

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION  
(of Unesco)

REPORT BY A SUB-COMMITTEE OF THE JOINT IOC-IHO GUIDING COMMITTEE FOR THE  
GENERAL BATHYMETRIC CHART OF THE OCEANS (GEBCO)  
ON THE TECHNICAL ASPECTS RELATING TO THE IMPLEMENTATION OF THE DRAFT  
CONVENTION ON THE LAW OF THE SEA (ARTICLE 76)

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General Bathymetric Chart of the Oceans (GEBCO)

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Introduction

At its seventh session (6-8 October 1980)<sup>1</sup>, the Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of the Oceans (GEBCO) formed a Sub-Committee on Technical Problems relating to the Draft Convention on the Law of the Sea<sup>2</sup>, with the following terms of reference -

The Sub-Committee is to:

1. Identify technical problems which may arise in the application of Article 76 of the Draft Convention;
2. Evaluate and provide advice on the training and education facilities needed in order to enable coastal States to build up a cadre of marine geologists and geophysicists, and hydrographic surveyors, of high calibre, who will be able to provide the expertise needed in this field;
3. Report to the GEBCO Officers meeting scheduled for April 1981.

The extension of the rights of coastal States to the resources of the seabed and its subsoil beyond the outer limit of the Exclusive Economic Zone (EEZ) to include the natural prolongation of its land territory requires a definition of the outer edge of the legal Continental Shelf. Article 76 of the Draft Convention (see Annex I) defines the Continental Shelf in terms of both geodetic and geologic concepts.

The procedure by which a coastal State establishes the limits of its continental shelf beyond the 200 n.m. EEZ is laid down in paragraphs 8 and 9 of Article 76, in which reference is made to a Commission on the Limits of the Continental Shelf to be set up in accordance with the provisions of Annex II of the Draft Convention (see Annex II of this report). Article 3, paragraph 2 of this Annex authorises the Commission to co-operate 'to the extent considered necessary and useful, with the Intergovernmental Oceanographic Commission of Unesco, the International Hydrographic Organization and other competent international organizations with a view to exchanging scientific and technical information which might be of assistance in discharging the Commission's responsibilities.'

In April 1980, the United Nations Under Secretary-General, Special Representative of the Secretary-General to the Third United Nations Conference on the Law of the Sea, wrote to both a Director of IHO and the Secretary IOC as follows: "it would ..... be helpful if the IOC and IHO Secretariats could begin to identify potential key elements in the co-operation and assistance they might be able to provide such a Commission (the Commission on the Limits of the Continental Shelf) and its Secretariat. It would seem relevant, for example, to take account of the technical expertise and methods adopted for the development of the General Bathymetric Chart of the Oceans. I make special mention of this joint IOC/IHO programme in view of the valuable services already rendered to the Conference by GEBCO experts. Any examination of future needs may also have to take account of the situation with respect to available specialized training in the marine geosciences and hydrography." (see Annex III).

In response to this approach and after considerable discussion during which it was decided that it was inappropriate for the GEBCO Guiding Committee to assume any role in the interpretation of Articles in a legal document, this Sub-Committee was appointed with the terms of reference given above. In referring to 'technical problems', these are viewed not as problems relating to the text itself but to hydrographic and geological aspects which will arise in coastal States in obtaining the technical data and other material needed for submission to the Commission on the Limits of the Continental Shelf, and in the interpretation of such technical data and other material by that Commission (ref: Draft Convention Annex II, Article 3 - Annex II of this report).

The necessary expertise to address these problems lies in the links with national hydrographic services maintained by the International Hydrographic Organization, and with the marine geoscience community maintained by the Intergovernmental Oceanographic Commission. The collaboration of these two intergovernmental bodies in the preparation of a world bathymetric chart (GEBCO) provides a suitable forum for consideration of these problems.

In addition to this GEBCO Sub-Committee, an ad hoc Task Team has been created by the Intergovernmental Oceanographic Commission 'to study the present or any future text developed by the Third UN Conference on the Law of the Sea, with a view to identifying the functions set forth in that text which the IOC is competent to perform or which may be the subject of a possible future request.' (ref: IOC resolution EC-XIII.16 - in Annex IV).

