strategies for applying existing knowledge, taking into account the cultural and economic diversity among nations;

(c) To foster scientific and engineering endeavours aimed at closing critical gaps in knowledge in order to reduce loss of life and property;

(d) To disseminate existing and new information related to measures for the assessment, prediction, prevention and mitigation of natural disasters;

(e) To develop measures for the assessment, prediction, prevention and mitigation of natural disasters through programmes of technical assistance and technology transfer, demonstration projects, and education and training, tailored to specific hazards and locations, and to evaluate the effectiveness of those programmes;

5. Requests the Secretary-General, in co-operation with the appropriate organizations of the United Nations system and relevant scientific, technical, academic and other non-governmental organizations, to develop an appropriate framework to attain the objective and goals referred to in paragraphs 3 and 4 of the present resolution and to submit a report thereon to the General Assembly at its forty-fourth session through the Economic and Social Council;

6. Recommends that, if necessary, extrabudgetary resources be provided for the preparation of the above-mentioned report and considers that, for this purpose, voluntary contributions from countries, international organizations and other organizations are highly desirable;

7. Calls on all Governments to participate during the decade for concerted international action for the reduction of natural disasters and, as appropriate, to establish national committees, in co-operation with the relevant scientific and technological communities, with a view to surveying available mechanisms and facilities for the reduction of natural hazards, assessing the particular requirements of their respective countries or regions in order to add to, improve or update existing mechanisms and facilities and develop a strategy to attain the desired goals;

8. Further calls on Governments to keep the Secretary-General informed of their countries' plans and of assistance that can be provided so that the United Nations may become an international centre for the exchange of information, the storing of documents and the co-ordination of international efforts concerning the activities in support of the objective and goals referred to in paragraphs 3 and 4 above, thus enabling each Member State to benefit from the experience of other countries;

9. Requests the Secretary-General to report to the General Assembly at its forty-third session on progress made in the preparations outlined above with particular emphasis on defining the catalytic and facilitating role envisaged for the United Nations system.

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# United Nations Environment Programme



Distr.  
GENERAL

UNEP/GC.14/26  
10 July 1987

ORIGINAL: ENGLISH

GOVERNING COUNCIL  
Fourteenth session  
Nairobi, 8-19 June 1987

## PROCEEDINGS OF THE GOVERNING COUNCIL AT ITS FOURTEENTH SESSION

Extracts

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### II. ENVIRONMENTAL MANAGEMENT

#### A. OCEANS

##### 1. Global marine environment

56. One representative, supported by two others, requested UNEP to prepare an aide memoire or memorandum of understanding on co-operation between UNEP and the Intergovernmental Oceanographic Commission (IOC) in matters related to the global marine environment and the regional seas programme. The observer for IOC replied that an aide memoire had been signed in 1984 and that the aim now was to revise it on the basis of inter-secretariat discussions which had taken place from 1985-1987 to take into account the strengthened and broadened co-operation of the two bodies and the integration of their activities.

57. Another representative proposed that the suggested increase in support for activities related to the global marine environment should be absorbed by other bodies active in this field to avoid duplication.

58. One delegation, as well as the observers for FAO and IOC, expressed their full support for the work of the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP). Another representative emphasized the importance of internal UNEP co-operation between OCA/PAC and GEMS/PAC in marine pollution assessment and external co-operation with IOC on the same subject in the context of the Global Investigation of Pollution in the Marine Environment (GIPME).



59. The observer for IOC pointed out that co-operation between IOC and UNEP had been significantly strengthened in recent years in such areas as GIPHE; regional projects in the Caribbean and the Mediterranean, West and Central Africa and the East Asian Seas; and regional overviews of the state of the marine environment from nine regions to assemble a Global Review of the State of the Marine Environment being prepared by GESAMP, through which IOC was supporting several working groups. The Fourteenth Assembly of IOC (Paris, 17 March - 1 April 1987) had welcomed the increased co-operation with UNEP and had emphasized the need to strengthen collaboration and co-ordination at the regional level further, so as to link the activities of the two bodies and provide integration between global and regional programmes.

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71. The observer for IOC informed the Committee about regional programmes implemented through subsidiary bodies of the Commission, in many cases in co-operation with UNEP, and about the support given by IOC to several UNEP regional seas action plans.

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UNITED NATIONS EDUCATIONAL,  
SCIENTIFIC AND CULTURAL ORGANIZATION

EXECUTIVE BOARD

Hundred-and-twenty-sixth Session

Item 5.1.1 of the agenda

ORAL REPORT BY THE DIRECTOR-GENERAL ON THE  
ACTIVITIES OF THE ORGANIZATION  
SINCE THE 125TH SESSION

Extracts

. . .

Assembly of the Intergovernmental Oceanographic Commission

The study of the oceans and the use of their resources is certainly one of the prime areas of international co-operation - as attested by the latest Assembly of the Intergovernmental Oceanographic Commission, which held its Fourteenth Session in Paris from 17 March to 1 April 1987.

A typical example of this constructive spirit of co-operation can be found in the resolution concerning the proposed amendments to the IOC Statutes, which was unanimously adopted by the Member States present. These proposed amendments will naturally be submitted for approval by the General Conference at its twenty-fourth session.

Their purpose is to enable the Commission to meet Member States' requirements in several fields, including the introduction of a number of ocean services; the application of research findings to socio-economic development; the introduction of continuous ocean observing systems; and the development of procedures making it possible to facilitate co-operation among Member States and between the Commission and those organizations of the United Nations system concerned with oceans, and also making it possible to define more clearly the part that Member States are required to play in the Commission's programmes.

The Commission elected its new Chairman, Professor Ulf Lie of Norway. It of course made its contribution to the preparation of the Programme and Budget for 1988-1989 and the preparation of the third Medium-Term Plan was also discussed. Several delegations put forward the idea that a major programme might be devoted exclusively to ocean matters.

The Assembly also studied ways of developing those of the Commission's programmes which are implemented jointly with other organizations of the United Nations system, such as 'marine sciences and living resources' with FAO or 'marine sciences and non-living resources' with the United Nations, and those carried out jointly for many years with WHO as part of the Integrated Global Ocean Services System and the World Climate Research Programme.

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UNITED NATIONS EDUCATIONAL,  
SCIENTIFIC AND CULTURAL ORGANIZATION

EXECUTIVE BOARD

Hundred-and-twenty-sixth Session

Item 4.1 of the agenda

PRESENTATION BY THE DIRECTOR-GENERAL OF THE  
DRAFT PROGRAMME AND BUDGET FOR 1988-1989  
(24 C/5)

Extracts

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Major Programme X, 'The human environment and terrestrial and marine resources', naturally continues to enjoy the very high priority reasserted by the Executive Board at its 125th session. In order to achieve greater concentration of activities at the technical level and improved delimitation of responsibilities in implementing the programme, it is proposed to regroup the activities with a view to bringing more fully into line the structure of the programme, that of the administrative units responsible for its execution, and the relevant organs of the various intergovernmental and international programmes such as the International Hydrological Programme (IHP), the Programme on Man and the Biosphere (MAB), the International Geological Correlation Programme (IGCP) and the programmes of the Intergovernmental Oceanographic Commission (IOC).

Accordingly, all the activities of the MAB programme have been regrouped within Programme X.6 in document 24 C/5, which is now to be renamed 'The scientific bases for land-use planning and conservation of the resources of the biosphere - The Man and the Biosphere (MAB) programme'. Similarly, Programme X.7 will now deal only with research and training in the fields of the application of the social sciences to human settlements and urbanization. Programme X.8 will be devoted exclusively to the standard-setting aspects of problems relating to the protection of the world heritage. Likewise, activities have been redistributed between Programmes X.4 and X.5. Programme X.4 is now restricted to the activities of the Intergovernmental Oceanographic Commission, while Programme X.5 covers the Organization's other activities specifically designed to promote training and research in the marine sciences and their applications to coastal management.

In addition, given the 'very high priority' accorded to Major Programme X by the Executive Board and the international community as a whole, a number of other possible activities, totalling \$200,000, will be put to the General Conference. All information on these possible activities will be found in Volumes I and II of document 24 C/5 under the respective programmes.

As you can see, in this field as in others, the Organization intends to pursue its action with determination, but of course with the resources at its disposal. Accordingly, it has not been possible to devote more resources to this major programme because of the Member States' decision to maintain the Organization's budget within the confines of zero growth. Incidentally, it should be pointed out that voluntary contributions for some of the programmes such as those of the Intergovernmental Oceanographic Commission have gone some way towards attenuating the impact of these budgetary constraints. I should like to repeat here something I told the last General Assembly of IOC, that I am willing to support before the General Conference any efforts that Member States would be prepared to make in order to increase the Organization's resources for the activities of IOC and other intergovernmental programmes. Lastly, I should like to point out, that in full accordance with the wish expressed by the Executive Board, the activities undertaken under Major Programme X will be implemented within the context of the strengthening of existing co-operation with those organizations and agencies of the United Nations system competent in environmental matters and with the relevant international governmental and non-governmental organizations.

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Hundred and Twenty Sixth Session

126 EX/43, Part II  
PARIS, 20 July 1987  
Original: French

REPORT  
OF THE PROGRAMME AND EXTERNAL RELATIONS COMMISSION

PART II

Item 4.1 - Examination of the Draft Programme and Budget for  
1988-1989 (24 C/5) and recommendations by the  
Executive Board

Extracts

. . .

Major Programme X - The human environment and terrestrial and marine resources

401. Many members of the Commission referred to Major Programme X and reasserted the very high priority accorded to this major programme, which they considered of particular relevance to the development of human society. Most of them stressed the important role played by the international and intergovernmental programmes: the International Geological Correlation Programme (IGCP), the International Hydrological Programme (IHP), the Man and the Biosphere (MAB) programme and the programmes of the Intergovernmental Oceanographic Commission (IOC).

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403 Several speakers considered that the financial resources within Major Programme X were insufficient, and some of them supported various other possible activities mentioned in 24 C/5. Another speaker, while considering that three such other possible activities deserved support and might have been included in 24 C/5 as options, was of the opinion that under given circumstances they should be kept in mind for the future.

404. A number of speakers stressed the importance of interdisciplinarity for the whole of Major Programme X and the need for complementarity between various programmes. One speaker was pleased with the present co-operation between the MAB programme and programmes in oceanography. Another speaker stressed the need for a greater co-operation between the IHP and the MAB programme and for the strengthening of horizontal links between the governing bodies of these programmes. One speaker regretted the absence of specific references to drought problems in the draft 24 C/5.

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426. Many speakers expressed their support for Programme X.4 (The ocean and its resources), and referred to the importance of the ocean research and services activities carried out through the Intergovernmental Oceanographic Commission (IOC). Most of them expressed satisfaction with the concentration and clarification of the programme through structural changes, by which all of the IOC programmes are found in Programme X.4 and marine science activities directly implemented by Unesco in Programme X.5. One speaker was of the view that increased co-ordination was desirable between Programme X.4 and the other programmes of Major Programme X and the marine-science programmes of other United Nations bodies.

427. Some speakers endorsed the proposals for 'other possible activities' on interregional activities contributing to the International Geosphere-Biosphere Programme of ICSU (para. 10509 of the 24 C/5).

428. Two speakers drew the attention of the Board to concerns expressed by the fourteenth session of the IOC Assembly in regard to the adverse impact of reduced funds on programme implementation. They joined other speakers in expressing the view that the resources proposed under this programme were insufficient. Some speakers referred to the conclusions of the thirteenth General Assembly of IOC and to their submission to the General Conference.

429. One speaker suggested a study of the ocean dynamics of the Bay of Bengal, including storm surges of oceanological origin. Another speaker hoped that the UNDP would approve and finance the project to study the El Niño phenomenon, and emphasized the special importance of the project - including its vital 'equipment' component - for Peru.

430. Noting the implementation of global ocean science and services through IOC regional bodies, one speaker suggested that a reduction in the frequency of governing bodies' meetings might be of benefit in regard to resource allocation to programme implementation. He queried the efficiency of the regionalization of some IOC activities. He felt resources should be concentrated on high-priority aims, which should receive sufficient funding. One speaker requested that the IOC co-operate with his country to set up a centre for research and information on marine chemistry and its interdisciplinary aspects.

431. Several speakers expressed their satisfaction with the formulation of Programme X.5 (Training and research in marine sciences and their application to coastal management). Three speakers indicated the importance of this programme to their countries, citing inter alia the keen interest of the industrializing countries in the areas covered and the significant emphasis on training and research within the programme. Two others attested to the relevance of the marine-related programmes of Major Programme X to their countries which have extensive coasts and ocean resources.

432. Another speaker considered that the separation and concentration of the IOC Programmes in Programme X.4 and the complementary Unesco marine science programme in Programme X.5 significantly clarified the activities in Major Programme X and was a welcome step.

433. One speaker announced the decision of his country's Academy of Science to participate in the Interregional Major Project on Training and Research leading to the Integrated Management of Coastal Systems (COMAR). One speaker looked to Unesco for support of the work of her country's National Institute of Geography.

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General Conference  
Twenty-fourth Session, Paris 1987

24 C

24 C/6  
22 July 1987

Item 5.1 of the provisional agenda

RECOMMENDATIONS OF THE EXECUTIVE BOARD  
CONCERNING THE DRAFT PROGRAMME AND BUDGET FOR 1988-1989

Extract

. . .

Major Programme X - The human environment and terrestrial and marine resources

111. Reaffirms the very high priority accorded to Major Programme X, which is linked with Unesco's fourth main task as defined in the second Medium-Term Plan, and to its component programmes including the international and inter-governmental programmes - the International Geological Correlation Programme (IGCP), the International Hydrological Programme (IHP), the Man and the Biosphere (MAB) programme and the programmes of the Intergovernmental Oceanographic Commission (IOC) - which have the support of the international scientific community;
112. Endorses the structural changes within this major programme aiming at the concentration of activities relating to the MAB, IOC and marine sciences programmes, and at a better delineation of responsibilities in programme implementation;
113. Emphasizes the interdisciplinary nature and the long-term scope of all programmes under Major Programme X and underlines the need for continued improvement of intersectoral co-ordination in the planning and implementation of activities;
114. Welcomes the priority given to training within the various programmes and hopes that a greater integration of research, demonstration and training activities will be achieved whenever possible;
115. Stresses the importance of environmental education and considers that activities carried out in this field should turn to the best possible account the research conducted under the Organization's scientific programmes;
116. Recommends that under each programme particular attention be given to the transfer of knowledge and technologies and to the strengthening of national and regional research and training infrastructures in order to cope with the specific development needs of the respective countries and regions;
117. Stresses the need to maintain and develop close co-operation among the various programmes under this major programme so as to ensure appropriate complementarity and increased efficiency and invites the General Conference to recommend to the governing councils or committees of the international and intergovernmental scientific programmes and to Member States that they ensure the necessary liaison at the international and national levels;

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24 C/11  
30 July 1987  
Original:  
English/French

Item 4.2 of the provisional agenda

STATEMENT AND EVALUATION OF MAJOR ACHIEVEMENTS, IMPACTS,  
DIFFICULTIES AND SHORTFALLS IN THE IMPLEMENTATION  
OF THE PROGRAMME IN 1986-1987

Extract

. . .

Programme X.4 - The ocean and its resources

	<u>Approved budget</u> <u>as revised</u> \$	<u>Obligations</u> <u>incurred</u> \$
Subprogramme X.4.1	331,900	306,070
Subprogramme X.4.2	240,000	205,989
Subprogramme X.4.3	315,800	248,567
Subprogramme X.4.4	1,316,100	1,035,581
Subprogramme X.4.5	476,200	407,743

I. Major results

Strengthening of the work programme of the Intergovernmental Oceanographic Commission (IOC)

35. Contribution of the Intergovernmental Oceanographic Commission's ocean science and services programmes and of its intergovernmental co-ordination role to international co-operation and national activities in the following fields:

36. Better understanding of the role of oceans in climatic changes, through reinforced collaboration with the World Meteorological Organization (WMO) in the context of the World Climate Research Programme (WCRP), and under the supervision of the Joint Scientific Committee on Oceanic Research (SCOR)-IOC Committee on Climatic Changes and the Ocean, and the Joint WMO-IOC Tropical Oceans and Global Atmosphere (TOGA) Board; through the design and planning of 2 major experiments on the impact of the oceans on climate; 14 expert consultations, 5 co-ordination meetings and mobilization of required national commitments; holding of 3

intergovernmental meetings; launching of the observational phase of the TOGA study, with joint IOC-WMO focal points established in 22 Member States; planning for the World Ocean Circulation Experiment (WOCE) of which the scientific plan was published in 1986; and participation in TOGA and WOCE of over 300 scientists from about 80 institutions in 35 Member States.

37. Increased scientific knowledge of environmental factors influencing the abundance of marine living resources, especially commercial fish stocks, through the design and implementation of research programmes and pilot experiments, and the establishment of 3 pilot projects in the Caribbean, Eastern Pacific and Iberian shelf regions, carried out through networks of participating institutions and scientists.

38. Increased knowledge of non-living resources, through the design of research programmes on ocean science; and through the organization of 2 expert consultations and 3 regional expert meetings (Caribbean, Western Pacific and Eastern Atlantic).

39. Contribution to the study and monitoring of pollution in the marine environment, through the development of standards and methods; through the organization of 5 regional expert consultations on the assessment of the state of health of the ocean; through an increase in the number of institutions (50) participating in regional networks of the marine pollution monitoring (MARPOLMON) system; through the training of more than 100 scientists from 80 institutions (8 workshops and intercalibration exercises); and through the development and updating, in close co-operation with United Nations organizations concerned and UNEP, of a global strategy for marine pollution research and monitoring, including a new component on biological effects measurements (2 international workshops and 1 intergovernmental meeting).

40. Improvement of ocean services, through: the ongoing implementation of the ICO International Oceanographic Data and Information Exchange System (IODE), and the IOC-WMO Integrated Global Ocean Services System (IGOSS); the increase by 20 per cent in the number of real-time data observations exchanged and the development of a standard glossary and formats for data exchange; the pilot use of a portable data-exchange format using micro-computers in 10 institutions and application to 2 training exercises; the increase in the number (+ 11) of designated national focal points and centres for the international oceanographic data exchange; and through the training of 36 specialists in data and information exchange.

41. Development of operational observation and warning systems, through: the setting up of 20 new ship-of-opportunity lines and 18 tide gauge stations, and the training of 9 specialists to increase the number and coverage of oceanographic observations; the establishment of a WMO-IOC Drifting Buoy Co-operation Panel to promote the use of drifting buoys for oceanographic data gathering; the preparation of the final draft of a Master Plan for the International Tsunami Warning System in the Pacific and training of 4 specialists from developing countries; the preparation of 3 overlay sheets for international bathymetric charts, and the initiation of a regional bathymetric charting project in the Caribbean.

42. More effective co-ordination of efforts of IOC Member States, international organizations and United Nations bodies, through their participation in the IOC Executive Council (Paris, March 1986), and IOC Assembly (Paris, March 1987), the Inter-Secretariat Committee on Scientific Programmes Relating to Oceanography (ICSPRO) meeting (London, January 1986, and Rome, February 1987), and the UNEP Regional Seas Programme (Inter-Agency meeting, Rome, January 1986 and April 1987).

43. Strengthening of co-operation at the international and regional levels, through the holding of 6 intergovernmental meetings and 2 inter-agency consultations.

#### Integrated approach to improve scientific knowledge

44. Better understanding of new concepts and techniques in marine sciences and their dissemination to the international scientific community, through the implementation of 7 studies by co-sponsored groups of the Scientific Committee on Oceanic Research (SCOR); and through the publication of 3 of these studies.

45. Development of standards and methods ensuring the compatibility of research findings, through the organization of the first meeting of the Editorial Panel on Oceanographic Manual of the Unesco co-sponsored Joint Panel on Oceanographic Tables and Standards (JPOTS); through the preparation of tables on seawater of high salinity; and through the advisory services to a Member State on the upgrading of its standard seaward service.

46. Increase and promotion of scientific knowledge, through the support provided to 46 scientists, including 9 women, from countries developing their marine science capabilities, to participate in 8 international meetings.

47. Contribution to the understanding of the relationships and mechanisms governing the state of the marine environment, through the holding of 5 meetings of the IMP/FAO/Unesco/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP) and its associated working groups; through the establishment of a subgroup on effects of nutrient inputs on the marine environment, with Unesco as a lead agency; through the finalization of the international research and management guidelines on land-sea boundary flux of pollutants; and through the compilation of 3 regional components of the Unesco/IOC/UNEP Review of the Health of the Ocean.

