

Second session

4 February 1976



S3/2641

GEBCO SUB-COMMITTEE ON GEOGRAPHICAL NAMES
AND NOMENCLATURE OF OCEAN BOTTOM FEATURES

Second Session 3-4 February 1976
Canadian Hydrographic Service Headquarters, Ottawa

MINUTES

1. Attendance

The following attended the meeting :

Mr. G.N. EWING - Chairman
Professor B.C. HEEZEN - Member
Monsieur M. ROUBERTOU - Member
Commodore D.C. KAPOOR - Member/Secretary
Mr. Terence C. CARTER - Observer-DMA(HC)
Dr. B.D. LONCARAVIC - Observer-Atlantic Geoscience Center
Mr. D. MONAHAN - Observer-Canadian Hydrographic Service

2. Arrangements for the session

The Chairman briefed the members on the administrative arrangements made for the session.

3. Adoption of the Agenda

The Agenda was adopted (see Annex I).

4. Adoption of the Minutes of the First Session

The sub-committee adopted the Minutes of the first session (13-14 March 1975) and took note of the contents of paragraph 8 of the Report of the GEBCO Guiding Committee (second session - April 1975).

5. Policy for handling Geographical Names on GEBCO Sheets

The sub-committee examined the policy laid down in IHO resolutions T.R. A.14 and A.17 for handling geographical names together with the relevant specifications for International Charts.

As a general policy it was agreed that for names of countries, capital cities, mountain ranges and major rivers, these would be in exact agreement with the form prescribed by the most authoritative national source having sovereignty. However, in those cases where the national names differ substantially from the normal English usage, the English version would be shown alongside in parenthesis, e.g.

MISR	PRATHET THAI	TARABULUS
(EGYPT)	(THAILAND)	(TRIPOLI)

The sub-committee suggested that the lists of names appearing in the "Bulletin d'information de l'Institut Géographique National" may be used as a guide with additional information taken from national maps/charts and from the "International Map of the World on the Millionth Scale".

It was further decided that for major bodies of water the English names would be used. In the case of isolated islands and island groups, cartographic discretion would be used and, if appropriate, the generic term may be suppressed.

6. Definition of Undersea Terms

During initial discussions on this item it was agreed that the definitions being developed by the sub-committee were intended primarily for guidance within the GEBCO programme. However, the sub-committee, taking note of Resolutions Nos. 8 and 26, (Annex II) adopted by the first and second United Nations Conferences on the Standardization of Geographic Names, felt that, in conformity with these two resolutions, the work accomplished in the development of definitions would be of special interest to the United Nations Group of Experts in that it represents a contribution by the joint IHO/IOC sub-committee towards the work of this U.N. Group.

The sub-committee also felt that the list of definitions should be given wide publicity through various journals and professional bulletins in order to invite comments from interested scientists, oceanographers and hydrographers

In developing the list at Annex III the sub-committee made a detailed examination of the following sources of information :

- The original text circulated by the Chairman under letter MSD 6430-4BCI) of 3 June 1975
- List of Terms and Definitions approved by USBGN Advisory Committee on Undersea Features, January 1976
- List of Comments furnished by French Scientists, resume prepared by M. ROUBERTOU
- Definitions historically used by various authorities as listed in IHB Circular Letter 10, 1963.
- Maritime geoscience literature (various sources)
- Hydrographic Dictionary
- Glossaries of geological terms.

The listing of terms and definitions is accompanied by an introductory statement which sets out the salient features and provides some background information.

The sub-committee, recognizing that with increased ocean charting activity, new features will continue to be discovered that are not adequately defined in the present list, recommends that the list be periodically updated in keeping with new knowledge.

Procedure for handling names

The sub-committee recommends that for all future GEBCO sheets the scientific co-ordinators be invited to supply lists of proposed names for undersea features. These to be supplemented, as necessary, by the compilation staff. However, in order to facilitate proper co-ordination it is considered highly desirable that the scientific coordinator should visit the compilation centre during the final compilation stage. The subcommittee, therefore, recommends that provision be made for adequate travel funds for this purpose.

Status of sheets 5.04 and 5.12

Mr. MONAHAN and Prof. HEEZEN gave the sub-committee a brief resume of the progress of work on sheets 5.04 and 5.12 respectively.