The Sub-Committee recommends that this report be placed before the above ad hoc Task Team as a working document, for use as it sees fit and incorporation as considered desirable in any report it may make to the Executive Council of the IOC at its fourteenth session.

## I TECHNICAL PROBLEMS IN THE IMPLEMENTATION OF ARTICLE 76 OF THE DRAFT CONVENTION ON THE LAW OF THE SEA

Each coastal State which intends to establish the seaward boundary of its continental shelf beyond the 200 n.m. exclusive economic zone is required to submit particulars of such boundary to the Commission (on the Limits of the Continental Shelf) along with supporting scientific and technical data (ref: Draft Convention Annex II, Article 4 - Annex II of this report).

Most elements required for the establishment of this seaward boundary will require the application of the standard techniques of hydrographic surveying. Some will require additional interpretation of data obtained by such standard surveying techniques. A few will require the use of geophysical techniques not commonly used by hydrographers but extensively used by geophysical surveyors in the search for hydrocarbons, and also possibly of deep sea drilling.

In general, it is considered that provision of advice to coastal States and to the Commission on the Limits of the Continental Shelf, on the delimitation and identification of the following limits and seabed features, fall within the competence of the International Hydrographic Organization and the Intergovernmental Oceanographic Commission, and, in particular, the expertise of the Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of the Oceans (GEBCO).

Several criteria for the establishment of the outer limits of their continental shelves by coastal States are given in Article 76 of the Draft Convention<sup>2</sup>. Certain of these are distance criteria which can be determined either cartographically or computationally from the boundaries from which they are to be measured. In this exercise, attention must be paid to the delineation of 'straight lines' on the curved surface of the earth, especially when these may be as long as 100 n.m., and the appropriate chart projections used, if they are established cartographically. This problem is discussed in more detail in IHO document 'Commentary on Technical Provisions in Section 1 of Part II, and some related Articles, of the Informal Text of the Draft Convention' <sup>3</sup>.

1. Baselines Although the establishment of baselines is not discussed in Article 76, they are an essential starting point for the definition of the continental shelf. They shall be determined according to Articles 5, 6, 7, 9, 10, 11, 13 and 14 in Section 2 of Part II and Article 47 in Part IV of the Draft Convention.

A prerequisite for such determination is firstly the establishment to a sufficient degree of accuracy of the absolute geographical position of the coastline, and secondly, an adequate quantitative description of the tidal regime. These will enable the baselines to be delineated on the appropriate large-scale charts, using standard nautical surveying techniques.

2. The foot of the continental slope (Art. 76, para. 4(b))

If the continental margin extends beyond 200 n.m., the outer limit of the continental shelf is referred to the 'foot of the continental slope', which can consist of straight line segments connecting points not more than 60 n.m. apart. The sub-paragraph referred to above states 'In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in gradient at its base.' A coastal State will therefore have to acquire, by the use of precision deep echo-sounding equipment, profiles of the continental slope approximately orthogonal to the regional trend of the continental margin.

Bearing in mind the small-scale features of the continental slope (submarine canyons, sediment drifts, fault blocks, slumps, etc.), the average of a number of slope profiles will be required in order to establish the regional position of the foot of the continental slope. Procedures will need to be developed to determine from these smoothed profiles 'the point of maximum change of gradient at its base'.

3. The 1% sediment thickness line (Art. 76, para. 4(a)(i))

The coastal State can choose to determine the outer edge of its continental margin 'by reference to the outermost fixed points at each of which the thickness of sedimentary rocks is at least one per cent of the shortest distance from such point to the foot of the continental slope'. Profiles of sediment thickness can be determined by the technique of seismic reflection profiling combined with seismic refraction data. Reflection profiling determines the time for sound to penetrate the sediments and be reflected back by basement rocks. To convert the time interval to a true thickness of sediments, the velocity of sound at all depths in the sediment has to be determined and this is commonly done by the seismic refraction method.