48. Dissemination of specialized and general data on marine science research programmes, through the publication by Unesco of an average of 3 issues per year and per language (Chinese, English, French, Russian and Spanish) of the International Marine Science Newsletter, of 2 issues of a special newsletter on Eastern Mediterranean research, of 23 documents on meetings and research results, of public information leaflets and of 4 major volumes on marine ichthyology and oceanographic history; through the collaboration with FAO in the publication and distribution by FAO of 15 issues of the FAO/Unesco monthly Marine Science Contents Tables; through the co-publication with the Commission for the Geological Map of the World of 2 sheets (on marine areas) of the International Geological Map of Africa; through the assistance provided to the publication of the Chinese Supplement to the Third Edition of the International Directory of Marine Scientists, as a contribution to the Aquatic Sciences and Fisheries Information System; through the computerization of an updated directory of marine scientists in Latin America and the Caribbean; and through the preparation of 2 public information exhibits on Unesco's activities in marine science.

#### Development of national and regional capacities

49. As a contribution to the Unesco-IOC Comprehensive Plan for a Major Assistance Programme and under the marine science programme of Unesco, strengthening of national and regional marine science and technology infrastructures and research programmes, through:

The preparation, in Latin America and the Caribbean, of audiovisual material concerning coastal erosion in 6 Member States, the provision of this material and of a film to these Member States, and the initiation in the same Member States of a coastal erosion monitoring programme; support provided to 20 participants in a seminar launching a pilot project on physical and biological processes of the Latin American coastal and estuarine temperate environments (attended by 60 participants from 6 Member States); training of 10 specialists at the 4th course on coastal geology; preparation of a working paper on the paleo-oceanography of the Atlantic Latin American coasts and of a similar paper on the Atlantic African coasts; and award of 11 study and travel grants and of scientific books.

The training, in Asia and the Pacific, under field conditions, of 59 marine specialists (18 with full Unesco support) in 3 advanced training courses and 1 workshop on corals, reef fishes, near-shore processes and mathematical handling of data; organization of a regional workshop on marine science microcomputer data base development (9 participants, 9 observers); provision of advisory services, equipment and literature, and award of 18 individual travel and research grants to 12 Member States; assistance to a Member State in preparing an extra-budgetary project on marine pollution monitoring and training.

The training, in Africa, of 67 specialists in 2 regional training courses and 3 field workshops; award of 13 individual grants; advisory services to 7 Member States aimed at improving their research capacities; provision of scientific equipment and books; publication and distribution of training materials; and organization of a meeting of deans of African universities on the promotion of marine science education.

The establishment, in the Mediterranean, Red Sea and Adjacent Gulfs of the Indian Ocean, of a Programme on the Physical Oceanography of the Eastern Mediterranean (organization of a workshop - 17 participants, preparation of 2 newsletters and of an extra-budgetary project proposal); travel support provided to 29 participants in a meeting on marine science in the Mediterranean; 8 advisory missions for the evaluation (Egypt, Qatar), review (Greece) and preparation (Cyprus, Democratic Yemen, Morocco, Turkey and Yugoslavia) of projects; approval of 2 new extra-budgetary projects; and publication of the Arabic version of a book on the Indian Ocean Expedition.

50. Strengthening of global, regional and national capacities in marine science education and training, through the finalization of a global survey on university marine science teaching and training at the first degree (level), and the organization of a workshop on that subject; through the award of 22 international fellowships and training grants (158 persons/month); and through the initial development of a computer-assisted training programme in satellite oceanography.

51. Strengthening, under the International Oceanographic Commission programmes, of national and regional capacities in marine science, through: the award of 16 fellowships within the IOC Research Fellowship Scheme; the provision of training grants to 150 trainees from 40 Member States; the finalization of a study on using optical disk technology in computer-aided learning of remote sensing in oceanography; the publication of 3 marine science country profiles to be used in national marine development policy; the preparation of 6 proposals for national and subregional extra-budgetary assistance projects; the provision of \$300,000 of equipment and services, under the IOC Voluntary Co-operation Programme; and the initiation, with extra-budgetary support, of a project aimed at elaborating a manual on management of oceanographic research vessels.

## II. Problems encountered and suggestions for improvement

52. The implementation of the IOC programme activities depends on the participation of IOC Member States and their counterpart support. The planning and implementation of these activities are therefore influenced by the available resources, but also by the commitment of Member States. A co-operative research programme developed under IOC auspices generate from Member States resource investment of two or three orders of magnitude greater than the resources which are now provided directly to the Commission. The continuity of the latter is essential to avoid disruption of counterpart planning in Member States and co-operating organizations.

53. In spite of the support provided by IOC Member States in seconding experts, the reductions of staff resulting from the placing in reserve of various professional posts are affecting the role of IOC as a joint specialized co-ordinating mechanism of the United Nations organizations, members of the Inter-Secretariat Committee on Scientific Programmes Relating to Oceanography. They also hamper the implementation of the Commission's programme, mainly the activities of its regional subsidiary bodies, as well as the implementation of the Unesco-IOC Comprehensive Plan for a Major Assistance Programme.

54. Due to the nature of oceanographic investigations and the importance for programme implementation of the resources mobilized by IOC Member States, a rolling planning cycle based on a much longer period than the biennium would be more suitable.

55. IOC has applied an innovative approach to programme assessment and planning, i.e. the organization, prior to a number of major intergovernmental meetings, of scientific seminars aimed at evaluating the ongoing programme and providing guidance for future research activities. These seminars also confirmed the interest of developing countries in becoming more active partners in IOC work and in strengthening their capabilities in marine science. But the resources required in this respect are considerably greater than those which are now available, and efforts should be made to mobilize extra-budgetary resources.

56. Enhanced co-ordination, at the national level, of marine scientific and related activities, and improved channels of liaison are needed, in particular through the establishment of national oceanographic commissions or equivalent high-level bodies.

57. The marine science programme carried out by the Division of Marine Sciences and by the Regional Offices of the Organization, should be optimized by more flexibility in setting dates for the implementation of some activities related to studies that are carried out by volunteer scientists, as their work cannot be strictly controlled by Unesco, and as it takes about 4 to 5 years to complete and publish a study produced by working groups of non-governmental specialized organizations, which meet normally every one or two years. Periodicity in issuing newsletters is hampered for the same reasons and by the fact that a long time is sometimes required to finalize a manuscript by several co-authors residing in different countries.

58. Training courses carried out under field conditions have proved to be very effective and should receive a higher priority in the future. The award of contract grants rather than formal fellowships elicited matching support for travel, fees, field work, etc., from funding sources in the trainee's home or host country. This approach will be followed in the future, as it makes more funds available for the training of a greater number of scientists. This offers a partial solution to the present decrease of funds, which contrasts with the increasing number of qualified candidates proposed by Member States.

59. The African programme should be reoriented in order to focus on training, through the award of individual long-term grants and through the support provided to institutions in the form of advisory services, equipment and literature. Improving communication with African institutions and within Africa should be given special attention. In the Red Sea and Adjacent Gulfs of the Indian Ocean, the execution of small, self-contained activities should be pursued, using the modest regular programme funds available to make up for the decrease in the funding of extra-budgetary projects.

#### Programme X.5 - Management of coastal and island regions

	<u>Approved budget</u> <u>as revised</u> \$	<u>Obligations</u> <u>incurred</u> \$
Subprogramme X.5.1	197,600	145,142
Subprogramme X.5.2	56,800	48,590
Subprogramme X.5.3	86,400	58,614

#### I. Major results

##### Advancement, synthesis and application of knowledge concerning coastal and island systems

60. Better understanding of the functioning of coastal systems and the changing patterns of their resources, through the ongoing implementation, within the Major Interregional project on research and training with a view to the integrated management of coastal systems (COMAR), of the UNDP-funded regional project on the mangrove ecosystems of Asia and the Pacific; through the development of the project on the coastal marine systems of Africa (COMARAF); through the establishment of two regional working groups, following the meeting of the steering committee for the Caribbean Coastal Marine Productivity Programme (CARICOMP); and through the organization of two workshops, largely funded by a contribution from one Member State (Japan), on coral reefs and on brackish water systems and estuaries, which emphasized the man-induced stresses on these environments and the need for management techniques.

61. Review of the COMAR at the fourth meeting of the Unesco/Scientific Committee on Oceanic Research (SCOR)/International Association of Biological Oceanography (IABO) Consultative Panel on coastal systems, and independent evaluation of the major project which endorsed its main orientations.

62. Contribution to the understanding of the functioning of marine ecosystems, through the organization of the first meeting of the IABO/Unesco working group on high diversity marine ecosystems, in conjunction with a major international conference; and through the foundation, at a workshop, of a Pacific Coastal Marine Productivity Programme (PACICOMP).

##### Training of scientific and technical personnel

63. Strengthening of the interdisciplinary training of over 80 scientists, through the organization of 4 workshops and training seminars on coastal management, coastal urbanization problems, coral reef ecosystems and estuarine-brackish water ecosystems, held in 4 Member States.

64. Improvement of the knowledge on coastal zone monitoring and management, through the training of 30 specialists from the Arab States and Africa; through the award of 16 study and travel grants to scientists from Africa, Latin America, and South-East Asia; and through the distribution of a handbook.

65. Increase of knowledge and co-operation with Member States, in the field of management of islands, through the organization of 5 international and regional interdisciplinary training seminars, held in 5 Member States and attended by 134 participants instead of 50 as initially foreseen (due to the extension of co-operation).

#### Integrated management of islands

66. Increase of knowledge on the integrated management of minor island ecosystems, through the launching of a pilot interdisciplinary study on Formentera (Balearic islands, Spain); through the support to the publication of the illustrated guide on traditional use of the medicinal flora of the Aeolian Archipelago (Italy) and to the production of a television film on the research in this archipelago; and through the completion of a feasibility study on the ecological renovation of the ancient moat and historical centre of Rhodes (Greece).

67. Strengthening of the MAB projects on island ecosystems, through the organization of a workshop on sustained development of small islands economies; through the launching with UNDP of a project on Mediterranean islands environmental management; through the preparation of a case study on traditional management of a Mediterranean coastal zone; through the preparation of a project for the integrated management of Kastoria's Lake (Greece) and its coastal zone; through advisory services for the integrated management of the Island of Cozumel (Mexico); and through the award of postgraduate scholarships to 4 young scientists to work at the MAB experimental station on the island of Halki (Greece).

#### II. Problems encountered and suggestions for improvement

68. Besides the useful role played by COMAR in trying to mobilize the potential of the international scientific community in order to respond to the needs of the regions in terms of scientific knowledge and management of the coastal marine systems, efforts will be made to ensure a greater participation of the scientists from developing countries in the non-governmental marine scientific organizations. While concentrating the activities on the particularities of each region, COMAR will, at the same time, foster the exchange of experience between regions when similarities do exist.

69. Contrary to the successful funding by UNDP of the COMAR components for Asia and the Pacific, and for Africa (COMARAF), the regional project for Latin America and the Caribbean (COSALC) has not yet been funded by UNDP, with the consequence that only 4 of the 7 pilot projects of COSALC have been implemented through the regular programme, some counterpart contributions at the national level and through limited extra-budgetary contributions. The extension of COMAR through UNDP-funded projects should be pursued. Notwithstanding the limited budget available, the objectives of most of the activities, although sometimes delayed, were achieved, due to the active participation of Member States which also provided consistent financial support.

70. The training of specialists will focus on the advanced training of personnel in close relation with the research activities. This new approach, as highlighted in the Draft Programme and Budget for 1988-1989, will help to rationalize the programme activities related to training.



General Conference  
Twenty-fourth Session  
Information Document

Генеральная конференция  
Двадцать четвертая сессия  
Информационный документ

inf

Paris 1987

Conférence générale  
Vingt-quatrième session  
Document d'information

Conferencia General  
24.ª reunión  
Documentos de información

大会  
第二十四届会议  
资料性文件

المؤتمر العام  
الدورة الرابعة والعشرون  
وثيقة إعلامية

24 C/INF.13  
22 October 1987  
Original: French

# INTRODUCTION TO THE GENERAL POLICY DEBATE

STATEMENT BY MR AMADOU-MAHTAR M'BOU

DIRECTOR-GENERAL OF UNESCO

Paris, 21 October 1987

## Extracts

. . .

I now come, Mr President, to the intergovernmental scientific programmes which have been established within the framework of Unesco and of whose success you are well aware. The purpose of these programmes is to ensure the progress of knowledge essential for the development and rational use of natural resources while contributing to the solution of urgent problems relating to environmental protection. The activities conducted under these major programmes are being concentrated increasingly on pilot projects of an interdisciplinary nature.

Similarly, there is no doubt that the study of oceans and the use of their resources today constitutes one of the most important areas for international co-operation - a fact borne out by the last Assembly of the Intergovernmental Oceanographic Commission (IOC), which held its fourteenth session in Paris in March 1987. Through its programmes on ocean science, its ocean services and its intergovernmental role of co-ordination, the Commission, with its 115 member countries, contributes to international co-operation and national activities. The marine sciences programme has also helped to strengthen the national and regional components of the research programmes and infrastructures in marine technology and marine sciences through, for example, the training of 166 specialists.

. . .



ADDRESS OF PROF. ULF LIE, CHAIRMAN IOC,  
TO THE 24TH SESSION OF THE GENERAL CONFERENCE OF UNESCO

Commission III, 2 November 1987

Mr. Chairman,  
Mr. Assistant Director-General,  
Distinguished Delegates,  
Ladies and Gentlemen,

It is an honour and a great privilege for me, as Chairman of the Intergovernmental Oceanographic Commission, to have the opportunity to address the 24th General Conference of Unesco.

The IOC was established by Unesco at the 11th Session of the General Conference in 1960, and the total membership was then 40 nations. Stimulated by the emerging new ocean regime, many coastal states have in recent years taken steps to develop national marine science capabilities and to participate in international marine science co-operation. The IOC has a particularly important role to play in these developments through its emphasis on promotion and co-ordination of marine scientific research, development of services in support of the marine affairs of Member States, and through its programme on training, education and mutual assistance. The present membership of 116 states demonstrates that the world community has acknowledged the important role of the IOC.

The report on the activities of the Commission for the 1985-1986 biennium, which is before you in document 24 C/85, demonstrates the wide scope of IOC's programmes. Please allow me to point to some of the major achievements which have been accomplished in spite of the serious shortage of staff and financial resources.

Marine scientific research has always been a central activity in the IOC, and the large scale co-operative investigations of the oceans during the 1960s and 1970s contributed significantly to our knowledge of the oceans and to development of marine science in the world. One of the major scientific programmes of the Commission today is concerned with Ocean Dynamics and Climate. Global climatic changes as a result of man-made changes in our environment may have drastic ecological and socio-economic consequences for the world community within a time-frame of about 50 years. The World Commission on the Environment and Development in its recent report emphasizes the need for urgent and concerted actions by the world community to avoid this danger. The WHO-ICSU World Climate Research Programme will provide governments with a scientific base for actions, and in this programme the role of the oceans is essential. IOC is responsible for co-ordination of the intergovernmental components developed jointly with the Scientific Committee on Ocean Research under ICSU, in the on-going Study of the Tropical Oceans and Global Atmosphere and the planned World Ocean Circulation Experiment.

Our concern with the marine environment is not only related to the role of the oceans in the control of world climate; equally important is the protection of the marine environment from pollution which may affect our

utilization of the resources of the oceans. IOC's Scientific Committee for the Global Investigation of Pollution in the Marine Environment (GIPME) has therefore developed an Action Plan for the study and monitoring of marine pollution and its effects, for global and regional implementation. In the development and implementation of its programmes on marine pollution, the IOC co-operates closely with other international and regional organizations, particularly with UNEP and its Regional Seas Programme.

The scientific programmes of the commission are also strongly concerned with the utilization of marine resources. The programme on Ocean Science in Relation to Living Resources, developed and implemented in co-operation with the FAO, is particularly concerned with the problem of recruitment to commercially exploited living resources. A programme on Ocean Science in Relation to Non-Living Resources is now under development in co-operation with the UN Ocean Economics and Technology Branch. The IOC programmes on living and non-living resources are strongly oriented towards participation of developing countries through regional and sub-regional implementation.

The application of our increasing knowledge about the oceans in management of living and non-living resources and protection of the marine environment requires provision of a set of ocean services to governments and other users of the marine environment and resources. A typical feature of the development of IOC's activities during the recent years has therefore been a strengthening of its role in the development and provision of these services. The joint WHO-IOC Integrated Global Ocean Services System (IGOSS) provides data on sea conditions in real time by transmission through the WHO Global Telecommunications System, and the programme also provides data products for research purposes. A number of new ocean observing systems are under development and implementation. The Global Sea Level Observing System is of particular importance, because global monitoring of the sea-level will give us information about large scale and recurring phenomena such as the El Niño phenomenon, and also indicate if there are significant changes in sea-level related to climatic changes. The rapid development of ocean services represents a new direction in IOC's work and it constitutes the basis for the establishment of a World Ocean Watch.

The provision of services to Member States on the basis of data from ocean observing systems and monitoring programmes requires an efficient system for handling and exchange of data and information. IOC's Technical Committee on International Oceanographic Data and Information Exchange (IODE) is engaged in the development of standardized formats for data exchange and the establishment of a network of IODE National Oceanographic Data Centres. The inclusion of programmes in information in the responsibilities of the Technical Committee on IODE represents a new dimension based on IOC's collaboration with the FAO and the United Nations in the operation of the highly successful Aquatic Sciences and Fisheries Information System (ASFIS). This activity provides global abstracting services of scientific information and maintains computerized information registers.

The majority of coastal States have now declared Exclusive Economic Zones under the new ocean regime, which give coastal States new rights and duties in the areas under national jurisdiction. To draw benefits from the rights and to adhere to the obligations, coastal States must have

sufficient scientific personnel and infrastructure to obtain the necessary scientific advice for governmental action. The IOC Working Committee for Training, Education and Mutual Assistance (TEMA) in close co-operation with the Division of Marine Sciences of Unesco, has therefore developed the Unesco-IOC Comprehensive Plan for a Major Assistance Programme to Enhance the Marine Science Capabilities of Developing Countries. The implementation of the Comprehensive Plan is also of major importance for other IOC activities, because the success of all global and regional programmes depends on a truly global marine science capability.

A typical feature in the evolution of IOC's activities is the increasing emphasis on implementation of global programmes through regional and sub-regional programmes and this ensures that all Member States get closely involved in the activities of the Commission. To facilitate such implementation the Commission has established a Sub-commission for the Caribbean and Adjacent Regions, as well as five regional committees which include the major ocean regions.

The IOC acts as a joint specialized mechanism among the UN Organizations Members of the Inter-secretariat Committee on Scientific Programmes Relating to Oceanography (ICSPRO), and this role of the Commission may have an increasing importance in the coming years. The report of the World Commission on the Environment and Development calls for the establishment of mechanisms of co-ordination among governmental and non-governmental organizations concerned with the environment and development. The establishment of ICSPRO and the co-ordinating role of the IOC have greatly contributed to an improved co-ordination of marine research and related activities, some of them of particular relevance to the study and protection of the human environment.

The statutes of IOC which have guided the work of the Commission were revised by the General Conference of Unesco at its 16th Session in 1970. Since then there has been a major change in the membership of the IOC, and the new ocean regime requires increased emphasis on training and education, as well as new services to Member States. These developments led the IOC to re-examine its Statutes in order to ensure that they reflect a new state of affairs. The question of amendments of the Statutes has been subjected to very thorough studies and deliberations in a number of IOC meetings during the period 1977-1987, and the proposed amendments which are presented in document 24 C/101 were adopted unanimously by the IOC Assembly at its 14th Session in March of this year. I note with satisfaction that the Legal Committee of the General Conference has recommended the approval of these amendments. It is my firm conviction that the amended Statutes will guide IOC towards improved services to its Member States. I therefore respectfully urge you, Distinguished Delegates, to give the proposed amendments to the IOC Statutes your favourable consideration when discussed in Plenary.

