

Re: Action SCUFN 31/135**SCUFN Generic Term Subgroup to propose amendments to the definitions of RIDGE, SEAMOUNT, CANYON vs VALLEY providing more geometric criteria****Generic Terms Group****(Yasuhiko Ohara, Hyun-Chul Han, Trent Palmer, Roberta Ivaldi, and Kevin Mackay)****1. Background**

Action SCUFN31/135 was come from the reviewing of some undersea feature name proposals that include ESCARPMENT and RIDGE, in particular, Sechosech RIDGE proposed by the Republic of Palau. There were discussions that Sechosech “RIDGE” may be better named Sechosech “ESCARPMENT”.

SCUFN31 therefore asked the Generic Terms Group to propose amendments to the definition of RIDGE and ESCARPMENT, as well as SEAMOUNT, CANYON and VALLEY.

2. Analysis

The Generic Terms Group made a review of various sources of information including those in internet as well as in historical publications. Among these, we considered the following historical publications are significant:

Edvalson, F.M., 1967, Classification of bathymetric features, US Naval Oceanographic Office, pp. 48.

GEBCO-SCGN, 1976, SCGN-2 Report, pp.29.

GEBCO-SCGN, 1978, Undersea feature terminology, Marine Geophysical Researches, 3, 421-432.

GEBCO Sub-Committee on Proper Geographical Names for Ocean Bottom Features, 1971, Nomenclature of ocean bottom features, International Hydrographic Review, 48, 203-208.

Wiseman, J.D.H. and C.D. Ovey 1953, Definitions of features on the deep-sea floor, Deep Sea Research, 1, 11-16.

By scrutinizing these historical publications, we realize the development or evolution of current generic term definitions (as appeared in B-6 Edition 4.1), some of the definitions being simplified significantly from the historical versions (e.g., RIDGE).

3. Results

3-1. RIDGE vs. ESCARPMENT

Below, definitions for RIDGE and ESCARPMENT (or SEASCARP) are listed, following B-6 Edition 4.1, Wiseman and Obey (1953) and GEBCO-SCGN (1978).

	RIDGE	ESCARPMENT or SEASCARP
B-6 Edition 4.1	An elongated elevation of varying complexity, size and gradient.	An elongated, characteristically linear, steep slope separating horizontal or gently sloping areas of the seafloor.
Wiseman and Obey (1953)	A long elevation of the deep-sea floor having steeper sides and less regular topography than a rise.	An elongated and comparatively steep slope of the sea floor.
GEBCO-SCGN (1978)	A long, narrow elevation of the sea floor with steep sides and irregular topography.	An elongated and comparatively steep slope of the sea floor, separating flat or gently sloping areas.

It appears that, during the development or evolution of definition of RIDGE, description of “steep sides” (plural) was dropped off in the current definition in B-6 Edition 4.1. However, the cross-sections of a RIDGE in most natural cases show generally triangular shape, i.e., RIDGES generally have steeper sides (plural). The Generic Terms Group considers that this characteristic is important to distinguish RIDGE from ESCARPMENT. The Generic Terms Group therefore proposes an amendment to the definition of RIDGE as follows:

RIDGE: An elongated elevation of varying complexity and size, generally having steep sides.

We propose no amendments to ESCARPMENT.

3-2. CANYON vs. VALLEY

Below, definitions for CANYON (or SUBMARINE CANYON) and VALLEY (or SUBMARINE VALLEY) are listed, following B-6 Edition 4.1, Wiseman and Obey (1953) and GEBCO-SCGN (1978).

	CANYON	VALLEY
B-6 Edition 4.1	An elongated, narrow, steep-sided depression that generally deepens down-slope.	An elongated depression that generally widens and deepens down-slope.

<p>Wiseman and Obey (1953)</p>	<p>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.</p>	<p>Same definition as CANYON.</p>
<p>GEBCO-SCGN (1978)</p>	<p>A relatively narrow, deep depression with steep slopes, the bottom of which grades continuously downward.</p>	<p>A relatively shallow, wide depression with gentle slopes, the bottom of which grades continuously downward. This term is used for features that do not have canyon-like characteristics in any significant part of their extent.</p>

It appears that the most important characteristic to distinguish VALLEY from CANYON is the widening mouth downward of the feature. The Generic Terms Group considers that the current definition of VALLEY in B-6 Edition 4.1 should be enough to distinguish VALLEY from CANYON. The Generic Terms Group therefore proposes no amendments to the definitions of both CANYON and VALLEY.

3-3. SEAMOUNT

Below, definitions for SEAMOUNT are listed, following B-6 Edition 4.1, Wiseman and Obey (1953) and GEBCO-SCGN (1978). Note that, in order to check the development or evolution of the definition, we also reviewed the definition of GEBCO-SCGN-2.

	SEAMOUNT
<p>B-6 Edition 4.1</p>	<p>A distinct generally equidimensional elevation greater than 1000 m above the surrounding relief as measured from the deepest isobath that surrounds most of the feature.</p>
<p>GEBCO-SCGN-2</p>	<p>An isolated or comparatively isolated elevation of conical form and of limited extent across the summit.</p>

Wiseman and Obey (1953)	An isolated or comparatively isolated elevation of the deep-sea floor of approximately 3,000 feet or more.
GEBCO-SCGN (1978)	An isolated or comparatively isolated elevation rising 1000 meters or more from the sea floor and of limited extent across the summit.

It appears that, the current description of “generally equidimensional elevation” comes from GEBCO-SCGN-2 definition of “comparatively isolated elevation of conical form”. We note that considerable number of SEAMOUNTs already accredited by SCUFN have not conical form, some are rather elongated and/or irregular shape. We note that this situation happened due to the word “generally” in the current definition in B-6 Edition 4.1. Although these rather elongated and/or irregular shaped SEAMOUNTs do not completely comply with the state of “equidimensional elevation”, the word “generally” has a flexibility to allow to define variety of shapes as SEAMOUNT.

The Generic Terms Group considers that the current definition of SEAMOUNT in B-6 Edition 4.1 should be enough to define variety of shapes as SEAMOUNT, and therefore proposes no amendment to the definitions of SEAMOUNT.

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