Press release – 30 June 2020

EMODnet Bathymetry now offers the highest resolved bathymetric worldwide layout

Bathymetry, the topography of the seafloor, is a fundamental feature of the ocean. Accurate bathymetric data is the foundation for much of ocean science and policy. For example, nautical charts are based on these data to ensure safe ship navigation and bathymetric maps allow scientists to develop more accurate models to investigate the effects of climate change on the environment.

EMODnet's new World Base Layer Service (EBWBL) provides a fast and easy access to worldwide bathymetric information, enabling marine knowledge users including industry, scientists, coastal managers, students and the general public, to access high-resolution representations of seabed features from their own computer. EBWBL provides the highest resolved topographic and bathymetric worldwide layout currently available with land and sea integration matching the OpenStreetMap coastline representation.

This new service is freely accessible from the EMODnet Bathymetry portal (https://tiles.emodnet-bathymetry.eu/), for integrating into your favourite application, along with guidance documentation and a demo viewer to zoom in on every detail. It is available in various projections, e.g., non-projected coordinate system, Web Mercator, Inspire compliant projection and projections adapted to both poles.

"The new EMODnet Bathymetry World Base Layer Service is a real breakthrough in the provision of open-access global ocean information for all types of users; from industry to the general public, and from scientists to marine spatial planners. It highlights EMODnet's contribution and leading role in the global ocean observation landscape", Iain Shepherd, Senior Policy Officer, EC DG MARE.

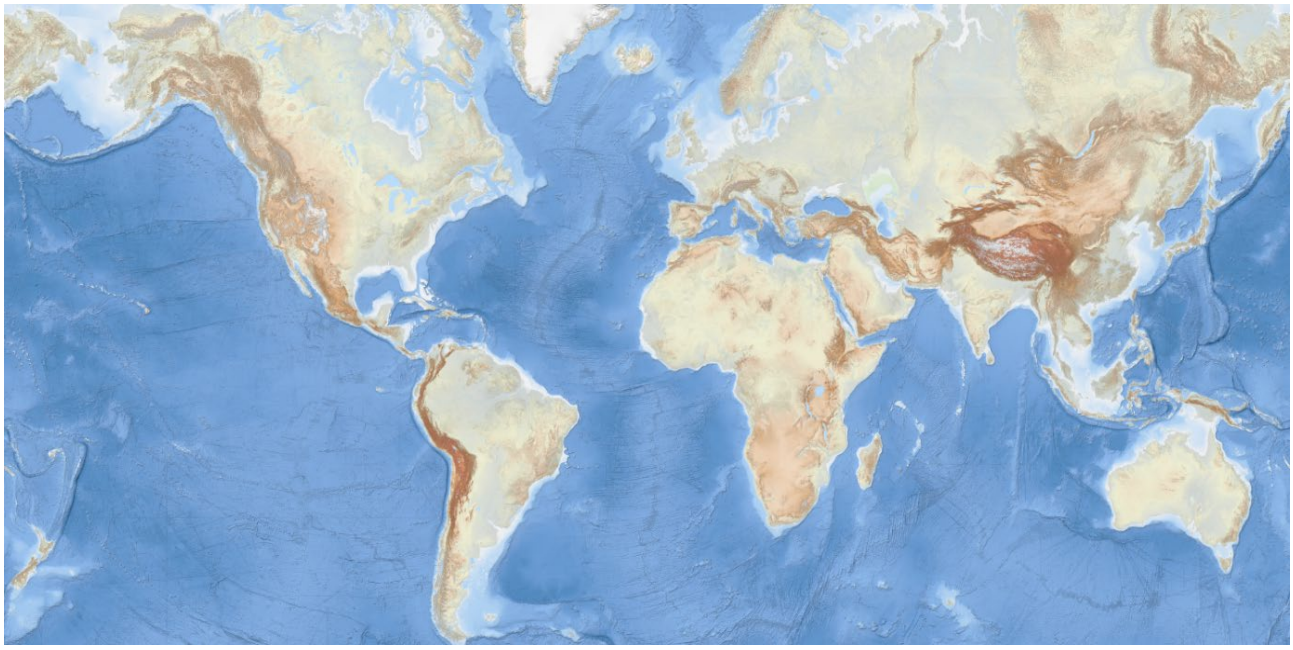

Image: The EMODnet World Base Layer Service offers the highest resolved bathymetric worldwide layout

What is new?