However there are many difficulties with these techniques especially in the interpretation of the basement, or base of the sediments. Layers of hard (lithified) sediment, intrusions of sills into the sediments or lava extrusions on top of the older sediments, and inversions of velocity gradients within the sediments, can complicate the interpretation of seismic data.

The nature of the basement rocks themselves may be massive volcanic basalt, fractured volcanic debris (breccia) or ash (tephra), or they may be fractured, subsided or altered blocks of continental rocks resulting from the initial rifting of continents and thus containing older sedimentary rocks. The thickness of sedimentary rocks at a point can only be established unequivocally by drilling through them. To date, only about 700 such holes have been drilled in oceanic depths throughout the world.

As the formula in paragraph 4(a)(i) refers to sediment thickness as a percentage of distance from the foot of the continental slope, it follows that the greater this distance, the greater the sediment thickness needed to qualify for inclusion in the continental margin. Thus sediment thickness profiles orthogonal to the regional trend of the continental margin will be necessary in order to maximise a claim.

4. The 2,500 metre isobath (Art. 76, para. 5)

To determine this isobath, it will be necessary to survey the region using precision echo-sounding techniques. In establishing the depth from the time interval recorded on the echo-sounder, the variations of sound velocity in sea water will have to be taken into account.

5. Submarine ridges (Art. 76, para. 6)

The identification of those submarine ridges to which the provisions of this clause will apply will require a full understanding of the usage, by hydrographers and marine geoscientists, of the terms for 'submarine elevations that are natural components of the continental margin, such as its plateaux, rises, caps, banks and spurs'.

## II TRAINING AND EDUCATION FACILITIES NEEDED

### Background

The Secretariat of the Third UN Conference on the Law of the Sea, following up on a suggestion made by the Chairman of the First Committee of the Conference and a brief discussion that ensued in that Committee, prepared a document entitled 'Manpower Requirements of the Authority and related Training Needs'<sup>4</sup> which was submitted to the resumed eighth session of the Conference, New York, 19 July - 24 August 1979.

The document states inter alia: 'According to the provisions of part XIV of the ICNT (now the Draft Convention on the Law of the Sea), the Authority will be required to furnish technical assistance to developing countries, to promote and conduct marine scientific research, and to facilitate information exchange on marine science and technology', and also: 'While the requirements of the Authority and Enterprise call for special focus on education and training in deep sea mineral development, the Authority would also become involved with more general training programmes in marine science and technology and marine affairs.'

The document recalls that 'A report to the United Nations Sea Bed Committee, entitled 'Study on international machinery'<sup>5</sup>, listed training as one of the five main functions for the future body, noting that ocean-based industries would require a variety of specialists in a wide range of basic scientific disciplines as well as in many engineering fields and that there was a world-wide weakness in most of these professions, particularly in developing countries.', and continues 'Organizations of the United Nations system continue to stress that scarcity of manpower resources is the chief limiting factor to the development of national efforts and international co-operation as regards the study of the oceans and the rational use of their resources, and to urge that marine education and training programmes be strengthened, whether by increasing allocations for study grants, fellowships and training courses, or by increasing the assistance States provide for the development of national and regional programmes and facilities. Emphasis is increasingly placed on the importance of national commitment to peaceful marine science and technology training and on efforts which create or promote public awareness of the oceans and their resources.'

More recently, the United Nations General Assembly adopted resolution A/RES/35/116 (dated 19 January 1981) which inter alia requests the Secretary-General

'in his capacity as Secretary-General of the Conference, to prepare and submit to the Conference (on the Law of the Sea) at its tenth session, for such consideration as it deems appropriate, a study identifying:

- (a) the future functions of the Secretary-General under the draft Convention; and
- (b) the needs of countries, especially developing countries, for information, advice and assistance under the new legal regime.'

The study is being prepared with the participation of the different departments of the United Nations Secretariat which have contributed to the substantive Secretariat of the Conference.

