



EMODnet



European Marine
Observation and
Data Network

EMODnet Bathymetry

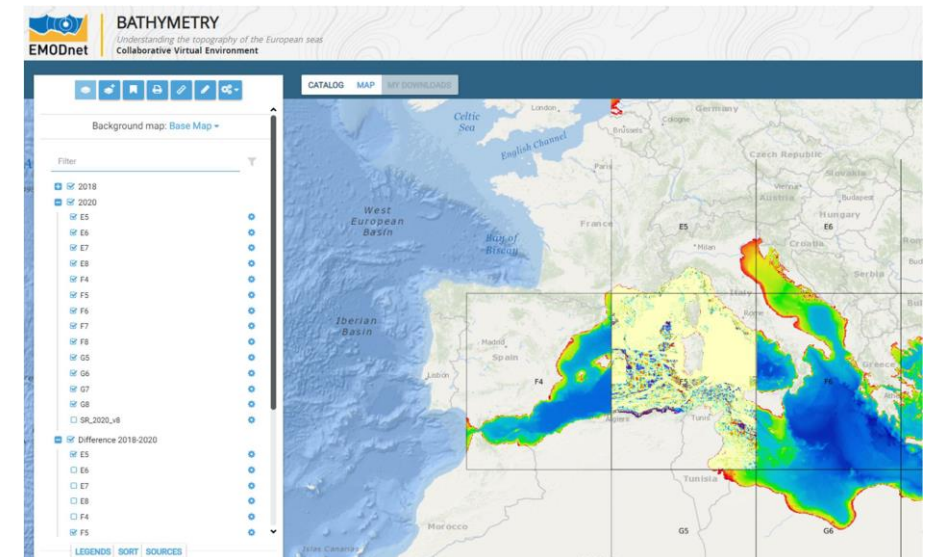
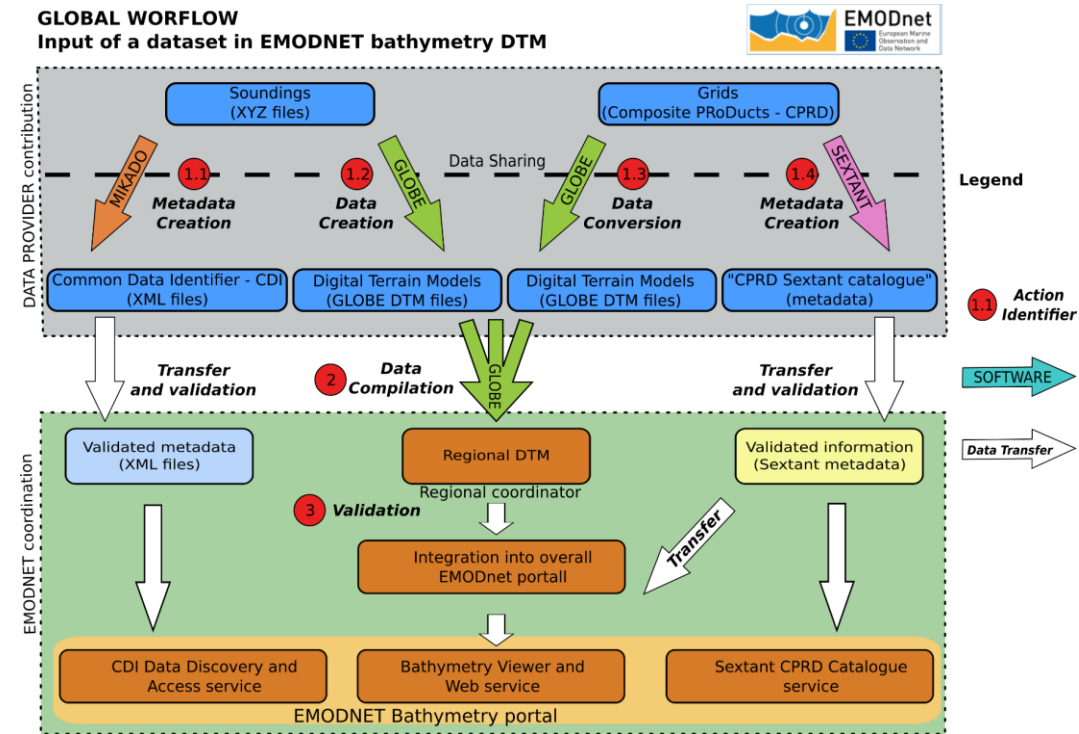
16th EMODnet Steering Committee
27-28 April 2022

