



**EMODnet**

European Marine  
Observation and  
Data Network

Bathymetry



# Current offer, updates and forward look EMODnet Bathymetry

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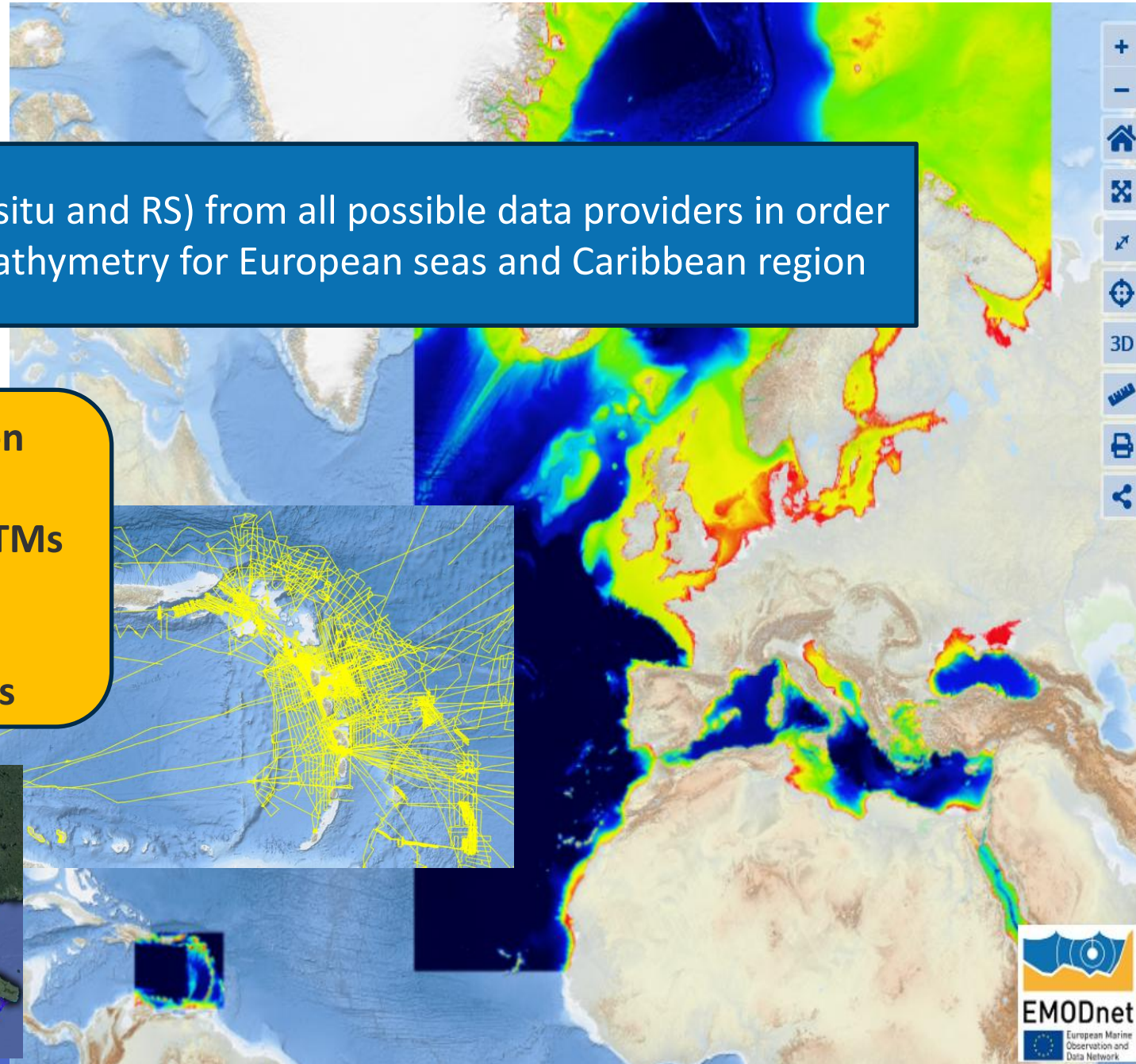
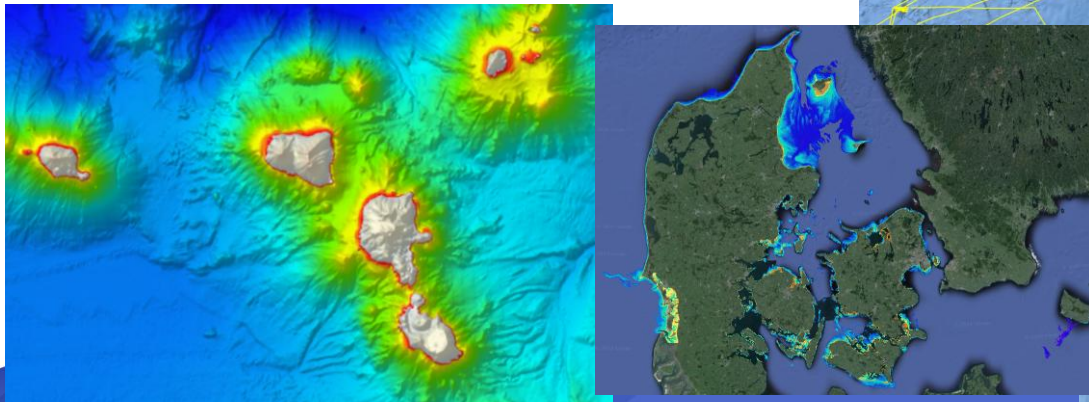
20th EMODnet Steering Committee meeting  
29-30 April 2024