The Special Representative of the Secretary-General (to the Third U.N. Conference on the Law of the Sea) has stated on more than one occasion that the practical implementation of many aspects of the future Convention on law of the sea will require the close co-operation of every agency and intergovernmental body within the UN system that has within its terms of reference any of the different aspects of the uses of the sea and the rational management of its resources.

It is likely that the demands from Governments for information and assistance will increase substantially and that the different members of the UN family will have to make great efforts to meet this new challenge.<sup>6</sup>

#### Transfer of knowledge and information exchange

Most aspects within the competence of the Intergovernmental Oceanographic Commission and the International Hydrographic Organization of transfer of knowledge and information exchange, particularly those in the field of marine science and technology, including hydrography, have been covered in two documents:

- i) The IHO. These may be found in 'Training and Technical Assistance in Hydrography'<sup>7</sup>;
- ii) The IOC. These have been remarked upon in the document 'Outline of a Comprehensive Plan of Major Assistance to enhance Marine Science Capabilities of Developing Countries' (in preparation).

The Sub-Committee has therefore confined itself in this report to those aspects of this problem which fall within the competence of the GEBCO Guiding Committee and which can possibly be solved, or to which a contribution can be made to their solution, by the expertise which has been built up over the years by the present joint IOC-IHO project.

Coastal States having limited expertise in these fields will have to reach early decision on the ways and means whereby they might implement the provisions of the Draft Convention on the Law of the Sea to their optimum benefit.

Each coastal State which intends to establish the seaward boundary of its continental shelf beyond the 200 n.m. exclusive economic zone, will have to take into account the provisions of Annex II, Article 4 of the Draft Convention (see Annex II of this report) which states that the 'coastal State concerned shall submit particulars of such boundary to the Commission (on the Limits of the Continental Shelf) along with supporting scientific and technical data as soon as possible but in any case within 10 years of the entry into force of this Convention for that State.'

Initially, depending on numerous factors, in particular the cost of such undertakings and the availability of existing national structures and trained manpower, each such coastal State will have to decide whether it intends to: i) undertake the work itself; or ii) place contracts for the work to be carried out either by commercial undertakings or by countries which do have the necessary skills.

In either case, there will be a requirement in each such coastal State for a cadre of marine geologists and geophysicists, and hydrographic surveyors, of high calibre, who will have sufficient qualifications and expertise to enable them to have a full understanding of the technical problems involved in obtaining the supporting scientific and technical data needed for its submission to the Commission, quite apart from any subsequent exploitation of the resources which may exist on its continental shelf.

Training for marine geoscientists and hydrographic surveyors is currently available in a wide variety of organizations, academic, commercial and government, throughout the world<sup>8</sup>, although none at present, so far as is known, is dedicated solely to the purpose of the implementation of the technical content of the proposed Convention on the Law of the Sea.

#### GEBCO International Geoscience Unit

In 1975, the Secretary IOC, acting on the recommendation of the GEBCO Guiding Committee, prepared an application to the United Nations Development Programme (UNDP) for support for a GEBCO International Geoscience Unit, to be colocated in Ottawa with the Canadian national geoscience mapping division of the Canadian Hydrographic Service. The reason for this choice of location was that the sheets of the GEBCO (5th Edition) are scribed, printed and published by the Canadian Hydrographic Service (at Canadian government expense), and the Canadian government had offered to host a GEBCO International Geoscience Unit and bear all administrative support and overhead costs on condition that the unit was so colocated. The proposed unit had a training component which had been designed to meet certain of the stated needs of the UN Conference on the Law of the Sea (as then foreseen); it was supported fully by the Conference Secretariat.

It may be worthwhile to recall at this stage, in view of its relevance to the recommendations of this Sub-Committee, that the proposed GEBCO International Geoscience Unit was described in the application as an integral part of the GEBCO project as a whole. The request was for a sum of \$ 130,000 per year for five years (1976-80), whilst counterpart contributions in kind were assessed as 'well over three quarters of a million dollars per annum, plus considerably larger unseen costs for the provision of ship time for the collection of bathymetric data, provided by numerous member states of both the IHO and IOC.' These contributions were (and still are) made by 19 member States and a number of international Agencies. The application was rejected. A number of other attempts to raise funds for this purpose also proved unsuccessful.