GEBCO SUB-COMMITTEE ON GEOGRAPHICAL NAMES
AND NOMENCLATURE OF OCEAN BOTTOM FEATURES

Second Session 3-5 February 1976
Canadian Hydrographic Service, Ottawa

AGENDA

1. Arrangements for the Session, documentation, etc.
 2. Adoption of the Agenda.
 3. Adoption of the minutes of the first session held at Darmouth, 13-14 March 1975.
 4. Discussion of policy for handling Nomenclature and Geographical Names on GEBCO Sheets. Preparation of guide-lines.
 5. Discussion of "Definitions of Undersea Terms" prepared by the Canadian Permanent Committee on Geographic Names.
 6. Status report on sheet 5.04.
 7. Status report on sheet 5.12.
 8. Any other business.
-

Annex II

GEBCO SUBCOMMITTEE ON GEOGRAPHICAL NAMES AND NOMENCLATURE OF OCEAN BOTTOM FEATURES

Second Session — Ottawa, 3-5 Feb. 1976

8. Treatment of names of features beyond a single sovereignty

A. GENERAL

The Conference,

Recognizing that some features common to, or extending across the frontiers of, two or more nations have more than one name applied to them,

Further recognizing that the names of some features of this kind have different applications or extent,

1. *Considers* that it is preferable that a common name or a common application be established, wherever practicable, in the interest of international standardization;

2. *Recommends* that the geographical names authorities of the nations concerned attempt to reach agreement on these conflicting names or applications.

B. MARITIME AND UNDERSEA FEATURES

The Conference,

Having discussed some of the problems arising from a lack of international standardization of names of maritime and undersea features,

Recognizing the necessity for international standardization of names in and under ocean areas to promote the safety of navigation and to facilitate the exchange of scientific oceanographic data,

Noting that valuable initial steps have been taken towards standardization of both the nomenclature of hydrographic and undersea features and the geographical names of some of these features by the Intergovernmental Oceanographic Commission (IOC), the International Hydrographic Bureau (IHB), the International Association of Physical Oceanography (IAPO), and member nations,

1. *Recommends* that the proposed United Nations Permanent Committee of Experts on Geographical Names should:

(a) Obtain from the Intergovernmental Oceanographic Commission (IOC), the International Hydrographic Bureau (IHB) and the International Association of Physical Oceanography (IAPO), full particulars of the work already accomplished by those organizations;

(b) Establish means for the collection, approval and distribution by the United Nations of both a list of agreed terms and definitions for nomenclature of maritime and undersea features and an initial list of recommended geographical names for features requiring names;

(c) Develop procedures for international standardization of naming new undersea features as they are discovered, defined and identified in the future;

(d) Continue to consult with and, as appropriate, to use the facilities of IOC, IHB, IAPO and other relevant bodies to further United Nations objectives in international standardization of names of maritime and undersea features;

2. *Further recommends* that copies of this resolution be forwarded immediately to IOC, IHB and IAPO.

26. Standardization of names of undersea features beyond a single sovereignty

I

The Conference,

Recognizing the importance of the international standardization of names of undersea features beyond a single sovereignty,

Recognizing further the absence nowadays of a definite system and procedure for naming such features,

Recommends that the United Nations Group of Experts on Geographical Names, in co-operation with the appropriate national and international organizations and, in particular, with the International Hydrographic Organization, draw up a system for naming undersea features beyond a single sovereignty and propose it as a basis for preparing an international convention on the subject.

II

The Conference,

Noting that problems of terminology of undersea features inhibit international standardization of geographical names employing these terms,

Noting further the discussions on terminology of undersea features that are in progress among various countries and with the oceanography profession,

Recommends that the United Nations Group of Experts on Geographical Names, in co-operation with interested national names authorities and international organizations, attempt to standardize the definitions of undersea feature terms and definitions and to promote their acceptance and use by names authorities.

UNDERSEA FEATURE TERMINOLOGY

The International Oceanographic Commission (IOC) and International Hydrographic Organization (IHO) Guiding Committee on General Bathymetric Charts of the Oceans (GEBCO) in 1974 appointed a subcommittee on Geographical Names and Nomenclature of Ocean Bottom Features. The purpose of this subcommittee is to advise on names and nomenclature to be used on the 1:10,000,000 series of charts covering the world's oceans and major inland seas.

