www.gebco.net

www.emodnet-hydrography.eu

GEBCO and EMODnet Bathymetry hands in hands

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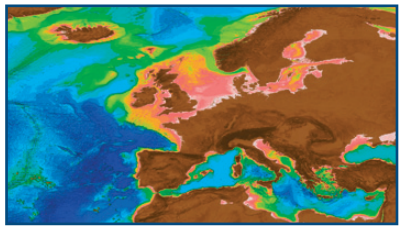
GEBCO provides a unique global Digital Terrain Model at 30 arc-second (~1km horizontal resolution). Recognising the importance of regional expertise, GEBCO is collaborating with regional groups to help to continually improve its global model.

Thanks to the European initiative EMODnet, data providers from more than 30 organisations are working to build a regional DTM at 1/8th arc-minute (~250m resolution) for European waters (from the Norwegian and Icelandic Seas, through the Baltic, Celtic and North Seas to the Black Sea and Mediterranean Sea).

With the aim of producing harmonised products and to prevent any duplication of effort, ***GEBCO and EMODnet are working together to build an authoritative DTM for European waters.*** *This consists of the following steps: 1) The Emodnet group has generated a Digital terrain model (2013 version) for European waters, with gaps between data sources. 2) The EMODnet (2013) DTM has been used to update GEBCO's global grid using the 'remove-restore' procedure involving the generation of a difference grid between the EMODnet 2013 and the initial GEBCO grids, which is then added on top of the initial GEBCO grid. This helps to give a smooth transition between the data sets while preserving the detail in the individual data sets. When compiling a new 2014 version of the EMODnet DTM, data gaps are filled with the new GEBCO grid.*

As a result of this collaboration and the process described above, the latest (2014) versions of both grids show a marked improvement in their precision and continuity. Repeating this procedure for future releases of EMODnet and GEBCO bathymetric grids will help improve our knowledge of the bathymetry of European waters while providing a fit-for-purpose and consistent grid for users.

GEBCO



SID : soundings (black), IBCAO DTM (green), SRTM (pink), satelitte derived gravity (turquoise)

Main characteristics

- Worldwide coverage.
- 30 seconds grid spacing (approx. 1km).
- Composed from a database of ship track soundings with interpolation between the soundings guided by satellite-derived gravity data.
- Where they improve the model regional compilations are included (IBCAO, IBCSO, EMODnet).
- Accompanied by a source identifier (SID).

Merging procedure

www.gebco.net/data_and_products/gebco_cook_book/

GEBCO grid@30s

EMODnet grid@16s

Resampled EMODnet grid@30s

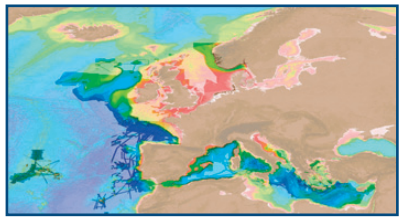
Difference between resampled EMODnet and GEBCO

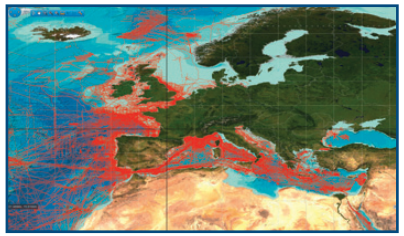
Interpolation of the difference layer

Addition to the initial GEBCO grid

Updated GEBCO grid

EMODnet

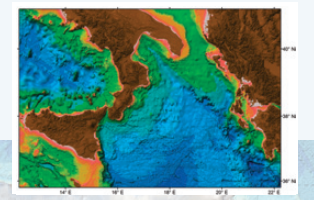




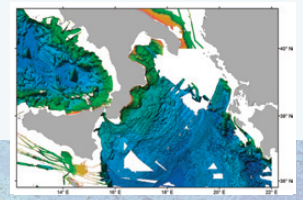
CDI portals
(www.emodnet-hydrograph.eu/v_cdi_v3/browse_step.asp)

Main characteristics

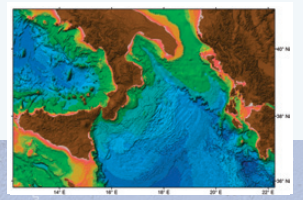
- European waters coverage.
- 16 seconds grid spacing (approx. 500m).
- Composed from acoustic soundings and local compilations.
- Gaps filled with the GEBCO grid.
- Contains a source attribute (CDI). This attribute provides an information on the dataset contribution (main acquisition characteristics, data holder).
- A database of CDI metadata is available through the portal.



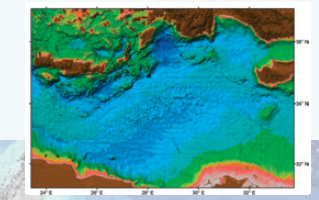
GEBCO 2008



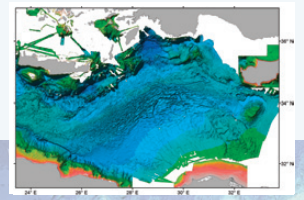
EMODNet 2013



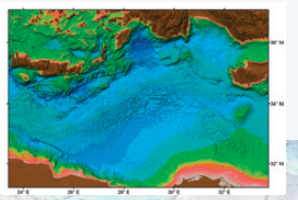
GEBCO 2014



GEBCO 2008



EMODNet 2013



GEBCO 2014

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