# EMODnet bathymetry current offer

## Overview of products and services

To bring together bathymetry data sets (in-situ and RS) from all possible data providers in order to generate and publish the best Digital Bathymetry for European seas and Caribbean region

- DTMs for European seas and Caribbean region
- Collection of HR-DTMs
- Catalogues for survey data and Composite DTMs
- World Base Layer (WMTS)
- SD global coastlines at LAT, MSL, and MHW
- Inventory of national coastlines and baselines



# EMODnet Bathymetry current offer

## Data/Data Products for EU Policy



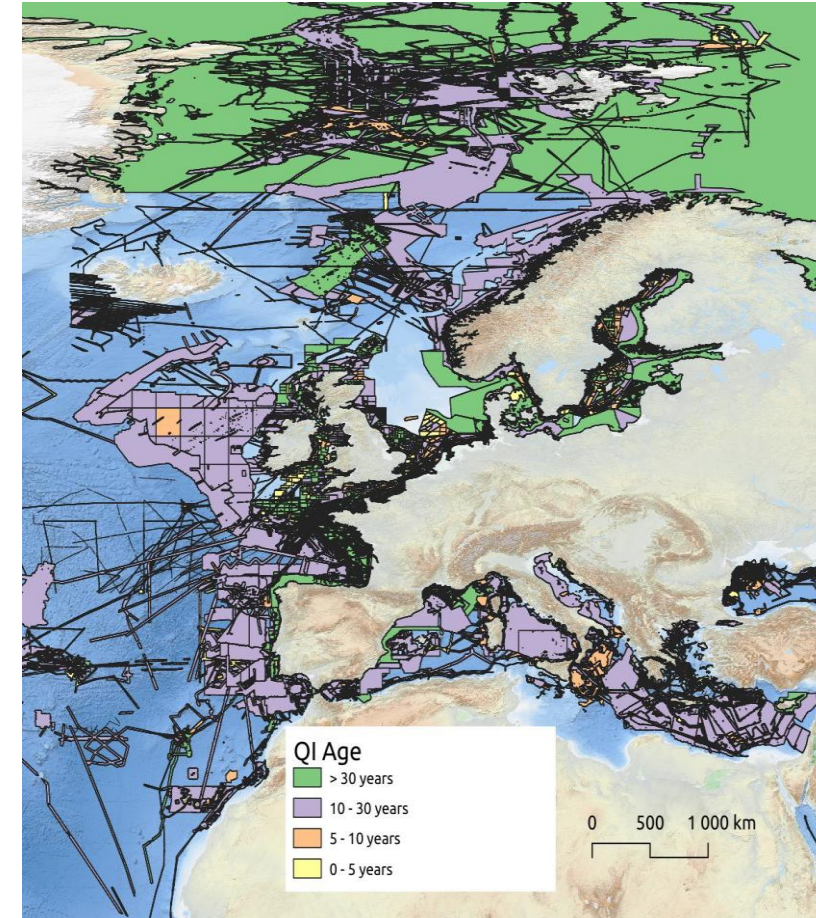
EMODnet Bathymetry products and services are supportive of several EU directives and initiatives, such as:

- Marine Spatial planning
- Coastal Zone Mapping
- Marine Strategy Framework Directive
- Water Framework Directive
- Habitats Directive
- Marine Renewable Energy strategy
- Biodiversity strategy
- Zero pollution strategy
- Blue Economy
- Green Deal
- United Nations Decade of the Oceans initiative and the Sustainable Development Goals (SDG).