This subcommittee has made an exhaustive study of the many lists of definitions of undersea feature terms presently found in historically used by National Board of Geographic Names, International and Intergovernmental organizations, marine geoscience and hydrographic literature and widely recognized glossaries of geological terms.

The list which follows is comprised of terms, that are defined as closely as possible to correspond to their usage in the cited references taken from literature of ocean science, hydrography and exploration. In forming the definitions, it was realized that modern investigations at sea have the advantage of using very advanced instrumentation and technology that enables a more precise description of certain features than was previously possible, for this reason a reference to genesis occurs in a limited number of the terms. There has also been an attempt to limit the usage to precise physical dimensions in the definition of features. In preference, words that indicate relative sizes such as extensive, large, limited and small have been used. In addition, the definitions are based almost exclusively on a geomorphological description of the features themselves rather than making use of their navigational connotation.

The subcommittee recognizes that as ocean mapping continues, features will be discovered that are not adequately defined in this list and therefore new terms will have to be added. In the same sense, the committee is aware that many named features such as "Cap", "Deep" and "Swell" have widely accepted historical usage. However, the committee has not attempted to define them because the description of these particular features is included among the present definitions.

Contained in the list of definitions, and marked by an asterisk, are a number of synonymous and descriptive terms commonly used in literature. The underlined terms are defined and suggested for depiction on maps. The sub-committee has also noted that many of the terms will appear on maps or charts prefixed by appropriate geographic names.

The subcommittee expresses the hope that the list will be given wide publicity among the hydrographic and oceanographic communities through various professional journals with a view to soliciting comments from a broad cross-section of scientists engaged in ocean research.

^{*}ABYSSAL PLAIN
PLAIN.

A flat, gently sloping on nearly level 'Legion.

e.g. Biscay Abyssal Plain

Ref. HEEZEN, Bruce C. and A.S. Laughton, 1963. Abyssal
Plains in M.N. Hill, ed, The Sea, V.3, p. 312-364

^{*}ARCHIPELAGIC APRON
APRON

A gentle slope with a generally smooth surface of
the 'sea platform found around groups of
islands and, sometimes.

e.g. Marquesas Archipelagic Apron

Ref. MENARD, H.W., 1956. Archipelagic Aprons, Bull. Amer.
Assoc. Petroleum Geol., V.40, p. 2195-2210

^{*}Parallel Names Commonly used in Literature
Defined Names for Depiction on Maps and Charts

BANK

An area of positive relief over which the depth of water is relatively shallow, but normally sufficient for safe surface navigation.

e.g. Georges Bank

Ref. See Shoal

BASIN

A depression more or less equidimensional in plan and of variable extent.

e.g. Brazil Basin

Ref. MAURY, M.F., 1854. Bathymetrical Map of the North Atlantic Basin with contour lines drawn in at 1,000, 2,000, 3,000 and 4,000 fathoms.

This term (in French) appears in the first edition of GEBCO.

CANYON

* SUBMARINE CANYON

*A relatively narrow, deep depression
with steep sides, the bottom of which has
a continuous slope.*

e.g. Hudson Canyon

Ref. SHEPARD, Francis P. and Robert F. Dill, 1966. Submarine
Canyons and Other Sea Valleys. Rand McNally and Company,
Chicago. 381 pp

CHANNEL

* DEEP SEA CHANNEL

* SEA CHANNEL

*An elongated depression formed or modified as
the result of scouring by ancient or
present erosional processes.*

e.g.

Ref.

*BORDERLAND

CONTINENTAL BORDERLAND

A region adjacent to a continental, normally occupied by or bordering a shelf, that is highly irregular with depths well in excess of those typical of a shelf.

Region - California

Ref. SHEPARD, F.P., and K.O. ^{Emery}, 1941. Submarine Topography Off the California Coast: Canyons and Tectonic Interpretations: Geol. Soc. America Spec. Paper 31, 171 pp

CONTINENTAL MARGIN

The zone separating the emergent continent from the deep sea bottom generally consisting of the shelf, shore and rise.

CONTINENTAL RISE

A gentle slope rising *from the oceanic depths towards the foot of the continental slope.*

Ref. HEEZEN B.C., EWING M and THARP M., **1959**. The floors of the oceans. The North Atlantic Geological Society Amer. Spec. Paper 65113.