The Sub-Committee considers that failure to find the necessary funding for the GEBCO International Geoscience Unit has resulted in a great loss of opportunity and consequent lack of preparedness by many countries for the tasks that they will wish to undertake for their own benefit once the Convention on the Law of the Sea has come into force.

It should be reiterated once again that within the framework of the Guiding Committee for GEBCO, there rests a specific competence that is highly relevant to the scientific needs that have become of increasing importance to coastal States as a result of the Third U.N. Conference on the Law of the Sea, and that this and another similar project sponsored by IOC (the International Bathymetric Chart of the Mediterranean) are unique within the United Nations system.



Because of this competence, the Guiding Committee is considered to be the most appropriate existing group to supervise either a unit similar to the proposed GEBCO International Geoscience Unit or any small geoscience units that may be established as components of any overall training structure that may be developed. Such units constituted within the overall structure could also provide all the necessary technical servicing support that will be needed by the Commission on the Limits of the Continental Shelf.

Courses at such units could initially be specifically tailored to meet the requirements of the small number of coastal States wishing to establish the seaward boundary of their continental shelves beyond the 200 n.m. exclusive economic zone, and would cover inter alia the topics discussed in Section I of this report. The content of such training courses would depend on the basic qualifications of the participants but, to be of any value, each course would have to last at least 2-3 months and consist of no more than 10-12 participants. These particular courses will be a limited requirement. They could be followed by (or be coincident with) courses with a wider scope providing training in basic geological and geophysical survey methods and techniques falling within the competence of the Guiding Committee for GEBCO.

The staff proposed for the GEBCO International Geoscience Unit would allow some 60-70 persons to be given this limited training per year. It is stressed that such courses would be supplementary to, and would in no way replace, longer qualifying courses leading to degrees in marine science, and qualifications in hydrographic surveying, at universities and at the various establishments listed in IHO Special Publication no. 47.

### Funding

Whilst it is not considered to be the task of the Sub-Committee to assess the detailed costs of the proposed GEBCO International Geoscience Unit, it has been estimated that there would be three main cost headings, for which funds would have to be guaranteed before such a unit could be established: Staff (6 professionals and supporting staff); Overheads and administrative support; and Training awards for course participants. At present day prices such a unit would cost about \$ 1 million a year.

During the Third UN Conference on the Law of the Sea, the delegation of the United Kingdom suggested that, immediately following signature of the Convention, a provisional training fund should be established, financed by voluntary contributions, to provide training awards for qualified students in disciplines identified as being relevant to the needs of the Authority and the Enterprise.<sup>9</sup>

### References

1. Summary Report of the seventh session of the Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of the Oceans (GEBCO), Monaco, 6-8 October 1980 (doc. IOC-IHO/GEBCO-VII/3), item 7 Provision of Technical Support in response to the requirements of the Third UN Conference on the Law of the Sea, including training and education activities.
2. Draft Convention on the Law of the Sea (Informal Text) - (doc. A/CONF.62/WP.10/Rev.3\* dated 22 September 1980).
3. Commentary on Technical Provisions in Section 1 of Part II, and some related Articles, of the Informal Text of the Draft Convention (on the Law of the Sea) - (IHO ref: S1/4011).
4. Manpower Requirements of the Authority and related Training Needs. Preliminary report of the Secretary-General (doc. A/CONF.62/82 dated 17 August 1979).
5. Study on international machinery (doc. A/AC.138/23) - also issued as Annex III to 'A report to the United Nations Sea-Bed Committee' (doc. A/8021).
6. Extract from a 'Statement by Mr J.P.Lévy, on behalf of Mr Bernardo Zuleta, Under-Secretary-General, Special Representative of the Secretary-General, to the first session of the IOC Scientific Review Board (doc. IOC/SRB-I/3 Annex IV).
7. Training and Technical Assistance in Hydrography (IHO Special Publication No. 47 dated January 1980).
8. Marine Affairs: Register of Courses and Training Programmes (UN publication no. ST/ESA/54).
9. Reports of the 115th and 116th plenary meetings of the Third UN Conference on the Law of the Sea (docs. A/CONF.62/SR.115 and 116).

