

A SPRINGBOARD FOR DISCUSSION ON B-6 TERMINOLOGY SECTION REVISION

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1. Introduction

According to the SCUFN-20 Report, there are two tasks for this WG: (1) to include the adoption of new genetic terms, such as “rift” and “mud volcano”, and (2) to update of references cited in the terminology section of B-6.

2. Background: comparison between B-6 terminology section and GEBCO gazetteer

In order to understand what is going on in the GEBCO-SCUFN, the current GEBCO gazetteer was thoroughly examined in terms of generic terms, comparing with B-6 terminology section. Following this examination, I found some flaws in B-6. For example,

- (1) Although B-6 lists the names that cannot easily be accepted as “generic term” (e.g., mid-oceanic ridge), it lacks some important generic term such as “deep”. I’d say to list “deep” is much more important than to list “mid-oceanic ridge” in B-6, despite the second paragraph of page 2-17 of B-6 (which reads that “It is realized that some named features, such as ‘cap’, ‘deep’ and ‘swell’ have widely accepted longtime usage. No attempt has been made to define them since a suitable description of these particular features is found among the present definitions”).
- (2) Some generic terms currently listed in B-6 are never used in the GEBCO gazetteer. One of the weird examples is “moat”. Although this term is never used in the GEBCO gazetteer, “Hawaiian Moat” is listed as the example for the generic term in B-6!
- (3) Two generic terms “hill” and “seamount” are also listed as “hills” and “seamounts” in B-6 in their plural form. According to B-6, only these two generic terms should have plural terms; however, in reality, in the GEBCO-SCUFN gazetteer, a lot of plural generic terms appear, such as “banks”, “canyons”, “guyots”, “knolls”, “reefs”, “ridges”, and “shoals”. These plural forms are not defined in B-6, but they appear in the GEBCO-SCUFN gazetteer! I understand that it was just a careless work not to define these plural forms, however, since B-6 is an official publication of international organizations, zero careless work is supposed to happen.

3. Results of examination**3-1. Examples in the GEBCO-SCUFN gazetteer, whose generic terms are defined in B-6 (asterisk denotes the term where plural form is not defined in B-6)**

Abyssal hills: 0
 Abyssal plain: 16
 Apron: 1 (West Aves Apron)
 Archipelagic apron: 0
 Bank: many
 (Banks*: many)
 Basin: many
 Borderland: 3 (Lowreenne Borderland, Tampen Borderland, Yucatán Borderland)
 Caldera: 3 (Albacora Caldera, Myojin-Syo Caldera, Wordie Caldera)
 Canyon: many
 (Canyons*: 7)

Cone: 7
 Continental margin: 0
 Continental rise: 0
 Continental shelf: 0
 Escarpment: many
 Fan: many
 Fracture zone: many
 Gap: 12
 Guyot: many
 (Guyots*: 3)
 Hill(s):
 As Hill: many
 As Hills: 7
 Hole: 27
 Knoll: many
 (Knolls*: 4; Dellwood Knolls, Hydrate Knolls, Independence Knolls, Victor Hensen Knolls)
 Levee: 4 (Audierne Levee, Black Mud Levee, Eastern Crozon Levee, Western Crozon Levee)
 Median Valley: 0
 Mid-Oceanic Ridge: 0
 Moat: 0 (however, Hawaiian Moat is listed as the example in B-6)
 Passage: 12
 Peak: 3 (Circe Peak, Focinho Peak, Gonçalves Zarco Peak)
 Pinnacle: 0 (however, Gardner Pinnacles is listed as the example in B-6)
 Plateau: many
 Promontory: 3 (Beaugé Promontory, Essaouira Promontory, Estremadura Promontory)
 Province: 3 (Baja California Seamount Province, Campeche Salt Dome Province, Gulf of Alaska Seamount Province)
 Reef: many
 (Reefs*: 9)
 Ridge: many
 (Ridges*: 3; Amundsen Ridges, Gorda Ridges, Sedna Ridges)
 Rise: many
 Saddle: 8
 Scarp: 0
 Sea Valley: 0
 Seachannel: 30
 Seamount(s):
 As Seamount: many
 As Seamounts: many
 Seamount chain: 9
 Shelf: 12
 Shelf break: 0
 Shelf-edge: 0
 Shoal: 15
 (Shoals*: 3; French Frigate Shoals, Meloria Shoals, Vada Shoals)
 Sill: 2 (Davis Sill, Greenland-Spitsbergen Sill)
 Slope: 4 (Sørbakken Slope, Storegga Slope, Storneset Slope, Vestbakken Slope)
 Supr: many
 Submarine Valley: 0
 Tablemount: 5 (Explorer Tablemount, Fieberling Tablemount, Hess Tablemount, Horizon Tablemount, Pioneer Tablemount)
 Terrace: 25
 Trench: 37
 Trough: many
 Valley: many

3-2. Examples in the GEBCO-SCUFN gazetteer, whose generic terms are not defined in B-6

Cap: 1 (Flemish Cap)

Channel: 2 (Northwest Atlantic Mid-Ocean Channel, Revere Channel)

Deep: 9 (Challenger Deep, Emden Deep, Horizon Deep, Monaco Deep, Scholl Deep, Sermilik Deep, Sigsbee Deep, Storfjord Deep, Træna Deep)

Deeps: 1 (Whales Bay Deeps)

Discordance: 1 (Australian-Antarctic Discordance)

Pass: 1 (Flemish Pass)

Plain: 1 (Sardino-Balearic Plain)

Seaknoll: 1 (David Seaknoll)

4. New generic terms to be adopted in B-6 terminology section: a method to judge the popularity of term

In order to judge the popularity of the generic terms to be adopted in B-6 (in other words, to judge if the terms are well accepted by the earth-science/hydrography community), one may want to go through some major journals such as JGR, EPSL, G3, Tectonophysics, and Marine Geology to know how those generic terms which are not defined in B-6 are used by the community. However, this work requires huge time and human resources; one of the easy ways is to employ a search engine in the internet.

I used Google for this job and looked for “Mud Volcano” and “Rift”, which are the current items of discussion. I assume the number of the hits equals the popularity of the term.

Mud Volcano: ~ 195000 hits

Mud Volcano Seafloor: ~ 8400 hits

Mud Volcano Oceanfloor: ~ 4900 hits

Mud Volcano Seabottom: ~ 1600 hits

Rift Seafloor: ~ 4400 hits

Rift Oceanfloor: ~ 13000 hits

Rift Oceanbottom: ~ 20 hits

Rift Seabottom: ~ 3000 hits

In order to make a comparison, I also did Guyot vs. Tablemount.

Guyot: ~ 1300000 hits

Tablemount: ~ 10300 hits

One may thus want to conclude that “Mud Volcano” and “Rift” are as popular as “Tablemount”.

5. What we have to do? : a to-do list

- (1) To determine if we want to keep those generic terms that are listed in B-6 but are not used in the GEBCO gazetteer.
- (2) To determine if we want to adopt those generic terms that are currently used in the GEBCO gazetteer but not defined in B-6.
- (3) To list new generic terms that are widely accepted by the earth-science/hydrography community.
- (4) To update the references cited in the terminology section of B-6.

End