

INTERNATIONAL COMMITTEE ON THE NOMENCLATURE OF OCEAN BOTTOM FEATURES

Minutes of Meeting held at the International Hydrographic
Bureau at Monaco, 22 September, 1952.

Present :

J.D.H. Wiseman (Chairman)

J.D. Nares }
C.D. Ovey } Joint Secretaries

Ph. H. Kuenen
H. Pettersson

H.L. Bencker }
F. Koczy } (co-opted for the meeting)
R. Revelle }
Mary Sears }
A. Viglieri }

The Committee stood in silence for a minute in honour of the memory of the late Dr. C. Francis-Bœuf.

(1) Apologies for absence were received from Dr. K.O. Emery and Professor H. Hess.

(2) Additional Members, listed above, were co-opted for the meeting.

At the proposal of Vice-Admiral J.D. Nares, it was agreed that Mr C.D. Ovey should act with him as Joint Secretary of the International Committee.

(3) *Minutes.*

The minutes of the last meeting, held in Brussels on Monday, 27 August 1951, were confirmed.

(4) *Interim Report.*

The Interim Report, published in final form in the Assoc. Océanog. Phys. Procès-Verbaux No. 5, pp. 69-73, 1952, was distributed by the Secretary (C.D. Ovey) and adopted.

(5) *Consideration of recommendations dealing with the general principles governing the selection of terms, definitions and selection of names set out on NOB/6 (52). (*)*

After careful consideration of this paper, the Committee adopted the general principles given in Appendix A.

The Committee did not consider that the scheme proposed by Dr. Dietz of identifying features by their nearest latitude and longitude would be of any use, as, in their opinion, these features, when adequately surveyed, should be given names.

(6) *To reach decisions on the various points raised on NOB/8 (52).*

A (1) The Committee did not agree with the views expressed by the U.S. Coast and Geodetic Survey, and was opposed to the proposal to extend the continental shelf to 1000 fathoms.

(*) NOB memoranda mentioned in the Minutes are not reproduced here.

- A (2) (Emend « Scientists » to read « scientific use » (line 2 of notes). It was agreed to use the term « low water line » instead of « the line of permanent immersion ». The reason for this decision is that the term « low water line » has an accepted hydrographic meaning whereas that of « line of permanent immersion » would require definition.
- B (1) After much discussion it was decided to use the term « Shelf Edge ».
The first sentence of the Note (top of page 2 of NOB/8 (52) was emended to read : « The term « Shelf Edge » is included in the definition of Continental Shelf because of its more general character. The term « Shelf Break » should be retained for breaks in the shelf other than the shelf edge, and these could be regarded as secondary features ».
- C (1) While the Committee appreciated the defects in the use of the term Continental Borderland, it agreed that it would be best to leave it until a better one is suggested.
- C (2) After considerable discussion, it was agreed to use the proposed definition for Continental Borderland, altering « line of permanent immersion » to « low water line ».
- D (1) The Committee agreed to this term, but stressed that there are certain places where the absence of a simple shelf or slope renders the term less appropriate.
- E (1) It was agreed that the term Continental Slope should be used for the slope at the outer margin of the Continental Borderland and that the term Borderland Slope should be used for the slope into deep-water at the inner margin of the Continental Borderland.
- E (2) Agreed definition : « The declivity from the outer edge of the continental shelf or continental borderland into great depths ».
- F (1) Agreement expressed for Island Shelf and Island Slope.
- G (1) The term « swell » should not be used owing to its many meanings.
- H (1) The Committee accepted the use of the term Seascarp. The definition was revised to read : « An elongated and comparatively steep slope of the sea floor ».
- I (1) It was agreed that tablemount or guyot and seapeak should be regarded as types of seamount and that the definition of seamount should be « an isolated or comparatively isolated elevation of the deep-sea floor of more than 3000 ft. ».
- It was also agreed that a new term « seahigh » should be used as a general field term for an elevation of more than 3000 ft. before any detailed survey has been made. The following is the agreed definition of seahigh : « An elevation of the deep-sea floor of more than 3000 ft., the morphology of which is insufficiently well known to be covered by a more precise definition ».
- J (1) After considerable discussion, it was agreed that both tablemount and guyot were appropriate terms for features of this nature. Whilst the arguments given in para. J (1) b were fully appreciated by the International Committee, it was nevertheless felt that a strong case could be made out for the retention of the term guyot on the grounds of priority.
- J (2) Tablemount or Guyot and Oceanic Bank.
The following was the agreed definition : « A seamount (roughly circular or elliptical in plan) generally deeper than 100 fathoms, the top of which has a comparatively smooth platform. When the platform has a depth less than 100 fathoms the term Oceanic Bank is appropriate ».
- K (1) Definition of Seapeak : « A seamount (roughly circular or elliptical in plan) with a pointed top ».