Extract from the Draft Convention on the Law of the Sea (Informal Text)  
(doc. A/CONF.62/WP.10/Rev.3\* dated 22 September 1980)

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## PART VI. CONTINENTAL SHELF

### Article 76

#### Definition of the continental shelf

1. The continental shelf of a coastal State comprises the sea-bed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance.

2. The continental shelf of a coastal State shall not extend beyond the limits provided for in paragraphs 4 to 6.

3. The continental margin comprises the submerged prolongation of the land mass of the coastal State, and consists of the sea-bed and subsoil of the shelf, the slope and the rise. It does not include the deep ocean floor with its oceanic ridges or the subsoil thereof.

4. (a) For the purposes of this Convention, the coastal State shall establish the outer edge of the continental margin wherever the margin extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by either:

- (i) A line delineated in accordance with paragraph 7 by reference to the outermost fixed points at each of which the thickness of sedimentary rocks is at least 1 per cent of the shortest distance from such point to the foot of the continental slope; or
- (ii) A line delineated in accordance with paragraph 7 by reference to fixed points not more than 60 nautical miles from the foot of the continental slope.

(b) In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base.

5. The fixed points comprising the line of the outer limits of the continental shelf on the sea-bed, drawn in accordance with paragraph 4(a)(i) and (ii), either shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured or shall not exceed 100 nautical miles from the 2,500 metre isobath, which is a line connecting the depth of 2,500 metres.

6. Notwithstanding the provisions of paragraph 5, on submarine ridges, the outer limit of the continental shelf shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured. This paragraph does not apply to submarine elevations that are natural components of the continental margin, such as its plateaux, rises, caps, banks and spurs.

7. The coastal State shall delineate the seaward boundary of its continental shelf where that shelf extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured by straight lines not exceeding 60 nautical miles in length, connecting fixed points, such points to be defined by co-ordinates of latitude and longitude.

8. Information on the limits of the continental shelf beyond the 200 nautical mile exclusive economic zone shall be submitted by the coastal State to the Commission on the Limits of the Continental Shelf set up under Annex II on the basis of equitable geographical representation. The Commission shall make recommendations to coastal States on matters related to the establishment of the outer limits of their continental shelf. The limits of the shelf established by a coastal State on the basis of these recommendations shall be final and binding.

9. The coastal State shall deposit with the Secretary-General of the United Nations charts and relevant information, including geodetic data, permanently describing the outer limits of its continental shelf. The Secretary-General shall give due publicity thereto.

10. The provisions of this article are without prejudice to the question of delimitation of the continental shelf between adjacent or opposite States.

Extract from the Draft Convention on the Law of the Sea (Informal Text)  
(doc. A/CONF.62/WP.10/Rev.3\* dated 22 September 1980)

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ANNEX II

Commission on the Limits of the Continental Shelf

Article 1

In accordance with the provisions of article 76 of Part VI of this Convention, a Commission on the Limits of the Continental Shelf beyond 200 nautical miles shall be established in conformity with the following articles.

Article 2

1. The Commission shall consist of 21 members who shall be experts in the field of geology, geophysics or hydrography, elected by States Parties to this Convention from among their nationals, having due regard to the need to ensure equitable geographical representation, who shall serve in their personal capacities.

2. The initial election shall be held as soon as possible but in any case within 18 months after the date of entry into force of this Convention. At least three months before the date of each election, the Secretary-General of the United Nations shall address a letter to the States Parties, inviting the submission of nominations after appropriate regional consultations, within three months. The Secretary-General shall prepare a list in alphabetical order of all persons thus nominated, and shall submit it to all the States Parties.

