

Re: Actions SCUFN 30/21, 30/53, 30/54, 30/106, 30/144

Generic Terms Group

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April 18, 2018

1. Action SCUFN30/21: to consider revising the definition of PEAK

Background: This action comes from Palau's proposal for Imeungs SEAMOUNT. This SEAMOUNT is located within the proposed Babeldaob RIDGE. Many SCUFN members felt that this SEAMOUNT does not fall in the B-6 definition of SEAMOUNT; "A distinct generally equidimensional elevation greater than 1000m above the surrounding relief as measured from the deepest isobath that surrounds most of the feature.", rather, this SEAMOUNT might fall in the definition of PEAK, "A conical or pointed elevation at the summit of a larger feature."

However, it appeared that the feature is not really the summit of the proposed Babeldaob RIDGE. In fact, the proposed Ngerbuns Seamount, also located in the proposed Babeldaob RIDGE, is approximately 500 m shallower than Imeungs "PEAK". In order to define Imeungs PEAK, we needed to modify the current definition of PEAK in B-6.

Our recommendation: The new definition of PEAK would simply be "A conical or pointed elevation on a larger feature such as a SEAMOUNT".

In conjunction with this new definition, we also would recommend to re-define PINNACLE as "A spire-shaped pillar either isolated or on a larger feature."

2. Action SCUFN30/53: to consider defining a new generic term MINOR RIDGE

Background: This action comes from Japan's proposal for Rukan RIDGE. Although this proposal was accepted by SCUFN-30, there were some opinions that this RIDGE may be within a larger, not-yet-named RIDGE. This type of somewhat elongated feature has often been named SEAMOUNT. However, in B-6, SEAMOUNT is defined as "A distinct generally equidimensional elevation greater than 1000m above the surrounding relief as measured from the deepest isobath that surrounds most of the feature." In this respect, a "somewhat elongated feature" should not have been named as SEAMOUNT, since an elongated feature can never be a "distinct generally equidimensional elevation". In order to name a "somewhat elongated feature", we may need to define a new definition of MINOR RIDGE.

Our recommendation: We will not introduce the new definition of MINOR RIDGE this time, since we are not convinced of the necessity of introducing this new generic term.

3. Action SCUFN30/54: to consider how to define Kerama RIDGES

Background: This action comes from Japan's proposal for Kerama RIDGES (**Figs. 1, 2**). Tectonically speaking, the feature is located in the northwestern portion of the Philippine Sea Plate, where robust magmatism caused by a mantle plume activity approximately 50 Ma ago occurred [e.g., Ishizuka et al., 2013]. The geological traces of this mantle plume activity are known as two major bathymetric highs in the scientific community: Benham Rise and Urdaneta Plateau, the Great Writers Seamount

Province accredited by SCUFN-30 occupies a part of the latter plateau. As for the proposed Kerama RIDGES, the feature is tectonically interpreted as ABYSSAL HILLS. However, these ABYSSAL HILLS were fed by the robust magmatism caused by the mantle plume, the feature became a conspicuous feature as a group, indicated by the red rectangle in the map. In other words, the feature is the result of the normal ocean floor spreading that had close interaction with mantle plume magmatism. JCUFN interpreted that "RIDGES" would better describe this feature, and therefore decided to define Kerama RIDGES by multiple lines. JCUFN interpreted that the magnitude and/or wavelength of the "RIDGES" is much larger in the proposed area (given in the white box) than the ABYSSAL HILLS located to the southwest of the white box.