L (1) It was agreed that the term should be a seaknoll, and that its definition should be : « A submarine hill or elevation of the deep-sea floor less prominent than a seamount. (This term should only be used if the feature has been adequately surveyed and the terms seamount, tablemount or guyot, and seapeak should be used if the elevation exceeds 3000 ft. above the surrounding floor).

M (1) Whilst the terms may be expressed in two words or one, the Committee preferred to use them in united form wherever possible.

(The above alterations are included in Appendix B.)

(7) *General consideration of the proposed names for the Pacific (NOB/9 (51) as an example of how the new terminology works.*

The Chairman circulated this report as an example of the application of the British Committee's work. The Committee took note of these proposed geographical names and the Chairman asked the Members of the Committee to collect comments from those working in the Pacific and to submit their suggestions to him.

(8) *Request that a scheme for the names of major features in the East Indies (giving geographical limits and the greatest depths of basins) should be worked out having regard to the general decisions reached by this Committee. Appropriate schemes have been worked out and considered by the British Committee for the Atlantic, Arctic, Indian, Pacific and Antarctic Oceans.*

Arrangements were made to proceed with a scheme on similar lines to NOB/9 (51) for the East Indies area.

(9) *Request that the various national groups or representatives should give advice to authors and chart making authorities so that the recommendations of the Committee are adhered to.*

The Chairman asked Members of the Committee to advocate as far as possible the use of the new terms.

Professor Revelle read a letter from Professor H. Hess in which he earnestly expressed the wish that definitions should be circulated for a few years before final publication was decided upon. The Committee, however, recommended that a preliminary report should be published.

(10) *Development of a rational terminology for the secondary features associated with the continental shelf, continental borderland and deep-sea elevations. Request that Dr. Dietz along with a small group should look into this question and make recommendations.*

This item was dealt with under Item 5 of the Agenda.

(11) *Publications of report.*

The Chairman suggested he should write up the Committee's decisions under the headings :

- (a) General Principles
- (b) Definitions
- (c) Names.

Professor Revelle was asked to expedite the American consideration of the various reports sent to them. It was agreed that (a) and (b) should be published, and that (c) should await further consideration by the International Committee, but that the British National Committee should be asked to publish their proposed names.

(12) *Other business.*

(a) A report (Appendix C) from Captain A. Viglieri was read by the Secretary (Admiral J.D. Nares).

The Chairman pointed out that geographical interests were well taken care of by the British National Committee and that the various aspects of oceanographical study were also well represented.

Dr. Mary Sears advised that the Committee's proposals for names should be sent to the U.S. Board of Geographic Names and it was suggested that Profes-

sor H. Hess and Dr K.O. Emery should be asked to write to the American Geographical Society to invite its reactions. The Chairman said that he had sent copies of various reports to the U.S. Board of Geographic Names, but had received no comments.

(b) Vice-Admiral Nares announced that the Directing Committee of the International Bureau had decided not to include any new names on the few remaining sheets of the Third Edition of the General Bathymetrical Charts. The names will be considered for inclusion as necessary in the Fourth Edition.

(c) Professor Ph. H. Kuenen, seconded by Professor R. Revelle, proposed a vote of thanks to the British National Committee, especially to its Chairman and Secretary, for their work and interest in the naming of Ocean Bottom Features. This was carried.

The Chairman expressed his appreciation on behalf of the British Committee and he also expressed the thanks of the International Committee to the Directing Committee of the International Hydrographic Bureau for their courtesy in allowing the meeting to be held in their rooms.

The meeting terminated at 18.20 hrs.

APPENDIX A

Agreed general principles governing (a) the selection of new terms (b) definitions of terms and (c) the selection of names.

