- This document is intended to supplement the SCUFN B-6 publication "Standardization of Undersea Feature Names" and the Generic Terms website: <u>http://scufnterm.org</u>.
- The Repository of Typical Cases is a useful proposals collection in terms of examples to consider in the submission proposal process.
- It contains Typical Cases for assigning the Generic Terms, Specific Terms, considering the difficulties to compile the undersea feature name proposal in order to follow a green line review.
- The Annex provides guidelines on Generic Terms for undersea feature name proposals and is intended to assist proposers with the selecting the most appropriate Generic Terms.
- It describes basic concepts for assigning Generic Terms with respect to dimensions, morphology and water depth, and provides useful suggestions for distinguishing the characteristics of undersea features that can be quite subtle. It also gives detailed information for each Generic Term in the B-6 publication.

• WHY? To improve the ocean knowledge and an accessible ocean

• WHAT? Standardization of Undersea Feature Names – B-6 Ed. 4.2.0





# Cookbook for generic terms of undersea feature names

#### Vaughan Stagpoole<sup>1</sup> and Kevin Mackay<sup>2</sup>

Version 1.2

October 2022

#### Contents

Introduction	5	PINN
How to use this cookbook	5	PLATE
Pending names	6	PROV
Names in long-standing use	6	REEF
Minimum extent of data coverage	6	RIDG
Genetic-origin features	6	RIFT*
Groups of features	7	RISE.
Basic concepts for Generic Term definitions	7	SADD
Length to width ratio	7	SALT
Depths and heights of features	8	SAND
Steepness of features	8	SEA C
Hills and Knolls	9	SEAN
Guyot definition	9	SEAN
Minimum dimension		SHEL
Generic Terms		SHOA
ABYSSAL PLAIN		SILL
APRON		SLOP
BANK		SPUR
BASIN		TERR
CALDERA*		TREN
CANYON		TROU
DEEP		VALL
ESCARPMENT		Terms u
FAN		ABYS
FRACTURE ZONE*		ARCH
GAP		CAR
GUYOT		CHAP.
HILL		CONF
HOLE		CONT
KNOLL		CONT
LEVEE		CONT
MOAT		CONT
MOUND*		DISCO
MUD VOLCANO*		FRAC
PEAK		GROU
	Page 1.2	
	196914	

INACLE	
ATEAU	
DVINCE	
F*	
IGE	
T*	
Ε	
DDLE	
T DOME*	
ND RIDGE*	
A CHANNEL	
AMOUNT	
AMOUNT CHAIN	
ELF	
DAL*	
L	
DPE	
JR	
RACE	24
ENCH*	24
DUGH	25
LLEY	25
sused for harmonization with other gazetteers	25
YSSAL HILL	25
CHIPELAGIC APRON	26
RDERLAND	26
p	26
ANNFI	26
NF	26
NTINENTAL MARGIN	26
NTINENTAL RISE	26
NTINENTAL SHELF	27
NTINENTAL SLOPE	27
CORDANCE	27
ACTURE ZONE SYSTEM*	27
	27
0010	
	Page   3

MEDIAN VALLEY	27
MID-OCEAN RIDGE	27
PASS	28
PASSAGE	28
PLAIN	28
PROMONTORY	28
RE-ENTRANT	28
SCARP	28
SEA VALLEY	28
SEABIGHT	28
SEACHANNEL	29
SEAMOUNT GROUP	29
SHELF BREAK	29
SHELF-EDGE	29
SUBMARINE VALLEY	29
TABLEMOUNT	29

<sup>&</sup>lt;sup>1</sup> GNS Science, New Zealand

<sup>&</sup>lt;sup>2</sup> National Institute of Water and Atmospheric Research (NIWA), New Zealand