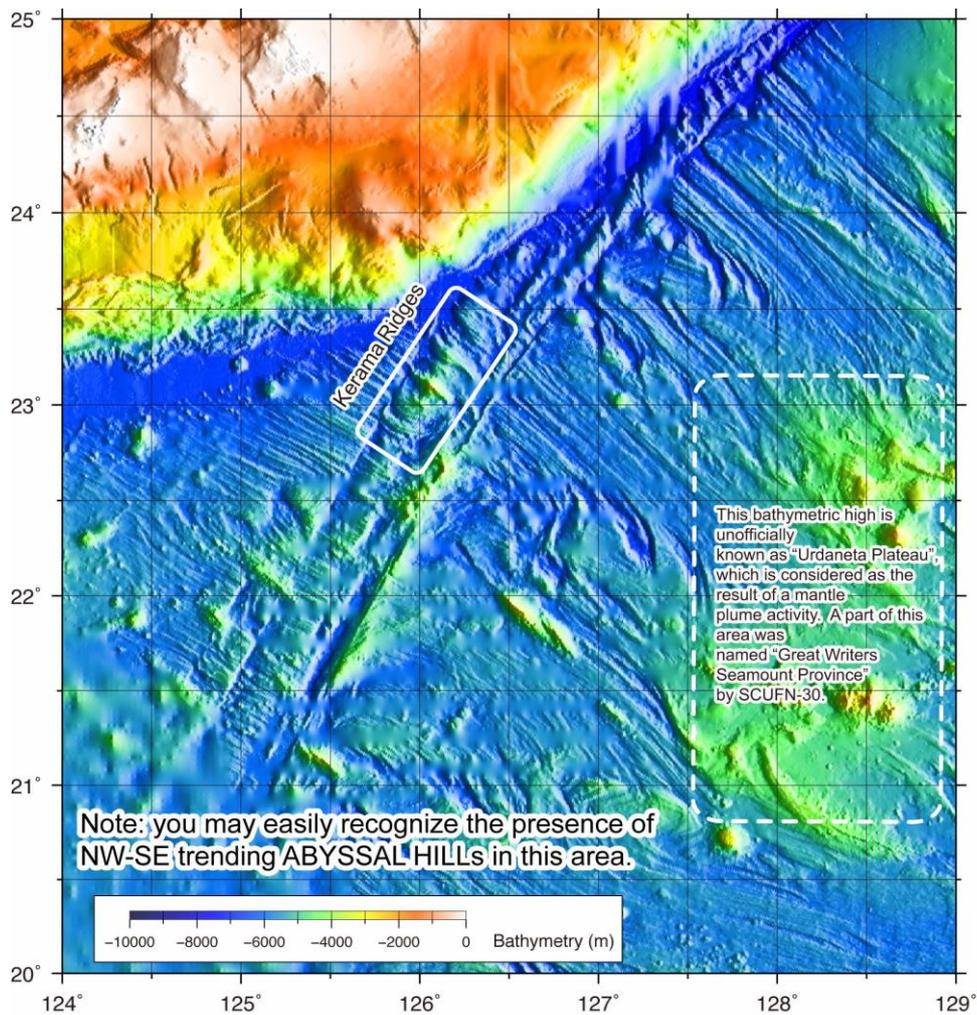


Fig. 1. Index map.

