



EMODnet



European Marine
Observation and
Data Network

EMODnet Thematic Lot n°1 – Bathymetry

CINEA/EMFAF/2022-23/3.5.2/01/SI2.927891

Start date of the project: 20/12/2024 (24 months)

Operational Phase

Quarterly Progress Report 1

Reporting Period: 20/12/2024 – 31/03/2025



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1. Highlights in this quarter

Task 1 - Maintain and improve a common method of access to data held in repositories:

During the reporting period, the number of survey data sets has slightly increased from 43092 to 43292 CDI entries, while the number of Composite DTM entries continued at 299. New CDI entries for bathymetry survey data sets were contributed by 3 data providers, originating from 3 countries, while 1 data provider de-activated a few CDIs. The project is at the beginning of a new contract, which will run till 20 December 2026. A Training Workshop was organised 11-12 March 2025 at NOC in Southampton, educating and training data providers and regional coordinators in the overall EMODnet Bathymetry approach and the tools and services that are to be used for the gathering and population of data sets (surveys and Composite DTMs) and for the processing of the data into EMODnet formats. This training has kicked off the task of gathering and populating new data sets in the coming three quarters. The Training is useful as it reminds existing colleagues of the procedures and it makes new colleagues aware of the approach and hands-on use of tools and services.

Task 2 - Construct products from one or more data sources that provide users with information about the distribution and quality of parameters in time and space:

GGSGc has integrated the new Regional DTMs into the complete 2024 EMODnet DTM and has made the resulting 2024 EMODnet DTM available in January 2025 internally for final visual check. Moreover, gathering, cataloguing, and processing of High Resolution DTMs (HR-DTMs) from data providers took place, and including these for viewing and downloading via the dedicated map layer in the Map Viewing service, while the metadata are available in the Products Catalogue service. The official release of the new 2024 EMODnet DTM took place in March 2025. Furthermore, activities have been undertaken for producing, delivering, and publishing:

- 2024 Source References layer with direct links to CDI and CDTM metadata
- 2024 Quality Index layers for the 2024 DTM
- 2024 version of the best-estimate European digital coastlines
- 2024 version of the Inventory of existing and ratified baselines and registered claims / disputes under UNCLOS, for European countries
- Methodology for assessing bathymetry between coastline and foreshore using a generative machine learning approach

The new 2024 releases were officially released with a press release on 24th March 2025. The activities in the coming period will now be directed towards producing the 2026 versions of the EMODnet Bathymetry data products.

Task 3 - Develop procedures for machine-to-machine connections to data and data products:

EMODnet Bathymetry continued to operate and maintain several catalogue services and web services, which are being harvested and/or directly feeding the Central Portal services. The services are following INSPIRE principles and their operations are being monitored from the Central Portal with good results. EMODnet Bathymetry is regularly testing the functionality of the Central Portal and following up feedback from users. This is aimed at spotting possible bugs in the back-office systems of EMODnet Bathymetry or at the frontoffice interfaces of the Central Portal. Any identified bugs are reported through JIRA tickets for further action. Also, shortcomings or requests for improved functionality are being gathered from internal consortium testing and following user feedback and these are submitted to the CP team through JIRA and/or at TWG meetings as wishes for future developments. Most will be directed towards optimisation of functionalities, while also additional functionalities might come forward.

Task 4 - Contribute data, data products and content to a central portal that allows users to find, view and download data and data products:

As indicated under Task 2, the new 2024 EMODnet Bathymetry data products were finalised and officially released at the EMODnet Portal on 24th March 2025.

Task 5 - Contributing content to dedicated spaces in Central Portal:

Each thematic has its own dedicated space at the Central Portal where it publishes its so-called 'narrative'. The narrative for Bathymetry has been updated in March 2025 to mention the new 2024 data products release. The new 2024 map layers have replaced the 2022 versions in the EMODnet Map Viewer service. Moreover, several associated reports have been included in the EMODnet Reports Catalogue service. While also new metadata entries have been prepared and included in the EMODnet Products Catalogue service.

Task 6 - Ensure the involvement of regional sea conventions:

Secretariats of the Regional Sea Conventions are kept up-to-date of the EMODnet Bathymetry services, inter alia through regional partners. The 2024 EMODnet bathymetry products again provide a good opportunity to reinforce the good relationships with the secretariats of the Regional Sea Conventions who are kept up-to-date of the EMODnet Bathymetry services and products, and where possible, engaged in wider promotion and contributing to mobilising more potential data providers and product users.

