EMODnet High Resolution Seabed Mapping – further developing a high resolution digital bathymetry for European seas

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Access to marine data is a key issue for the EU Marine Strategy Framework Directive and the EU Marine Knowledge 2020 agenda and includes the European Marine Observation and Data Network (EMODnet) initiative. EMODnet aims at assembling European marine data, data products and metadata from diverse sources in a uniform way.

The EMODnet Bathymetry project has developed Digital Terrain Models (DTM) for the European seas. These have been produced from survey and aggregated data sets that are indexed with metadata by adopting the SeaDataNet Catalogue services. SeaDataNet is a network of major oceanographic data centres around the European seas that manage, operate and further develop a pan-European infrastructure for marine and ocean data management. The latest EMODnet Bathymetry DTM release has a grid resolution of 1/8 arcminute and covers all European sea regions. Use has been made of circa 7800 gathered survey datasets and composite DTMs. Catalogues and the EMODnet DTM are published at the dedicated EMODnet Bathymetry portal including a versatile DTM viewing and downloading service.

End December 2016 the Bathymetry project has been succeeded by EMODnet High Resolution Seabed Mapping (HRSM). This continues gathering of bathymetric in-situ data sets with extra efforts for near coastal waters and coastal zones. In addition Satellite Derived Bathymetry data are included to fill gaps in coverage of the coastal zones. The extra data and composite DTMs will increase the coverage of the European seas and its coastlines, and provide input for producing an EMODnet DTM with a common resolution of 1/16 arc minutes. The Bathymetry Viewing and Download service will be upgraded to provide a multi-resolution map and including 3D viewing. The higher resolution DTMs will also be used to determine best-estimates of the European coastline for a range of tidal levels (HAT, MHW, MSL, Chart Datum, LAT), thereby making use of a tidal model for Europe. Extra challenges will be 'moving to the cloud' and setting up an EMODnet Collaborative Virtual Environment (CVE) for producing the EMODnet DTMs.

The presentation will highlight key details of EMODnet Bathymetry results and the way how challenges of the new HRSM project are approached.