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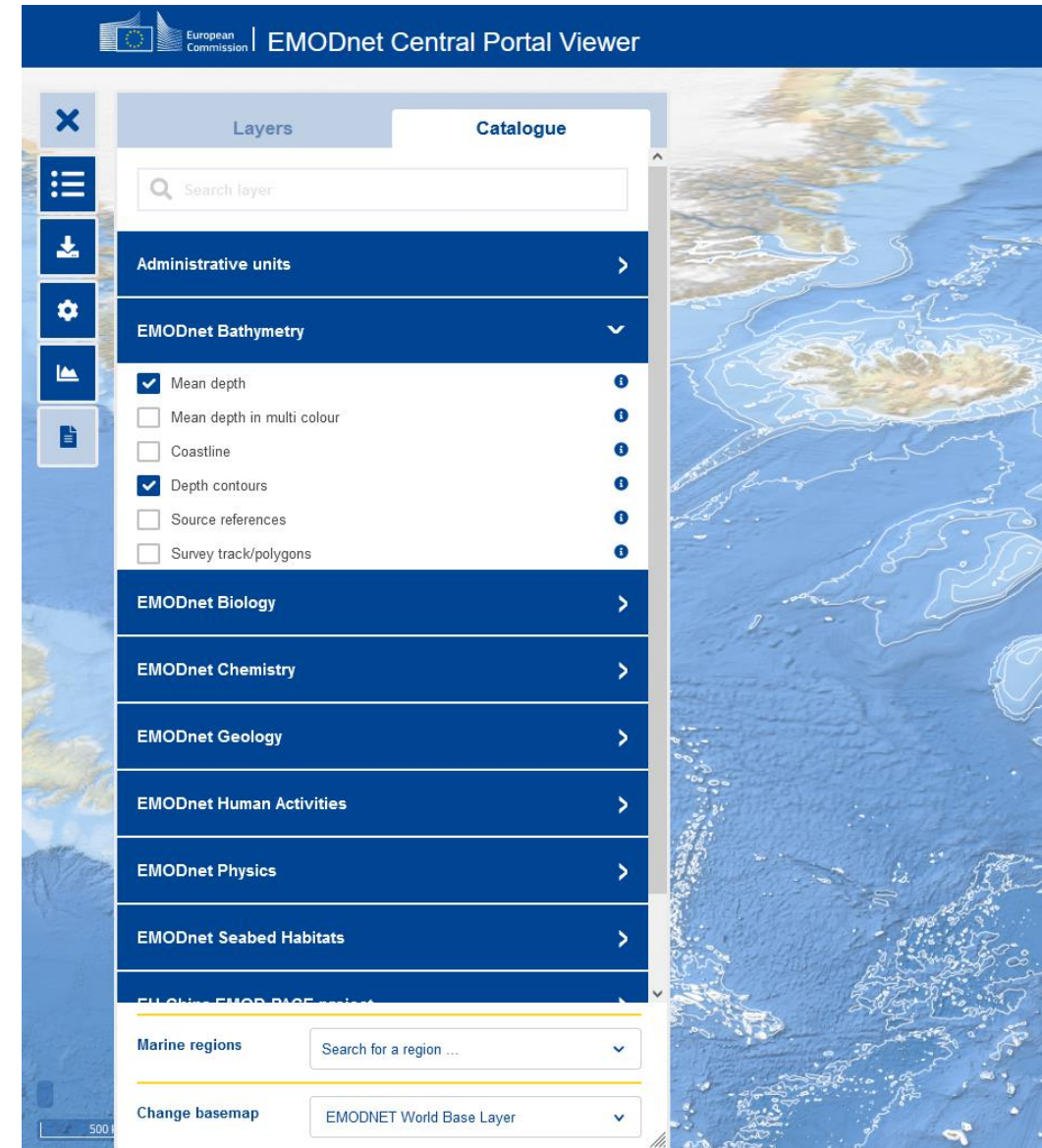
Status update