The amended Statutes constitute a necessary but not sufficient condition for improved services to Member States. It is equally important that IOC has a sufficient budget and Secretariat staff to be able to provide the required services. The financial difficulties of Unesco during recent years have also severely affected the work programme of the IOC. It is particularly unfortunate that these financial difficulties coincided with the development and implementation of the most urgent IOC programmes directed

towards studies of climatic changes and protection of the marine environment, as well as improved utilization and management of the ocean resources for the benefit of mankind. To alleviate this situation, Member States of the IOC have generously provided contributions to the IOC Trust Fund, support through the IOC Voluntary Co-operation Programme, and have also seconded staff members to the Secretariat, but the unfortunate fact remains that budget and staff limitations now severely threaten the implementation of approved IOC programmes. The 14th Session of the Executive Council of the IOC in 1981 recommended a doubling of the budget and staff during the present Medium Term Plan in order to execute the adopted programmes. The situation today, because of frozen IOC staff posts, is that IOC's staff provided by Unesco is at the same level as in 1980. I therefore plead, Distinguished Delegates, that you give all possible support for the Commission when you consider Programme X.4 in the 24 C/5, in order to further strengthen the financial and staff resources of the IOC. This is required for the IOC to perform the tasks that are expected from it, and thus to create favourable conditions for its strengthening during the next Medium Term Plan. In this connection I wish to bring to your attention the need, as recognized by the Commission, to develop a more integrated approach to the ocean activities of Unesco under programmes X.4, X.5 and X.6, to be considered as a Major Programme in the next Medium Term Plan.

Lastly, on behalf of the Intergovernmental Oceanographic Commission, I want to express my gratitude for the generous support that Unesco has given to the IOC during its 27-year history, and allow me also, Distinguished Delegates, to take advantage of this opportunity to express my appreciation of the genuine interest shown by the Director-General and the Assistant Director General for Science in the activities of the Commission.



General Conference  
Twenty-fourth Session  
Draft resolution

Генеральная конференция  
Двадцать четвертая сессия  
Проект резолюции

dr

Paris 1987

Conférence générale  
Vingt-quatrième session  
Projet de résolution

Conferencia General  
24.ª reunión  
Proyecto de resolución

大会  
第二十四届会议  
决议草案

المؤتمر العام  
الدورة الرابعة والعشرون  
مشروعات لقرارات

24 C/DR.59\*  
(COM.III)  
31 August 1987  
Original: English

Item 5 of the provisional agenda

AMENDMENT

submitted by JAPAN and THAILAND

Amendment to the Draft Programme and Budget for 1988-1989 (24 C/5)

Part II - Programme Operations and Services

- |                    |   |
|--------------------|---|
| Major Programme X  | - The human environment and terrestrial and marine resources  |
| Programme X.4      | - The ocean and its resources   |
| Subprogramme X.4.4 | - Strengthening of international oceanographic co-operation and formulation of intergovernmental policies |

Paragraph reference

24 C/5 - 10424, 2.2

The General Conference,

Recalling the decision of the IOC Assembly, at its twelfth session, to create a new category of IOC Subsidiary Body known as a Subcommission,

Having noted that the IOC Regional Committee for the Western Pacific (WESTPAC), at its fourth session, held in Bangkok, Thailand, 22-26 June 1987, has strongly recommended to the IOC Assembly that it create such a IOC Subcommission for the Western Pacific and to make arrangements so that the Subcommission can hold its first session in China in late 1989,

\* This proposal (ex-BB/DR.108) was received by the Secretariat on 4 August 1987.

Noting further that the said IOC Regional Committee for the Western Pacific (WESTPAC) has taken decisive steps to launch with immediate effect selected projects in ocean science for implementation on co-operative bases by the Member States of the region,

Recognizing in this context the urgent need to provide support to developing countries in the region, especially under Training, Education and Mutual Assistance in marine science (TEMA), in order that they are able to initiate implementation of those projects,

Having been informed that the IOC programme and budget, as reflected in the draft 24 C/5, does not provide for a meeting of the IOC Regional Committee for the Western Pacific (WESTPAC), in 1989,

Invites the Director-General:

- (1) to allocate an additional sum of \$100,000 to Action 2.2 of paragraph 10424 of draft 24 C/5 from the reserve for draft resolutions submitted by Member States, with a view to providing support for implementation of the projects, endorsed by the IOC Regional Committee for the Western Pacific (WESTPAC) during its intersessional period, 1987-1989;
- (2) to facilitate arrangements for creation of the IOC Subcommission for the Western Pacific, subject to approval of the IOC Assembly in its next session; and
- (3) to support the organization of the fifth session of the IOC Regional Committee and/or the first session of the new IOC Subcommission for the Western Pacific in 1989; and

Amends Action 2.2 of paragraph 10424 of the draft 24 C/5, as follows:

2.2 IOC Regional Committee for the Western Pacific (WESTPAC)

Organization under contract in 1989 in China, of the fifth session of the IOC Regional Committee and/or the first session of the IOC Subcommission for the Western Pacific (to be established by the IOC Assembly in its fifteenth session); under the guidance of the IOC Regional Committee for the Western Pacific (WESTPAC), promotion of regional implementation of the Commission programmes through support of workshops and seminars, expert consultations, technical advice and short-term study and travel grants (supplemented by extra-budgetary funds) (cf. 23 C/5 Approved, paras. 10443 and 10436) \$145,000.

Note by the Director-General

1. The purpose of this draft resolution is to improve the implementation of the activities agreed on by the IOC Regional Committee for the Western Pacific (WESTPAC). At its fourth session (June 1987), it approved a work programme comprising four priority research projects and five others to be implemented subject to the availability of funds. It also recommended that the IOC Assembly upgrade it to the status of Subcommission. The conclusions of the Regional Committee demonstrate Member States' interest in its programmes and in speeding up their implementation. They need support for this. No provision was made in document 24 C/5 to hold the fifth session of the Regional Committee in 1988-1989

because of budgetary constraints, but the authors of the draft resolution feel that unless either this session or that of the Subcommission is held in 1989 instead of 1990 momentum may be lost. Additional resources would be necessary if a new IOC Secretariat were created for such a Subcommission, also recommended by the Committee, and for the implementation of the different marine scientific research programmes and projects which were adopted at the fourth session of the Regional Committee.

2. Although activities have been provided for in paragraph 10424 of draft document 24 C/5, under the auspices of this Regional Committee, the additional resources requested in this draft resolution would provide added support which is greatly desired by the Member States of the Committee and would facilitate their participation in the programmes envisaged.

3. Should the General Conference decide to approve this draft resolution, it should also decide on how to finance it, either by abolishing or reducing other activities, or by using the reserve for draft resolutions, or else by voting additional resources.



General Conference  
Twenty-fourth Session  
Draft resolution

Генеральная конференция  
Двадцать четвертая сессия  
Проект резолюции

dr

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المؤتمر العام  
الدورة الرابعة والعشرون  
مشروعات لقرارات

24 C/DR.64\*  
(COM.III)  
31 August 1987  
Original: Spanish

Item 5 of the provisional agenda

AMENDMENT

submitted by MEXICO

Amendment to the Draft Programme and Budget for 1988-1989 (24 C/5)

Part II - Programme Operations and Services

- |                    |   |
|--------------------|---|
| Major Programme X  | - The human environment and terrestrial and marine resources  |
| Programme X.4      | - The ocean and its resources   |
| Subprogramme X.4.4 | - Strengthening of international oceanographic co-operation and formulation of intergovernmental policies |

Paragraph reference

24 C/5 - 10424, (2.1)

The General Conference,

Recalling resolution 10.1 adopted by the General Conference of Unesco at its twenty-third session, which, with reference to Programme X.4 'The ocean and its resources', invited the Director-General:

'to strengthen the work programme and the potential for action of the Intergovernmental Oceanographic Commission and its regional subsidiary bodies in respect of ocean science and services and training, education and mutual assistance so as to meet the growing needs of Member States and the international community in these areas;'

\* This proposal (ex-BB/DR.140) was received by the Secretariat on 4 August 1987.



Having noted that the activities proposed by the second session of the IOC Subcommission for the Caribbean and Adjacent Regions (IOCARIBE) require, for their effective implementation in 1988-1989 an increase in the funds proposed in paragraph 10424, action 2.1, of the Draft Programme and Budget for 1988-1989 (24 C/5),

Draws attention to the need to accord high priority to the following IOCARIBE activities for which additional resources are required:

- (a) establishment of a regional marine science information network to facilitate the exchange of knowledge and strengthen communication between the participating institutions in the regions served by IOCARIBE;
- (b) support for the IOC Secretariat for IOCARIBE, the headquarters of which is in Cartagena, Colombia, by establishing a high-level General Service post to assist in the administration and management of the programme;
- (c) increase in funds to assist the implementation by Member States and their scientific communities of regional components of IOC global ocean science projects and programmes covering services of particular importance for the region,

Requests that an additional sum of \$60,000<sup>1</sup> be allocated to the provisions under paragraph 10424, action 2.1, of the Draft Programme and Budget for 1988-1989 (24 C/5), in order to facilitate implementation of the above-mentioned activities, and that the text quoted above should be reworded accordingly.

Note by the Director-General

1. This draft resolution seeks to improve the implementation of the activities decided upon by the IOC Subcommission for the Caribbean and Adjacent Regions (IOCARIBE) at its second session (December 1986). The activities planned are both important and costly for the Member States concerned, particularly those relating to the establishment of a regional marine science information exchange network (undertaken within the framework of ASFIS-Aquatic Sciences and Fisheries Information System)<sup>2</sup> and support for the new IOC Secretariat for the Subcommission, not to mention the implementation of the various marine science research programmes and projects.

2. Although some activities undertaken under the auspices of the Subcommission have been provided for in paragraph 10424 of the draft 24 C/5 document, the implementation of the regional programmes as a whole would be considerably enhanced if this draft resolution were approved.

3. Should the General Conference decide to approve this draft resolution, it should also decide on how to finance it, either by abolishing or reducing other activities, or by using the reserve for draft resolutions, or else by voting additional resources.

- 1. This sum should be taken from the \$1,000,000 reserve for draft resolutions.
- 2. and the project contained in paragraph 07109 (1.2) of the draft 24 C/5 document.

Rapport du Directeur général sur la célébration du  
quarantième anniversaire de la fondation de l'Unesco (1)

La Conférence générale,

Rappelant la résolution 23, relative à la célébration du quarantième anniversaire de la fondation de l'Unesco, adoptée à sa vingt-troisième session,

Prenant acte du Rapport du Directeur général sur ce point (doc. 24 C/18),

Notant avec satisfaction que cet anniversaire aura été l'occasion de rendre un hommage mérité aux réalisations impressionnantes de l'Unesco au service de la paix, de la coopération internationale et du progrès de tous les Etats et de tous les peuples dans les domaines de l'éducation, de la science, de la culture et de la communication et, en même temps, de rechercher les moyens d'exploiter dans l'avenir encore plus complètement et plus efficacement à ces fins les possibilités inhérentes à l'Organisation,

Soulignant la conviction de la communauté internationale, qui s'est manifestée à l'occasion des activités organisées pour célébrer cet anniversaire, que l'Organisation saura être encore mieux à même de se montrer à la hauteur du rôle irremplaçable et de la responsabilité qui lui incombent en ce qui concerne le développement de la coopération intellectuelle, l'échange international de données d'expérience et l'effort intellectuel de fond dans les domaines de l'éducation, de la science, de la culture et de la communication,

Adressant ses remerciements aux Etats membres ainsi qu'aux organisations internationales non gouvernementales pour les activités qu'ils ont organisées dans le cadre de la célébration du quarantième anniversaire de la fondation de l'Unesco,

1. Invite les Etats membres :

- (a) à travailler à l'instauration d'un dialogue permanent, constructif et axé sur les résultats entre tous les Etats membres et les commissions nationales comme entre les divers groupes d'Etats et de régions, afin que l'Organisation, consciente des intérêts de toute l'humanité et forte d'un large consensus, soit, dans l'avenir aussi, en mesure de s'acquitter efficacement des fonctions qui lui sont assignées par son Acte constitutif ;

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(1) Résolution adoptée sur le rapport de la Commission I  
à la 29e séance plénière, le 13 novembre 1987

- (b) à donner l'exemple, pour modeler les relations internationales dans l'avenir, en lançant des actions en commun de tous les groupes d'Etats et régions en vue de résoudre les problèmes planétaires conformément aux objectifs de l'Organisation ;
  - (c) à contribuer activement à la réalisation des programmes et plans de l'Organisation adoptés de concert et à encourager leurs scientifiques et chercheurs, leurs experts et leurs institutions les plus compétents à s'associer à cet effort ;
  - (d) à centrer de plus en plus les activités de programme de l'Organisation sur l'effort intellectuel de fond à fournir pour jeter les bases d'une solution aux problèmes auxquels l'humanité doit faire face d'urgence dans les domaines de l'éducation, la science, la culture et la communication ;
  - (e) à s'attacher tout particulièrement à assurer un rythme de travail régulier et un fonctionnement rationnel à l'Organisation ;
  - (f) à favoriser efficacement la diffusion d'une information objective et complète sur l'Organisation et ses activités ;
2. Appelle les éducateurs, scientifiques et chercheurs, personnels culturels, journalistes et intellectuels, ainsi que leurs associations et organisations nationales et internationales, à prêter un appui actif aux objectifs, principes et activités de l'Unesco comme à la coopération intellectuelle en général, et à apporter à cette fin leur contribution propre à la coopération internationale et au dialogue entre tous les Etats et tous les peuples dans cet esprit ;
3. Invite le Directeur général :
- (a) à proposer des mesures propres à aligner de plus en plus les travaux de l'Unesco sur les plus hauts niveaux internationaux de connaissance et à les concentrer sur l'effort intellectuel de fond dans les domaines de l'éducation, de la science, de la culture et de la communication, ainsi qu'à offrir aux scientifiques, chercheurs et experts les plus compétents la possibilité de prendre part à des échanges internationaux d'information et de données d'expérience et de travailler en coopération ;
  - (b) à consacrer davantage de place dans les périodiques de l'Organisation aux résultats obtenus dans la réalisation des projets du programme et aux méthodes de pointe utilisées par l'Unesco dans ses travaux, en vue d'offrir des suggestions utiles aux Etats membres ;
  - (c) à mettre de plus en plus à profit, pour la réalisation des projets entrant dans les divers programmes, les possibilités que peuvent offrir les Etats membres et à assurer ce faisant une représentation équilibrée des divers groupes d'Etats ainsi que des diverses régions et cultures ;

- (d) à poursuivre avec constance les efforts visant à améliorer le fonctionnement de l'Organisation, en faisant un usage plus efficace des moyens dont celle-ci dispose et en offrant au public une information plus rapide et plus complète sur l'action concrète qu'elle mène ;
- (e) à lui soumettre en temps voulu des propositions concernant la célébration du cinquantième anniversaire de la signature et de l'entrée en vigueur de l'Acte constitutif de l'Unesco ;
- (f) à lui faire rapport, à sa vingt-cinquième session, sur la mise en oeuvre de la présente résolution.



24 C/116  
Part I  
16 November 1987  
Original: French/English

REPORT OF COMMISSION III

PART I

(Narrative)

## Extracts

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### EXAMINATION OF ITEM 5.5 DISCUSSION UNIT 15: MAJOR PROGRAMME X - THE HUMAN ENVIRONMENT AND TERRESTRIAL AND MARINE RESOURCES

10. Commission III devoted its second, third, fourth, fifth, sixth, seventh and eighth meetings to consideration of Unit 15, which covered:

- Programme X.1 The earth's crust and its mineral and energy resources
- Programme X.2 Natural hazards
- Programme X.3 Water resources
- Programme X.4 The ocean and its resources
- Programme X.5 Training and research in marine sciences and their application to coastal management
- Programme X.6 The scientific bases for land-use planning and conservation of the resources of the biosphere - the Man and the Biosphere (MAB) programme
- Programme X.7 Urban systems and urbanization
- Programme X.8 The natural heritage
- Programme X.9 Environmental education and information

#### Introduction by the representatives of the Director-General

12. In his 'Introduction, the Assistant Director-General for Science recalled that the general policy debate in the plenary had shown the importance which Member States attach to Unesco programmes in science and technology.

13. Major Programme X relates to a domain in which natural processes and human activities are intimately interwoven. Interdisciplinarity is a key feature of Major Programme X.

14. The concept of 'sustainable development', highlighted by the Report of the World Commission on Environment and Development runs through Major Programme X.

15. ICSU has launched the International Geosphere-Biosphere Programmes (IGBP) as a study of global change, and Unesco has pledged its full support for the IGBP.

16. The Executive Board, at its 125th session, approved a regrouping within Major Programme X, aimed at greater concentration and better definition of responsibilities for their implementation.

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23. The activities of the Intergovernmental Oceanographic Commission (IOC) are now concentrated within Programme X.4. IOC implements ocean science programmes for the understanding and management of the marine environment and its resources. Work on marine pollution research and monitoring, climate changes and the ocean and the ocean in relation to living and non-living resources is improving the knowledge of natural systems in, and around, the world ocean. These programmes are complemented by ocean services for the gathering, archiving, analysis and dissemination of oceanographic data and information. IOC programmes are progressively being implemented regionally by six regional subsidiary bodies.

24. Programme X.5 aims at helping developing countries strengthen their marine science manpower, infrastructure and research programmes to meet their development, management and scientific needs. It enlists the support of the international scientific community to analyse the state of the art and to provide relevant scientific recommendations and standards, especially in support of research in the developing world.

25. The promotion of dialogue between the marine scientist and the coastal environmental and resource manager is a major objective of Programme X.5.

26. The Major Interregional Project on research and training leading to the integrated management of coastal systems (COMAR) concentrates in each region regular programme activities on specific coastal problems so as to catalyse larger extra-budgetary, bilateral or counterpart projects.

27. Programme X.5 includes examination of the problems facing university training. It continues to develop training modules based on new technology and methods.

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47. In introducing the report (document 24 C/5) to the General Conference of the Intergovernmental Oceanographic Commission (document 24 C/85), its Chairman, Mr Ulf Lie, reminded delegates of the growth in membership and content of its programme since IOC's establishment by Unesco in 1960. Based on the concerted action of its 117 Member States, the Commission undertook major scientific studies on the role of the ocean in climate, living and non-living resources, marine pollution research and monitoring, and also developed and managed a wide range of ocean service activities. All of these were complemented by measures to facilitate the participation of Member States in the work of the Commission through appropriate training, education and mutual assistance components.

48. In recent years, the declaration of Exclusive Zones by a majority of coastal States had resulted in new rights and responsibilities for them in the expanded areas under national jurisdiction. He emphasized that this evolution in ocean affairs had generated a greatly increased need for provision of information, advice and technical assistance so that developing countries could fully benefit from the opportunities now being offered.

49. The Commission had taken steps to respond to some of these requirements by gradually increasing implementation of its global scientific programmes and ocean service activities through IOC regional subsidiary bodies. This was seen as a means of responding to national and regional concerns within a global context. He noted, however, that, although the Commission had foreseen a need to double its budget and staff during the present Medium-Term Plan, the situation today - because of posts being placed in reserve - was that IOC staff provided by Unesco was at the same level as in 1980. He made a plea to delegates to give all possible support, in considering Programme X.4, to strengthen the financial and staff resources of the Commission.

50. The proposed amendments to the IOC Statutes which were before the General Conference, unanimously agreed to by the Commission after 10 years of careful study, in his view had created a more favourable framework within which the IOC could move forward in its endeavours. But, it was equally important that the Commission had the resources required to effectively put into action its planned programmes and thus respond more fully to the needs of Member States.

51. As a matter of priority, he conveyed to delegates the need, as recommended by the IOC for quite some time, to develop a more integrated approach to ocean affairs within Unesco by placing all marine programmes (X.4 and X.5) and marine-related activities (X.6.5) within a single major programme. He strongly endorsed this approach and hoped that it would be considered favourably in formulation of the third Unesco Medium-Term Plan.

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### Debate on Major Programme X

55. Seventy-three delegates, the representative of the United Nations Environment Programme (UNEP), the representative of the World Meteorological Organization (WMO) and the representative of the International Council of Scientific Unions (ICSU) took part in the ensuing debate.

56. The speakers were unanimous in considering Major Programme X as one of the best programmes of the Organization, a programme which reflected problems of vital significance for socio-economic development and human life and has global implications, a programme based on proved structures and illustrating well the interdisciplinary nature of Unesco's action. In this respect, one delegate felt that Major Programme X provided practical answers to the global problems formulated under Major Programme X.

57. While all speakers attached the highest priority to Major Programme X as a whole, some delegates felt that the overall resources allocated to this major programme were clearly insufficient in view of the importance and wide scope of the planned activities.