(See Minutes, Item 5)

A. — SELECTION OF NEW TERMS

(a) *For major Features.*

- (1) Terms should be simple, unambiguous and, if possible, descriptive. This not only facilitates scientific discussion, but would encourage mariners to investigate deep-sea topography.
- (2) As knowledge of deep-sea topography is rapidly expanding terms which imply origin should not be used, because frequently even the best genetical theories change with time.
- (3) Terms which have a confusing double meaning should be avoided.
- (4) Terms should, if possible, be readily translatable into the languages of maritime nations.
- (5) It is desirable for any author or chart making authority, before proposing a new term for an oceanic feature outside the 100 fathom or 200 metre line, first to consult a national group.

(b) *For Secondary Features.*

- (1) The general principles given in para. (a) should apply.
- (2) The International Committee considers that there is an undoubted case for the systematic development of a new terminology for secondary features, and recommends that a start should be made for those off Southern California. A group of Californian Submarine Geologists will look into this question.

B. — DEFINITIONS

- (1) All definitions should be brief, simple and unambiguous.
- (2) Although implications about origin should be avoided, the aim of definitions should be to facilitate genetical discussions.
- (3) In any one definition no previously undefined term should be used.
- (4) They should be readily translatable into the languages of maritime nations.

C. — SELECTION OF NAMES

- (1) As a general rule it is undesirable to name any submarine feature unless a reasonable survey has been made.
- (2) Geographical names should be given wherever possible for the major features. The following are the main arguments in favour of geographical names :
 - (a) It is a great help to the memory and gives the non-specialist an idea of the approximate position of the feature.
 - (b) Difficulties of priority are generally avoided.
- (3) Sometimes it is useful in order to show the geographical extent of a feature to insert names of two islands : e.g. Caroline-New Guinea, Laccadive-Chagos Ridge. It is a useful convention in such cases to read from West to East and, for features which extend due North-South, to quote the northerly first.
- (4) Only when there is no suitable geographical name should a personal or ship's name be used for a feature.
- (5) Personal or ship's names may be used for smaller features, e.g. tablemounts or guyots, oceanic banks, seapeaks, seaknolls, etc., provided there is no suitable geographical name.
- (6) A few of the deepest soundings may be given personal or ship's names in order to encourage ships' captains.
- (7) It is desirable for any author or chart making authority before proposing a new name for a feature outside the 100 fathom or 200 metre line to consult first a national group.

APPENDIX B

Agreed Definitions

(To replace those on NOB/1 (51), with subsequent emendations, and NOB/7 (52))

1. *Continental Shelf, Shelf Edge and Borderland :*

The zone around the continent, extending from the low water line to the depth at which there is a marked increase of slope to greater depth. Where this increase occurs the term *Shelf Edge* is appropriate. Conventionally its edge is taken at 100 fathoms (or 200 metres) but instances are known where the increase of slope occurs at more than 200 or less than 65 fathoms. When the zone below the low water line is highly irregular, and includes depths well in excess of those typical of continental shelves, the term *Continental Borderland* is appropriate.

2. *Continental Slope :*

The declivity from the outer edge of the continental shelf or continental borderland into great depths.

3. *Borderland Slope :*

The declivity which marks the landward margin of the continental borderland.

4. *Continental Terrace :*

The zone around the continents, extending from low water line to the base of the continental slope.

5. *Island Shelf :*

The zone around an island or island group, extending from the low water line to the depths at which there is a marked increase of slope to greater depths. Conventionally its edge is taken at 100 fathoms (or 200 metres).

6. *Island Slope :*

The declivity from the outer edge of an island shelf into great depths.

7. *Basin :*

A depression of the deep-sea floor more or less equidimensional in form, but not necessarily large and pronounced.

8. *Trench* :

A long but narrow depression of the deep-sea floor having relatively steep sides.

9. *Submarine Canyon and Valley* :

An elongated steep-walled cleft running across or partially across the continental shelf, the continental borderland and/or slope, the bottom of which grades continually downwards. When the sides have a more gentle slope the term submarine valley is more appropriate.

10. *Depth* :

A term which may be used for a few of the deepest soundings.

11. *Deep* :

The well-defined deepest area of a depression of the deep-sea floor conventionally applied where soundings definitely exceed 3000 fathoms.

