

# Global Bathymetric Data Sets - General Bathymetric Chart of the Oceans (GEBCO)

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On behalf of GEBCO

The GEBCO community ([www.gebco.net](http://www.gebco.net)) consists of an international group of experts in seafloor mapping who develop and make available a range of data sets and data products with the aim of providing the most authoritative publicly-available bathymetric data sets for the world's oceans. GEBCO operates under the joint auspices of the International Hydrographic Organization (IHO) and Intergovernmental Oceanographic Commission (IOC) of UNESCO.

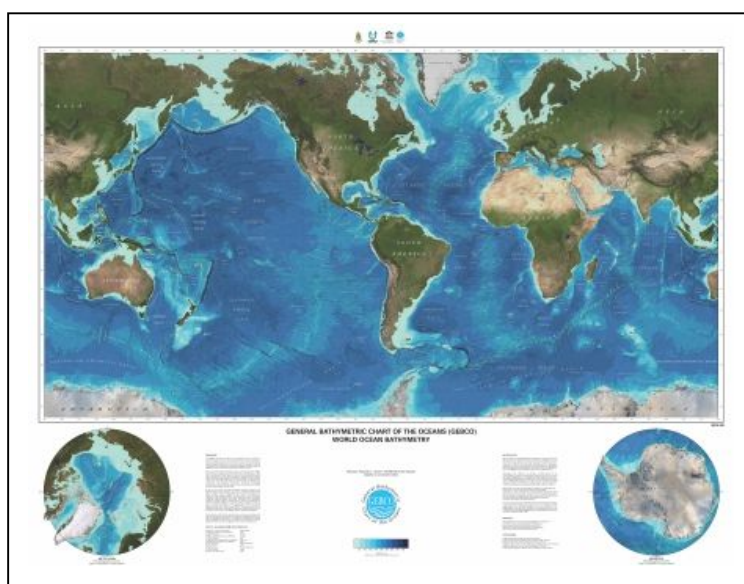


Figure 1: GEBCO world map

## Global gridded bathymetric data set – the GEBCO\_2014 grid

GEBCO's latest bathymetric product is the GEBCO\_2014 grid. This is a global terrain model at 30 arc-second intervals and was released in December 2014.

The grid is largely based on a database of quality-controlled ship-track soundings with interpolation between soundings guided by satellite-derived gravity data. Where they improve on this model, data sets generated by other methods have been included.

Recognising the importance of regional mapping expertise to help improve its global bathymetric model, GEBCO is building collaborations with regional mapping efforts to help encourage and coordinate the incorporation of their compilations into GEBCO.

The GEBCO\_2014 grid includes contributions from many regional mapping projects and data contributors such as the International Bathymetric Charts of the Arctic Ocean (IBCAO) and Southern Ocean (IBCSO); the Baltic Sea Bathymetry Database; EMODnet 2013 for European waters; Australian Bathymetry and Topography Grid, June 2009; Japan Coast Guard Grid for part of the North Western

Pacific Ocean region and data from the Global Multi-Resolution Topography (GMRT) synthesis, provided by the Lamont-Doherty Earth Observatory of Columbia University, USA.

The GEBCO\_2014 grid is accompanied by a Source Identifier (SID) Grid showing which cells are based on soundings or pre-gridded data sets and which are interpolated.

GEBCO's grids can be download from the internet in netCDF (CF Compliant), Esri ASCII raster or data GeoTiff formats : [www.gebco.net/data\\_and\\_products/gridded\\_bathymetry\\_data/](http://www.gebco.net/data_and_products/gridded_bathymetry_data/).

### **Gazetteer of Undersea Feature Names**

The GEBCO Sub-Committe on Undersea Feature Names (SCUFN) maintains and makes available a gazetteer giving the name, generic type, geographic location and extent of features on the seafloor.

The data set contains over 3,900 features and is available to view, search and download via the internet in a number of formats including comma separated text, spreadsheet and shapefile: [www.gebco.net/data\\_and\\_products/undersea\\_feature\\_names/](http://www.gebco.net/data_and_products/undersea_feature_names/).

Via its web pages, SCUFN provides information on undersea feature terms and definitions. It also provides details on how to propose names for newly-discovered features.

### **Web services**

GEBCO make available a Web Map Service (WMS) providing imagery based on the GEBCO 30 arc-second grid. The WMS includes layers showing global bathymetry in the form of a shaded relief image and as a 'flat' map colour-coded for depth. It also includes a layer showing the SID grid coverage - i.e. identifying those grid cells in the GEBCO\_2014 grid constrained by measured data or pre-gridded data sets, or based on interpolation.

The WMS can be accessed from GEBCO's web site:

[www.gebco.net/data\\_and\\_products/gebco\\_web\\_services/web\\_map\\_service/](http://www.gebco.net/data_and_products/gebco_web_services/web_map_service/)

### **IHO-IOC GEBCO Cook Book**

The Cook Book is a technical reference manual on how to build bathymetric grids. It includes information on: data gathering and cleaning; producing bathymetric grids plus information on some of the software packages available to do this work.

[www.gebco.net/data\\_and\\_products/gebco\\_cook\\_book/](http://www.gebco.net/data_and_products/gebco_cook_book/)

### **GEBCO world map**

This is a shaded-relief colour map image showing the bathymetry of the world's oceans based on GEBCO's global gridded bathymetric data set.

[www.gebco.net/data\\_and\\_products/printable\\_maps/gebco\\_world\\_map/](http://www.gebco.net/data_and_products/printable_maps/gebco_world_map/)