58. Many delegates expressed satisfaction with the present structure of Major Programme X and with the increased effort for concentration of the various component programmes. However, several delegates felt that the concentration achieved was still incomplete and that problems remain as regards the structure and contents of some programmes.

59. Most speakers emphasized the paramount role of the four international and intergovernmental programmes which constituted the core of Major Programme X, namely the IGCP, the IHP, the MAB programme and the programmes of IOC. Some of them considered that the mechanisms set up within the framework of these programmes constituted an excellent pattern of international co-operation. Many delegates appreciated the work performed by their respective governing bodies and commended their Chairmen for the statements made before the Commission. A number of delegates expressed the wish of their countries to participate more actively in these programmes and informed the Commission of measures taken to strengthen the relevant National Committees. Several delegates expressed satisfaction with the way in which the universality of the main scientific programmes of Unesco was preserved. In this respect, one delegate requested more detailed information on financial contributions from non-Member States which continue to participate in these programmes.

60. Several speakers referred to the follow-up of the report of the World Commission on Environment and Development and its impact on Unesco's programmes. They considered that in view of its mandate and past experience, Unesco had a vital role to play in transforming the recommendations of the report into a plan of action for sustainable development and urged the most careful consideration of the World Commission's findings in the planning of the third Medium-Term Plan. One delegate pointed out that the concept of sustainable development had far-reaching implications not only for Major Programme X but also for other programmes of the Organization.

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65. The representative of WMO referred to the close collaboration with Unesco in the field of hydrology and oceanography. He stated that the ongoing co-operation between Unesco and WMO in the field of water resources was often quoted as an example of efficiency in interagency co-ordination. He also appreciated the co-operation in ocean sciences and mentioned the continued secondment by WMO of a staff member to the IOC Secretariat.



66. The representative of ICSU referred to the excellent traditional co-operation with Unesco in the fields covered by Major Programme X. He referred more specifically to the newly launched International Geosphere-Biosphere Programme (IGBP) of ICSU, which was a study of global change designed 'to describe and understand the interactive physical, chemical and biological processes that regulate the total earth system, the unique environment that it provides for life, the changes that are occurring in this system and the manner in which they are influenced by human actions'. He quoted several areas where close co-operation between IGBP and Unesco programmes could be developed, including contributions from IGCP on the study of geological processes, from MAB to biosphere observatories, from IHP on the role of hydrological cycle in environmental processes, from IOC on the role of the ocean in global processes and establishment of observing systems, and from COMAR on coastal marine systems, including interactions between the sea and the land.

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68. Most speakers referred to the paramount importance of training within the framework of all scientific programmes composing Major Programme X. Some of them considered that the provisions for training activities within some parts of the programme were insufficient and requested that they be strengthened.

69. Many delegates insisted on the complementarity of the various programmes and requested better co-ordination in their planning and implementation.

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#### Programme X.4 - The ocean and its resources

123. Most speakers expressed their strong support for Programme X.4, and in doing so made particular reference to the role of the Intergovernmental Oceanographic Commission (IOC) as an intergovernmental body with growing responsibilities for the development and co-ordination of marine scientific programmes amongst its Member States and within the United Nations system as a whole.

124. In referring to the proposed amendments to the IOC Statutes which had been unanimously adopted by the Commission at the Fourteenth Session of its Assembly, certain speakers emphasized the impact that such amendments would have on the functions of the IOC and the need to ensure that adequate resources were provided to enable it to carry out an expanded mandate under the new ocean regime. Regarding the proposed amendments which were before the General Conference, two speakers voiced concern in regard to the need for greater stability in the financial resources provided to the Commission, especially by those of its Member States that were not Member States of Unesco. Welcoming the avenue that had been opened by the adjustments to Article 10 of the IOC Statutes, one speaker nevertheless felt that the governing bodies of IOC, as well as those of other intergovernmental programmes with a similar situation, should make a forthright appeal to the Member States concerned so that stable arrangements could be made to ensure appropriate financial participation.

125. Several delegates, in referring to the United Nations Convention on the Law of the Sea, stressed the necessity of ensuring that Unesco and its IOC were given the required means so that they could fulfil their responsibilities to the Member States under the new ocean regime in a number of vital areas. These include facilitating exchange of marine scientific data and information; and provision of advice and assistance to developing countries in building up the required national capabilities and specialized manpower. A number of speakers felt that, despite the budgetary constraints, a special effort should be made by Unesco to increase the resources of the Commission, with priority on alleviating the critical staffing situation of the IOC Secretariat, within the overall budget ceiling of the Organization.

126. A large number of delegates supported the planned activities of the IOC, drawing attention to the global ocean science programmes and ocean service activities and their progressive implementation at the regional level. Recognizing the need to increase in a steady manner such regional components, especially in the Caribbean and Western Pacific where IOC Subcommissions had been or were likely to be established in the near future, several speakers called for support to accelerate the work of the two IOC regional subsidiary bodies concerned.

127. Referring to the report of the Intergovernmental Oceanographic Commission on its activities which had been submitted to the General Conference, several delegations expressed their satisfaction with the progress achieved during the period covered by the report.

128. Voicing their concern over the possible dispersion of marine-related activities within several programmes, a few speakers expressed the view that a more integrated approach to ocean affairs was desirable and that all marine science components of Programme X, including those of an environmental and technological nature which are now found in X.4, X.5 and X.6.5, should be regrouped as a single major programme within the third Medium-Term Plan. A few speakers noted with satisfaction the recent decision that the IOC and the Division of Marine Sciences should jointly service the IOC Committee on Training, Education and Mutual Assistance (TEMA) and felt that this would strengthen co-operation and accelerate implementation of the Unesco-IOC Comprehensive Plan for a major assistance programme and the mobilization of extra-budgetary resources.

129. The major global scientific programmes of the IOC, set forth in Subprogramme X.4.1 (Promotion of scientific investigation of the ocean and its resources) received the support of a large number of speakers. Several delegates referred to the importance of studies being undertaken by the IOC and SCOR, in co-operation with ICSU and WMO, on ocean dynamics and climate, and their relevance to problems of both a scientific and socio-economic nature throughout the world. One speaker was of the view that the resources of IOC were being spread too thin for too many projects, no matter how laudable each was, and felt that funding assigned to regional subsidiary bodies that were not yet very active could better be used for global scientific programmes.

130. A number of speakers noted that IOC programmes on Ocean Science in Relation to Living Resources and Ocean Science in Relation to Non-Living Resources were very useful for the efforts of their countries to understand and exploit such resources in a rational manner. Numerous delegates supported the work undertaken by IOC in connection with marine pollution research and monitoring and noted the importance of regional monitoring as a source of the scientific data required for the protection of the marine environment and the management of living resources found therein, as well as to the protection of coastal areas where human activity was particularly affected. The further development of IOC ocean mapping activities, especially regional bathymetric charts, was endorsed by certain speakers who expressed their desire to contribute to these projects at their respective regional levels.

131. The Ocean Service activities of the IOC, included within Subprogramme X.4.2 (Ocean services, provision of oceanographic data, information and warnings) were referred to by many speakers as being an essential contribution to the transfer of knowledge and emphasized the use of such services for marine and climate research and for a number of practical marine activities.

132. Several delegates made specific reference to the Integrated Global Ocean Services System (IGOSS) and the International Oceanographic Data and Information Exchange (IODE) system, pointing out that participation in these systems had been of great benefit to their countries. Three speakers, in supporting the development of ocean services as a whole, expressed interest in receiving assistance so that they could establish national oceanographic data centres.

133. The International Tsunami Warning System in the Pacific (ITSU) was supported by several speakers as being important not only to regional concerns, but also as an example of effective co-operation in the mitigation of natural hazards. A few speakers felt that there should be closer co-operation between Programme X.2 and the ITSU system.

134. 'Strengthening of national and regional capacities for marine research, ocean services and training' as found in Subprogramme X.4, received large support in view of its value to developing countries. Many delegates, in expressing their appreciation of the results achieved so far, stressed the need to allocate further resources to this subprogramme, particularly for training and education, in view of the urgent needs of their countries for which the forecast resources were far from being sufficient.

135. Concerning Subprogramme X.4.4, a number of delegates emphasized the results being obtained through moving progressively towards increased implementation of IOC global scientific and services activities through the regional subsidiary bodies of the Commission. Establishment of IOC regional Subcommissions was pointed out by some speakers as an example of regional mechanisms through which their countries were effectively participating in the work of IOC, both in the formulation and implementation stages of the programmes. This was also seen as a means of contributing to the global scientific programmes and monitoring systems. Many speakers, in referring to specific IOC regional subsidiary bodies, such as those in the Caribbean, Western Pacific, Central Eastern Atlantic and Central Indian Ocean, endorsed the further development of these bodies and expressed the interest of their countries in participating more effectively in their work. Many speakers supported the proposals to increase the funding of these regional activities, in view of their direct interest to participating countries and their most positive impact on regional co-operation and interaction at the global level.

136. Numerous speakers referred to the catalytic role of the IOC whereby counterpart activities of Member States were mobilized for projects of common interests and the concerted work of the Commission as a whole. Some speakers noted specific examples by which their countries had contributed to the IOC Trust Fund and referred to the secondment of staff to the Commission as an indicator of the support which IOC Member States had made to alleviate reduction in staff.

137. Some delegates indicated specific activities that their countries wish to support, offering assistance in the form of financial contributions, the hosting of meetings and training courses, and the funding of marine science fellowships. They requested that these should be borne in mind when the annual programmes for 1988 and 1989 were implemented by the Commission.

138. Other speakers noted that some IOC programmes were, in fact, implemented jointly with other United Nations bodies and scientific non-governmental organizations, such as ICSU, and expressed the view that such programmes would be valuable contributions to global change studies and responsive to the concern for sustainable development.

Programme X.5 - Training and research in marine sciences and their application to coastal management

139. This programme, as the other programmes, shared in the unanimous general support that the speakers gave to Major Programme X. Over half of the speakers specifically referred to Programme X.5

140. Many speakers expressed their strong support for the programme and its Major Interregional Project COMAR, based on their past and ongoing experience of co-operation with Unesco therein. Among these speakers, six delegates as well as the representative of ICSU expressed their specific interest and support for COMAR activities. Six more delegates indicated their interest in becoming more active in the programme.

141. Six other speakers supported the programme, but proposed much greater co-ordination - even fusion of programmes and secretariat structures - of Programme X.5 with Programme X.4 (IOC) on the one hand, or with Programme X.6 (MAP) on the other. Three delegates instead considered that the three programmes and secretariat structures had legitimately separate functions, though requiring mutual co-ordination, and that Programme X.5 well reflected this aspect.

142. Numerous delegates referred to problems and activities specific to their region.

143. Several speakers from Africa stressed the particular importance of Programme X.5 for their countries and described national activities and institutions which were relevant to this programme. The delegates of three countries described efforts to establish national marine research institutions in their respective countries. The delegates of two countries from West Africa referred to research on coastal systems and, particularly, coastal erosion as one of the most important problems which had received, and required additional, support from this programme. Other delegates indicated the necessity of obtaining extra-budgetary resources to meet national needs for marine and coastal research and training. The delegate of one country requested that the report of a Unesco consultant mission, carried out in 1986, should be followed up with efforts to obtain extra-budgetary funds to support their marine research centre. The delegate of one country acknowledged co-operation with a Member State of a different region in establishing their marine research institute. One delegate from a different region referred to its past co-operation in marine geology training in West Africa and offered further support for a physical oceanography training course.

144. Several delegates from the Mediterranean region spoke about the specific nature of the Mediterranean as a semi-enclosed basin subject to over-exploitation and pollution, and expressed interest in bilateral and multilateral co-operation. The research programme of POEM (Physical Oceanography of the Eastern Mediterranean) was given as an example of such co-operation. The delegate of one country warned against the effect of accumulation of pollutants in the Mediterranean, and referred to the importance given by his country to the problems of coastal erosion.

145. The representatives of several Member States of the Arab region referred to their long coastline, their national marine research institutions and programmes, and the importance of training and upgrading of their national capabilities. One delegate spoke of the efforts of his country to develop postgraduate university training.

146. Four delegations supported the 'other possible activity' in paragraph 10509 referring to improvement of ocean and coastal management by increasing, in Pacific Island States, the means of acquiring knowledge and technology relating to marine science as a high priority new initiative.

147. Two delegates referred to the importance of the use of microcomputers in coastal zone management and one of them pointed out the importance of traditional knowledge for a balanced development, and expressed interest in developing a regional programme in this area.

148. One delegate asked for sponsorship of the Organization for an international symposium on the coastal zone, and support under the participation programme for another international symposium on marine geology in Asia.

149. One delegate referred to the availability of his country's expertise in coastal research for the Organization's activities in this area.

150. Two delegates queried the sum of \$64,000 shown in paragraph 10515 of Programme X.5 next to a reference to 'An integrated study of the silk routes', suggesting that the funds would be better used for marine science activities.

151. The delegate of Italy made a specific reference to the participation of Unesco, through COMAR in co-operation with MAB, in the work of the Italian Committee of Experts for the implementation of a multidisciplinary research programme on the Lagoon of Venice. The programme under study concerned the unique environment constituted by the lagoon, in connection with the engineering works in progress at its entrance, the objective being to protect Venice from high tides. Furthermore, he indicated that his country would like Unesco to facilitate the participation of the international scientific community in this venture.

152. One delegate indicated that the establishment of her country's National Committee for COMAR had led to the creation of the National Commission of Oceanography and to the preparation of a national plan for further promoting research and training in marine sciences in the country. International co-operation was sought in the implementation of the latter plan.

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Reply by the representatives of the Director-General

199. Speakers had underlined the importance of IGCP, IHP, MAB and the programmes of IOC, and the excellent pattern of international co-operation they provided.

200. The importance of co-operation with other international organizations, under Major Programme X was emphasized. In this respect, he thanked the representatives of UNEP, WMO and ICSU for their statements in which they had expressed satisfaction with the collaboration between their organizations and Unesco.

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217. Commendation was expressed by several speakers for the improved co-operation between IOC and the Division of Marine Sciences.

218. Some speakers supported the integration of marine science programme into a major programme on the oceans.

219. Greater co-ordination between Programmes X.4, X.5 and X.6 was proposed. Programme X.5 constituted a bridge between the ocean programmes of IOC and the terrestrial programmes of MAB. The activity described in paragraph 10515 on the Silk Routes involved inputs to an interdisciplinary study funded from extra-budgetary sources. The sums mentioned in this paragraph were allocated to the marine science publications programme.

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(d) Draft resolutions with financial implications

Draft resolutions that do not concern the work plan:

	\$
DR.12	(with DR.4 and DR.10)
DR.15	10,000
DR.19	(with DR.4 and DR.12)
DR.21 and DR.22	5,000
DR.23	5,000
DR.36	5,000
DR.57	5,000
DR.59	15,000
DR.60	5,000
DR.64	10,000
DR.86	20,000
DR.98	10,000
DR.107	10,000
DR.115	10,000
DR.224 and 250	5,000

240. The Commission therefore took note of DRs 4, 9, 12, 15, 17, 19, 20, 21, 22, 23, 24, 35, 36, 57, 59, 60, 64, 86, 98, 107, 115, 224 and 250.

241. The Commission then took note of the work plan for Major Programme X as amended and taking into account the recommendations of the Executive Board in document 24 C/6.

# Records of the General Conference

Twenty-fourth Session Paris, 20 October to 20 November 1987

Volume 1

## Resolutions

(Extracts)

United Nations Educational,  
Scientific and  
Cultural Organization

10     The human environment and terrestrial  
         and marine resources

10.1   Major Programme X: 'The human environment and terrestrial  
                                  and marine resources'<sup>1</sup>

The General Conference,

Recalling 4 XC/Resolution 2/10, 22 C/Resolution 10.1 and 23 C/Resolution 10.1 relating to Major Programme X, 'The human environment and terrestrial and marine resources',

Recognizing the importance of Major Programme X for the accomplishment of Unesco's fourth task as laid down in the second Medium-Term Plan,

Bearing in mind the importance of the protection of the environment and the rational management of natural resources for ensuring balanced socio-economic development and proper living conditions,

Further recognizing that the international and intergovernmental scientific programmes (IGCP, IHP, MAB) and the programmes of the Intergovernmental Oceanographic Commission (IOC) have a vital role to play in the implementation of this major programme, and emphasizing the importance of active participation by Member States, particularly the developing countries, in these programmes,

Taking into consideration the recommendations of the co-ordinating bodies of the international and intergovernmental scientific programmes, in particular those of the Board of the International Geological Correlation Programme (IGCP) at its fifteenth session, the Intergovernmental Council of the International Hydrological Programme (IHP) at its seventh session, the International Conference on Hydrology and Scientific Bases of Water Resources Management (Geneva, March 1987), and the International Co-ordinating Council of the Programme on Man and the Biosphere (MAB) at its ninth session, together with the resolutions of the Assembly of the Intergovernmental Oceanographic Commission (IOC) and its Executive Council,

Stressing the importance of environmental education in the prevention and solution of environmental problems and in the rational management of natural resources,

Recalling the recommendations of the Intergovernmental Conference on Environmental Education (Tbilisi, USSR, 1977) and the conclusions of the International Congress on Environmental Education and Training (Moscow, USSR, 1987),

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1. Resolution adopted on the report of Commission III at the thirty-sixth plenary meeting, on 19 November 1987.



Approving the proposals of the Director-General and of the Executive Board concerning the regrouping of certain activities with a view to achieving greater programme concentration and improved delimitation of responsibilities in programme implementation,

1. Authorizes the Director-General to continue the implementation of Major Programme X, 'The human environment and terrestrial and marine resources';

2. Invites the Director-General, in particular:

. . .

(d) under Programme X.4, 'The ocean and its resources',

(i) to strengthen the work programme and potential for action of the Intergovernmental Oceanographic Commission in regard to oceanography and ocean services, training, teaching and mutual assistance so as to meet the growing needs of its Member States and of its regional subsidiary bodies;

(ii) to contribute to the strengthening of national and regional research and training capabilities in the marine sciences, by placing special stress on the execution of the Unesco/IOC Comprehensive Plan for a Major Assistance Programme to enhance the marine science capabilities of the developing countries;

(iii) to contribute also to the strengthening of international co-operation - both global and regional - through the work of the Commission as a joint specialized mechanism of the organizations of the United Nations system for the co-ordination of activities relating to oceanography and its associated aspects;

(e) under Programme X.5, 'Training and research in marine sciences and their application to coastal management',

(i) to strengthen national and regional research and training programmes in the marine sciences, and infrastructures for the management of coastal regions;

(ii) to promote the establishment of scientific bases for the management of the coastal environment and the rational exploitation of marine resources, particularly within the framework of the Major Interregional Project on Research and Training Leading to the Integrated Management of Coastal Systems (COMAR);

3. Further invites the Director-General, in implementing this major programme, to ensure:

(a) that the activities provided for under the nine programmes of Major Programme X are carried out in a co-ordinated way in order to derive the greatest possible advantage from their complementarity and their interdisciplinary character;

- (b) that activities are designed in such a way as to contribute, through the improvement of scientific knowledge, of specialist training and of public information, to solving the practical problems relating to the protection of the environment and the rational use of natural resources;
- (c) that regional and subregional co-operation, for the purpose of studying problems shared by several Member States and finding appropriate solutions, is encouraged through technical co-operation among developing countries and through joint operations by developing and industrialized countries in this field;
- (d) that co-operation is strengthened with the other relevant organizations of the United Nations system and with the regional governmental organizations and international non-governmental organizations concerned;
- (e) that co-operation with funding bodies and programmes is maintained with the aim of developing the Organization's operational activities in the fields covered by Major Programme X.



24 C/133  
16 November 1987  
Original: English/French

LEGAL COMMITTEE

Thirteenth report  
Amendment to the Statutes of the Intergovernmental Oceanographic  
Commission (IOC)

Item 7.8 of the agenda  
(document 24 C/101)

1. The Legal Committee examined proposed amendments to Articles 1, 2, 3, 4, 5, 9 and 10 of the Statutes of the Intergovernmental Oceanographic Commission submitted by the IOC Assembly, in document 24 C/101.
2. The proposed amendments were considered admissible by the Legal Committee.

Presentation of the proposed amendments

3. The Chairman of the Intergovernmental Oceanographic Commission, Professor Ulf Lie (Norway) and the Secretary informed the Committee of the more than ten years of detailed study the Commission had made of its present Statutes (adopted by the General Conference in 1970) with a view to adapting it to the major changes in international co-operation in the marine sciences and in the international regime governing the use of the oceans. This has culminated in the unanimous adoption, by the IOC Assembly at its fourteenth session, of the proposed amendments; the Assembly had also requested the General Conference to give favourable consideration to the amendments. The Secretary of IOC then introduced document 24 C/101.