**However, bathymetry is not yet recognised internationally (GOOS) as an Essential Ocean Variable (EOV). Efforts should be undertaken to change this.**

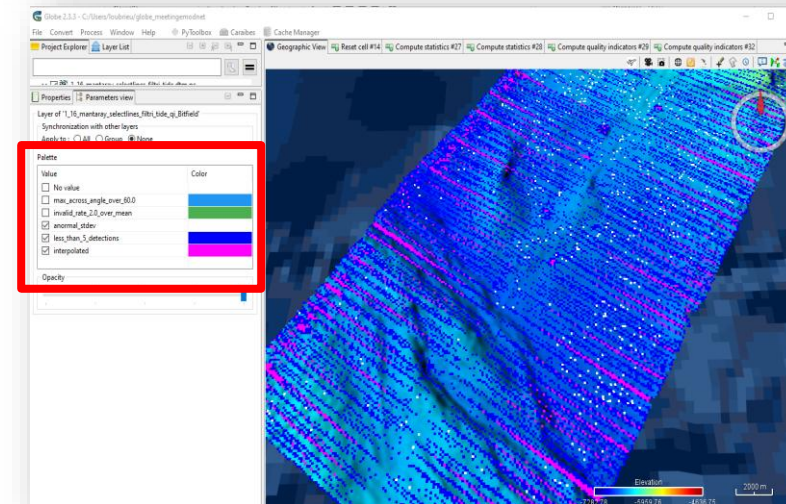
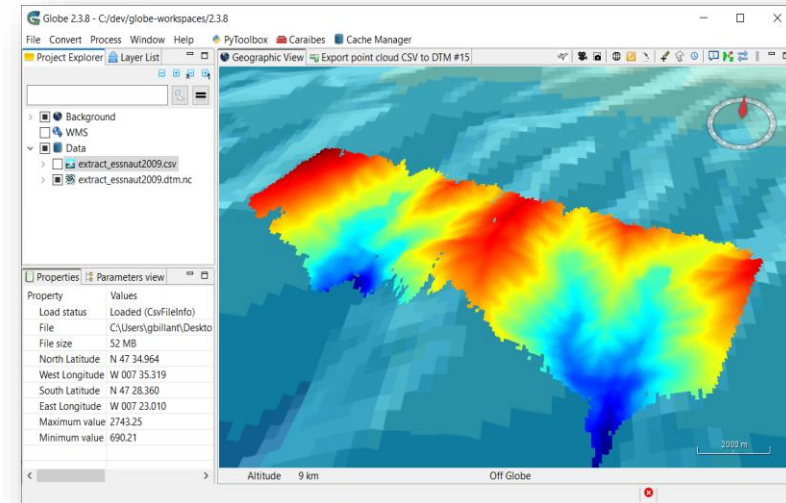
# EMODnet Bathymetry Updates and Future look

- **New products releases planned for end of 2024**
- **Close cooperation with SeaBed 2030 and GEBCO, also as part of Ocean Decade activities**
- **Future:**
  - **Updating the EMODnet Bathymetry World Base Layer (current version is from 2020 based on EMODnet DTM 2018 and GEBCO 2019)**
  - **Deep Sea areas remain sparsely covered, therefore the ‘hunt’ for unlocking even more existing data from government, research and industry sectors needs to be intensified. Industry can offer data in open waters such as ‘transits’.**
  - **Seeking alternative methods such as collaboration with the geophysical community to extrapolate bathymetry from the gravity field and with the geological community analysing backscatter**