- New project underway since 20 December 2020
- Metadata population well progressed for new surveys (31432 => 36716) and several data providers migrating towards CC-BY licenses (18% => 27%)
- Upgrades of GLOBE software released for use by data providers and regional coordinators
- Successful GLOBE workshops held for data providers and basin coordinators, including training in online Collaborative Virtual Environment (CVE) with online GLOBE
- Bathymetric data sets are being pre-processed by data providers using GLOBE and following EMODnet methodology for transfer to regional coordinators as new input
- Production of Satellite Derived Bathymetry datasets for new region - Caribbean area to complement survey data and composite DTMs
- Interim report submitted in Feb 2022 and accepted in March 2022



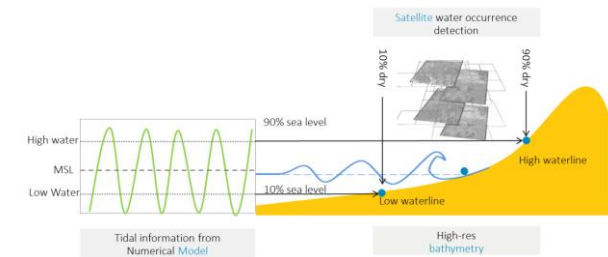
Status update – Central portal migration

- Regular meetings between CP team and EMODnet Bathymetry Technical Team.
- Bathymetry Viewing service software provided to CP team as basis for new CP Map Viewer because of dedicated functions
- Largely agreed on overall approach
- Now underway with deploying individual topics which can give additional discussions
- Bathy has made a checklist for testing bathy map layers and functionality at CP Map Viewer
- All map layers driven by Bathy OGC WMS – WFS services
- CP has merged DTM tiles into one for serving ERDDAP functionality to allow users to make a geo-subset and download it in different formats
- Bathymetry continues external CDI data discovery and access service and Sextant Products Catalogues services



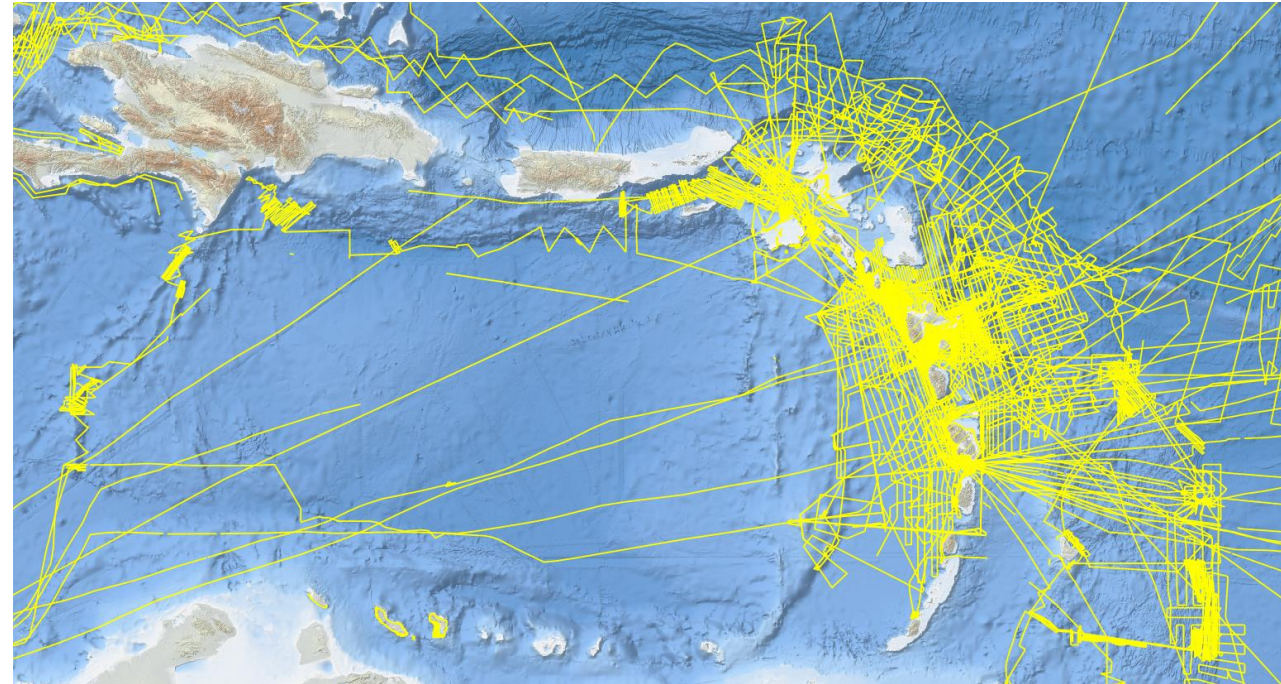
Cross-Thematic Interactions – Use of Satellite data in several products