### DRAFT of Cook book - Repository of Typical Cases

Roberta Ivaldi1 and Kevin Mackay2

Version 1.0

October 2022

#### Contents

Int	rodu	ction	3
Но	How to use this cookbook		
Со	okbo	ok list	4
	1.	Canyons vs Canyon	4
	2.	Canyons vs Canyon	5
	3.	Canyon vs Canyons	7
	4.	Seamount vs Guyot	8
	5.	Knoll vs Guyot	. 10
	6.	Guyot	. 11
	7.	Hills vs Hill	. 13
	8.	Seamounts vs Seamount	. 14
	9.	Shoal vs Hill	. 15
	10.	Knoll vs Hill	. 16
	11.	Ridge vs Escarpment	. 19
	12.	Canyon vs Valley	. 21
	13.	Ridge vs Seamount and Hill	. 21
	14.	Ridge	.24
	15.	Hill vs Ridge	. 25
	16.	Gap vs Saddle	. 27
	17.	Rise vs Spur	. 28
	18.	Specific term sensitive	. 29
	19.	Specific term sensitive	. 30
	20.	Specific term to avoid duplication	. 31
	21.	Specific term to avoid duplication	. 32
	22.	Specific term in Antarctica	. 33
	23.	Title: List of reserved specific-terms, for naming an important undersea feature	34
	24.	Ambiguity of feature	. 39
	25	Dual name adoption	40
	26	New specific term vs Scientific publication feature	41
	27.	New specific term vs scientific paper name	42
	28	Specific term used in peer review publication	43
	29	Specific term as Princess' name	44
	30.	Specific term without connection to the feature	. 45
	31	Specific term as central point	46
	32	Undersea feature already named in the GEBCO Gazetteer	47
	33	Specific term double meaning	48
	34	Generic terms as part of specific – dual term	49
	35	Specific term as potential confusion between features	50
	36	Specific term politically sensitive	51
	37.	Feature with conflict of naming	. 52

### Paper for Consideration by SCUFN

### "Cookbook - Repository of Typical Cases" (Version 1.2, October 2022)

Submitted by: SCUFN Members (Roberta Ivaldi, Kevin Mackay) and SCUFN Chair (Hyun-Chul Han), supported by SCUFN Secretary (Yves Guillam)

*Executive Summary:* The Cookbook has intended to supplement the SCUFN B-6 publication "Standardization of Undersea Feature Names" and the Generic Terms website: http://scufnterm.org. The Repository of Typical Cases is a useful proposals collection in terms of examples to consider in the submission proposal process. It contains Typical Cases for assigning the Generic Terms, Specific Terms, considering the difficulties to compile the undersea feature name proposal in order to follow a green line review. Furthermore, this document sustains and increases the standardization of undersea feature names to improve the ocean knowledge and an accessible ocean.

*Related Documents:* SCUFN35.1/07 Decisions and Actions.

The Cook Book – Repository of Typical Cases is an additional section of B-6 Standardization of Undersea Feature Names and contains examples of typical cases of undersea feature names extracted from the past undersea feature proposals in order to show an example of each case of undersea feature names. The Cook Book is a "living document" that will be continually updated and expanded as new typical cases are highlight by SCUFN and as the sense of best practices evolves.

### How to use this cookbook

There have been many precedents to the application of the B-6 publication by SCUFN. The document is intended to highlight these precedents in order to guide the decision-making process by future SCUFN meetings.

It contains Typical Cases for assigning the Generic Terms and Specific Terms, considering the difficulties to compile the undersea feature name proposal in order to follow a green line review. The Annex provides guidelines on Generic Terms for undersea feature name proposals and is intended to assist proposers with the selecting the most appropriate Generic Terms. It describes basic concepts for assigning Generic Terms with respect to dimensions, morphology and water depth, and provides useful suggestions for distinguishing the characteristics of undersea features that can be quite subtle. It also gives detailed information for each Generic Term in the B-6 publication.

The Cook Book - Repository of Typical Cases V 1.0 contains 37 examples of undersea feature name typical cases and its Annex, the "Cook Book for Generic Terms of undersea feature names" V 1.1.

Recently the developing of new technologies and systems exploring and mapping the ocean floor with the detection of the undersea features to a very high resolution and topographic detail in a shorter time than in the past. It has been increased the collection of data and consequentely the detection of new undersea features thanks to a particular interest to know the ocean floor in terms of sustainable development in the UN Decade of Ocean Science and the developing of the SEABED 2030 Project and the GEBCO (the General Bathymetric Chart of the Oceans), a joint project of the International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC). In particular these data have been collected in order to know the ocean seabed, to update and improve the global gridded bathymetry data set and the GEBCO Gazetteer of undersea features names. The Cook Book - Repository of Typical Cases was born to help at different level and role, considering all needs to this developing of available seafloor data obtained by bathymetric surveys and the growth of the GEBCO undersea feature name proposals. As the number of undersea feature name proposals submitted to SCUFN has been increasing over the years, the more complete the proposal, the more consistent and rapid will be the response of SCUFN, thus avoiding having to make additional requests to the proposer. In fact in line with the increasing of new submitted undersea feature names there are two main needs: the correct name of the proposal undersea feature (generic and specific terms) and the perfectly good role of SCUFN in the different steps of analysis and evaluation of undersea features proposal before the approval, acceptance and the inserting in the GEBCO Gazetteer of Undersea Feature Names. This Cook book is developing to support the proposer to submit an undersea feature name proposal form completed with all available and reliable information in order to better define the submarine feature and than a more rapid response and acceptance of SCUFN.

