

Paper for Consideration by SCUFN-35.2

Follow-up SCUFN35.255:

SCUFN Generic Term Sub-Group to develop a general policy related to the Jiangtun RIDGE and Nanyu SEAMOUNT cases. (15 September 2022).

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| Submitted by: | Yasuhiko Ohara (SCUFN Vice-Chair, and as the chair of SCUFN Generic Term Sub-Group) |
| Executive Summary: | This proposal recommends revisions to the draft Cook Book as appropriate, also future revision of B-6 as appropriate. |
| Related Documents: | None |
| Related Projects: | N/A |

Introduction/Background

1. This action was issued due to decisions on two undersea features located in the region close to a spreading ridge (i.e., spreading axis). One feature was the Jiangtun RIDGE (SCUFN35.1/253 refers) and the other was Nanyu SEAMOUNT (SCUFN35.1/254 refers).
2. For Jiangtun RIDGE, there was a discussion that this feature can be a part of numerous abyssal hills. Following this discussion Jiangtun RIDGE was kept as PENDING. For Nanyu SEAMOUNT, there was a discussion that this feature is a complex that consisted of abyssal hills partly overlain by a voluminous bathymetric high. Following this discussion, Nanyu SEAMOUNT was ACCEPTED. Since these two cases appeared only to have slight differences between them, SCUFN agreed to develop a general policy to define the features located in the region close to a spreading ridge.

Analysis/Discussion

3. The Generic Term Sub-Group firstly analyzed the bathymetric characteristics of Jiangtun RIDGE and Nanyu SEAMOUNT. We employed the bathymetric data from Deschamps et al. [2002], and Okino and Fujioka [2003]:

Deschamps, A., K. Okino, and K. Fujioka, Late amagmatic extension along the central and eastern segments of the West Philippine Basin fossil spreading axis, *Earth and Planetary Science Letters*, 203, 277-293, DOI: [https://doi.org/10.1016/S0012-821X\(02\)00855-5](https://doi.org/10.1016/S0012-821X(02)00855-5), 2002.

Okino, K., and K. Fujioka, The Central Basin Spreading Center in the Philippine Sea: Structure of an extinct spreading center and implications for marginal basin formation, *J. Geophys. Res.*, 108(B1), 2040, DOI:10.1029/2001JB001095, 2003.

4. Jiangtun RIDGE.

During SCUFN-35.1, the subcommittee discussed that this feature can be a part of numerous abyssal hills based on the figures provided in the proposal (see Fig. 1A). The analysis by the Generic Term Sub-Group also reached the same conclusion that this feature can be a part of numerous abyssal hills (See Fig. 1B).