CONTINENTAL SHELF

*SHELF

*ISLAND SHELF

*INSULAR SHELF

A zone adjacent *to a continent (or around an island) and extending from the low water line to a depth at which there is usually marked increase of towards oceanic depths,*

e.g. Scotian Shelf

Ref. MURRAY, Sir John and J. Hjort, 1912. The Depths of the Ocean. MacMillan, London

Murray uses the term earlier than this, however. See MURRAY, Sir John, 1899. Present Condition of the Floor of the Ocean; Evolution of the Continental and Oceanic Areas. Rept. of Brit. Assoc. Advancement of Sci., 1899, p 789-802

CONTINENTAL SLOPE

*SLOPE

*ISLAND SLOPE

The descending *slope seaward from the shelf edge* to the beginning of a continental rise on the point where there is a general reduction in slope.

e.g.

Ref. Same as Continental Shelf

CORDILLERA

An entire *mountainous system, including all the subordinate interior plateaus and basins.*

e.g. Alpha Cordillera

Ref.

ESCARPMENT

*SCARP

*SEA SCARP

*An elongated and comparatively steep slope
separating flat or gently sloping areas.*

e.g. Mendocino Escarpment

Ref. MENARD, Henry W. and Robert S. Dietz, 1952. Mendocino
Submarine Escarpment. Journ. Geol., V.60, p 266-278

FAN or CONE

*DEEP SEA FAN

*DEEP SEA CONE

*SUBMARINE FAN

*SUBMARINE CONE

*A gently sloping, fan shaped feature, normally
located near the lower termination of a canyon.*

e.g. Ganges Cone, Delgada Fan

Ref. ERICSON, D.B., Maurice Ewing and Bruce C. Heezen, 1951.
Deep Sea Sands and Submarine Canyons. Bull. Geol. Soc.
Amer., V.62, p 961-966

FRACTURE ZONE

An extensive linear zone of *irregular topography of the sea floor, characterized by steep-sided or asymmetrical ridges, troughs or escarpments.*

e.g. Murray Fracture Zone

Ref. MENARD, H.W., 1964. Marine Geology of the Pacific. McGrawHill, New York, 271 pp

GAP

*PASS

*ABYSSAL GAP

A narrow break in a ridge or rise of separating two abyssal plains.

e.g. Theta Cap, Flemish Pass

*GUYOT OR TABLEMOUNT
TABLEMOUNT

A seamount having a *comparatively smooth, flat top*.

Ref. HESS, H.H., 1946. Drowned Ancient Islands of the Pacific Basin. Amer. Journ. Sci., V.244, p 772-791

KNOLL or HILL
 *SEA KNOLL
 *ABYSAL HILL

A *relatively small elevation of a rounded shape*.

Ref. MENARD, H.W., 1964. Marine Geology of the Pacific MacGraw-Hill, New York, 271 pp

LEVEE

An embarkment bordering one or both sides of a canyon, valley or channel.

e.g.

Ref. BUFFINGTON, Edwin C., 1952. Submarine "Natural Levees".
Journ. Geol., V.60, p 473-479

MEDIAN RIFT

*RIFT

RIFT VALLEY

The central cleft of the mid-oceanic ridge system.

e.g.

Ref. WISEMAN, J.D.H. and R.B.S. Sewell, 1937. The Floor of
the Arabian Sea. The Geological Magazine., V.74, pp 219-230

MOAT

*SEA MOAT

An annular deression that *may not be* continuous, *located at* the base of many seamounts, *islands and other* isolated elevations.

PEAK

A prominent *elevation either pointed or* *OF* very *limited* extent *accross* the summit.

PINGO

A more or less conical mound of fine unconsolidated material generally containing an ice core.

e.g.

Ref. SHEARER, J.M., R.F. MacNab, B.R. Pelletier and T.B. Smith, 1971. Submarine Pingos in the Beaufort Sea. Science, V.174, p 816°818.

PINNACLE

Any high tower or spire-shaped pillar of rock, alone or cresting a summit.

PLATEAU

A flat of nearly flat area of considerable extent across the summit which is at a relatively high level, dropping off abruptly on one or more sides to much lower topography.

e.g. Blake Plateau

Ref. AGASSIZ, Alexander, 1888. Three Cruises of the Blake.
Bull. Museum Comp. Zool, Harvard Univ., V.14 and 15.

PROVINCE

A region composed of a group of similar physiographic features whose characteristics are markedly in contrast with surrounding areas.

REEF

A range or ridge of rocks laying at or near the sea surface.