3. Elections of the members of the Commission shall be held at a meeting of States Parties convened by the Secretary-General at United Nations Headquarters. At that meeting, for which two thirds of the States Parties shall constitute a quorum, the persons elected to the Commission shall be those nominees who obtain a two-thirds majority of the votes of the representatives of States Parties present and voting. Not less than three members shall be elected from each geographical region.

4. The members of the Commission shall be elected for a term of five years. They shall be eligible for re-election.

5. The State Party which submitted the nomination of the member shall defray the expenses of a member of the Commission while such member is in performance of Commission duties. The relevant coastal State shall defray the expenses incurred in respect of the advice referred to in article 3, paragraph 1(b). The secretariat of the Commission shall be provided by the Secretary-General of the United Nations.

Article 3

1. The functions of the Commission shall be:

(a) to consider the data and other material submitted by coastal States concerning the outer limits of the continental shelf in areas where those limits extend beyond 200 nautical miles, and to make recommendations in accordance with article 76 of Part VI of this Convention;

(b) to provide scientific and technical advice, if requested by the coastal State concerned, during the preparation of the data referred to in sub-paragraph (a).

2. The Commission may co-operate, to the extent considered necessary and useful, with the Intergovernmental Oceanographic Commission of UNESCO, the International Hydrographic Organization and other competent international organizations with a view to exchanging scientific and technical information which might be of assistance in discharging the Commission's responsibilities.

#### Article 4

Where a coastal State intends to establish, in accordance with article 76 of Part VI of this Convention, the seaward boundary of its continental shelf beyond 200 nautical miles, the coastal State concerned shall submit particulars of such boundary to the Commission along with supporting scientific and technical data as soon as possible but in any case within 10 years of the entry into force of this Convention for that State. The coastal State shall at the same time give the names of any Commission members who have provided it with scientific and technical advice.

#### Article 5

Unless the Commission decides otherwise, the Commission shall function by way of sub-commissions composed of seven members, appointed in a balanced manner taking into account the specific elements of each submission by a coastal State. Nationals of the coastal State making the submission who are members of the Commission and any Commission member who has assisted a coastal State by providing scientific and technical advice with respect to the delineation shall not be a member of the sub-commission dealing with that submission but has the right to participate as a member in the proceedings of the Commission concerning said submission. The coastal State which has made a submission to the Commission may send its representatives to participate in the relevant proceedings without the right to vote.

#### Article 6.

1. The sub-commission shall submit its recommendations to the Commission.
2. Approval by the Commission of the recommendations of the sub-commission shall be by a majority of two thirds of the Commission members present and voting.
3. The recommendations of the Commission shall be submitted in writing to the coastal State which made the submission and to the Secretary-General of the United Nations.

#### Article 7

Coastal States shall establish the seaward limits of the continental shelf in conformity with the provisions of article 76, paragraph 8, of Part VI of this Convention and in accordance with the appropriate national procedures.

#### Article 8

In the case of disagreement by the coastal State with the recommendations of the Commission, the coastal State shall, within a reasonable time, make a revised or new submission to the Commission.

#### Article 9

The actions of the Commission shall not prejudice matters relating to delimitation of boundaries between States with adjacent or opposite coasts.

UNITED NATIONS



NATIONS UNIES

THIRD CONFERENCE  
ON THE LAW OF THE SEA



TROISIÈME CONFÉRENCE  
SUR LE DROIT DE LA MER

POSTAL ADDRESS — ADRESSE POSTALE: UNITED NATIONS, N.Y. 10017  
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15 April 1980

Dear Mario,

The Law of the Sea Conference has introduced some changes and additions to its Informal Composite Negotiating Text which hold particular importance for the joint activities of the IOC and the IHO. I refer to Article 76 and Amex II of the ICNT/Rev.2 establishing a Commission on the Limits of the Continental Shelf. The Plenary debate held towards the end of the first part of the Ninth Session on the question of effecting this second revision of the ICNT clearly showed broad support for the establishment of such a Commission of experts.