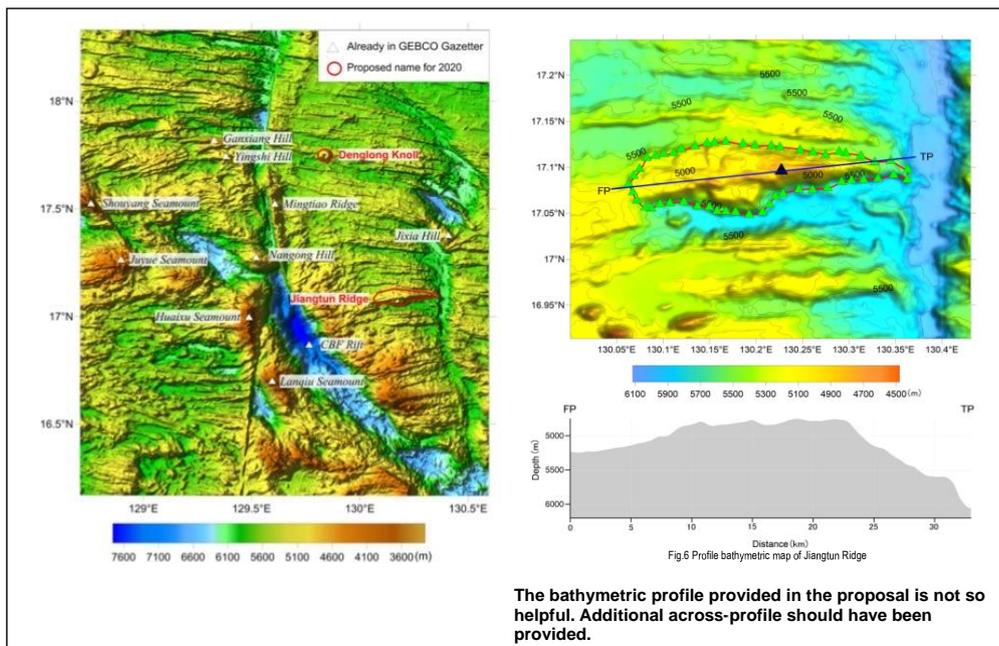


Fig. 1A. Bathymetric map of Jiangtun RIDGE taken from the proposal.

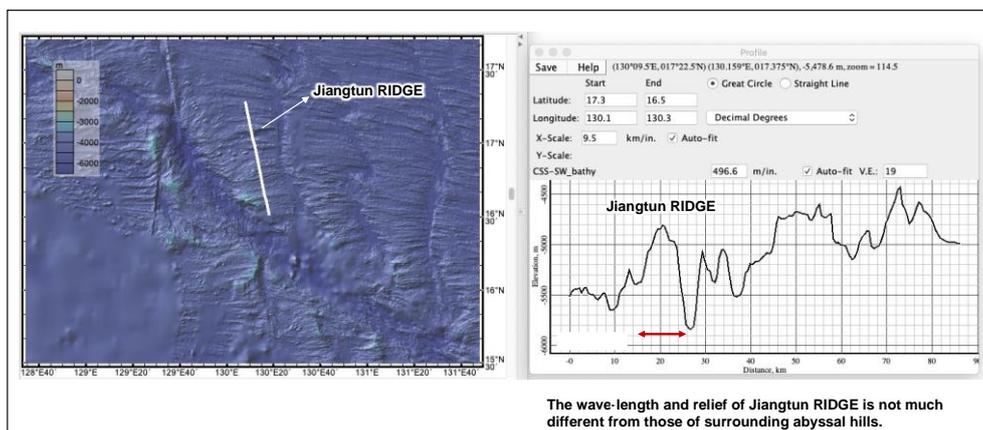


Fig. 1B. Bathymetric map of Jiangtun RIDGE using the data from Deschamps et al. [2002] and Okino and Fujioka [2003].

5. Nanyu SEAMOUNT.

During SCUFN-35.1, the subcommittee accepted this feature as it is, discussing that this feature is a complex that consisted of abyssal hills partly overlain by a voluminous bathymetric high. It should be noted that there were some opinions

that this feature should be interpreted in the same way with Jiangtun RIDGE; i.e., this feature can be a part of numerous abyssal hills. However, the majority of subcommittee argued that this feature can be accepted as a SEAMOUNT, perhaps based on biased maps (Fig. 2A), with optimized color-scale to enhance the relief of the feature as well as a not-fully-representative bathymetric profile. One thing to be noted is that the resultant accepted SEAMOUNT has an ameba-like shape, well distinct from the definition of SEAMOUNT in B-6 (i.e., “A distinct generally equidimensional elevation” ...).

The analysis by the Generic Term Sub-Group however reached a different conclusion with the subcommittee’s decision that this feature can just be a part of numerous abyssal hills (See Fig. 2B). The analysis by the Generic Term Sub-Group is based on more neutral color-scale and a more representative bathymetric profile.

