EMODNET HYDROGRAPHY – SEABED MAPPING – BATHYMETRY PROJECTS
PRODUCING A HIGH RESOLUTION DIGITAL BATHYMETRY FOR EUROPEAN SEA BASINS


The EMODnet Hydrography – Seabed Mapping – Bathymetry projects made very good progress in developing the EMODnet Bathymetry portal to provide overview and access to available bathymetric survey datasets and to generate a harmonised digital bathymetry for European sea basins. Up to May 2019 more than 14,000 bathymetric survey datasets, managed by 27 data centres from 15 countries and originating from 156 institutes, have been gathered and populated in the EMODnet Bathymetry Data Discovery and Access service, adopting SeaDataNet standards. In addition a number of data providers have delivered composite DTMs as alternative to survey data sets and these are populated with metadata in the EMODnet Seafloor Catalogue service. From these over 7000 survey data sets and 30 composite DTMs together have been used as input for analysing and generating the EMODnet digital terrain model (DTM), in the following sea basins:

- the Greater North Sea, including the Kattegat and stretches of water such as Fair Isle, Cromarty, Forts, Flotta, Dover, Wight, and Portland
- the English Channel and Celtic Seas
- Western and Central Mediterranean Sea and Ionian Sea
- Bay of Biscay, Iberian coast and North-East Atlantic
- Adriatic Sea
- Angolan - Littorline Sea (Eastern Mediterranean)
- Azores - Madeira EEZ
- Canary Islands
- Baltic Sea
- Black Sea
- Norwegian – Icelandic seas

Gaps in coverage by survey data sets and composite DTMs are completed by using the OMBCI-2014 DTM data (IGESCO General Bathymetric Chart of the Oceans) is partner in the project, while for the Baltic Sea coverage taken place with the Baltic Sea Bathymetry Database project of the Baltic Sea Hydrographic Commission.

The Bathymetry Viewing and Download service gives users wide functionality for viewing and downloading the EMODnet digital bathymetry:

- water depth in gradational form on a DTM grid of 15’ x 15’ arc min of longitude and latitude (ca 250 x 250 melden)
- options to view depth parameters of individual DTM cells and reference it to source data
- option to download DTM in 14 files in different formats: ESRi ASCII, tiff, EMODnet CSV, NetCDF, CGS, GeoTIFF and Adobe PDF
- option for users to create their Personal Layer and to upload their own survey ASCII datasets for automatic processing into personal DTMs following the EMODnet standards
- layer with a number of high resolution DTMs for coastal regions
- layer with echoes from the UKHO Wrecks database.

The NetCDF (CF) DTM file size are too big for use in a special 3D Viewer software package which is based on the existing open source NASA World Wind JAR application. It has been developed in the frame of the EU FP7 Data-Sea project (onshore setting of SeaDataNet for marine geographical and geospatial data) and is freely available. The 3D viewer also supports the ingestion of KML overview maps. The GIS layer can also be used for 3D viewer by means of the freely available s3wv3d (Fugro) software.

A new release of the EMODnet DTM is planned for summer 2019 integrating more data sets and refining areas with possible anamolies. The EMODnet consortium is actively working cooperatively with additional Hydrographers, Ocean research institutes, authorities and private organisations for more data sets (single and multibeam surveys, sounding tools, composite products) to contribute to an even finer geographical coverage. These datasets will be used for acquiring and extending the EMODnet DTM. The datasets themselves are not distributed but described in the metadata sets, giving clear information about the survey data sets used for the DTM, their access restrictions, origins and distributors and facilitating requests by users to originators. This way the portal provides originators of bathymetric data sets an attractive shop window for promoting their data sets to potential users, without losing control.

VISIT US AT: WWW.EMODNET–BATHYMETRY.EU