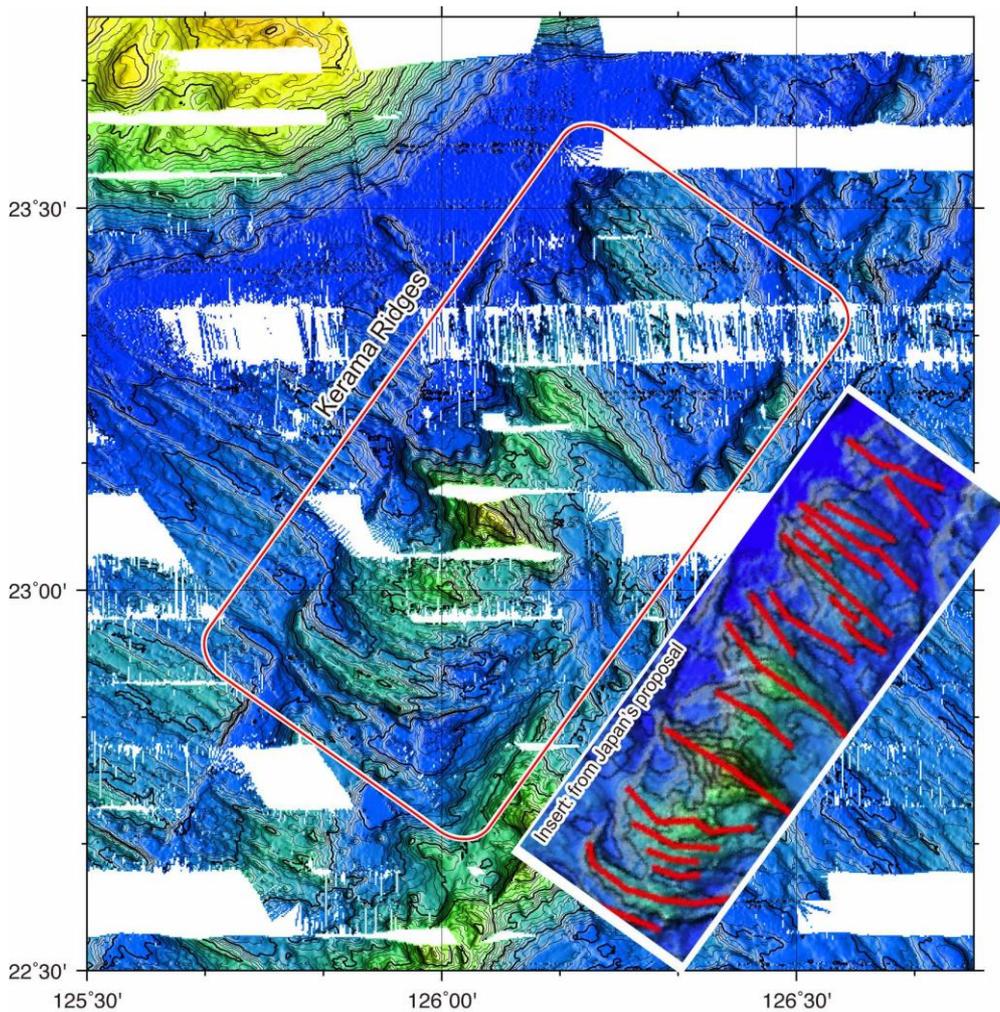


Fig. 2. Large-scale map. Contours in 100. The insert is from Japan's proposal, showing the interpreted multiple polylines that all together define Kerama RIDGES.

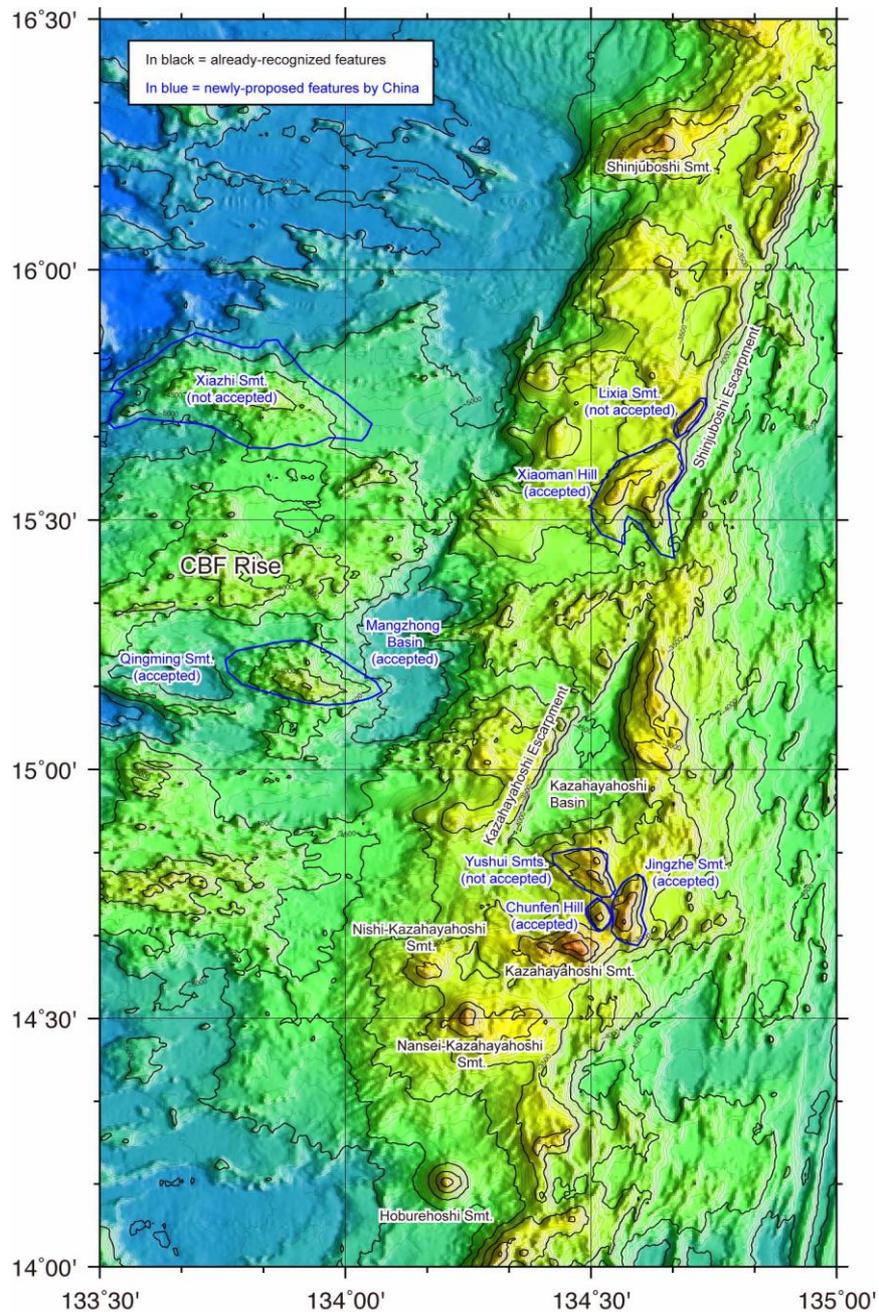
Our recommendation: In B-6 page 2-10, in Notes, it reads that “2) The plural form of a generic term may be used to represent a closely associated group of features of the same generic type (e.g. Seamounts).” In the case for Kerama RIDGES, this paragraph (page 2-10, Note 2) can be applied to a group of RIDGES. As for the primitives to be used for RIDGES, the current List of Allowed Geometries at https://www.iho.int/mtg_docs/com_wg/SCUFN/SCUFN_Misc/Feature_Geometries.xls includes "Polygon", "Multilinestring" and "Multipolygon", which is considered appropriate.