RIDGE

A long, narrow elevation with steep sides.

Ref. MURRAY Sir John, 1895. Bathymetrical maps accompanying the Challenger Report.

RISE

A long, broad elevation that rises gently and generally smoothly from the sea floor.

e.g. East Pacific Rise

Ref. Maury (IBID) mapped the "Dolphin Rise", which later was found by Challenger to be the Mid-Atlantic Ridge.

SADDLE

A low part in a ridge or between contiguous seamounts resembling in shape a saddle.

e.g. Hawke Saddle (Labrador Shelf)

SEAMOUNT

An isolated or comparatively isolated elevation of conical form and of limited extent across the summit.

e.g.

Ref. MURRAY, H.W., 1941. Submarine Mountains in the Gulf of Alaska. Bull. Geol. Soc. Amer., V.52, p 333-362

Sir John Murray (Ibid, 1899) makes reference to "numerous volcanic cones" on the sea floor.

SEAMOUNT CHAIN or SEAMOUNT RANGE

Several seamounts in a line.

e.g. Kelvin Seamounts

Ref. NORTHROP, John and Robert A. Frosch 1954. Seamounts in the North American Basin. Deep Sea Research., Vol. 1, p 252-257

SEAMOUNT GROUP
*GROUP

Several closely spaced seamounts not in a line.

e.g.

Ref. MURRAY, H.W., 1941. Submarine Mountains in the Gulf of Alaska. Bull. Geol., Soc. Amer., V.52, p 334-362

SHELF EDGE or SHELF BREAK
*EDGE

A line along *which* there is a *marked* increase of slope at *the* outer margin of a shelf.

e.g.

Ref.

SHOAL

An offshore hazard to surface navigation composed of unconsolidated material.

e.g. Georges Shoal

Ref. ... that but this blow

Might be the be-all and end-all here

But here, upon this bank and shoal of time

We'd jump the life to come"

Shakespeare, W. (1608) MacBeth, I, vii, i

SILL

A submarine ridge or rise separating basins from one another or from the adjacent sea floor.

e.g.

Ref.

TERRACE or BENCH
*DEEP SEA TERRACE

A relatively flat horizontal or gently inclined surface, sometimes long and narrow, which is bounded by a steeper ascending slope on one side and by a steeper descending slope on the opposite side.

TRENCH

A long, narrow, deep depression of the sea floor, with relatively steep sides.

e.g. South Sandwich Trench

Ref. (Review) FISHER, R.L. and R. Revelle, 1954. The Trenches of the Pacific. Sci. Amer., V.193, p 36-41

TROUGH

A *long* depression of the sea *floor* normally wider and shallower than a *trench*.

e.g.

Ref. SHEPARD FP, 1931. Glacial troughs of the continental shelves Journ. Geol., Vol. 39, pp. 345-360.

VALLEY

* SUBMARINE VALLEY

A *relatively shallow, wide deression* with gentle slopes, the *bottom of which* has a continuous *gradient*. This term is not generally used for features that have *canyon-like* characteristics for a significant *portion of* their extent.

e.g.

Ref. SHEPARD, Francis P. and Robert F. Dill, 1966. Submarine Canyons and Other Sea Valleys. Rand McNally, Chicago. 381 pp

LIST OF PARTICIPANTS

- Mr. G.N. EWING
Dominion Hydrographer
Canadian Hydrographic Service
Department of the Environment
615 Booth Street
OTTAWA K1A 0E6 Ontario
Canada

- Monsieur M. ROUBERTOU
Service Hydrographique et Oc6anographique de la Marine
3, avenue Octave Gr6ard
75200 PARIS-NAVAL
France

- Professor B.C. HEEZEN
Lamont-Doherty Geological Observatory
Columbia University
Palisades
New York 10964
U.S.A.

- Mr. Terence C. CARTER
Chief Oceanic/Bathymetric Branch-Code CTB-1
Defence Mapping Agency (Hydrographic Center)
WASHINGTON, D.C. 20390
U.S.A.

- Dr. B.D. LONCARAVIC
Director, Atlantic Geoscience Centre
Bedford Institute of Oceanography
Dartmouth, Nova Scotia
Canada

- Mr. D. MONAHAN
Canadian Hydrographic Service
Department of the Environment
615 Booth Street
OTTAWA K1A 0E6 Ontario
Canada