**SCUFN36-03.2A** Proposed Amendments to version 1.0 October 2022 of the Repository of Typical Cases Update on Repository of Typical Cases and its Annex – "Cookbook for Generic Terms of undersea feature" (Lead: Mackay, Ivaldi)

SEAMOUNT if more than 50% of the feature has over 1000 m elevation (#2 cases)

- SPUR vs SEAMOUNT (#2 cases)
- SPUR vs RISE (#1 case)
- RIDGES vs SEAMOUNT CHAIN (#1 case)
- CANYON PROVINCE vs CANYONS (#2 cases) HILL vs GUYOT (#1 case)
- TROUGH vs VALLEY (#2 cases)
- Proposal in mutual areas of interest
- Two names for the same feature

- Hualin Seamount
- Yongdeng Seamount
- Dayuanxi Spur
- Zidian Spur
- Guangja Spur
- Changlong Ridges
- Macclesfield Canyon Province
- Zhongjianxi Canyon Province
- Long Hải Hill
- Changfeng Trough
- Chunfeng Trough

B-6 Standardization of UFN

Accessible OCEAN with KNOWLEDGE

Following the UN Ocean Decade: The Science We Need for the Ocean We Want

### 38. Seamount

<u>Title</u>: Seamount

Criteria: Existence of a distinct relief

Decision Made: If a distinct relief exists and more than 50% of the feature has over 1000 m elevation,

the whole undersea feature is named seamount <u>Examples</u>: Hualin Seamount (SCUFN35.2/188)

Yongdeng Seamount (SCUFN35.2/198)



**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. **B-6 Ed 4.2.0** 

<u>Cookbook for Generic Terms of undersea feature names Version 1.2 2022</u> by Stagpoole V. and Mackay K.

**Definition**: 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.

**Dimensions:** Not usually smaller than 10 square kilometres. Can be greater than 100 x 100 kilometres.

Length to width ratio: Typically, about 1:1, but can be elongate up to 3:1.

**Depth**: Any water depth greater than 1000 m.

**Steepness:** Sides usually steeper than 5 degrees - 450 m rise over 5 kilometres.

**Comments**: Not all SEAMOUNTs are of volcanic origin.

**Similar Features**: For larger features 100 x 100 kilometres or greater, consider PLATEAU or RISE definition. If the length to width ratio is greater than 3:1, consider RIDGE definition. If flat-topped, consider GUYOT definition. If height is less than 1000 m, consider HILL or KNOLL definitions.

### 38. Seamount





Fig.5 3-D bathymetric map of the Hualin Seamount

<u>Title</u>: Seamount

Criteria: Existence of a distinct elevation

Decision Made: If a distinct elevation exists and more than 50% of the feature has over 1000 m elevation, the whole undersea features is named seamount

# i.e. Hualin Seamount SCUFN35.2/188





Fig.1 Index map showing the location of the Hualin Seamount

# Hualin Seamount is a seamount because more than 50% of the feature has over 1000 m elevation



Supporting Survey Data, including Track Controls:	Date of Survey:	1999-2000
	Survey Ship:	R/V Hai Yang Di Zhi Si Hao
	Sounding Equipment:	Multi-beam sounding system (Seabeam2112)
	Type of Navigation:	DGPS
	Estimated Horizontal Accuracy (nm):	<=0.08nm
	Survey Track Spacing:	2.5nm
	Supporting material can be subm form.	itted as Annex in analog or digital

(Contours are in 100 m)

# Hualin Seamount

### Beta Gazetteer

SCUFN o

INTRODUCTION TERM AND DEFINITION SUBMISSION REPOSITORY GAZETTEER REVIEW LOGOUT





#### NAME

Hualin SEAMOUNT

CCUFN

COORDINATES
 Show coordinates

Type : Polygon No. 1 : 111.806186, 12.616138 No. 2 : 111.802789, 12.602648 No. 3 : 111.791933, 12.583782 No. 4 : 111.775168, 12.561166 No. 5 : 111.745299, 12.548612

...