General debate

4. The Chairman of the Legal Committee reminded the Committee that, in view of the fact that the proposed changes had been considered at great length by the Commission, it was not necessary for the Legal Committee to go into the nature of the amendments in detail; rather, it should ensure that the proposed amendments were compatible with the Unesco Constitution.

5. A member of the Committee pointed out that Article 10, paragraph 2, had been the object of long and detailed consideration by the IOC and represented a compromise text which had been adopted by the IOC Assembly on the understanding that further study would be made of appropriate modalities of application of Article 10 so as to ensure that a mechanism would exist whereby Member States of the IOC that were not Member States of Unesco could formally contribute equitably to the resources of the IOC. He specifically requested to be informed that the aforementioned matter was indeed under active consideration by the Commission and that, in the meantime, the States concerned were indeed contributing equitably to the resources of the IOC.

6. The Secretary of IOC informed the Committee that an ad hoc Study Group was in fact meeting now to consider this question, inter alia; the States concerned had made voluntary contributions to the IOC Trust Fund for 1986. Regarding 1987, negotiations had led to a similar contribution from one of the States, while arrangements for a contribution from the other were at an advanced stage. The IOC governing bodies had realized that these were temporary arrangements until more formal ones could eventually be adopted within the context of Article 10 as it would be amended, if approved by the General Conference.

7. The Legal Adviser reminded the Committee that it had already recommended the adoption, by the General Conference, of a new financial rule, new Article 7.4, for inclusion in the Unesco Financial Regulations allowing the Director-General to accept contributions from non-Member States and to add them to the appropriation under the regular programme.

8. Some members of the Committee sought clarification of the proposed formulation of IOC Article 10(2), which, they believed, did not distinguish precisely between formal contributions (e.g. through the General Conference of Unesco) and voluntary contributions; nor did it allow for the possibility that Member States of Unesco might contribute to the resources of the IOC independently of the Unesco Programme and Budget (so-called regular budget).

9. The Secretary of IOC explained that paragraph 3 of Article 10 of the present Statutes had been thought to allow adequately for this possibility.

10. One Committee member pointed out that by adding the word 'and' to Article 10(2) (the first clause of which would therefore read as follows: 'The expenditure of the Commission shall be financed from funds appropriated for this purpose by the General Conference of Unesco and from contributions ...'), two types of mandatory contributions would be clearly shown.

11. The Committee took the view that the proposed text sought only to introduce one new idea (that of contributions to the Commission's resources by its Member States that were not Member States of Unesco) and this was in itself compatible with the Unesco Financial Regulations, especially as now to be amended under Article 7.4 thereof. The Committee therefore decided not to recommend further changes to Article 10(2) of the IOC Statutes.

12. One member suggested that, in Article 2, paragraph 1(j), the words 'on request' were not necessary, since the text referred to Member States 'wishing to co-operate to these ends'; nor were the words 'subject to' required, since activities under this subparagraph need only be 'in accordance with international law'. One member suggested the term 'conventional international law'. These suggestions were not been supported by others.

13. Some members pointed out that the proposed text had been arrived at only after long consideration and represented an acceptable compromise on such a complex subject.

14. At the conclusion of the debate, the Committee, considering that the proposed amendments had been submitted to the General Conference according to the procedures stipulated in Article 13 of the Statutes of the Commission and that there was no legal obstacle to their adoption, decided to submit the following resolution to the General Conference for adoption in the event of its deciding to endorse the recommendation of the Comm'ssion regarding these amendments:

The General Conference,

Having examined the amendments to the Statutes of the Intergovernmental Oceanographic Commission (IOC) recommended by the fourteenth session of the IOC Assembly (24 C/101, Part II), and taken note of the report of the Legal Committee thereon (document 24 C/133),

Decides to amend the Statutes of the Intergovernmental Oceanographic Commission as follows:

Article 1, paragraph 1:

'(a) The Intergovernmental Oceanographic Commission, hereafter called the Commission, is established as a body with functional autonomy within the United Nations Educational, Scientific and Cultural Organization.

(b) It guides the conception and follows the implementation of its programme as approved by the General Conference in the framework of the latter's adopted budget.'

Article 1, paragraph 2:

'The purpose of the Commission is to promote marine scientific investigations and related ocean services, with a view to learning more about the nature and resources of the oceans through the concerted action of its members.'

Article 2, paragraph 1:

'(b) Develop, recommend and co-ordinate international programmes for scientific investigation of the oceans and related ocean services which call for concerted action by its members;'

'(c) Develop, recommend and co-ordinate with interested international organizations, international programmes for scientific investigation of the oceans and related ocean services which call for concerted action with interested organizations;'

'(f) Promote and co-ordinate the development and transfer of marine science and its technology, particularly to developing countries;'

'(g) Make recommendations to strengthen education and training in marine science and its technology, and promote relevant projects in these fields as components of each of its programmes;'

'(h)' and '(i)'<sup>1</sup>

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1. These subparagraphs reproduce subparagraphs (g) and (h) of the Statutes.

'(j) Promote scientific investigation of the oceans and application of the results thereof for the benefit of all mankind, and assist, on request, Member States wishing to co-operate to these ends. Activities undertaken under this subparagraph shall be subject, in accordance with international law, to the regime for marine scientific research in zones under national jurisdiction;'

'(k) Promote, plan and co-ordinate observing and monitoring systems, on the properties and quality of the marine environment, as well as the preparation and dissemination of processed oceanographic data and information, and of assessment studies;'

'(l) Promote, recommend and co-ordinate, with international organizations, as appropriate, the development of standards, reference materials and nomenclature for use in marine science and related ocean services;'

'(m) Undertake, as appropriate, any other action compatible with its purpose and functions concerning the scientific investigation of the ocean and its interfaces.'

Article 2, paragraph 2:

'The Commission, in carrying out its functions, shall take into account the special needs and interests of developing countries, including in particular the need to further the capabilities of these countries in marine science and technology.'

Article 2, paragraph 3:

'Nothing in this Article shall imply the adoption of a position by the Commission regarding the nature or extent of the jurisdiction of coastal States in general or of any coastal State in particular.'

Article 3:

'1. The Commission shall give due attention to supporting the objectives of the international organizations with which it collaborates. On the other hand, the Commission may request these organizations to take its requirements into account in planning and executing their own programmes.'

'2. The Commission may act also as a joint specialized mechanism of the organizations of the United Nations system that have agreed to use the Commission for discharging certain of their responsibilities in the fields of marine science and ocean services, and have agreed accordingly to sustain the work of the Commission.'

Article 4, paragraph 3:

'3. Any Member State of the Commission may withdraw from it by giving notice of its intention to do so to the Director-General of Unesco. The date of such notice shall be that of its receipt by the Director-General. The notice shall take effect on the first day of the next ordinary session of the Assembly following the date of notice of withdrawal if the notice is given more than one year before the first day of said session; if the notice of withdrawal is given less than one year before the first day of the said session, it shall take effect one year after the date of notice of withdrawal.'

Article 5, paragraph 4:

'4. During the course of each ordinary session, the Assembly, taking into account the principles of geographical distribution, shall elect:

- (a) a Chairman and four Vice-Chairmen who shall be the officers of the Commission, its Assembly and its Executive Council;
- (b) a number of Member States to the Executive Council, which number shall not exceed one quarter of the Member States of the Commission; each Member State so elected shall designate its representative on the Executive Council.'

Article 9, paragraph 1:

'1. With due regard to the applicable Staff Regulations and Rules of the United Nations Educational, Scientific and Cultural Organization, the Secretariat of the Commission shall consist of a Secretary and such other staff as may be necessary, provided by the United Nations Educational, Scientific and Cultural Organization, as well as such personnel as may be provided, at their expense, by the United Nations, the Food and Agriculture Organization of the United Nations, the World Meteorological Organization and the International Maritime Organization and other organizations of the United Nations system.'

Article 10, paragraph 2:

'2. The expenditure of the Commission shall be financed from funds appropriated for this purpose by the General Conference of Unesco, from contributions by Member States of the Commission that are not Member States of Unesco, as well as from such additional resources as may be made available by other organizations of the United Nations system and by Member States, and from other sources.'

# TENTH WORLD METEOROLOGICAL CONGRESS

Geneva, 4-28 May 1987

WMO-No.681

Extracts of the General Summary of the work of the session

## 3.2 World Climate Programme (agenda item 3.2)

### 3.2.0 World Climate Programme; Report of the president of CC1 (agenda item 3.2.0)

3.2.0.1 Congress noted with appreciation the report of the president of the Commission for Climatology (CC1), covering the activities of the Commission in climate data, climate applications and the overall co-ordination of the WCP. It noted, in particular, the Commission's role in the World Climate Data (WCDP) and Applications (WCAP) components for which CC1 was designated the lead Commission. This role had been accomplished principally through the Advisory Committee for the World Climate Applications and Data Programmes (ACCAD) of which the president of CC1 is the chairman and which includes other international agencies as well as WMO bodies. Congress noted that the work plan for the future activities of CC1 followed the Second Long-term Plan (SLTP) and that the relevant proposals of the Secretary-General for the programme and budget for the tenth financial period were designed to support CC1 in implementing those activities.

3.2.0.2 Congress noted with approval the progress made toward achieving the objectives of the World Climate Programme and reaffirmed that the World Climate Programme should continue to consist of four components: WCDP, WCAP, World Climate Impact Studies Programme (WCIP) (being implemented by UNEP), and World Climate Research Programme (WCRP) (being implemented jointly by ICSU and WMO).

3.2.0.3 Congress decided to continue the mechanisms established by Ninth Congress for the overall co-ordination of the WCP.

3.2.0.4 Congress noted the results of the WMO/UNEP/ICSU International Conference on the Assessment of the Role of Carbon Dioxide and of other Greenhouse Gases in Climate Variations and Associated Impacts (Villach, Austria; October 1985) and urged that a concerted effort be undertaken by the Secretary-General, in conjunction with UNEP and ICSU, to increase understanding and narrow the range of uncertainties in expected climate change.

3.2.0.5 Congress noted the recommendation by the Villach Conference to establish the Advisory Group on Greenhouse Gases (AGGG). This group is to undertake continuous scientific assessment and review of greenhouse gases and the progress that is being made toward a more complete understanding of their nature and extent. Congress asked the Executive Council, in co-operation with the governing bodies of UNEP and ICSU, to monitor continuously the implications of increasing concentrations of greenhouse gases and their effect on the global climate and related issues and to arrange appropriate mechanisms to undertake further development of scientific and other aspects of greenhouse gases. (See also paragraphs 3.2.4.8, 3.2.4.16 and Resolution 9 (Cg-X).)



3.2.0.6 In response to a request from EC-XXXVIII, the Secretary-General convened an informal meeting with representatives from ICSU and UNEP on 15-16 May 1987 to consider a second World Climate Conference. The meeting proposed that such a conference be held by WMO in co-operation with UNEP, ICSU and other international organizations in late 1989 or early 1990. The conference would review all aspects of the WCP, with emphasis on the economic benefits of climate applications, especially in developing countries. Congress agreed with the proposal and requested the Executive Council to make appropriate arrangements.

3.2.0.7 The usefulness of establishing National Climate Programmes was stressed and Congress requested that further guidance on the development of such programmes be provided.

3.2.0.8 Congress noted that the very important subject area of droughts was covered under several budget items and stressed the need for co-ordination of all drought-related activities.

3.2.0.9 Part II, Volume 2 (World Climate Programme) of the Second WMO Long-term Plan was adopted as part of the overall Plan under Resolution 25 (Cg-X).

3.2.0.10 Resolution 8 (Cg-X) was adopted, covering the decisions on the overall co-ordination of the World Climate Programme, the future activities under the Data and Applications components of the programme, and the holding of a second World Climate Conference.

### 3.2.1 World Climate Data Programme (agenda item 3.2.1)

3.2.1.1 Tenth Congress noted the substantial progress made under the World Climate Data Programme towards achieving its objectives through a series of specific projects. Congress complimented the technical commissions and the regional associations for their efforts to achieve the objectives of the WCDP. Since the success of the other components of the WCP is dependent on the WCDP, very high priority was placed on this programme.

3.2.1.2 In order that the climate system and significant anomalies can be operationally monitored with an adequate level of reliability, Congress urged Members to increase the number of CLIMAT reporting stations on their territory as necessary to meet the requirement specified in paragraph (B.1.) 3.1.1.2 of the Technical Regulations, which states that "the distribution of stations from which monthly surface climatological data are transmitted should be such that every 250 000 km<sup>2</sup> is represented by at least one (CLIMAT) station and up to 10 stations where the density of the Regional Basic Synoptic Network permits". Noting that the proposed increase did not imply that Members should expand the existing observing system, Congress urged all Members to consider its implementation as early as possible and to inform the Secretariat of the additional stations designated for CLIMAT reporting purposes. Congress emphasized the important role of the regional associations in the development and maintenance of a co-ordinated regional network of CLIMAT reporting stations in their respective regions.

3.2.1.3 Congress supported the Data Rescue Project which was developed for Region I where data were at the greatest risk of irretrievable loss. Appreciation was expressed to Belgium for its support of the project through hosting the International Data Rescue Co-ordination Centre in Brussels and providing experts for the training components of the project. France's interest in supporting the project was noted, as well as their kind offer to provide those African data now archived in France to countries in Region I which request them. Congress urged Members and international organizations to sponsor other components of the project, such as providing equipment for national and regional centres. Congress agreed that such projects should also improve the capabilities of Members of Region I to rescue and preserve the data themselves nationally.

3.2.1.4 Congress strongly supported the CLICOM project and noted that this project was likely to achieve the objectives stated in the Second Long-term Plan earlier than planned. Congress was informed that funds (VCP, UNDP, bilateral) were already secured or forthcoming for the deployment of about 60 CLICOM systems in 45 countries and that VCP requests had been submitted for an additional 20 countries. Congress noted that CLICOM would be useful for both developing and developed countries. Congress recommended that all appropriate applications software be made available to CLICOM users. Linkage between CLICOM and GTS was considered necessary to integrate fully data management facilities and procedures. Congress recommended that there should be more regional CLICOM training seminars. Appreciation was extended to Canada, Chile, Finland, France, UK and USA for their active support to CLICOM. Noting the actions taken by the IOC with regard to the use of micro-computers and high speed data communications, Congress recommended that the CLICOM project maintained close co-operation with the IOC through its Technical Committee on International Oceanographic Data and Information Exchange (TC/IODE).

3.2.1.5 CLICOM was considered to be a useful means by which data could be quality controlled. To maximize the use of CLICOM systems, Congress suggested that a mechanism be established to exchange data and information among centres operating CLICOM systems. It was felt that this would also allow CLICOM applications modules developed by countries to be exchanged. To ensure that CLICOM was being utilized to its maximum potential, it was proposed that operational training activities under the project be stepped up. The importance of exchanging data between main-frame computers and CLICOM systems and of utilizing data received through the Data Rescue Project was also recognized.

3.2.1.6 Congress was informed that some micro-computer hardware had been donated to seven Central American countries directly by a manufacturer. The Congress delegates from Costa Rica, Panama and Uruguay recommended that, on a pilot project basis, CLICOM be deployed with the necessary hardware upgrades, software and training. In order to execute this project, Congress urged donor countries to consider support for the sub-region under VCP.

3.2.1.7 Congress recognized the importance of the Climate System Monitoring (CSM) project and noted that Monthly Bulletins containing valuable information on the state of the global climate system were received by all Members. Several Members stated that the monthly bulletins would be even more useful if they were available earlier. Congress therefore recommended that brief CSM status reports on key climatic phenomena such as the El Niño should be distributed via GTS to all countries. It also recognized the broad interest shown in the comprehensive biennial Global Climate System Reviews prepared under the CSM project. As an example, the diagnostic information contained in the Global Climate System Review, Autumn 1984-Spring 1986 (CSM R84-86), which described areas affected by El Niño and the links between the long-term drought in the Sahel and sea-surface temperature, provided valuable guidance on seasonal rainfall patterns in many parts of the world. Congress appreciated the support of the World Meteorological Centres, (Melbourne, Moscow, Washington, D.C.) and endorsed their lead role in the CSM project. Congress was informed that the World Radiation Data Centre in Leningrad (USSR) was prepared to contribute to CSM, but noted that more and better quality surface-radiation data should be submitted to the centre by Members for adequate coverage. Appreciation was extended to UNEP for co-sponsoring the CSM project under UNEP/GEMS. Congress expressed the hope that UNEP support to CSM activities would continue over the next financial period. Congress was informed that the CSM monthly bulletins and the Global Climate System Reviews were particularly useful to the countries in Latin America which were affected by the El Niño. To make this information even more useful, it was suggested that CSM information be translated into Spanish if at all possible. Noting that finances were limited for the WCDP, Congress suggested that alternative mechanisms be explored for translation with the countries in the region.

3.2.1.8 Recognizing the serious deficiencies in historical global climate data sets, Congress recommended that remedial action be initiated to improve the global climate data base and urged Members to co-operate through the provision of records to international processing centres when needs were identified. Viable climate system data sets were considered to be essential to answer basic questions such as the cause of drought in Africa, the effect of increasing concentrations of CO<sub>2</sub> and other Greenhouse Gases (GHGs), and the impact of climate variations on socio-economic activities. To prepare a viable global climate system data base, Congress was informed that the following was planned contingent on the availability of funds:

- (a) A review of existing climate data bases;
- (b) The identification of deficiencies;
- (c) A specific data collection and processing effort to prepare a climate data set; and
- (d) The establishment of a mechanism to update the data set every two years to keep it current for research, applications and impact studies.

3.2.1.9 Congress noted with appreciation the efforts of ISLSCP (The International Satellite Land Surface Climatology Project) to establish an historical data base of land surface characteristics. It encouraged this activity and proposed greater efforts to avoid loss, either because of destruction of the data or because of decreased accessibility as a result of greater costs, of satellite data which might be useful for this purpose.

3.2.1.10 Congress was informed that India was prepared to host a regional climate data centre and suggested that other regions should consider incorporating regional climate data management functions in existing or planned regional centres. Congress was informed that China had some climatic information reflecting climatic changes in the last five millennia. Other countries also had climate data records for many years, often over 100, and it was felt that the CLICOM project would enable these data (most of which were in manuscript form) to be put to practical use in research, applications and impact studies, once they were on computer media.

3.2.1.11 Congress supported the INFOCLIMA project which compiled referral information on station networks and climate system data sets. Congress noted that an updated catalogue which included data set information on several new categories of data was ready for publication in the WCP Report Series. Congress recommended that information be summarized on all basic observational data archives at centres, in addition to specialized or derived data sets, to make the catalogues complete and more useful.

3.2.1.12 Congress noted with satisfaction the progress made in the preparation and publication of the WMO-sponsored World Weather Records: the last volume of the 1961-1970 series (Volume 5, Africa) had been published in 1985; data collection and editing for the 1971-1980 series was nearly completed for five WMO Regions, and it was expected that all these volumes would be published in 1988. Congress expressed appreciation to all Members who had contributed to the project.

3.2.1.13 Noting the importance of the WCDP and the projects within the programme, Congress recommended that CCI, in co-operation with CAGM, CBS, CHY and CMM, increased its activities in support of the WCDP.

3.2.1.14 Recognizing that the WCDP covered data from all components of the climate system (e.g. the atmosphere, oceans, land surface, cryosphere) Congress recommended that collaboration be actively continued with other international agencies such as UNEP, ICSU, Unesco and IOC to ensure co-ordinated climate data management.

[...]

#### 3.2.4 World Climate Research Programme (agenda item 3.2.4)

3.2.4.1 Congress recalled that, when establishing the World Climate Programme at Eighth Congress (Resolution 29 (Cg-VIII)), it had agreed that the climate research component should be conducted jointly by WMO and the International Council of Scientific Unions (ICSU). Accordingly, Eighth Congress had approved an Agreement between WMO and ICSU, establishing the World Climate Research Programme (WCRP). By this Agreement, signed in November 1979, WMO and ICSU had agreed to co-sponsor the WCRP and to call upon other appropriate national and international organizations and the world community of scientists, to co-operate in the realization of the Programme. Moreover, in accordance with the Agreement, WMO and ICSU established a Joint Scientific Committee (JSC) to provide scientific guidance for the conduct of WCRP, which is regarded, by both organizations, as the main scientific body for formulating the overall scientific strategy of the Programme and ensuring international co-ordination of activities contributing to its implementation.