Task 7: Contribute to the implementation of EU legislation and broader initiatives for open data:

On a global scale, good synergy is continued with GEBCO and the Seabed 2030 project. In practice, the EMODnet DTM is considered as the European contribution to Seabed 2030 and as such fully integrated into the GEBCO DTM.

Task 8 - Monitor quality / performance and deal with user feedback:

The overall performance of the portal and its services is continuously measured and its results are reported in the separate indicators spreadsheet. It demonstrates that for Bathymetry, its services and products continue to be quite popular. The number of visits and downloads of the full DTM products are again high in the reporting period. User feedback is on the quality of the DTM product and the usability of the portal. Answers are directly provided to the users.

Task 9 - Maintain the existing thematic web portal for a maximum of six months from the start of the project:

EMODnet Bathymetry is maintaining the operation and maintenance of the various Bathymetry catalogues and web services that feed into the Central Portal, which provides the one-stop-shop.

Milestone/Deliverable in numerical order	WP	Date due	Status (To do/ Delivered/ Delayed)	Date delivered	If Delayed: reason for delay and expected delivery date
D1.1: Quarterly concise progress reports	WP1	M4, M7, M10, M13, M16, M19, M22, M25	Delivered D1.1 a	M4	

D1.2: Annual Interim report	WP1	M12	To do		
D1.3: Final report	WP1	M24	To do		
D1.4: Plan for service continuity, incl. docs and sources	WP1	M24	To do		
D2.1: Upgraded guidelines for data pre-processing and population of metadata	WP2	M6	To do		
<i>D2.2i: Training Workshop for data pre-processing and metadata population</i>	WP2	M3	Delivered via Training Workshop 11-12 March 2025 at NOC in Southampton – United Kingdom	M3	
D2.3: Pre-processed survey data sets and included in CDI Service	WP2	M12	To do		
D2.4: Pre-processed composite DTMs and included in Sextant service	WP2	M12	To do		
D3.1: Upgraded guideline of EMODnet methodology for DTM production, including using CVE	WP3	M10	To do		
<i>D3.2: Training and intercalibration Workshop</i>	WP3	M11	To do		
<i>D3.3i: Processed and pre-gridded data sets as input for RDTMs</i>	WP3	M13	To do		

D3.4i: Regional DTMs with common resolution of 1/16 arc minutes grid	WP3	M17	To do		
D3.5i: Best version HR DTMs for coastal waters and hotspots	WP3	M20	To do		
D3.6: New EMODnet DTM incl Quality Index and loaded in EMODnet web services for viewing and downloading	WP3	M23	To do		
D3.7: HR-DTMs loaded as separate layer in EMODnet web services for viewing and downloading	WP3	M23	To do		
D3.8: Source reference layer in EMODnet web services to link to CDI and Sextant Catalogue services	WP3	M23	To do		
D3.9: Refined best estimate European digital coastlines in EMODnet web services for a range of vertical levels	WP3	M22	To do		
D3.10: Updated Inventory of existing and ratified baselines and registered claims / disputes under UNCLOS, for European countries at the portal	WP3	M22	To do		
D3.11: Updated EMODnet Bathymetry World Base Layer service	WP3	M20	To do		

D4.1: Standard machine- to-machine services operational	WP4	M2	Delivered	Operational since M0	
<i>D4.2i: CVE adapted for handling all RDTMs</i>	WP4	M14	To do		
<i>D4.3i: Globe software + GGSGC workbench upgraded with extra functionality</i>	WP4	When required	Following requests and suggestions		
D4.4: Interim report on AI technology exploration	WP4	M11	To do		
D4.5: Final report on AI technology exploration and prototype(s)	WP4	M23	To do		
D4.6: Adapted services following Central Portal Task Force activities	WP4	M23	To do		
D5.1: Operational Helpdesk	WP5	Continuously			
D5.2: Monitoring data about visits and usage	WP5	Continuously			
D5.3: Promotional material and up-to-date thematic space at central portal	WP5	Continuously			
D5.4: Presentations at relevant conferences	WP5	Regularly			
<i>D5.5i: Regional, international, and CMEMS cooperation and tuning interoperability</i>	WP5	Regularly			