Close

#### No. 12: 111.702620, 12.656011 No. 13: 111.727901, 12.651592 No. 14: 111.747763, 12.644253 No. 15: 111.768338, 12.646820 No. 16: 111.791301, 12.631620 No. 17: 111.806186, 12.616138

### INFORMATION

#### **UPDATED YEAR**

2022

SCUFN-35

#### FEATURE DESCRIPTION

Maximum Depth : 3732m Minimum Depth : 2064m Total Relief : 1668m Steepness : Shape : oval Dimension : 20.8km × 12.5km

#### • REASON OF NAMING

The Hualin Seamount is located on Penxi Ridge, "Hualin" means "the forest of flower", This word is chose from a famous Chinese poem, The Moon over the River on a Spring Night, written by Zhang Ruoxu in Tang Dynasty(618-907).

#### ର DISCOVERER

R/V Hai Yang Di Zhi Si Hao

#### **DISCOVER DATE**

1999

#### SUPPLEMENTARY DECISION BY SCUFN

PROPOSAL FOR HUALIN SEAMOUNT IS ACCEPTED. THIS CASE TO BE CAPTURED AND INCLUDED IN THE REPOSITORY OF TYPICAL CASES (MORE THAN 50% OF THE FEATURE HAS MORE THAN 1000 M ELEVATION) (IVALDI/MACKAY). SEE ALSO YONGDENG SEAMOUNT CASE BELOW.

# Hualin Seamount

### **GEBCO** Gazetteer



### 39. Seamount





<u>Title</u>: Seamount

Criteria: Existence of a distinct elevation

<u>Decision Made</u>: If a distinct elevation exists and more than 50% of the feature has over 1000 m elevation, the whole undersea feature is named seamount

# i.e. Yongdeng Seamount SCUFN35.2/198



Already in GEBCO Gazatter
 Proposed names for 2021
Fig.2 Regional bathymetry map with nearby features of the Yongdeng Seamount



Fig.1 Index map showing the location of the Yongdeng Seamount

Fig.5 3-D bathymetric map of the Yongdeng Seamount

# Yongdeng Seamount is a seamount because more than 50% of the feature has over 1000 m elevation



Fig.4 Bathymetric map of the Yongdeng Seamount, showing track lines. (Contours are in 200 m)

Supporting Survey Data, including Track Controls:	Date of Survey:	1999-2000
	Survey Ship:	R/V Hai Yang Di Zhi Si Hao
	Sounding Equipment:	Multi-beam sounding system (Seabeam2112)
	Type of Navigation:	DGPS
	Estimated Horizontal Accuracy (nm):	<=0.08nm
	Survey Track Spacing:	2.5nm
	Supporting material can be subm form.	itted as Annex in analog or digital

# Yongdeng Seamount

### Beta Gazetteer

**SCUFN** 

INTRODUCTION 1

INTRODUCTION TERM AND DEFINITION SUBMISSION REPOSITORY GAZETTEER REVIEW LOGOUT





#### NAME

Close

Yongdeng SEAMOUNT

CCUFN

COORDINATES
 Show coordinates

Type : Polygon No. 1 : 114.720712, 11.817002 No. 2 : 114.754048, 11.825337 No. 3 : 114.777769, 11.830465 No. 4 : 114.818799, 11.833671

### No. 5 : 114.855341, 11.840723

No. 26 : 114.648910, 11.754176 No. 27 : 114.650833, 11.783666 No. 28 : 114.662372, 11.800334 No. 29 : 114.679041, 11.811874 No. 30 : 114.696991, 11.817002 No. 31 : 114.720712, 11.817002

### **INFORMATION**

#### UPDATED YEAR

2022

SCUFN-35

#### FEATURE DESCRIPTION

Maximum Depth : 4376m Minimum Depth : 1808m Shape : Irregular Total Relief : 2568m Steepness : Shape : Dimension : 42.3km × 16.6km

#### REASON OF NAMING

The Yongdeng Seamount is located in the north of Nansha Slope, adjacent to Yongdeng Ansha(Yongdeng Shoal). So it is named by China Committee on Geographical Names in 1983.