Since the new Annex II provides for cooperative arrangements between the IOC and the IHO and the Commission, and since such specific reference to international organizations has not been the practice of the Conference in the ICNT, it is most appropriate that this new development is brought to the attention of the bodies concerned. At the same time, it should be noted that Annex II requests the Secretary-General of the United Nations to provide the Secretariat for this Commission. Servicing arrangements also would therefore be expected to take account of the co-operation and assistance that could be provided by the IOC and the IHO.

As you are aware, the Secretary-General attaches great importance to the contribution the United Nations system should be able to make to the effective implementation of the Convention in the future, and thus to the need for a careful examination of the institutional implications of the provisions the Conference has drafted. Although, as

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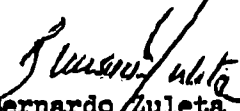
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you will have noted, the provisions of Annex II would not begin to take effect until at least 10 years after entry into force, it would nonetheless be helpful if the IOC and IHO Secretariats could begin to identify potential key elements in the cooperation and assistance they might be able to provide such a Commission and its Secretariat. It would seem relevant, for example, to take account of the technical expertise and methods adopted for the development of the General Bathymetric Chart for the Oceans. I make special mention of this joint IOC/IHO programme in view of the valuable services already rendered to the Conference by GEBCO experts. Any examination of future needs may also have to take account of the situation with respect to available specialized training in the marine geosciences and hydrography.

I would like to suggest also that the marine geosciences and hydrographic communities, through IOC and IHO, be encouraged to examine the other provisions of the Conference that call for extensive charting of marine areas. The development of the necessary expertise in hydrography, including nautical charting and baseline delineation, will be a major undertaking for many developing countries and may require new efforts in education, training and institution-building by the IOC and the IHO. All such questions will clearly need to be included in an examination of the institutional implications of the future Convention for the United Nations system.

The IOC Executive Council meeting will give us the opportunity to examine some of these questions more closely and I look forward to a most interesting exchange of views.

Yours sincerely,

  
Bernardo Zuleta  
Under Secretary-General

Special Representative of the Secretary-General  
Third UN Conference on the Law of the Sea

(Note by the GEBCO Sub-Committee on Technical Problems relating to the Draft Convention on the Law of the Sea:  
The letter sent to Rear Admiral D.C.Kapoor, Director IHO is identical but dated 16 April 1980.)



IOC Resolution EC-XIII.16

THIRD UN CONFERENCE ON THE LAW OF THE SEA

The Executive Council,

Noting the progress that the Third UN Conference on the Law of the Sea has made in developing a comprehensive Convention on the Law of the Sea,

Recognizing that the present Informal Composite Negotiating Text (Rev.2) developed by the Third UN Conference on the Law of the Sea proposes that the Intergovernmental Oceanographic Commission, in co-operation with IHO, provide assistance in the identification of the outer limits of the continental shelf,

Further recognizing that the present informal text contains several functions that the IOC is competent to perform,

Noting also that the scientific terminology used in the present informal texts of the Law of the Sea treaty merits close examination,

Decides that the Chairman, Secretary and appropriate officers of the IOC should represent the Commission at future sessions of the Conference with the same mandate as set forth in Annex III of document IOC/EC-VIII/3;

Accepts, in principle, the possible responsibility of providing assistance in the identification of the outer limits of the continental shelf as set forth in the present Informal Composite Negotiating Text developed by the Third UN Conference on the Law of the Sea, and directs the Secretary to undertake an examination of the implications of such possible assistance and, in co-operation with IHO, to start examining how this could best be accomplished;

Requests the Secretary to examine the scientific terminology used in the Informal Composite Negotiating Text (Rev.2) of the Law of the Sea, to assist the Drafting Committee of the Third UN Committee on the Law of the Sea in the drafting of the various language texts and to convey his views to the Chairman of that Committee;

Decides to create an ad hoc Task Team to meet in the future, if necessary, to study the present or any future text developed by the Third UN Conference on the Law of the Sea with a view to identifying the functions set forth in that text which the IOC is competent to perform or which may be the subject of a possible future request;

Instructs the Task Team to complete this study prior to the fourteenth session of the Executive Council.