4. Action SCUFN30/106 (and SCUFN30/113): to propose a general strategy to define the optimal horizontal resolution (First draft)

Background: This action comes from the many Chinese proposals that proposed relatively minor features in close association with the nearby already-recognized features. This type of proposal is considered as not good manners, since this will easily result in clutter and inflation of undersea feature names, and lacking in consistency of naming with associated already-recognized features, thereby SCUFN cannot manage these undersea feature names in an appropriate fashion.

Example (Lixia Seamount): Within the mapped area shown below, there have been 9 already-recognized features, including the CBF Rise, all proposed by JCUFN. The specific names of these features are somewhat relevant to stellar names, including the Japanese dialects for the Southern Cross (since the Southern Cross can be seen at this latitude). In 2017 at SCUFN-30, CCUFN proposed 8 feature names in this area, every being named after the Chinese “24 Solar Terms”. The difficulties with which the SCUFN-30 faced for these CCUFN proposals included:

- (1) Clutter of undersea feature names within a relatively small area (90 NM * 150 NM), the JCUFN-derived names and CCUFN-derived names are being mixed-up.
- (2) While the above situation should be accepted, some of the CCUFN proposals, like Lixia Seamount, were deemed dealing with too minor features not eligible for being individually named. For example, Lixia Seamount was considered as a part of the already-recognized Shinjuboshi Escarpment by SCUFN-30, therefore not eligible for being individually named.



Our recommendation: SCUFN needs to establish a general strategy how to deal with the naming proposals in general, when taking into consideration that the current technology allows us to know more in detail the structure and morphology of the undersea features. In other words, SCUFN may want to limit the size (relief and horizontal extent) of the undersea features to be considered in a SCUFN meeting, on a case-by-case basis. When proposing such a minor feature, the proposer should explain the reason why they want to name it. The reasoning may include that the proposed feature is (1) an important landmark for geological and/or geophysical and/or biological phenomena, (2) an important landmark for sampling point such as a dredge point, and/or (3) an important landmark for description of geology and/or geophysics of the area, etc.

5. Action SCUFN30/145: to prepare an upgraded Appendix of B-6

Background: Although this action is not aimed for the Generic Terms Group, we consider that our group should take care of it. This action comes from the many Chinese proposals that provide not-enough materials for SCUFN to consider the general tectono-morphological setting of the proposed features. In other words, most Chinese proposals only provide a “very” large-scale map, with which SCUFN cannot understand the tectono-morphological context of the feature.

Our recommendation as a guideline: we may want to revise “3. SUPPORTING MAPS” in page A-4 in Appendix of B-6 as follows.