#### ବ DISCOVERER

R/V Hai Yang Di Zhi Si Hao

DISCOVER DATE

1999

SUPPLEMENTARY DECISION BY SCUFN

# Yongdeng Seamount

### **GEBCO** Gazetteer

GEBCO			GEBCO	裔	ІНО	International Hydrographic		Welcome, Ro	oberta.ivaldi@alice.it. Log Out
Undersea Feature Names Gazetteer			Tart of the Oct	~		Organization	Intergovernmental Oceanographic Commission	<u>Edi</u>	itor's Guide API Help
Undersea Feature Search									
Specific Term Yongdeng	Select Area ▼	Options ▼ Filter ▼						Arctic Antarctic	ਜ਼ ∰ ?
Discoverer									and to man and
							1 S.	2	
Assoc. Meeting									
Status All									
Reset Filters									
Search results: 1 features found.							· · ·		철물을 위한하는 것 2015년 - 1월 2017
Yongdeng Seamount						•			
	Data attribution		10(	00 km			096	5° 20.73′ W,	02° 54.01′ N Modify
	Status	APPROVED							
	Name	Yongdeng Seamount							0
	Proposed By	China Geological Survey, in 2021							
Add New Feature Export results as: 💌	Discovered By	Chinese research vessel "Haiyang	dizhi Sihao", in 1999						_
Gazetteer Version: 4.3.7	Last Updated	2023-02-17							
	Associated Meeting(s)	SCUFN-34.3 SCUFN-35.1 SCUFN	<u>I-35.2</u>						<b>^</b>
	Origin of Name	Named from the nearby Yongdeng Names in 1983.	Shoal (Yongdeng Ansh	na in Chinese	e) which itself	was named l	by the China Co	ommittee on Ge	eographical
	Additional Information	This feature has an elongated shap	pe.						
	Minimum Depth (m)	1808							•
	Total Relief (m)	2568							<b>^</b>
	Dimension/Size	42 km × 17 km							
	Geometry (?)	Primary Geometry: POLYGON ((	114.72071 11.817. 114.0	69699 11.817	7. 114.67904	11.81187.11	4.66237 11.800	33. 114.65083	11.78367.
		114.64891 11.75418, 114.65596 1 11.71379, 114.8297 11.73494, 114 114.98997 11.73879, 115.01561 1 11.83175, 114.88163 11.84265, 11	1.7234, 114.68353 11.6 .8547 11.73751, 114.88 1.74456, 115.03036 11. 4.85534 11.84072, 114	9327, 114.71 3611 11.7253 75418, 115.0 .8188 11.833	687 11.6823 3, 114.90663 2908 11.770 67, 114.7777	7, 114.75854 3 11.71443, 11 84, 115.00343 77 11.83047, 7	11.67789, 114.7 4.94381 11.713 3 11.78879, 114 114.75405 11.82	79828 11.69199 815, 114.96689 .97971 11.8067 2534, 114.7207	9, 114.8188 11.72661, 74, 114.92714 11.817))
		Secondary Geometry: POINT (11	4.755 11.71333)						
	Owner	michel.m.huet@neuf.fr							
	Latest Editor	michel.m.huet@neuf.fr							
	Editor's Remarks								-

40	Dayuanxi SEAMOUNT	<b>ACCEPTED</b> as Dayuanxi SPUR		Dayuanxi SPUR
4	3082     2586     1669       2481     2587     1837       2674     1837     242       1949     2034     404     242       1949     2034     404     242       1949     1765     205     205       3832     563     363     1081     647     1307	<u>Title</u> : Spur <u>Criteria</u> : Existence larger feature <u>Decision Made</u> : If larger feature (i.e. undersea feature is <b>i.e. Dayuanx</b>	of a feature protruc a subordinate featu seamount, ridge or named spur. i Spur SCUFN	Jing geometry from a are protruding from a rise) exists, the whole 135.2/196
3966 2766	3951 $1777$ $1934$ $989$ $254$ $2342$ $1883$ $1883$ $10$ $229$ $1883$ $10$ $229$ $10$ $10$ $229$ $10$ $10$ $10$ $10$ $10$ $10$ $10$ $10$	Supporting Survey Data, including Track Controls:	Date of Survey: Survey Ship/Platform: Sounding Equipment: Positioning System: Estimated Horizontal Accuracy, in nautical miles (M): Survey Track Spacing: Supporting material can be submitted	April 2004 - May 2004 R/V Hai Yang Si Hao Multi-beam sounding system (Seabeam2112) DGPS <=0.08 nm 2.5nm d as Annex in analog or digital form.