It's global. This first edition of the EBWBL has a global coverage and combines gridded data from the IHO and IOC UNESCO's General Bathymetric Chart of the Oceans (GEBCO) and the EMODnet Bathymetry Digital Terrain Model (EMODnet DTM) at the highest resolution as a Web Map Tiles Services (WMTS).

It's fast. WMTS is displaying pre-rendered images served from a web server, which means it is less computationally demanding and faster than rendering images in the browser, a benefit over technologies such as WFS.

It's accurate. EBWBL provides access to the pre-rendered tiles of the most reliable and publicly available bathymetric dataset. The service is planned to be maintained and updated on a regular basis. It includes bathymetric data on all lakes worldwide, with a 30m resolution. Lakes are nicely blended in with the landscape. The colour scheme is specifically chosen to display enough details in the different depth ranges. On land, the same fine details can also be discovered.

To access the World Base Layer Service, visit the EMODnet Bathymetry Portal:

tiles.emodnet-bathymetry.eu

Technical background information

Based on a modern Web Map Tile Service (WMTS) schema, a standard protocol (OGC) for serving pre-rendered georeferenced map tiles over the Internet, the EBWBL is composed of the 2018 EMODnet bathymetric grid of Europe (approx. 100m resolution) and uses the GEBCO 2019 grid (approx. 500m resolution) elsewhere. The land coverage is based on a combination[1] of 30 arc second ASTER GDEM, SRTM3, EU-DEM, and Global 1 second worldwide water body map for the topographic part. This compilation of publicly available data sources has been merged and pre-tiled for rendering, at 10 levels of zoom starting from 75m resolution. The EBWBL service is available in various projection systems (EPSG 4326, EPSG 3857, EPSG 3035) including projections adapted to both poles (ESPG 3031 and 3996).

