GEBCO SCUFN Gazetteer and S-100 Universal Hydrographic Model
Overview

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Introduction

- The GEBCO Sub-Committee on Undersea Feature Names (SCUFN) works to maintain and update a gazetteer of names of features on the seafloor.
- The gazetteer is produced by an international group of experts under the guidance of the IHO-IOC.
- The Sub-Committee is tasked to select names that appear on GEBCO products.

Figure 1- Bathymetry image of Brothers Seamount and caldera, an undersea volcano about 3 kilometers in diameter off the coast of New Zealand. Retrieved from https://eos.org/project-updates/a-name-directory-for-the-ocean-floor
Introduction

- The objectives of SCUFN include:
  - Select UFN and define when appropriate extents of named features
  - Review and address need for additional/revised terms and definitions
  - Provide advice on selection of UFN in international waters, and on request in national waters
  - Prepare and maintain international gazetteers and supplements of UFN
  - Prepare and maintain internationally agreed guidelines for the standardization of UFN and encourage use
  - Encourage establishment of national boards of geographical names and undersea feature names, and assist with naming where boards don’t exist
  - Maintain close liaison with UN Group of Experts on Geographical Names
The Case for Improving the Undersea Feature Names Model

• Definitions for undersea features exist in multiple IHO publications and don’t always align:
  – SCUFN online dictionary
  – IHO GI Registry Feature Concept Dictionary
  – S-57 Feature Catalogue
  – S-32 Hydrographic Dictionary

• Current model is “flat” and does not allow for description of unique physical characteristics

• Portrayal of features is simple geometry and no standard symbology exist for features
S-100 Universal Hydrographic Data Model
S-100 Continued

IHO GI Registry

- Feature Concept Dictionary Register
- Portrayal Register
- Product Specification Register
- Producer Code Register
- S-100 Test Bed

Catalogue Builder

- Feature Catalogue Builder
  - Describes the content of a data product

- Portrayal Catalogue Builder
  - Portrayal functions that map the features to symbol
  - Contains symbol, color, portrayal parameter and viewing groups, etc.

(http://registry.iho.int)
Example – S-100 Undersea Feature

Feature Concept Dictionary

Defines:
• Features
• Attributes
• Enumerated Values
• Information Types

Portrayal Register

Defines:
• Point Symbols
• Pattern Symbols
• Complex Line Styles
• Colour Symbols

Feature Catalogue

Generally:
• Consists of a list of named types
• A list of properties of named types
• Information on how both are linked together
• A list of sources for its definitions

Portrayal Catalogue

Contains:
• Portrayal functions that map features to symbology
• Symbol and colour definitions
• Portrayal parameters
• Portrayal management
Annex A
History of the GEBCO SCUFN Gazetteer Continued

• First GEBCO Sub-Committee on Geographical Names and Nomenclature of Ocean Bottom Features (SCGN) meeting was held in Dartmouth Nova Scotia in March 1975

• At fifth meeting in 1981, SCGN decided the terminology list and guidelines produced in conjunction with the U.N. Group on Undersea and Maritime Features should be distributed to all IHO-IOC Member States for use by national naming authorities

• 10th Meeting SCGN renamed to SCUFN and decision made to include in database “accepted names by appropriate nation organizations”
History of the GEBCO SCUFN Gazetteer Continued

• 11th SCUFN meeting in May 1995, decision made to publish the gazetteer digitally
• Conversion of gazetteer to digital format allowed addition of information about features e.g. historical information
• A web-based map interface prototype was introduced at the 17th meeting in 2004
• 2011 GEBCO Undersea Feature Names Gazetteer migrated to geospatially enabled relational Oracle database offering web services
• 27th meeting in 2014 first paper for consideration for conversion of GIS database to S-10x product specification