### **INFORMATION**

🛱 UPDATED YEAR

2022

the

No. 22: 115.855352, 11.775176

No. 23: 115.832253, 11.777929

No. 24: 115.819404, 11.773952 No. 25: 115.799364, 11.774870

No. 26: 115.794218, 11.784715 No. 27: 115.784468, 11.812373

SCUFN-35

#### FEATURE DESCRIPTION

Maximum Depth : 4337 m Minimum Depth : 3168 m Total Relief : 1169 m Seamount is Steepness : Shape : Dimension : 21 km×11 km about 110 km northwest to

#### REASON OF NAMING

This Seamount is located to the west of Dayuan Tan (Dayuan Bank), which has been marked on the Chinese Charts, so it is named as Dayuanxi Seamount.

#### **Q DISCOVERER**

R/V Hai Yang Si Hao

DISCOVER DATE

April 2004

#### SUPPLEMENTARY DECISION BY SCUFN

PROPOSAL FOR DAYUANXI [SEAMOUNT] IS ACCEPTED WITH THE GENERIC TERM MODIFIED AS SPUR. NEW SHP FILE ALIGNED WITH THE MAP TO BE PROVIDED.

#### Close

NAME

Dayuanxi SPUR

COORDINATES

Show coordinates

Type: Polygon

No. 1: 115.784468, 11.812373

No. 2: 115.785851, 11.815637

No. 3: 115.799619, 11.847456

No. 4: 115.808491, 11.858113

No. 5: 115.822565, 11.861172

PROPOSER

CCUFN





### Previous proposal as Seamount, only one vertical profile

### 40. SPUR vs SEAMOUNT









Previous proposal as Seamount, only two track lines, as a Spur more track lines with different direction and interline







<u>Title</u>: Spur

112° 54' E

112° 59' E

2000 (m)

2500

Fig.5 3D bathymetric map of Zidian Seamount

Criteria: Existence of a feature protruding geometry from a larger feature

Decision Made: If a subordinate feature protruding from a larger feature (i.e. seamount, ridge or rise) exists, the whole undersea feature is named spur

# i.e. Ziadian Spur SCUFN35.2/179





	Date of Survey:	March 2005 - July 2005	
	Survey Ship/Platform:	R/V Hai Yang Si Hao	
	Sounding Equipment:	Multi-beam sounding system	
		(Seabeam2112)	
Supporting Survey Data, including Track Controls:	Positioning System:	DGPS	
	Estimated Horizontal Accuracy, in nautical miles (M):	<=0.08 nm	
	Survey Track Spacing:	2.5nm	
	Supporting material can be submitted as Annex in analog or digital form.		

A subordinate RIDGE protruding from a larger feature.

## 42. SPUR vs RISE







Fig.5 3-D bathymetric map of the Guangya Rise

### 42. SPUR vs RISE



Fig.4 Bathymetric map of the Guangya Rise, showing track lines. (Contours are in 200 m)

<u>Title</u>: Spur

<u>Criteria</u>: Existence of a feature protruding geometry from a larger feature

<u>Decision Made</u>: If a subordinate feature protruding from a larger feature (i.e. seamount or ridge or rise) exists, the whole undersea feature is named spur.

# i.e. Guangya Spur SCUFN35.2/210

Supporting Survey Data, including Track Controls:	Date of Survey: 1999-2000			
	Survey Ship:	R/V Hai Yang Di Zhi Si Hao		
	Sounding Equipment:	Multi-beam sounding system (Seabeam2112)		
	Type of Navigation:	DGPS		
	Estimated Horizontal Accuracy (nm):	<=0.08nm		
	Survey Track Spacing: 2.5nm			
	Supporting material can be submitted as Annex in analog or digital form.			