12. *Rise* :

A long and broad elevation of the deep-sea floor which rises gently and smoothly.

13. *Ridge* :

A long elevation of the deep-sea floor having steeper sides and less regular topography than a rise.

14. *Seascarp* :

An elongated and comparatively steep slope of the sea floor.

15. *Gap* :

A steep-sided furrow which cuts transversely across a ridge or rise.

16. *Sill and Sill Depth* :

A submarine ridge or rise separating partially closed basins from one another or from the adjacent Ocean. The greatest depth over the sill is commonly known as the sill depth.

17. *Plateau* :

A very extensive but ill-defined elevation of the deep-sea floor, the top of which may be diversified by lesser features of elevation and depression.

18. *Seahigh* :

An elevation of the deep-sea floor of approximately 3000 ft. or more, the morphology of which is insufficiently well known to be covered by a more precise definition.

19. *Seamount* :

An isolated or comparatively isolated elevation of the deep-sea floor of approximately 3000 ft or more.

20. *Tablemount (or Guyot) and Oceanic Bank* :

A seamount (roughly circular or elliptical in plan) generally deeper than 100 fathoms, the top of which is a comparatively smooth platform. When the platform has a depth less than 100 fathoms the term *oceanic bank* is appropriate.

21. *Seapeak* :

A seamount (roughly circular or elliptical in plan) with a pointed top.

22. *Seaknoll* :

A submarine hill or elevation of the deep-sea floor less prominent than a seamount. (This term should only be used if the feature has been adequately surveyed, and the terms seamount, tablemount or guyot, and seapeak should be used if the elevation exceeds approximately 3000 ft., above the surrounding floor).

23. *Deep-sea Terrace* :

A bench-like feature bordering an elevation of the deep-sea floor at depths generally greater than 300 fathoms.

APPENDIX C

Memorandum presented by Capt. A. VIGLIERI,
International Hydrographic Bureau, Monaco
(See Minutes, item 12)

In Item 8 of the final recommendations contained in the « Interim Report » of the Committee dated 28 August, 1951, it was proposed that the internationally agreed names for the major topographic features should be inserted on all bathymetric charts in order to facilitate scientific discussions, and that, for minor features, symbols should be used.

Referring to the « Bathymetric Chart » published by the International Hydrographic Bureau and in connection with the statement above, I wish to make the following remarks :

- (a) Apart from the fact that only terms referring to very large features can be placed on the chart owing to its relatively small scale, it is necessary to bear in mind that with a few exceptions the present 3rd Edition was commenced before names were decided upon. Only contours have so far been shown. Consequently, to preserve the homogeneity of the various sheets, the work must continue along present lines, excluding current decisions on nomenclature.
- (b) The nomenclature of submarine morphology had not up to date been entirely settled internationally either in respect of the definition of topographic features and their classification or of their actual names.

With reference to item (b) above, it is believed that, in order to reach the desired agreement, it would be useful, besides increasing the number of soundings, to encourage further understanding between geographers and oceanographers, so that the use of different terms and names for bathymetrical and geographical maps may be avoided.

The national groups set up by this Committee in various nations will go far to establish by common consent the nomenclature of the deep-sea floor among geographers, oceanographers, geodesists and geophysicists.

Consequently it is considered advisable that this International Committee *insist* on the formation of national groups (adding other groups when believed advisable) to furnish the International Committee with a selection of the features for which each considers it necessary to establish terms taking into consideration individual sections of the World. It would then be the concern of the International Committee to coordinate this work and to establish afterwards an official terminology, but, in the meantime, features proposed by National Committees could be used.

No new project is involved here : as regards the more general forms of sea-floor features, geographers and oceanographers attempted to provide them during 1920-1922. The following work carried out previous to 1922 in Latin countries, based on English, German and French original terminologies, are listed — In *Italy*, by Ricchieri ; in *France*, by Thoulet ; in *Spain*, by R. de Buen ; in *Portugal*, by Ramos de Costa.

Taking as a starting-point the terminology proposed by the British National Committee, geographers might now be asked to present to the national groups up-to-date basic material, with due regard to recent advances made in the knowledge of the sea-floor, largely with the introduction of echo-sounding.