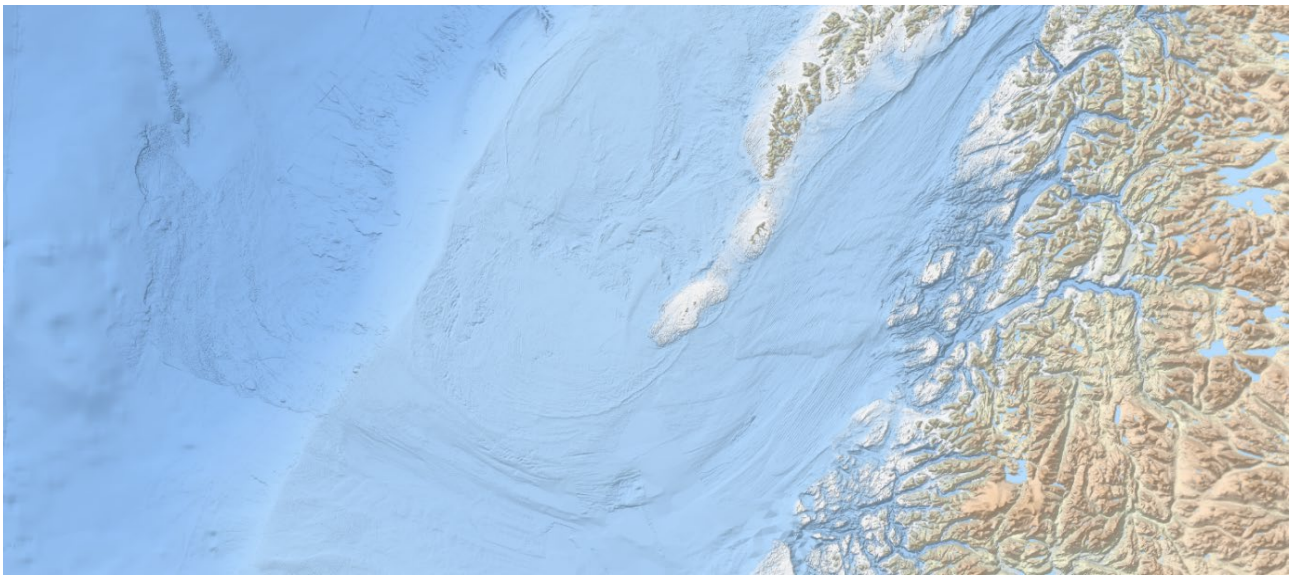

Image: Visualisation of Norwegian's fjords with the new EMODnet bathymetric layout

About EMODnet Bathymetry

First launched in 2010, the EMODnet Bathymetry Digital Terrain Model (DTM) has now become a reference for government, science and industry. Regularly visited by over 10.000 persons per month, with over 3.000 downloads per month, it provides the most detailed publicly available gridded bathymetry model for all European marine waters. The EMODnet Bathymetry consortium is composed of European bathymetric data providers such as hydrographic services, research organisations and private companies.

[1] The compilation and void filling of the land DEM is based on the work of ViewFinderPanoramas.org

About the European Marine Observation and Data Network (EMODnet)

EMODnet is a long-term marine data initiative from the European Commission Directorate-General for Maritime Affairs and Fisheries (DG MARE). It is a gateway to marine data in Europe with free, open access to data, data products and metadata from more than 120 organisations. Explore data and maps of bathymetry, geology, physics, chemistry, biology, seabed habitats and human activities on http://www.emodnet.eu

About the General Bathymetric Chart of the Ocean (GEBCO)

GEBCO's aim is to provide the most authoritative publicly available bathymetry of the world's oceans. It operates under the joint auspices of the International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO. GEBCO's grid is based on bathymetric data and resources made available from international research labs, industry, and academia.

About the International Hydrographic Organization (IHO)

The International Hydrographic Organization (IHO) is an intergovernmental organization which supports the safety of navigation and the protection of the marine environment. It is the international authority regarding hydrography, a discipline of applied science where the physical characteristics of the oceans are measured and presented. With 93 Member States on five continents, the IHO sets standards and coordinates activities of national hydrographic offices so that all seas, oceans and navigable waters are surveyed and charted. The Secretariat of the IHO has been hosted by the Principality of Monaco since its creation in 1921.

About the Intergovernmental Oceanographic Commission (IOC/UNESCO)

UNESCO's Intergovernmental Oceanographic Commission (IOC) promotes international cooperation and coordinates programmes in marine research, services, observation systems, hazard mitigation, and capacity development in order to understand and effectively manage the resources of the ocean and coastal areas. By applying this knowledge, the Commission aims to improve the governance, management, institutional capacity, and decision-making processes of its Member States with respect to marine resources and climate variability and to foster sustainable development of the marine environment, in particular in developing countries.

About the Nippon Foundation – GEBCO Seabed 2030 Project

The Nippon Foundation-GEBCO Seabed 2030 Project - a global project within the IHO-IOC GEBCO framework - launched at the United Nations Ocean Conference in 2017, is building a global community of ocean mappers, hydrographers, scientists, industry and the public to discover and publish all existing bathymetric data. Seabed 2030 advocates collaborative activity in accelerating the mapping of the ocean floor – these include supporting the mapping of unexplored ocean frontiers, collecting data through crowdsourcing, and advancing technology for data collection.

Since 2019, EMODnet Bathymetry and the Seabed 2030 Project share a Memorandum of Understanding with the convergent aim of improving the bathymetric knowledge, while promoting the distribution of this knowledge to all potential users.

About the Nippon Foundation

The Nippon Foundation is a private, non-profit foundation established in 1962, in Japan, for the purpose of carrying out philanthropic activities, using revenue from motorboat racing. The Foundation places an emphasis on social innovation, and implementing ideas to bring about change for a better society. Its activities encompass wide-ranging areas such as the fight against leprosy, peacebuilding in Myanmar and passing on the riches of the ocean to the next generation

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