## 43. RIDGES vs SEAMOUNT CHAIN



Fig.1 Index map showing the location of the Changlong Seamount Chain



Already in GEBCO Gazatter
 Proposed names for 2021
Fig.2 Regional bathymetry map with nearby features of the Changlong Seamount Chain

ACCEPTED as Changlong RIDGES

Changlong RIDGES

Title: Ridges

<u>Criteria</u>: Existence of an elongated elevation of varying complexity and size. <u>Decision Made</u>: If two or more elongated elevations of varying complexity and size, generally having steep sides exists, the whole undersea feature is named ridges.

# i.e. Changlong Ridges SCUFN35.2/182



Changlong RIDGES

- CCUFN
- COORDINATES
   Show coordinates

#### Type : Polygon

No. 1: 114.991667, 13.730000

No. 2: 115.033333, 13.745000

No. 3: 115.070000, 13.766667

No. 4: 115.083333, 13.755000

No. 5: 115.088333, 13.713333

#### Close

### 113.592300 ( 113° 35′ 32″ E ) , 12.623070 ( 12° 37′ 23″ N ), elevation : -4103 m

INTRODUCTION TERM AND DEFINITION SUBMISSION REPOSITORY GAZETTEER REVIEW LOGOUT



### **INFORMATION**

**UPDATED YEAR** 

2022

- SCUFN-35
- FEATURE DESCRIPTION
   Maximum Depth : 4630m
   Minimum Depth : 3304m
   Total Relief : 1326m
   Steepness :
   Shape : Long strip
   Dimension : 236.6km × 36.7km

No. 72 : 114.838333, 13.756667 No. 73 : 114.863333, 13.781667 No. 74 : 114.895000, 13.790000 No. 75 : 114.918333, 13.780000 No. 76 : 114.951667, 13.751667

No. 77: 114,991667, 13,730000

#### • REASON OF NAMING

Changlong Seamount Chain is located in southwest of Nanhai Basin. There are four undersea features in southwest of Nanhai Basin were named with Chinese Dragon. Changlong Seamount Chain is one of them.

#### Q DISCOVERER

R/V Hai Yang Di Zhi Si Hao

- DISCOVER DATE 1999
- SUPPLEMENTARY DECISION BY SCUFN PROPOSAL FOR CHANGLONG [SEAMOUNT CHAIN] IS ACCEPTED WITH THE GENERIC TERM MODIFIED AS RIDGES.

### 43. RIDGES vs SEAMOUNT CHAIN



Fig.3 Bathymetric map of the Changlong Seamount Chain (Contours are in 200 m)





Fig.4 Bathymetric map of the Changlong Seamount Chain, showing track lines. (Contours are in 200 m) No track lines in the NE sector but these are enough referring to the feature proposals in the NE sector that are included in the GEBCO Gazetteer (i.e. Longnan Seamount)

Discovery Faster	Discovery Date:	1999	
Discovery Facts:	Discoverer (Individual, Ship):	R/V Hai Yang Di Zhi Si Hao	
	Date of Survey:	1999-2000	
	Survey Ship:	R/V Hai Yang Di Zhi Si Hao	
	Sounding Equipment:	Multi-beam sounding system (Seabeam2112)	
Supporting Survey Data,	Type of Navigation:	DGPS	
including Track Controls:	Estimated Horizontal Accuracy (nm):	<=0.08nm	
	Survey Track Spacing:	2.5nm	
	Supporting material can be submitted as Annex in analog or digital form.		



Fig.2 Regional bathymetry map with nearby features of Zhongshabei Canyons

generally

shared

elongated

of







Proposal for Zhongshabei Canyons is accepted with the name modified to Macclesfield Canyon Province and an additional information to be noted in the Gazetteer: Also known as Zhongshabei Canyon Province in some publications. This is also an example of some more flexible solutions.

	Date of Survey:	March 2005 - July 2005
	Survey Ship/Platform:	R/V Hai Yang Si Hao
	Sounding Equipment:	Multi-beam sounding system
rvey Data,		(Seabeam2112)
k Controls:	Positioning System:	DGPS
	Estimated Horizontal Accuracy, in nautical miles (M):	<=0.08 nm
	Survey Track Spacing:	2.5nm

Supporting Su including Trac

45 Zhongjianxi CANYONS

22°N 20°N 18°N 12°N 10°N 6°N 4°N 112°E 118°E 120°E 106°E 108°E 110°E 114°E 116°E 122°E



ACCEPTED

as Zhongjianxi CANYON PROVINCE



Already in GEBCO Gazatter 
 Proposed names for 2021
Fig.2 Regional bathymetry map with nearby features of the Zhongjianxi Canyons

Title: Canyon Province

<u>Criteria</u>: Existence of elongated, narrow, steep-sided depression that generally deepens down-slope.