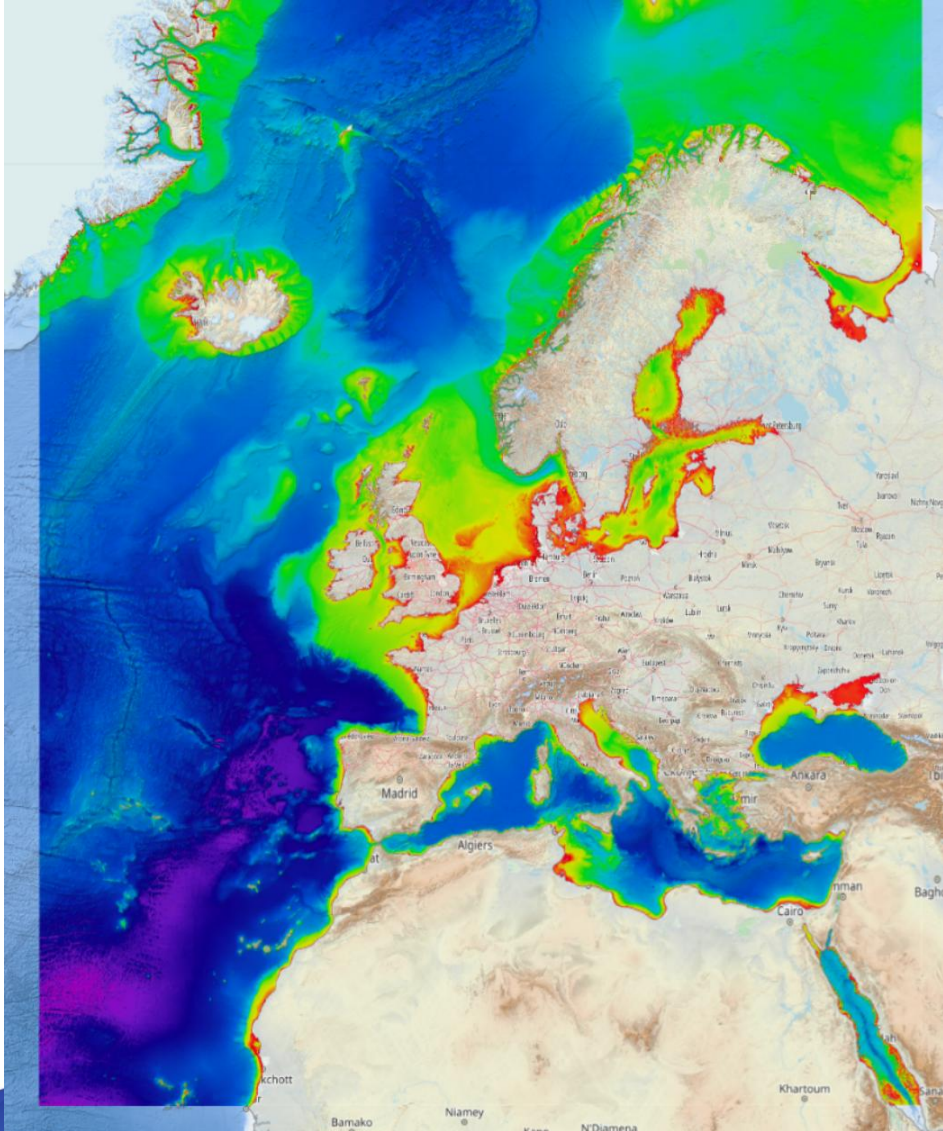
# EMODnet Bathymetry Updates and Future look

- **Future:**
  - Closer cooperation of CMEMS and EMODnet Bathymetry on systematic Satellite Derived Bathymetry production efforts in the coastal areas and possibly time dynamic bathymetry
  - Use the centralisation for designing possible mixed thematic products
  - Further innovations of working methods:
    - Collaborative Virtual Environment (cloud based) for optimising Regional DTMs
    - AI for improved local interpolations
    - AI for super-resolution of satellite images
    - AI for refining coastal transitions
    - Improved 3D visualisations



# Use Case

## EMODnet DTM for European seas, our no 1 use case



- Available at MSL and LAT
- 4<sup>th</sup> Release: end December 2022
- Based on 21.790 survey data sets, composite DTM data sets and coastal Satellite Derived Bathymetry (SDB) datasets from 64 data providers from 28 countries
- Resolution grid of 1/16 \* 1/16 arc minutes (circa 115 \* 115 meters)
- Use of GEBCO 2022 and IBCAO V4 for covering areas without available data
- Available in ESRI ASCII, XYZ, EMODnet CSV, NetCDF (CF), GeoTiff and SD in download tiles
- OGC WMS, WMTS, WFS and WCS services
- <https://doi.org/10.12770/ff3aff8a-cff1-44a3-a2c8-1910bf109f85>

- **45.000 DTM tiles downloads in 2023 (10 Tb)**
- **27 Million WMS requests in 2023**
- **Hundreds of references in Google Scholar**



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