- EMODnet Bathymetry strives to make the best bathymetric data products possible, making use of all available data sets. Therefore, since the start in 2010, use is made of both in-situ data and satellite derived data.
- GEBCO digital bathymetry is used to fill gaps in coverage. GEBCO is largely based upon **Altimetry** for **large deep seas areas**, giving an estimation of the deformation of the sea surface from underlying seabed structure. GEBCO is also using in-situ data, for instance by integrating the EMODnet Bathymetry DTM, SeaBed 2030 data sets, and others.
- Since 2018, use is made of **Satellite Derived Bathymetry (SDB)** for filling gaps in coverage of **coastal areas**. This is done by partner EOMAP, using Sentinel2 and Landsat 8 images. So far, 39 SDB datasets have been generated for Spain, Italy, Greece, Croatia, Denmark, and recently, for the Caribbean region. EOMAP is evaluating IceSat2 spaceborne Lidar (emerging), for the purpose of cross-validation.
- Deltares has generated **European digital coastlines** at LAT, MSL, and MHW vertical references from the correlation of thousands of satellite images and tide modelling (Global Tide Surge Model), using the Normalized Difference Water Index (NDWI) principle and making use of Google Earth Engine processing facilities.
- Discussions with CMEMS and IRD (the French National Research Institute for Sustainable Development) and CNES (French Spatial Agency) are ongoing (through Shom) on an emerging technique based on wave diffraction analysis from multispectral images. Shom's contribution is to help improve the assessment of the method and provide advices on the optimal conditions of use.



External interactions

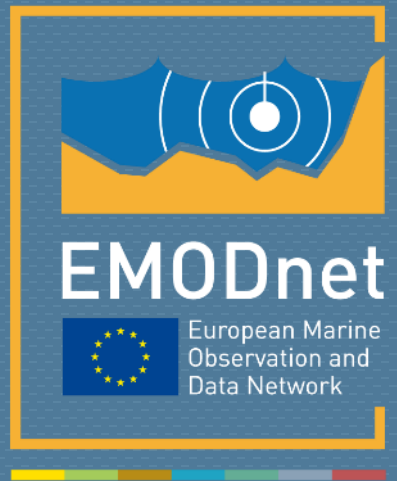
- Numerous interactions with IHO / GEBCO / Seabed 2030
 - regional commissions – Baltic , North Sea, Caribbean
 - IENWG (10th anniversary of the MOU to come on 6/05/2022)
 - Crowd-sourcing working group
 - Chair and Vice-Chair of the GEBCO technical Sub-Committee on Ocean Mapping both originating from EMODnet Bathymetry group
- EMOD-PACE:
 - WP2 (metadata and data sharing)
 - WP4 (Advices relative to bathymetry compilation)
- Participation at the national level or international level to thematic conferences, notably:
 - IMDIS 2021 conference
 - IODE – International Ocean Data Conference 2022
 - Oceanology International 2022
 - Benelux hydrographic society



Future Outlook

- Progress on the update of the full DTM and HR-DTMs
 - Compilation at regional level (summer 2022)
 - Global compilation (release end of 2022)
 - Production of the new Caribbean region DTM
 - Expand number of HR-DTMs (fall 2022)
- Updating the European Digital Coastlines at LAT, MSL, and MHW using new satellite images and covering also Caribbean region
- Updating inventory of official baselines and coastlines
- Establishing tidal bathymetry for the Venice Lagoon
- Portal Migration:
 - Continuation of implementation of existing EMODnet Bathy services (end 2022)
 - Acceptance tests
 - Taking into production with governance arrangements





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