Zhongjianxi CANYON PROVINCE

Decision Made: If a geographically distinct а with number shared region of physiographic characteristics that contrast with those in the surrounding areas is characterized by several elongated elongated, narrow, steep-sided depressions that generally deepens down-slope, the whole undersea feature is named canyon province.

i.e. Zhongjianxi Canyon Province SCUFN35.2/165

Fig.1 Index map showing the location of the Zhongjianxi Canyons



16.00°N

15.50°N-

15.00°N-

Fig.6 Profile of the Zhongjianxi Canyons

111,00%

110.50



Supporting Survey Data, including Track Controls:	Survey Ship:	R/V Hai Yang Di Zhi Si Hao
	Sounding Equipment:	Multi-beam sounding system (Seabeam2112)
	Type of Navigation:	DGPS
	Estimated Horizontal Accuracy (nm):	<=0.08nm
	Survey Track Spacing:	2.5nm
	Supporting material can be submitted as Annex in analog or digital form.	

Date of Survey:

1999-2000

# 45. CANYON PROVINCE vs CANYONS

### 46. HILL vs GUYOT

46	Long Hải GUYOT	ACCEPTED as Long Hải HILL	Long Hải HILL





Figure 2. Index map showing the location of the Long Håi Guyot.

### 46. HILL vs GUYOT





### <u>Title</u>: Hill

D

14.2

<u>Criteria:</u> Existence of a distinct elevation generally of irregular shape, less than 1000 m above the surrounding relief. <u>Decision Made</u>: If a distinct elevation generally of irregular shape, less than 1000 m above the surrounding relief as measured from the deepest isobath that surrounds most of the feature exists, the whole undersea feature is named hill.

# i.e. Long Hải Hill SCUFN35.2/79

Proposal for Long Hải Guyot is accepted with the generic term modified as Hill, and polygon to be extended to greater depths.

Figure 6. Profile of the Long Håi Guyot from the (A-B) and (C-D).

Figure 7. 3D bathymetric map of the Long Hai Guyot.

46. HILL vs GUYOT



Supporting Survey Data, including	Date of Survey:	April-2016, July-2020
	Survey Ship/Platform:	Ship 884
	Sounding Equipement:	SeaBeam 3030
	Positioning System:	GPS SPS 361
Track Controls:	Estimated Horizontal Accuracy, in	
	nautical miles (M):	≤ 0.005 nm
	Survey Track Spacing:	Minimum: 3 km, Maximum: 7 km
	Supporting material can be submitted as Annex in analog or digital form.	









Fig.5 3-D bathymetric map of the Changfeng Valley



Supporting Survey Data, including Track Controls:	Date of Survey:	1999-2000
	Survey Ship:	R/V Hai Yang Di Zhi Si Hao
	Sounding Equipment:	Multi-beam sounding system (Seabeam2112)
	Type of Navigation:	DGPS
	Estimated Horizontal Accuracy (nm):	<=0.08nm
	Survey Track Spacing:	2.5nm
	Supporting material can be submitted as Annex in analog or digital form.	

48	Chunfeng VALLEY	ACCEPTED as Chunfeng TROUGH	Chunfeng TROUGH
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Title: Trough

<u>Criteria:</u> Existence of a long depression generally wide and flat bottomed.

Decision Made: If a long depression generally wide and flat bottomed with symmetrical and parallel exists, the whole undersea feature is named trough.

# i.e. ChunfengTrough SCUFN35.2/181

Already in GEBCO Gazatter 
 Proposed names for 2021
Fig.2 Regional bathymetry map with nearby features of the Chunfeng Valley







	Date of Survey:	1999-2000
Supporting Survey Data,	Survey Ship:	R/V Hai Yang Di Zhi Si Hao
including Track Controls:	Sounding Equipment:	Multi-beam sounding system
		(Seabeam2112)
	Type of Navigation:	DGPS
	Estimated Horizontal Accuracy (nm):	<=0.08nm
	Survey Track Spacing:	2.5nm
	Supporting material can be submitted as Annex in analog or digital form.	