2. Identified issues: status and actions taken

A. Priority issue(s) identified and communicated by CINEA/ DG MARE/ SECRETARIAT				
Priority issue	Status (Pending/ Resolved)	Action(s) taken/ remaining actions planned	Date due	Date resolved
EM-1006: to review the guidelines document on metadata harmonization	Pending	Harmonise selected XML tags. Requires adaptation of the Sextant Catalogue at Ifremer which takes time		

B. Issues / challenges identified by the thematic assembly group itself				
Priority issue / challenge	Status (Pending/ Resolved)	Action(s) taken / remaining actions planned	Date due	Date resolved
EM-1125: Arctic Pole centered projection missing	Pending	Projection with EPSG code 3995 should be added for the Arctic Region, while the existing EPSG code 3031 should be used for Antarctica. In both cases the map should be centered on the pole centre.		
EM-1112: Zoom level for HR-DTM data	Pending	The HR layer should zoom to level 15. CP Viewr requests the “inspire quad” tileset for the HR layer when the portal is set to WebMercator. This should be set as such for all the bathymetry layers that work through the WMTS.		
EM-1095: Upgrade the 3D viewer	Pending	Bathymetry has developed upgraded 3D viewer software with extra functionalities. This should replace the existing and old version.		

EM-1128: Northernmost DTM tiles in grid not downloadable	Pending	The Bathymetry DTM tiles can be downloaded from a grid whereby users can also choose the data format. The Northernmost gridcells do not allow to download.		
EM-1046: New 2024 Bathymetry map layers	Resolved	New 2024 bathymetry map layers have been deployed replacing the 2022 map layers	15/03/2025	15/03/2025

3. Communication assets

A. (Co-)Authoried peer-reviewed publications in the quarter						
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No	
01/2025	paper	FOGLINI, Federica, ROVERE, Marzia, TONIELLI, Renato, <i>et al.</i> A new multiresolution bathymetric dataset of the Gulf of Naples (Italy) from complementary multi-beam echosounders. <i>Earth System Science Data Discussions</i> , 2024, vol. 2024, p. 1-34.		https://doi.org/10.5194/essd-17-181-2025	Yes	

B. Other/non-peer reviewed types of publications (co-)authoried in the quarter						
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No	

For a comprehensive overview of publications referring to/making use of EMODnet data and/or data products, please consult Google Scholar.

4. Monitoring indicators

Progress indicator	Means of collecting figures	Comment
1. Current status and coverage of total available thematic data A) Volume and coverage of available data	CDI catalogue service	There are a few new CDIs delivered. A training workshop was held in March 2025. It is expected that the next 3 quarters there will be an increase in CDIs population.
What is your opinion on the data coverage within EMODnet for your thematic?	Considering population of CDI and Sextant catalogues	Overall, EMODnet Bathymetry has brought together an excellent data collection (CDIs and Composite DTMs), covering all European sea regions and compiled by 78 data providers.
B) Usage of data in this quarter	CDI RSM shopping ledger service	The number of downloaded CDIs in this quarter is much higher than in the previous quarter.
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Statistics from downloading at the Bathymetry system	In March 2025 the new 2024 DTMs (Europe and Caribbean), new HR-DTMs and associated data products have been released.
B) Usage of data products in this quarter	Analysing download statistics	The number of product downloads has increased considerably compared to the previous quarter. These numbers demonstrate the continuing interest of users in these EMODnet products. This concerns not only the HRDTMs and DTM tiles, but also of the Satellite Derived Coastlines package. Also, the number of WMS - WFS requests is again very high. The major increase can be explained by the new 2024 products release which took place after mid March 2025.

Progress indicator	Means of collecting figures	Comment
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	CDI catalogue service	Three data providers have submitted new entries, while one data provider has deprecated some entries.
4) Online 'Web' interfaces to access or view data	N.A.	No changes
5.1 Daily number of page views of EMODnet Thematic entry page	Europa Analytics	Daily number of page views of the Bathymetry narrative is quite steady and around 135 in January and February, while it increases to circa 190 in March 2025. This quarter is higher as previous quarter. This is the static content. Unfortunately, we cannot see how the bathymetry map layers and products are visited
5.2 Quarterly total number of visitors, page views, unique page views and percentage of returning visitors	Europa Analytics	The quartely numbers are reasonable as the bathymety narrative is a static story. See the earlier remark under 5.1.This quarter the numbers are somewhat higher than in the previous quarter.

The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Europa Analytics, unless reported otherwise.