3.2.4.2 ICSU expressed satisfaction with the progress made with this joint scientific endeavour of the two organizations, and endorsed the objectives laid out for the WCRP in the WMO Second Long-term Plan as well as the priorities indicated in the Programme and Budget for the period 1988-1991. The activities by ICSU bodies which supported the overall goals of the World Climate Programme were summarized and, in particular, ICSU's decision to undertake the International Geosphere-Biosphere Programme (IGBP) to study global change. ICSU emphasized the scientific interest taken by its constituent bodies in studying the broad physical and biological as well as socio-economic consequences of man's influence on the environment, such as the release of radiatively active gases or the fires which could be caused by a major nuclear war. Congress was pleased to note the wide interest of ICSU in global issues and encouraged the JSC to develop further its co-operation with ICSU programmes, especially the International Geosphere-Biosphere Programme to study natural and man-induced changes of the global environment.

3.2.4.3 Congress observed that co-operation with many international organizations or bodies was required to pursue effectively the objectives of the WCRP and the planning of WCRP programmes. In particular, Congress recognized the need for close co-operation with the oceanographic community, represented by the IOC, ICSU's Scientific Committee on Oceanic Research (SCOR) and the joint IOC/SCOR Committee on Climatic Changes and the Ocean (CCCCO), for the planning of oceanographic activities in support of WCRP. Congress was pleased to hear of the contributions made by the IOC to the planning and development of the oceanographic components of the WCRP, especially the study, initiated by CCCC, of the exchanges of carbon dioxide between the ocean and the atmosphere.

3.2.4.4 Congress noted with satisfaction the progress made in the planning and implementation of the WCRP since Ninth Congress, in particular, the development of a first Implementation Plan for the WCRP which had been submitted to Members in December 1985. Congress expressed satisfaction that the first Informal Planning Meeting on the WCRP, organized by WMO in Geneva, May 1986, and co-sponsored by ICSU and IOC, had indicated sufficient commitments by participating national delegations, to allow the implementation of the Programme to proceed along the lines proposed by the JSC.

3.2.4.5 Congress noted that the implementation of WCRP required augmentation of several operational observing and data management systems, the development of new systems, international exchange of additional data for the purpose of climate research and increased support of national climate research activities. Congress urged that these actions be vigorously pursued, considering that the implementation of the WCRP Plan would not only lead to achieving the scientific objectives of the Programme, but also offer practical incentives in establishing the physical basis for long-range weather prediction and assessment of climate fluctuations on seasonal and longer time-scales. Congress emphasized that developing schemes to predict time-averaged atmospheric conditions, such as the monsoonal flow or changes in the tropical Pacific trade-winds, would be especially important in the climate-sensitive tropical zone.

3.2.4.6 Congress welcomed the initiatives taken under the auspices of the JSC, in co-operation with CAS, for the development of numerical modelling techniques applicable to both long-range weather prediction and the simulation of climate. Congress endorsed the view, expressed by JSC, that validation of climate models against observed meteorological and climatological quantities was essential to reduce the margin of uncertainty of climate simulations. Congress also noted the important work being undertaken, under the auspices of CHy, on modelling hydrological processes on the macro-scale, with a view to establishing a link between hydrological and climate models.

3.2.4.7 Congress noted with satisfaction the results achieved by the first two data-collection projects organized by the WCRP: the Global Sea-Surface Temperature Data Project and the International Satellite Cloud Climatology Project. Congress was also informed of the progress made in undertaking a Global Precipitation Climatology Project based on the interpretation of satellite observations, intensive measurements at selected reference sites and world-wide collection of monthly precipitation totals from rain-gauges. Congress recognized the importance of assembling such basic data sets and urged all Members to make available the required satellite data and surface-based observations for the purposes of WCRP.

3.2.4.8 Congress noted the high priority placed by the JSC on studying the controlling role of clouds on atmospheric radiation, the relation between surface hydrology and energy and water fluxes in the atmospheric boundary layer, and the coupled atmosphere-ocean-ice system at high latitudes. Congress also welcomed JSC's initiatives to develop, in co-operation with CAS, research on the greenhouse effect and the role of radiatively active gases which constitute important climate forcing factors and expressed its appreciation of the activities of CAS in support of WCRP objectives, especially the specific contribution of CAS to the study of climate forcings, as described in the Long-term Plan. (See also paragraphs 3.2.0.4, 3.2.0.5, 3.2.4.16 and Resolution 9 (Cg-X).)

3.2.4.9 Congress noted with particular interest the consideration being given by the JSC to the proposal of a Global Energy and Water Cycle Experiment (GEWEX) which could become a main thrust of WCRP in the period 1995-2000 and would, in the meantime, provide a scientific focus for the various studies of atmospheric and surface thermodynamic processes, as well as a target for the development of a new generation of earth observation satellites. Congress agreed that an important role of WCRP was, like the predecessor programme GARP, to stimulate the development of new global observing techniques which could eventually serve the development of future meteorological and climatological applications.

3.2.4.10 Congress expressed satisfaction at the progress made in the implementation of the Tropical Ocean and Global Atmosphere (TOGA) programme. Congress particularly welcomed the scientific initiative taken to develop operational dynamical predictions of time-averaged anomalies of the tropical oceans starting from observed initial conditions. Congress recognized that such experimental predictions held the promise of a capability to assess impending changes of the mean atmospheric regime up to several months in advance in some areas of the tropical zone.

3.2.4.11 Congress accordingly urged Members to make available climatological information from ships, tropical islands and mainland stations with short time-delays, as required by the TOGA programme. Congress also asked Members to assist, through inter-agency consultations at the national level, with the development of the required oceanic observing and data systems. Congress welcomed the actions taken by the IOC, responding to the requirements of TOGA, to develop further its Global Sea-Level Observing System and augment sub-surface oceanographic observations, and expressed its support to the WMO/IOC Integrated Global Ocean Services System as the primary ocean data channel to fulfil the objectives of TOGA. Congress noted with concern that scientific studies were still hampered by difficulties in arranging international exchange from some important sources of oceanographic or climatological data, and in obtaining access to some important oceanic zones to perform measurements for climate research. Congress recommended that the Secretary-General investigate, jointly with IOC and SCOR, possible mechanisms to overcome the problem.

3.2.4.12 Congress endorsed the decision of EC-XXXVIII to establish an Inter-governmental TOGA Board, jointly sponsored by IOC and WMO. It was agreed that the Board, building upon the experience gained during the preparation of the GARP Global Weather Experiment, would provide effective means for consultations, at the inter-governmental level, to review the progress in the implementation of TOGA observing and data management systems, to identify deficiencies and to take action, as appropriate, to correct these deficiencies. Congress also noted with satisfaction the forthcoming installation of the International TOGA Project Office in the Secretariat.

3.2.4.13 Congress expressed its appreciation of the active role taken by CCCO in planning the WCRP World Ocean Circulation Experiment (WOCE) and of the actions taken by IOC and SCOR to assist in mustering the oceanographic resources required to implement WOCE. Congress noted that several major oceanographic satellite missions were being prepared for the intensive observing period of WOCE in the years 1990-1995, and expressed its confidence that the world oceanographic community would give its full scientific support to the undertaking and make available appropriate resources and ship time. Congress agreed to co-sponsor, with the IOC, an international conference to review the plans for the WOCE scientific programme and to assist in ensuring the widest possible participation in this conference.

3.2.4.14 Congress noted the scientific findings reported by the JSC, on the potential atmospheric and climatic consequences of a major nuclear war. It had been found that large nuclear explosions and resulting large-scale fires could inject massive amounts of dark smoke into the atmosphere, such that a significant cooling at the surface of the continents and a global perturbation of the general circulation of the atmosphere would result. Congress recognized that the broad field of scientific research conducted under the WCRP would lead to a refinement of climatic modelling and help in forming the scientific basis for further studies of the potential environmental impacts of a nuclear war. Congress also recognized that additional research was needed to understand the behaviour of the highly perturbed atmosphere which would result from a large-scale nuclear exchange.

3.2.4.15 Congress noted with satisfaction that the JSC had submitted, in 1985, a first assessment of the potential atmospheric and climatic consequences of a major nuclear war, which was distributed to WMO Members and transmitted to the Secretary-General of the United Nations, in response to Resolutions 39/148 F and 40/152 G adopted by the 39th and 40th sessions of the General Assembly of the United Nations respectively. Congress recommended that the second assessment prepared by the JSC be distributed to Members and transmitted to the Secretary-General of the United Nations. Congress endorsed the actions of the JSC concerning the scientific aspects of the problem and encouraged the JSC to update its assessment as warranted by new relevant findings.

3.2.4.16 Congress noted the almost unanimous scientific agreement, expressed by the Villach Conference in 1985, that the rise in the concentrations of atmospheric greenhouse gases would cause significant changes in global climate. Estimates were that the globally-averaged equilibrium surface temperature would rise between 1.5 and 4.5 degrees Celsius by the middle of the next century. Congress further noted that national and international attention had begun to focus on this complex issue. Increases in the concentration of greenhouse gases presented a multifaceted problem in that each of the gases that contribute to global warming had its own sources and sinks as well as specific interactions with the atmosphere. Increases of some greenhouse gases were directly or indirectly caused by man's activities, e.g. the burning of fossil fuels or changes in natural systems due to land-use practices. Some greenhouse gases, such as CO<sub>2</sub>, had little chemical reaction in the atmosphere while others were greatly affected by reactions with other gases. Congress recognized the importance of the issue and adopted Resolution 9 (Cg-X). (See also paragraphs 3.2.0.4, 3.2.0.5 and 3.2.4.8.)

3.2.4.17 In concluding its consideration of the WCRP, Congress approved the continuation of the Agreement between WMO and ICSU concerning the joint sponsorship of the WCRP by the two organizations, and agreed that activities should continue within the framework of the Agreement for the period 1988-1991.

3.2.4.18 In conjunction with the above, Congress approved the objectives of the WCRP, as indicated in Part II, Volume 2 of the Second Long-term Plan and adopted Resolution 10 (Cg-X).

[.....]

3.4.3 Marine Meteorology Programme, IGOS and other ocean-related activities; Report of the president of CMM (agenda item 3.4.3)

3.4.3.1 Congress noted the development of the Marine Meteorology and Associated Oceanographic Activities Programme which was carried out on the basis of the directives given by Ninth Congress in its Resolution 6 (Cg-IX) and in particular noted with appreciation the report of the president of CMM, Mr P. Gérard, and the chairman of the Joint IOC/WMO Working Committee for IGOS, Dr Y. Tourre, on the work accomplished by CMM and the Joint Working Committee for IGOS, respectively. It adopted Resolution 14 (Cg-X) on marine meteorology and associated oceanographic activities for the period 1988-1991, agreeing that the substance of the programme should be as given in Part II of the Second Long-term Plan, Volume 4, Section 4.3.



### Marine\_meteorological\_services

3.4.3.2 Congress agreed that the provision of marine meteorological services to meet the requirements of marine users was of the highest priority and it therefore noted with satisfaction that the implementation of marine meteorological services by Members had expanded substantially during the past intersessional period. It further noted that that expansion had covered both basic services in support of safety of life and property at sea, responsibilities for which were outlined in the Manual on Marine Meteorological Services, and also the more specialized services which were being increasingly required by particular user groups. It agreed that the provision of all marine meteorological services contributed substantially to national economies, as well as being essential for the safety of life at sea, as was recognized explicitly in the Safety of Life at Sea (SOLAS) Convention. Congress therefore agreed that continuing priority should be given to assisting Members in the further implementation of both basic marine meteorological services, as specified in the Manual on Marine Meteorological Services, and also more specialized services in support of national interest, such as ship routing, wave forecasts, sea-ice services, storm surge forecasts and services for coastal zones, closed water bodies and inland seas.

3.4.3.3 Congress noted that continuing developments in marine telecommunication facilities, particularly those which were satellite-based, were capable of providing great potential benefit to Members in the collection of marine environmental data from ships and in the dissemination of marine meteorological information to shipping. In particular, it noted that the INMARSAT maritime satellite communication system was already having a substantial impact on the collection of ships' weather reports, at the same time as it was likely that this system would be included in IMO regulations covering the transmission and receipt of marine safety information (including meteorological forecasts and warnings) for ships at sea.

3.4.3.4 In noting with satisfaction the actions already under way, involving close consultation between WMO, IMO and INMARSAT on the future use of the INMARSAT system for marine meteorological purposes, Congress nevertheless agreed with the concern expressed by Members on the likely cost and other burdens which might be incurred by Members through the further expansion in the use of the system. It therefore felt that these consultations should continue, that COM and CBS should remain the focal points within WMO for the development of new procedures and regulations concerning the use of this system and that major efforts should be made to develop appropriate cost-sharing mechanisms for the collection of ships' weather reports via INMARSAT (see also paragraph 3.1.3.6).

3.4.3.5 Congress adopted Resolution 15 (Cg-X) on the subject.

3.4.3.6 Further on the subject of marine telecommunications, Congress agreed that the retention by ITU of the definition of meteorological messages with the prefix "OBS" and the special classification given to such messages was essential for Members to limit the cost of collecting ships' weather reports. It therefore urged Members, together with COM and CBS, to make every effort to ensure the retention of this special classification.

## Marine climatology

3.4.3.7 Congress noted with satisfaction that the Marine Climatological Summaries Scheme (MCSS), which had been established by Fourth Congress, was proving of great value to Members in the provision of marine meteorological services as well as contributing substantially to the World Climate Programme and the World Climate Research Programme. It agreed, however, that requirements for marine climatological data, particularly with regard to data quality and the timeliness of data delivery, were evolving rapidly and therefore improvements might be needed in the existing scheme so that it could fully accommodate the new requirements.

3.4.3.8 Congress noted with pleasure that work was now under way for the preparation of a Guide to applications of marine climatology and urged that the work be continued as a matter of priority, in close co-ordination with the WCP.

## Systems for marine observations and data collection

3.4.3.9 In considering the topic of specialized marine observing systems, Congress agreed that these were all integral parts of the overall Global Observing System of the World Weather Watch of WMO, which was organized and co-ordinated by CBS. As such, every effort should be made to ensure that the marine elements were indeed properly integrated and co-ordinated with the remainder of the GOS in all aspects, including quality control, to ensure the integrity and effectiveness of the whole system. At the same time, Congress noted that there remained certain unique aspects of the marine environment and hence of marine observing systems, which required the special attention of CMM.

3.4.3.10 The establishment of the joint WMO/IOC Drifting Buoy Co-operation Panel was noted with pleasure by Congress, which agreed that the panel had a very important role to play in the co-ordination and expansion of drifting buoy deployment and the monitoring and quality control of drifting buoy data in support of the WWN, the WCRP and other major WMO and IOC programmes. It encouraged as many Members as possible to belong to the panel and to contribute actively to its work and in this regard noted the need for expanding the exchange of drifting buoy data over the GTS for the purposes of the WWN and IGOSS. Congress expressed satisfaction that the recruiting of the technical co-ordinator for the Drifting Buoy Co-operation Panel had been completed and thanked those Members who were contributing to the funding of this important position. It also expressed its appreciation to the IOC for its efforts in managing the funds for the technical co-ordinator's position.

3.4.3.11 Congress noted and endorsed the actions taken by the Secretary-General with regard to co-operation with IOC and IMO on problems related to the legal status of drifting buoys and other Ocean Data Acquisition Systems (ODAS). In particular it supported the proposal to study first the existing international agreements and legislation and then for the three organizations to agree on a general strategy for eventual consideration by their respective Member States in this complex and important aspect of marine observing systems.

3.4.3.12 Congress emphasized that the rapid and accurate insertion onto the GTS of meteorological and oceanographic data from the world's oceans was of major importance to all WMO programmes and that mechanisms such as the automation of ships' observations and the use of satellite communication systems would assist greatly in this regard. It therefore requested CMM and Members to continue their efforts to expand the use of such systems. The importance of the long-term availability of such satellite communication facilities was stressed.

#### Development of techniques for marine observations and forecasting

3.4.3.13 Congress noted with satisfaction that a WMO Wave Programme had been developed by CMM and fully supported the continued active implementation of this programme. It agreed in particular with the importance of the new WMO Guide to wave analysis and forecasting, which it felt would be of great value to all Members in the provision of the specialized wave forecast services increasingly required by users. It also agreed with the importance of the work being undertaken by CMM on numerical wave modelling and of the publication by IOC of the Users' Guide to Measured Wave Data, which was a significant step in facilitating the further exchange of measured wave data. It noted that there was already an urgent requirement for the real-time exchange of measured wave data for the verification of numerical wave models and, in the near future, direct assimilation in such models. Congress agreed on the need to continue co-operation with IOC in this field.

3.4.3.14 Congress noted with interest the plans for the introduction of a new generation of oceanographic satellites over the coming decade. It agreed that the data from these satellites were of enormous potential value to Members in the provision of marine meteorological and oceanographic services and therefore urged that studies should continue to ensure that all Members would be able to fully exploit these data to best advantage when they did become available.

3.4.3.15 Many Members noted the growing recognition of the importance of air-sea interaction studies to all aspects of WMO's activities. Such studies covered the exchange of heat, momentum, moisture, various chemical constituents and solid, liquid and gaseous pollutants between the atmosphere and the ocean, as well as the development of coupled atmosphere-ocean models and the investigation of specific events such as the "El Niño" phenomenon. While recognizing that these studies related to a number of WMO programmes such as the World Climate Programme and the Research and Development Programme, as well as to the Marine Meteorology Programme, Congress nevertheless requested CMM to pay close attention to this field, particularly as it affected operational aspects and the provision of marine meteorological services. In addition, Congress noted the importance of regional activities such as the integrated "El Niño" studies and agreed that WMO should expand its support for these activities whenever possible.

#### Specialized education and training

3.4.3.16 Congress noted with pleasure the success of the series of training seminars on marine meteorological services which had now been taking place for participants from developing countries since 1983. It agreed that these seminars had been of great value in stimulating and assisting in the further development of marine meteorological services in these countries, and further agreed that related seminars should continue in the future as often as possible in order that Members may be kept informed of the latest developments and techniques in this field. Congress noted with satisfaction the efforts now being made to implement the CMM proposals to expand long-term specialized education and training activities in marine meteorology and physical oceanography, in particular through the WMO Regional Meteorological Training Centres. It agreed that these longer-term courses should also include, whenever possible, training on IGOS-related activities, undertaken in conjunction with the IOC, to facilitate further the implementation of IGOS in developing countries. Congress also felt that the possibility of making use of existing International Maritime Organization Regional Academies for such specialized training should be further investigated.

### The Integrated Global Ocean Services System (IGOSS)

3.4.3.17 Congress noted with satisfaction that IGOSS had developed significantly over the intersessional period, in close co-ordination with the World Weather Watch and Marine Meteorology Programme, and in this connection noted with appreciation the review report submitted by the chairman of the Joint IOC/WMO Working Committee for IGOSS. Congress was pleased to learn that the number of Members participating in IGOSS had continued to grow.

3.4.3.18 Congress noted with interest the importance which was being attached to IGOSS by the WCRP as the appropriate mechanism for the provision of the sub-surface thermal structure data which were essential to large-scale ocean monitoring and climate research. In expressing satisfaction that the numbers of BATHY/TESAC reports which were distributed over the GTS continued to grow, Congress nevertheless agreed that these numbers would have to increase substantially if IGOSS was to provide the quantities of data required by the maritime users of operational oceanographic services, as well as by the WCRP. Congress therefore urged all Members to take action wherever possible to assist in the expansion of the IGOSS observational system.

3.4.3.19 Congress considered that the requirements of marine user groups such as fisheries, as well as the WCRP, for operational oceanographic services were of great importance. It therefore urged that efforts be continued to ensure the further expansion of the IGOSS Data Processing and Services System (IDPSS), particularly through the establishment of IGOSS Specialized Oceanographic Centres (SOC). In this regard, it noted with approval the recent establishment of the SOC for the IGOSS Thermal Structure Pilot Project. Congress also urged that every effort be made to encourage the implementation of IGOSS in developing countries, including through experts' missions, demonstrations of the economic value of IGOSS and implementation co-ordination activities, as appropriate, as well as in countries already significantly involved in oceanographic activities.