(Current wording)

- 3.1. Index map showing the location of the proposed feature on a regional scale.
- 3.2. Track line map showing all existing information in the feature proposal area.
- 3.3. Bathymetric map showing depth contours specifying the interval contour value, or a bathymetric shaded image with a depth colour legend, or both.
- 3.4. 2D bathymetric oriented profile of the proposed feature with an index map showing the location of the profile.
- 3.5. 3DTerrainModel.

(Proposed revision)

- 3.1. Small-scale index map showing the location of the proposed feature on a regional scale.
- 3.2. Medium-scale map, as considered appropriate, that help SCUFN understand the general tectonic and morphological context of the proposed feature. The map should show any internationally-recognized features, and/or any existing undersea feature names.
- 3.3. Large-scale track line map showing all existing information in the feature proposal area.
- 3.4. Large-scale bathymetric map showing depth contours specifying the interval contour value, or a bathymetric shaded image with a depth colour legend, or both.
- 3.5. 2D bathymetric oriented profile(s) of the proposed feature. The location of the profile(s) should be indicated in the large-scale bathymetric map shown above.
- 3.6. 3D bathymetric image that best displays the entire picture of the proposed feature.

See also Doc. SCUFN31-03.2B further reporting on Action SCUFN30/145.

6. Action SCUFN30/144: to review definitions of PLAIN and RE-ENTRANT

Background: This action is a long-lasting one since SCUFN-25 when Brazil proposed the name Bahia Plateau. The following link would provide the background of this action:

https://www.icho.int/mtg_docs/com_wg/SCUFN/SCUFN28/SCUFN28-03.2A2_Ohara_SCUFN-27-80+25-21+27-83_submitted.pdf

Our recommendation: the following definitions should be included in B-6.

PLAIN = An extensive, flat or gently sloping region, usually found at depths less than 4000m.

RE-ENTRANT = A prominent indentation in a SHELF-EDGE.

Comment from Yas regarding ABYSSAL PLAIN:

We, the Generic Terms Group, and Michel and others had been working on revising the generic term definition during the early spring in 2012. The revision work resulted in the current version of B-6, Edition 4.1, published in September 2013.

As summarized in the document uploaded in the following URL, https://www.icho.int/mtg_docs/com_wg/SCUFN/SCUFN28/SCUFN28-03.2A2_Ohara_SCUFN-27-80+25-21+27-83_submitted.pdf, before B-6 Edition 4 (2008), ABYSSAL PLAIN was defined as “An extensive, flat, gently sloping or nearly level region at abyssal depths”.

During our 2012 early spring work, I understand that Michel prepared the attached excel sheet, listing the revised definition of the generic terms. As you see, there, ABYSSAL PLAIN was defined as “An extensive, flat or gently sloping region, usually found at depths greater than 4000 m”. At that moment, we employed the threshold value of 4000 m, but I am not sure that who proposed this particular value (→ Michel¹, if you have any comment on this, I appreciate your inputs).

Here, I would like to conclude my comment. I would propose that we should stick to keep the threshold value of 4000 m, rather adopting the new value of 3000 m as proposed by Han, since we have long been using the value of 4000 m in B-6 since September 2013. The Wikipedia says that “An abyssal plain is an underwater plain on the deep ocean floor, usually found at depths between 3,000 metres (9,800 ft) and 6,000 metres (20,000 ft)”. The depth of 4000 m is in between 3000 m and 6000 m, and I assume that keeping the threshold value of 4000 m will be no problem at all.

Comment from Yas regarding EMBAYMENT:

We had considered this generic term under the SCFUN Action 25/21 to discuss the Bahia Plateau issue (see attached; this document is not uploaded to SCFUN web site; note that every action item document for SCUFN-26, 2013 in Tokyo, was not uploaded). In 2013, in replying to SCUFN Action 25/21, the Generic Terms Group proposed a new generic term, SEABIGHT for a “Bahia Plateau”-like feature, but later, we reached a conclusion to adopt a new generic term, RE-ENTRANT instead of SEABIGHT. We already agreed not to adopt “EMBAYMENT” during our discussion, if I understand correctly.

End

¹ From Michel : The 4000m threshold was agreed during SCUFN24 (2011) in Beijing. The then Generic Terms Group (Lisa, Ana, Han, Yas, Vaughan and Norm) had several side meetings during the week and this resulted in a list of terms and definitions which was included as Annex E to the SCUFN24 report. In the list, Abyssal Plain had the 4000m threshold in its definition; there was no change afterwards.