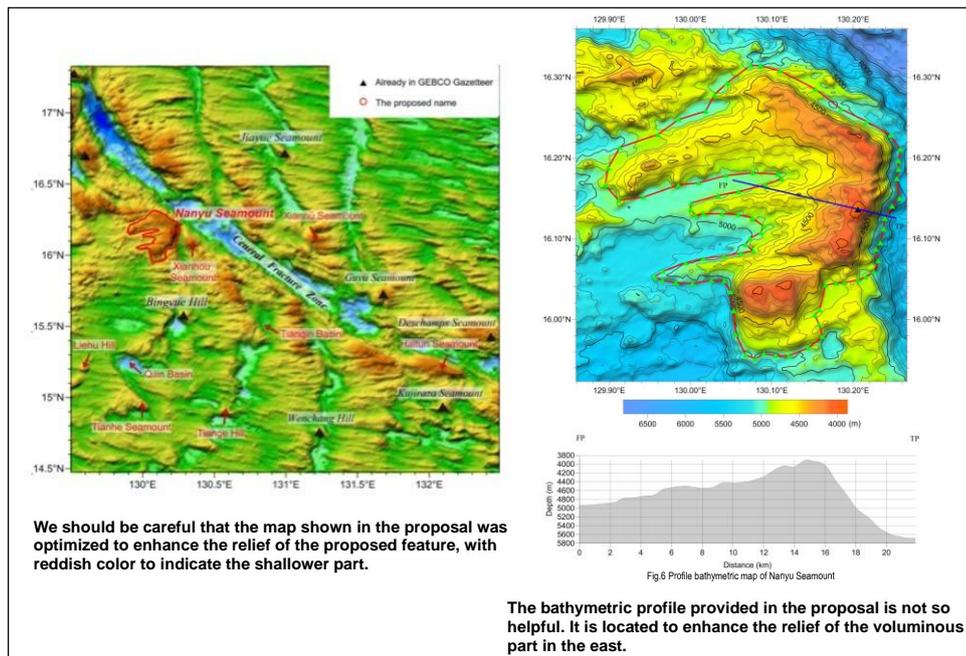


Fig. 2A. Bathymetric map of Nanyu SEAMOUNT taken from the proposal.

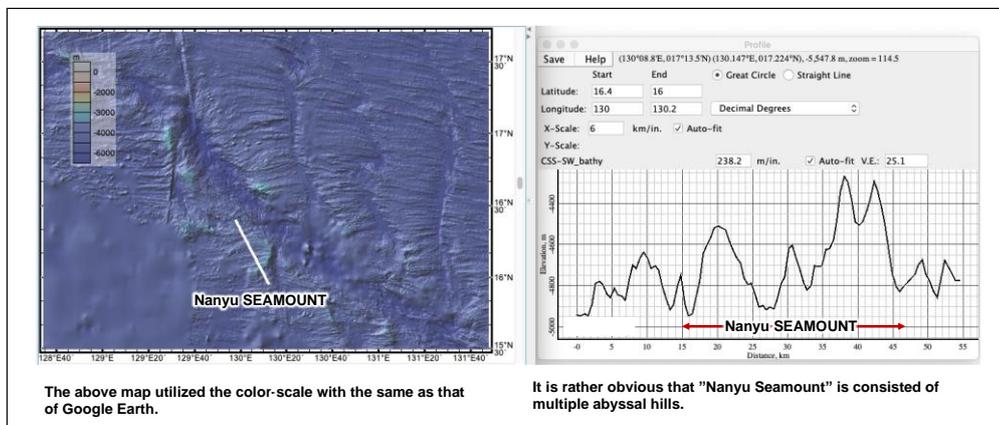


Fig. 2B. Bathymetric map of Nanyu SEAMOUNT using the data from Deschamps et al. [2002] and Okino and Fujioka [2003].

Recommendations

6. The Generic Terms Group recommends the following general policy to define a feature related to abyssal hills:
 - It is important to use a neutral color-scale, like those used in Google Earth, to review the overall characteristics of proposed feature at first hand.
 - It is also important to have a bathymetric profile across the feature to quantify the wave-length and relief of abyssal hills, thereby comparing with those parameters of proposed feature.
 - Only after the above test, the subcommittee will now discuss if the proposed feature can be named individually or not, on case-by-case basis. An exceptional case may include historical and/or scientific significance of the proposed feature. In these special circumstances, the proposer of the name of the feature would need to describe the reason for proposing a feature related to abyssal hills in a proposal.

Justifications and Impacts

7. Implementation of the proposed recommendation would impact the draft Cook Book and future revision of B-6.

Action required of SCUFN

8. SCUFN is invited to:
 - a. Note this proposal.
 - b. Consider the recommendations in section 6.