3.4.3.20 Resolution 16 (Cg-X) was adopted.

### Co-operative ocean programmes/projects with the IOC and the Inter-Secretariat Committee on Scientific Programmes Relating to Oceanography (ICSPRO)

3.4.3.21 Congress noted with satisfaction that WMO's participation in the ICSPRO and in co-operative projects with IOC had been very fruitful. Congress further noted that WMO continued to collaborate closely with other international agencies concerned with international marine activities, in particular the ICSPRO agencies (UN, Unesco, IOC, FAO, IMO) and UNEP, IHO and CPPS.

3.4.3.22 Congress noted that IOC was used by ICSPRO agencies as a common mechanism for ocean-related activities and was therefore supported by these agencies in terms of staffing. In this connection, WMO had seconded an officer to the IOC Secretariat, and Congress noted with satisfaction that this officer had worked particularly on the major joint WMO/IOC activities such as IGOSS and the Drifting Buoy Co-operation Panel, as well as on other programmes of mutual interest to WMO and IOC. Congress therefore decided to continue the secondment of an officer to the IOC Secretariat and to contribute half the cost of employing a secretary for this officer.

## Long-term and Expanded Programme of Oceanic Exploration and Research (LEPOR)

3.4.3.23 In relation to the further co-operation between WMO and IOC in projects within the framework of LEPOR, Congress noted that the original timetable for the updating of LEPOR, in which it had agreed to participate, had been delayed due to unforeseen circumstances. It further noted that a new timetable for such updating called for the submission of a final version of LEPOR-II to the United Nations General Assembly, through ECOSOC, in 1989. Congress requested the Secretary-General to arrange for appropriate WMO participation in the updating of LEPOR, as necessary.

## United Nations Law of the Sea

3.4.3.24 Congress noted that since Ninth Congress there had been no major new developments with regard to the Law of the Sea which might affect WMO Members and neither had any WMO Member reported difficulties in undertaking ocean activities stemming directly from the provisions of the Law of the Sea. Congress nevertheless agreed on the continuing importance of this matter and decided therefore that Resolution 9 (Cg-IX) should be kept in force.

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## RESOLUTIONS

### 8 (Cg-X) - THE WORLD CLIMATE PROGRAMME

THE CONGRESS,

NOTING:

- (1) Resolution 14 (Cg-IX) - World Climate Programme,
- (2) Resolution 15 (Cg-IX) - The World Climate Applications Programme,
- (3) Resolution 17 (Cg-IX) - World Climate Data Programme,
- (4) Resolution 18 (Cg-IX) - World Climate Research Programme,
- (5) Resolution 17 (EC-XXXIV) - Advisory Committee for the World Climate Applications and Data Programmes,
- (6) The reports to Tenth Congress on the implementation of the World Climate Programme,
- (7) Report of the International Conference on the Assessment of the Role of Carbon Dioxide and of other Greenhouse Gases in Climate Variations and Associated Impacts, Villach, Austria, 9-15 October 1985 (WMO-No.661),
- (8) The WMO Second Long-term Plan 1988-1997,

RECOGNIZING that the fulfilment of the objectives of the World Climate Programme can provide the basis for significant improvements in the ability of Members to provide services to national economic and social development,

EXPRESSES its satisfaction with the progress achieved in the development of detailed plans for the different components of the World Climate Programme and their implementation with the valuable co-operation of the International Council of Scientific Unions (ICSU), United Nations Environment Programme (UNEP), Food and Agriculture Organization of the United Nations (FAO), United Nations Educational, Scientific and Cultural Organization (Unesco) and the Intergovernmental Oceanographic Commission (IOC), the World Energy Conference (WEC), the Consultative Group on International Agricultural Research (CGIAR) and other international organizations;

CONSIDERING:

(1) That the World Climate Programme (WCP) provides the basis and framework for all scientific and technical aspects of climate and climate system fluctuations including data, applications, research, and impact studies,

(2) That a need exists for the further elaboration and implementation of the plans for the World Climate Programme contained in the WMO Second Long-term Plan, as well as for a mechanism to achieve co-ordination of the entire programme,

REAFFIRMS the statement of Ninth Congress that the World Climate Programme should be used only for peaceful purposes, due account being taken of the national sovereignty and security of States, in accordance with the provisions of the Charter of the United Nations and the spirit and traditions of the World Meteorological Organization;

DECIDES:

(1) That the substance of the World Climate Programme be as indicated in Part II, Volume 2 of the Second Long-term Plan of WMO adopted under Resolution 25 (Cg-X); and that the WCP consist of the following four components:

World Climate Data Programme (WCDP);  
World Climate Applications Programme (WCAP);  
World Climate Impact Studies Programme (WCIP) being implemented by UNEP;  
World Climate Research Programme (WCRP) being implemented by ICSU and WMO;

(2) That WMO should continue to take the lead in the overall co-ordination of the World Climate Programme;

URGES Members to promote national climate activities and to utilize the World Climate Programme, as necessary, to strengthen their services in support of national economic and social development and reducing hazards from natural disasters.

REQUESTS the Executive Council:

(1) To conduct an annual review of the progress and future activities of the WCP;

(2) To make provision, as necessary, for meetings of established co-ordination bodies of the WCP;

(3) To make arrangements for the convening of a second World Climate Conference in co-operation with UNEP, ICSU and other international agencies in late 1989 or early 1990, which will review all aspects of the World Climate Programme with emphasis on the economic benefits of climate applications, especially in developing countries;

REQUESTS the technical commissions to give high priority to the implementation of those aspects of WCP activities which fall within the area of their competence and responsibility;

REQUESTS the regional associations to give particular attention to regional aspects of WCP;

REQUESTS the Secretary-General, within available budgetary resources:

(1) To take necessary actions to assist all bodies concerned in implementing the World Climate Programme in accordance with DECIDES (1);

(2) To continue his leadership role in co-ordinating all aspects of the World Climate Programme;

(3) To continue to pursue a vigorous climate data and applications programme so that Members are able to benefit from the programme and provide climate services for the social and economic development of their country;

(4) To report annually to the Executive Council on the progress and future activities of the WCP;

(5) To report to Eleventh Congress on the progress achieved and to submit proposals for the future.

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NOTE: This resolution replaces Resolutions 14, 15, 17 and 18 (Cg-IX), which are no longer in force.

THE CONGRESS,

RECOGNIZING:

(1) That the World Climate Research Programme is concerned with both climate prediction and man's influence on climate,

(2) That national and international studies have led to the conclusion that a global climate change will ensue from increases in the concentrations of greenhouse gases and that this climate change could have potentially serious consequences on society,

(3) That participation of many disciplines is necessary to understand the effects of increasing concentrations of greenhouse gases on the earth's climate and particularly on ways in which these changes may impact socio-economic patterns and institutions,

(4) That the World Climate Research Programme is emphasizing the study of long-term climate perturbations that are likely to arise from increasing concentrations of greenhouse gases,

(5) That WMO has the mandate and capability to take a lead role internationally on matters related to the science of meteorology, especially the increasingly important field of atmospheric chemistry,

AGREES:

(1) That the World Climate Programme, relying on Members of WMO, jointly with International Council of Scientific Unions (ICSU) and United Nations Environment Programme (UNEP), is capable of addressing all scientific aspects of global climate change, including the collection and analysis of data and the application of current knowledge to aspects of human endeavour,

(2) That the WMO, through the World Climate Programme, has a responsibility to provide Members with state-of-the-art projections of long-term changes in the global climate,

REQUESTS Members to undertake or expand the monitoring and study of climatically important atmospheric constituents and their effects;

REQUESTS the Executive Council:

(1) To keep under review existing international co-ordinating mechanisms for addressing scientific aspects of greenhouse gases;

(2) To keep under review the progress of the World Climate Research Programme in understanding the role of greenhouse gases within the global climate system and the ability to predict global climate change;

(3) To keep under review the co-ordination of the World Climate Research Programme with international programmes dealing with atmospheric chemistry and related environmental impacts.



10 (Cg-X) - WORLD CLIMATE RESEARCH PROGRAMME

THE CONGRESS,

NOTING:

(1) Resolution 18 (Cg-IX) - World Climate Research Programme,

(2) The Agreement between WMO and the International Council of Scientific Unions (ICSU) on the World Climate Research Programme (WMO Publication No. 540),

RECOGNIZING the scientific importance of understanding the physical processes which control climate, in view of the increasing vulnerability of social and economic conditions to climatic fluctuations and the possibility that human activities may now be reaching a scale which could influence local and global climate,

CONSIDERING:

(1) That the WMO/ICSU Agreement on the World Climate Research Programme provides an effective institutional arrangement for the international planning and co-ordination of research on climate,

(2) That the Joint Scientific Committee, established by WMO and ICSU, has been successful in providing scientific guidance to the Programme and preparing effective plans for its implementation,

DECIDES to approve the continuation of the Agreement between WMO and ICSU for the conduct of the World Climate Research Programme;

INVITES Members to take all possible steps to support the implementation of the World Climate Research Programme, with emphasis on the development and exploitation of numerical models of the climate system, implementation of new observing and data management systems, and exchange of meteorological and climatological data for research;

REQUESTS the Executive Council and the Secretary-General, as appropriate and within available budgetary resources, to continue to co-operate with ICSU and other governmental and non-governmental organizations, in order to promote progress in global climate research and the study of global environmental changes.

14 (Cg-X) - MARINE METEOROLOGY AND ASSOCIATED OCEANOGRAPHIC ACTIVITIES FOR THE PERIOD 1988-1991

THE CONGRESS,

NOTING:

(1) Resolution 14 (Cg-VIII) - WMO's participation in the development and implementation of the Long-term and Expanded Programme of Oceanic Exploration and Research,

(2) Resolution 15 (Cg-VIII) - Co-ordination of marine activities,

(3) Resolution 6 (Cg-IX) - Marine meteorological and related oceanographic activities for the period 1984-1987,

(4) Resolution 7 (Cg-IX) - Systems and techniques for marine observation and data collection,

(5) Resolution 8 (Cg-IX) - Integrated Global Ocean Services System,

(6) The report of the president of the Commission for Marine Meteorology (CMM),

CONSIDERING:

(1) That a continued concerted effort by Members is needed in order that marine meteorological and related oceanographic services may meet the level and standards required internationally, in particular in respect of services provided for the safety of life and property at sea,

(2) That an increasing number of developing countries will be involved in the implementation of their responsibilities regarding the issue of weather and sea bulletins as specified in the Manual on Marine Meteorological Services, as well as in the provision of specialized services for particular user groups,

(3) That requirements from the marine user community call for close co-ordination in the provision of meteorological and oceanographic services,

(4) That expanded marine environmental services should be supported by efficient and co-ordinated programmes for the acquisition of meteorological and oceanographic data,

(5) That the support of WMO to various marine research programmes should be based on the wide use of existing WMO programmes and facilities including the joint IOC/WMO Integrated Global Ocean Services System (IGOSS),

REAFFIRMS the principle that WMO, in further developing its marine meteorological and related oceanographic activities, should continue to maintain direct contacts with international organizations representing the users' interests and should work in close co-operation with the Intergovernmental Oceanographic Commission (IOC), International Maritime Organization (IMO), Food and Agriculture Organization of the United Nations (FAO) and other international bodies dealing with marine environmental programmes and projects;

DECIDES that the substance of the Marine Meteorology and Associated Oceanographic Activities Programme be as given in Part II, Volume 4, Section 4.3 of the Second Long-term Plan of WMO adopted under Resolution 25 (Cg-X);

REQUESTS the Executive Council, with the assistance of the Commission for Marine Meteorology and other technical commissions concerned and the Joint IOC/WMO Working Committee for IGOS to promote the implementation of the WMO Marine Meteorology and Associated Oceanographic Activities Programme;

REQUESTS furthermore the regional associations to continue providing active support to regional developments in marine meteorology, both as regards the fostering of special regional co-ordination arrangements and training in marine meteorological and related oceanographic subjects;

URGES Members concerned to give all possible support to the implementation of marine meteorological and related oceanographic activities, by:

- (a) Strengthening their marine meteorological and related oceanographic services programmes, in respect of both basic services in support of the safety of life and property at sea, and also of specialized services for various marine user groups;
- (b) Continuing and/or expanding their contributions to the Marine Climatological Summaries Scheme (MCSS) and to the collection and archival of sea-ice data;
- (c) Continuing and/or expanding their contributions to marine data collection systems in support of marine meteorological services, the Global Observing System of the World Weather Watch, the World Climate Research Programme (WCRP) and other WMO programmes;
- (d) Making full use of modern telecommunication means for the collection of marine environmental data and the dissemination of information;
- (e) Assisting developing countries to fulfil their responsibilities under the Marine Meteorology and Associated Oceanographic Activities Programme;
- (f) Contributing to approved international projects of the Long-Term and Expanded Programme of Oceanic Exploration and Research (LEPOR) and other similar international programmes and projects;

REQUESTS the Secretary-General, within the available budgetary resources:

- (1) To arrange for appropriate co-ordination of WMO's activities in the above fields with other international organizations;
- (2) To assist in the implementation of the above-mentioned activities;
- (3) To bring this resolution to the attention of all concerned.

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NOTE: This resolution replaces Resolution 6 (Cg-IX), and Resolutions 14 (Cg-VIII) and 15 (Cg-VIII), which are no longer in force.

15 (Cg-X) - IMPROVEMENT OF THE COLLECTION AND DISSEMINATION OF MARINE  
METEOROLOGICAL INFORMATION USING INMARSAT

THE CONGRESS,

NOTING:

(1) Resolution 7 (Cg-IX) - Systems and techniques for marine observation and data collection,

(2) Resolution 9 (EC-XXXVII) - Improvement of the collection and dissemination of marine meteorological information using INMARSAT,

(3) Report of the fourth session of the CMM Working Group on Marine Meteorological Services (Geneva, September 1985),

CONSIDERING:

(1) The rapid expansion in the use of the International Maritime Satellite Organization (INMARSAT) marine telecommunication system, particularly amongst the WMO Voluntary Observing Ships (VOS),

(2) The considerable improvements to be expected in the receipt of marine meteorological and oceanographic observations from ships at sea through enhanced use of the INMARSAT system,

(3) The important role expected to be played by INMARSAT in the Future Global Maritime Distress and Safety System (FGMDSS) of the International Maritime Organization (IMO), in particular in the dissemination of marine safety information including meteorological warnings and forecasts,

(4) The responsibilities of Members for the provision of meteorological warnings and forecasts for the marine community as required under the Safety of Life at Sea (SOLAS) Convention and as detailed in the Manual on Marine Meteorological Services,

RECOGNIZING WITH APPRECIATION that certain Members operating INMARSAT Coast Earth Stations (CES) have already arranged to accept ships' weather reports and BATHY/TESAC reports through their CES which are of general value to all Members of WMO,

BEING CONCERNED, however, that these reports are, at the present time, concentrated on a limited sub-set of the CES already in operation,

URGES:

(1) Those Members operating CES who have not yet done so, to accept ships' weather reports and oceanographic reports transmitted through their CES, free of charge to ships;

(2) Those Members in Regions where the introduction of INMARSAT has produced recognized changes in patterns of data collection to develop inter-regional, regional, sub-regional or bilateral agreements for cost-sharing, as appropriate,

(3) All Members with responsibilities for the provision of meteorological forecasts and warnings for the safety of life and property at sea to study carefully the potential and problems offered by the INMARSAT system for the broadcast of meteorological information to shipping and to report their experience in this regard for the benefit of other Members;

ENCOURAGES the use of Voluntary Co-operation Programme support, on an individual basis, and/or other financial arrangements which Members might implement, to overcome specific problems which have arisen in a few centres with regard to the costs of collecting ships' weather reports via INMARSAT,

REQUESTS:

(1) The presidents of the Commission for Basic Systems (CBS) and the Commission for Marine Meteorology (CMM) to continue providing advice on technical, administrative and financial questions which may arise in the expanded global use of INMARSAT;

(2) The Executive Council, with the assistance of the presidents of CBS and CMM and the Secretary-General, to consider the formulation of appropriate cost-sharing schemes for the reception of marine environmental reports through INMARSAT;

FURTHER REQUESTS the Secretary-General to study, in consultation with INMARSAT and IMO, as appropriate, the further use of the INMARSAT system for the collection of ships' marine meteorological and oceanographic reports and the dissemination of meteorological information to shipping and to keep Members closely informed of the results of this study.

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NOTE: This resolution replaces Resolution 7 (Cg-IX), which is no longer in force.

16 (Cg-X) - INTEGRATED GLOBAL OCEAN SERVICES SYSTEM

THE CONGRESS,

NOTING:

(1) Resolution 8 (Cg-IX) - Integrated Global Ocean Services System,

(2) Resolution 15 (EC-XXXVIII) - Report of the fourth session of the Joint IOC/WMO Working Committee for IGOSS,

(3) IGOSS General Plan and Implementation Programme 1982-1988,

(4) Report of the First Informal Planning Meeting on the World Climate Research Programme (WCRP), Geneva, 12-16 May 1986,

CONSIDERING that data originating from the IGOSS programme not only make a significant contribution to operational meteorology and the provision of operational oceanographic services, but also form an essential element of the ocean monitoring component of the World Climate Research Programme,

RECOGNIZING that a substantial increase in the amount of ocean data available through IGOSS is needed to satisfy the requirements for such data of operational meteorology, oceanographic services and research,

URGES Members to increase their participation in all or any parts of the basic elements of IGOSS, in particular the IGOSS Observing System, by:

- (a) Fully exploiting all existing sources of BATHY/TESAC data for operational exchange through IGOSS;
- (b) Enlisting more research vessels and ships-of-opportunity to the BATHY/TESAC operational programme;
- (c) Improving ship-to-shore telecommunication arrangements, in particular through the greater use of satellite-based telecommunication facilities;
- (d) Supplying expendable bathythermograph probes to ships through collective and bilateral assistance programmes;
- (e) Further expanding their operational sea-level measurement networks and submitting the data to the appropriate Specialized Oceanographic Centres (SOC) of the IGOSS Sea Level Pilot Project (ISLPP);

REQUESTS the Executive Council and the Secretary-General to take any action considered necessary and within the available budgetary resources:

- (a) To further the co-operation between WMO and IOC in the continued implementation of IGOSS;
- (b) To assist Members in the further implementation of IGOSS.

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NOTE: This resolution replaces Resolution 8 (Cg-IX) which is no longer in force.

Extracts of the General Summary of the work of the session

3. WORLD CLIMATE PROGRAMME (agenda item 3)

3.1 In reviewing the decisions of Tenth Congress concerning the World Climate Programme (Resolution 8 (Cg-X)), the Executive Council noted that the mechanism established by Ninth Congress for the overall co-ordination of the WCP was to be maintained during the Tenth Financial Period. The Executive Council accordingly decided to retain the Advisory Committee for the World Climate Applications and Data Programmes (ACCAD) set up by Resolution 17 (EC-XXXIV) (see agenda item 10). The Council also noted that, in accordance with Resolution 8 (Cg-X), it would conduct an annual review of the progress and planned activities of the WCP, and would make provision, as necessary, for meetings of established co-ordination bodies of the WCP.

3.2 The Executive Council noted with appreciation the report submitted by the chairman of the Advisory Committee for the World Climate Applications and Data Programmes on its fourth session (Geneva, 22-23 September 1986). The Council noted that those parts of the report of ACCAD-IV relating to proposed amendments to the draft of the WMO Second Long-term Plan had been considered and agreed upon by Tenth Congress. The Council requested the Secretary-General to ensure that the other views and proposals contained in the ACCAD report would be taken into account in the implementation of the World Climate Programme.

3.3 Congress asked the Executive Council, in co-operation with the governing bodies of UNEP and ICSU, to continuously monitor the implications of increasing concentrations of greenhouse gases and their effect on global climate and also to arrange appropriate mechanisms in order to undertake further development of the scientific aspects of greenhouse gases. The Council expressed growing concern about the implications of increasing concentrations of radiatively active trace gases ("greenhouse gases" and aerosols) on climate, and believed that improvements in the scientific basis for projecting the magnitude, timing, and impact of atmospheric and climatic changes were urgently required. It agreed that the necessary scientific research was being pursued effectively through existing international co-ordination mechanisms. At the same time, there was a need for objective, balanced, and internationally co-ordinated scientific assessments of the current understanding in terms useful to governments. The Council thus stressed the importance of the research conducted within the framework of the WCP and the related monitoring activities of WMO. The Council also expressed satisfaction on the development of the International Geosphere Biosphere Programme by ICSU in order to address a broader range of global change issues. It noted the preliminary assessments and recommendations developed by the WMO/ICSU/UNEP Villach Conference and subsequently by the Advisory Group on Greenhouse Gases (AGGG).

3.4 The Council believed that the establishment of a more broadly representative mechanism should be considered in view of the complexity and importance of the issue. The Council therefore requested the Secretary-General, in co-ordination with the Executive Director of UNEP, to explore and, after appropriate consultation with members of the Executive Council, to establish an ad hoc intergovernmental mechanism to carry out internationally co-ordinated scientific assessments of the magnitude, timing and potential impact of climate change. The mechanism developed should avail itself of balanced scientific expertise and provide for participation by governments and organizations.

3.5 Congress requested the Executive Council to make arrangements for the convening of a second World Climate Conference in co-operation with UNEP, ICSU and other international agencies in late 1989 or early 1990, which would review all aspects of the World Climate Programme with emphasis on the economic benefits of climate applications, especially for developing countries. The Council requested the Secretary-General, in co-ordination with UNEP, ICSU and other international organizations, to submit to EC-XL a detailed proposal for the organization of a world climate conference in late 1989 or early 1990 reviewing all aspects of the WCP with emphasis on climate applications in developing countries and also providing a status report on the scientific understanding of climate change. The Executive Council agreed with the proposal to request the President of WMO to be the Chairman of the Conference. The Council expressed appreciation to the Government of Canada for making available the conference secretariat support in Toronto so as to ensure the timely preparation of the conference. The Executive Council authorized the Secretary-General in co-ordination with UNEP and ICSU to form an Organizing Committee to provide guidance on the venue, the agenda, the speakers, the attendees and other essential matters, taking into account the following ideas developed by the informal meeting of representatives of WMO, UNEP, ICSU and IOC (Geneva, 15-16 May 1987):

- (a) The number of invited speakers should be limited to about 25;
- (b) The Conference should last 10-14 days;
- (c) The Conference should make a statement to governments giving the primary conclusions and recommendations of the Conference.

The Executive Council considered that the Organizing Committee should examine the feasibility of inviting ministers to the Conference and should also study the benefits of holding the Conference at an intergovernmental level.

3.6 The decisions of the Executive Council on specific items of the WMO programme and budget for 1988-1989 relating to the WCDP, WCAP, WCIP and Overall Co-ordination of the WCP were recorded under agenda item 11.

#### World Climate Research Programme (WCRP)

3.7 The Council reviewed the work of the ICSU/WMO Joint Scientific Committee (JSC) and noted with satisfaction the progress made in the implementation and further development of the WCRP.



## Development of the Tropical Ocean and Global Atmosphere (TOGA) programme

3.8 The Council was pleased to note that experimental predictions, made with models of the tropical Pacific Ocean driven by observed surface winds, had been successful in forecasting the occurrence of anomalous ocean circulation and temperatures in late 1986, although not in predicting the relatively small amplitude of the event. The Council endorsed the TOGA Scientific Steering Group decision to emphasize the real-time prediction aspect of this research programme, in consonance with progress achieved with coupled tropical ocean/atmosphere models.

3.9 The Council noted also that progress was slower in the Indian Ocean region due to the limited availability of wind observations. In that respect, the Council noted the potential value of cloud wind and radiance data that could be provided by the Indian meteorological satellite system (INSAT) and urged Members to help in fulfilling the data requirements for the TOGA programme, that might hold the key to further advances in medium- to long-range weather prediction in the Indian Ocean region.

3.10 The Council welcomed the arrangements made by the Secretary-General to install the International TOGA Project Office in the WMO Secretariat and expressed its appreciation for the secondment of personnel by several Members and for support given for the operation of the office. It was recalled that the International TOGA Project Office was operating as a component of the Joint Planning Staff for the WCRP.

3.11 The Council welcomed the arrangements made to convene the first session of the IOC/WMO Inter-governmental TOGA Board in the autumn of 1987, in Geneva, and expressed its appreciation to the Members that had agreed to participate in the Board's activities.

## Establishment of a TOGA Marine Climatology Data Collection Scheme

3.12 The Council noted that the WCRP Tropical Ocean and Global Atmosphere (TOGA) project sought to acquire all available Voluntary Observing Ship (VOS) reports for the tropical zone and that the real-time availability of these reports via the GTS was not sufficient in that region for TOGA research. A delayed-time collection scheme, such as the Resolution 35 (Cg-IV) Marine Climatological Summary Scheme (MCSS), would add significantly to the quality and quantity of available reports and if the delay for assembling the data could be made substantially shorter, would satisfy the TOGA requirements.

3.13 The Council recalled that during its thirty-eighth session, it had agreed, in principle, to the establishment of a special marine climatology data centre for TOGA and had requested the Secretariat to develop, in consultation with the United Kingdom and the president of COM, a proposal that would meet the objectives of TOGA, recognize the United Kingdom and other Members' concern about the operation of the TOGA centre, and retain the existing MCSS to the maximum extent possible.

3.14 The Council noted the proposal made by the COM Working Group on Marine Climatology, and approved by the president of COM, for modifications to the MCSS in support of the TOGA project. The proposed scheme allowed for the establishment of a TOGA Marine Climatology Data Centre that would be responsible for the tropical zone 30°N - 30°S. Contributing Members would be requested to send their ships' data to the TOGA centre, in addition to the normal dispatch procedure to the eight responsible Members, as soon as possible after keying the information and before applying quality control procedures. Following receipt of the data, the TOGA centre would exercise appropriate quality control and would endeavour to make the processed data available to the interested scientific community within one year of observation time.

3.15 The Council agreed that the scheme would provide for the production of a data set with appropriate timeliness and quality, as proposed by the United Kingdom, would leave the existing Marine Climatological Summaries Scheme unchanged, and would place only limited additional burdens on contributing Members. The Council, therefore, requested the Secretary-General, in consultation with the president of CMM, to initiate actions to implement the TOGA Marine Climatology Data Collection Scheme.

#### World Ocean Circulation Experiment

3.16 The Council was pleased to note that several new, major oceanographic satellite missions, essential to the success of the World Ocean Circulation Experiment (WOCE), were being actively prepared. These were the joint France/USA TOPEX/POSEIDON satellite mission, the European Remote Sensing (ERS-1) mission of the European Space Agency and the USA NSCAT active microwave scatterometer mission, all of which were expected to be launched within the 1989-1991 period.

3.17 The Council expressed its satisfaction with the definition of a complete scientific plan for WOCE, which had been prepared at the initiative of the IOC/SCOR Committee on Climatic Changes and the Ocean, and agreed that progress made in planning the implementation of the Experiment warranted calling, late in 1988, an International Conference on WOCE sponsored jointly by ICSU, IOC, SCOR and WMO. The Council requested the Secretary-General to ensure that WMO would actively participate in the organization of this international conference.

#### Impact of radiatively active gases on climate

3.18 The Council noted the view of the JSC that the prime cause of uncertainty in predicting the response of the atmosphere to increased concentrations of greenhouse gases, was the treatment of extended cloudiness and correlative effects on radiative transfer. The Council accordingly encouraged the JSC to refine, in co-operation with the CAS Working Group on Climate Research, its proposal to develop a network of a small number of baseline radiation climatology stations. The baseline stations would serve to measure, simultaneously and to a high degree of accuracy, the surface radiation fluxes, the distribution of clouds and the upper-air temperature and relative humidity.

#### Impact of nuclear war on weather and climate

3.19 The Council expressed its appreciation to the JSC for providing an up-to-date report on the atmospheric and climatic consequences of a major nuclear war, based on an assessment of available scientific information as at the end of 1986. The Council noted that the findings reported to EC-XXXVII had been essentially confirmed by comprehensive simulations using three-dimensional general circulation models, and with more realistic representations of the relevant atmospheric processes.

3.20 The Council recommended that the JSC continue to consider this scientific problem and to update its assessment of the possible climatic consequences of a major nuclear war, when warranted by further advances in scientific understanding, and requested that the report of the JSC rapporteurs, submitted to Tenth Congress, be published in the WCP report series.

### JSC membership

3.21 The Executive Council decided on its final proposal for the list of candidates to serve on the JSC, recognizing that reasonable continuity in membership was necessary for optimal efficiency of the Committee. This list would be discussed with ICSU in order to select candidates to replace outgoing members of the JSC.

[...]

### Marine meteorology and associated oceanographic activities programme

5.14 Tenth Congress, by its Resolutions 14 (Cg-X) and 16 (Cg-X) set forth policy guidance on marine meteorological and related ocean activities (including IGOSS) during the tenth financial period. The Executive Council felt that the further strengthening of specialized marine meteorological services such as activities on ocean waves and sea ice, problems related to satellite-based marine telecommunications, regionally-oriented activities for the increased implementation of marine meteorological and oceanographic services, and the measurement and global dissemination of sub-surface ocean temperature data required particular attention during the coming biennium. The relevant budgetary provisions for 1988-1989 were made under agenda item 11.

5.15 The Executive Council took particular note of the comments expressed by Cg-X with regard to both the potential and the problems associated with the use of INMARSAT for the collection and dissemination of marine meteorological information and the actions required in Resolution 15 (Cg-X). It agreed that efforts should be made during the coming biennium to address particularly the problems associated with the cost of collecting ships' weather reports via INMARSAT (see also paragraph 2.10).

5.16 In noting the high priority given by Cg-X to the provision of marine meteorological services within the Marine Meteorology Programme, the Executive Council agreed that particular attention should be paid both to the strengthening of coastal marine meteorological services activities (especially in forecasting techniques and standardization of automatic observational instrumentation) and to the provision of some consolidated information for the benefit of users about the marine products and services currently offered by maritime Members. The Executive Council therefore referred both these topics to the president of COM and to the Commission itself at its next session, for consideration for further action.

5.17 The Executive Council took note of the high value placed by Congress on IGOSS as a mechanism for the provision of ocean data and products in support of both operational users and the WCRP. It also noted that if the requirements of all users were to be met then further efforts were needed to strengthen the implementation of IGOSS both in developing countries and in countries already undertaking oceanographic activities. The Executive Council therefore agreed on the need for appropriate actions to be undertaken in the 1988-1989 biennium in this regard.

## Drifting Buoy Co-operation Panel

5.18 The Executive Council noted with approval the report on the activities of the Drifting Buoy Co-operation Panel during the past year, including the report on the second panel session. In particular, it noted with pleasure that a technical co-ordinator with the status of IOC consultant for the first 12 months had been appointed for the panel as from 1 June 1987, and that sufficient funds had been committed to renew this contract for a second 12-month period. The Executive Council thanked very warmly all the countries who were contributing (or committed to contribute) to the support of this position. At the same time, it noted that these funds were still insufficient for the most effective use to be made of the technical co-ordinator in support of drifting buoy programmes and therefore urged as many other countries as possible to consider contributing to the support of this position.

5.19 The Executive Council noted other actions that were now being undertaken by the Panel, including:

- (a) Consideration of a more satisfactory long-term employment situation for the technical co-ordinator;
- (b) The compilation of lists of focal points for drifting buoy programmes;
- (c) Participation in the Operational Evaluation Plan of the OWSE-NA;
- (d) Development of a plan for operational quality control of drifting buoy data;
- (e) Plans to publish a quarterly newsletter, as well as the annual report and a Guide to Drifting Buoys.

5.20 The Executive Council noted these actions of the Panel and agreed that the detailed work plan was a practical and positive approach to fulfilling the Panel's terms of reference. At the same time, the Executive Council urged the Panel to consider closely the requirements for drifting buoy data from currently data-sparse ocean areas and to take appropriate action to improve this situation (e.g. through encouraging and co-ordinating the provision of equipment and deployment facilities).

## RESOLUTION

### 21 (EC-XXXIX) - DEPLOYMENT OF DATA BUOYS IN THE ANTARCTIC SEA-ICE ZONE

THE EXECUTIVE COUNCIL,

NOTING:

(1) The Scientific Plan for the World Climate Research Programme, WCRP No. 2, WMO/TD No. 6,

(2) The First Implementation Plan for the World Climate Research Programme, WCRP No. 5, WMO/TD No. 80,

CONSIDERING:

(1) That buoy arrays in the seasonal sea-ice zone around the Antarctic are capable of providing valuable data for both weather forecasting and climate research,

(2) That the performance of global numerical models would be improved by the deployment of additional buoys located within the Antarctic sea-ice zone,

(3) That the Planning Group for the World Ocean Circulation Experiment has identified the Weddel and Ross Seas as important components of the Southern Ocean Circulation,

URGES Members to ensure that additional drifting buoys are deployed in the Antarctic sea-ice zone up to and including the period of the planned World Ocean Circulation Experiment for continued collection of data.

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## 6.2 Other Scientific bodies and advisory groups

### Intergovernmental Oceanographic Commission

6.2.1 Referring to the co-operation between IMO and IOC under the Inter-Secretariat Committee on Scientific Programmes Related to Oceanography (ICSPRO), the IOC representative outlined recent activities of his organization of relevance to the London Dumping Convention (LDC/SG.10/6, LDC/SG.10/INF.3).

6.2.2 The Third Session of the Global Investigation of Pollution in the Marine Environment (GIPME) Group of Experts on Effects of Pollutants (GEEP), Oslo, 31 August to 2 September 1986 discussed, inter alia, vulnerable areas, bioassay techniques and the outcome of a Workshop on Biological Effects Measurements (Oslo, 11-29 August 1986). It was noted that GEEP is interacting with several international bodies with interests in its field of work.

### Bioassays

6.2.3 GEEP cautioned that bioassays are increasingly used to set environmental standards although the relationship between assay results, the form and bioavailability of the contaminants and the relationship between different biological responses are not completely understood. It classified bioassay approaches by the relative ranking of system complexity - single species tests, multiple species, including species interactions and experimental communities, microcosms or mesocosms - or by specific processes - determination of developmental or reproductive changes. In combination with data on environmental concentrations of specific contaminants, bioassays could be used to predict potential for environmental hazard associated with contaminant discharge.

6.2.4 GEEP, being aware of the interest shown by ICES and the Scientific Group in the application of bioassays to problems associated with the dumping of wastes at sea, suggested that an intercalibration exercise be arranged in which the various bioassays are evaluated together at a single site, applying the same logic as used in the Oslo Workshop, and that such an exercise could be held, for example, in the North Sea. GEEP would be prepared, with support from other organizations, to co-ordinate such an activity.

6.2.5 Several delegations were critical of the somewhat confused thinking in the section of the GEEP paper concerned with bioassays, partly due to an unusual definition of the term which appeared to include almost any research on biological effects of toxic substances. The IAPH observer felt that for monitoring purposes bioassay should be the primary tool, followed by more sophisticated approaches (e.g. energy change, scope for growth) and lastly, benthic studies.

#### Biological Effects Measurements

6.2.6 A thorough analysis of the results of the Workshop on Biological Effects Measurements is not yet completed. However, through its particular approach, this Workshop was considered to represent a unique attempt to make a comprehensive practical assessment and comparison of various current methods and techniques for measuring biological effects of pollution in the sea. In pointing out some shortcomings, the IOC representative also referred to some practical results of relevance to pollution monitoring.

6.2.7 Noting that the final report of the Workshop was not available, the United Kingdom delegation nevertheless was concerned that the initial report did not reflect an awareness of the role of biological studies in the monitoring strategy as defined by GESAMP (Reports and Studies No.12) and refined by ICES in 1985. These studies had identified the following functions of biological monitoring programmes:

- identifying and measuring the scale (spatial and temporal) and intensity of biological change;
- identifying the cause of such changes, especially as to whether the effects identified result from contamination; and
- where such is the case, assessing the consequences and significance of these effects in terms of resources and other valued features of the marine environment.

6.2.8 In relation to the latter point in particular, it was stressed that the aim of this work should be to identify inexpensive and readily applicable biological methods that can be calibrated or interpreted in terms of effects

of significance to marine environmental management. It was recognized that making this link would initially involve costly and difficult research. It was agreed that many techniques were now available that provide useful scales of measurement of biological change, especially for application to point source monitoring (e.g. on dumping areas), but that, except in terms of trends, it was often difficult to interpret the ecological significance of their results.

6.2.9 The delegation of China appreciated the information on methodology and techniques in biological effects measurements studied by GEEP, and considered that these techniques would be helpful in the assessment of impacts of dumping wastes in the marine environment. That delegation further noted that ecosystem experiments in microcosms, mesocosms or other enclosed facilities can be interesting where bioassay, biochemical, physiological, pathological, geochemical and computer modelling procedures are applied, and where the results can be compared with field measurements.

6.2.10 The Group fully supported the statement made by the delegation of China. It also expressed the view that further development of methods for measuring acute biological effects are required. Questions were also raised as to what methods are recognized by GEEP as appropriate for monitoring of near versus far field effects, and whether GIPME should address the development of modelling for effects monitoring.

IMO/IOC Inter-Secretariat Consultation (28 to 29 July 1986)

6.2.11 The Group was informed that a recent IMO/IOC interagency review meeting had identified the following topics on which IOC, through its groups of experts, might supply advice:

- .1 the use of sediments in monitoring programmes;
- .2 the feasibility of monitoring the presence of residues from incineration at sea, using existing sampling and analytical methodologies;
- .3 field verification of laboratory test data;



- .4 definition and implication of certain specific terms, such as "significant exposure", "bioavailability", etc.;
- .5 biological effects of long-term, low-level exposure to, or build-up of contamination.

6.2.12 The Group realized that some of the above tasks were both very complex and far-reaching and that answers may not be forthcoming for some considerable time. It was felt, therefore, that the tasks should be carefully reviewed by IOC and, if necessary, reformulated to better take into account the present priorities of the Scientific Group and the perceived capabilities and terms of reference of GEEP, and that IOC should be invited to give an indication of how it expected to tackle each task and propose a time frame for the related work.

6.2.13 Several delegations pointed to the overlap in activities between international scientific advisory groups such as GIPHE and GESAMP and programmes of regional bodies (e.g. ICES). They called for close liaison to avoid wasting scarce research funds on duplicated efforts.

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## IMO

MARINE ENVIRONMENT PROTECTION  
COMMITTEE - 25th Session  
London, 30/11 - 4/12 1987

IDENTIFICATION OF PARTICULARLY SENSITIVE AREAS,  
INCLUDING DEVELOPMENT OF GUIDELINES FOR  
DESIGNATING SPECIAL AREAS UNDER  
ANNEXES I, II and V

Extracts

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4.1.3 The criteria developed by the Working Group are set out in annex 2 to this report. The Working Group recommends that the Committee note the Working Group's progress in developing criteria for particularly sensitive sea areas with a view to further development at its next session. The Working Group also recommends that the IOC Group of Experts on Effects of Pollutants (GEEP) be invited to comment on the proposed criteria. It is also suggested that GEEP endeavour to test the criteria listed in annex 2 against well studied sensitive areas in different climatic zones (e.g. Morrocoy Park, Wadden Sea, and a higher latitude ecosystem).

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COMISION PERMANENTE  
DEL PACIFICO SUR - CPPS

VI REUNION DEL COMITE CIENTIFICO DE ERFEN  
Callao, Perú 22-26 de Junio 1987

RECOMENDACION No. 5

PROYECTO "VIGILANCIA Y PREDICCION DEL FENOMENO EL NIÑO EN EL  
PACIFICO SUDORIENTAL - APLICACION AL DESARROLLO"

Habiendo tenido conocimiento de la aprobación de trescientos mil dólares,  
por parte del PNUD, para iniciar la fase de aceleración del Programa  
ERFEN,

Reconociendo la urgente necesidad de fortalecer la capacidad de investigación  
de los participantes en el Programa ERFEN,

Teniendo en cuenta que el considerable aporte de los gobiernos para sostener  
al Programa ERFEN es garantía para la aplicación adecuada de la  
capacitación requerida,

Considerando, que existan componentes del Proyecto aún no financiados.

RECOMIENDA:

1. Aceptar y agradecer al aporte del PNUD así como a la COI, la CPPS  
y a los gobiernos del Sistema del Pacífico Sur, por sus gestiones  
y apoyo.
2. Dar énfasis, al Programa de Capacitación, para mejorar el análisis  
e interpretación de los procesos oceánicos, climáticos y biológicos,  
así como a la aplicación de modelos de pronósticos climáticos y a las  
técnicas de estandarización de los sistemas de vigilancia y del  
intercambio de datos,
3. Solicitar a la Secretaría General, haga las gestiones necesarias  
para que se concrete, a la brevedad posible, el financiamiento de  
los otros componentes del proyecto.