



EMODnet



European Marine
Observation and
Data Network

EMODnet Thematic Lot n°4 – Chemistry

EASME/EMFAF/2024-25/3.6/4500123361

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Operational Phase

Quarterly Progress Report (17th)

Reporting Period: 01/10/2025 – 31/12/2025



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1. Highlights in this quarter

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

EMODnet Chemistry uses the SeaDataNet infrastructure and standards to integrate and harmonise the marine chemistry datasets managed by its network of expert data centres (mainly NODCs). During the reporting period, population of multiple new data sets but also deprecation of a few existing data sets took place because of identified errors. As a total result 14.061 new datasets were added to the EMODnet Chemistry distributed CDI system, which manages eutrophication, contaminant and marine litter data. These new data sets were provided by 16 organisations, which are all members of the EMODnet Chemistry consortium.

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

In December 2025 two data harvests were undertaken, one for eutrophication data sets and one for contaminants data sets. Following the harvest, the data packages were delivered to the Regional Coordinators for further validation and harmonisation. The deliveries included lists indicating which data sets were newly added or had been updated since the previous harvesting round, and which data sets were still the same as before. The latter helps the Regional Coordinators as it implies that they do not have to repeat their validation and harmonisation activities again for the 'old' data sets. These were the first harvests for the new contract.

Task 3: Develop procedures for machine-to-machine connections to data and data products, in a common manner across the EMODnet service (MARIS)

All EMODnet Chemistry data products are integrated into the EMODnet GeoNetwork linked to ULiege Ocean Browser for the eutrophication maps, the HCMR Geoserver for the contaminants maps, and the IFREMER Geoserver for the marine litter maps. These map layers are accessible through the EMODnet Map Viewer. In addition, all interpolated DIVA eutrophication maps are available via the EMODnet ERDDAP service.

During the reporting period, work continued to expand the Chemistry ERDDAP service, managed by OGS, by incorporating the harmonised and validated EMODnet Chemistry data collections. In particular, efforts focused on importing and standardising metadata related to marine litter and contaminants (<https://erddap.emodnet-chemistry.eu/erddap/index.html>).

Task 4: Fulfil the EMODnet Central Portal requirements that ensure all data and data products can be found, viewed and downloaded with ease (from the Central Portal)

During the reporting period, VLIZ performed updates to the contaminants layers in order to align the layer names with the controlled vocabularies used in the P36 collection (http://vocab.nerc.ac.uk/search_nvs/P36/). Additionally follow up was done due to the failing Chemistry ERDDAP service, which was due to the lack of a valid https certificate.

Task 5: Provide content for the reserved space for each thematic group within the EMODnet Central Portal, following any necessary requirements

EMODnet Chemistry continuously revises the narrative section and contributes to news updates and the monthly newsletter in line with the specified guidelines. During the reporting period, four reports were published in the [dedicated section](#). In particular, two reports to the EU were made accessible online, the Q3 2025 report and the final report for phase 5 covering the period 2023–2025; a technical report entitled "[Harmonisation and data validation of litter aggregated datasets](#)"; and a report related to a project deliverable, namely, the meeting with the MSFD Board of Experts to fine-tune the new climatologies based on

eutrophication data. [Four news items](#) were published and linked to the [EMODnet monthly newsletter](#), and two events were promoted through the [upcoming events](#) section. The use case “[EMODnet marine litter data to estimate macro-litter trend on the European coast](#)” was prepared in December 2025 and added to the list of EMODnet use cases in early January this year.

Task 6: Ensure coherence with the efforts of the Regional Sea Conventions (RSCs) and other relevant actors (ICES)

On 1 December 2025, EMODnet Chemistry representatives participated in the meeting of the MSFD Technical Working Group on Marine Litter (TGML). During the reference period, numerous meetings were held with the EC Joint Research Centre to discuss the development of the database and management system for seafloor litter data from images and videos. On 22 October 2025 EMODnet Chemistry partners participated in the NORMAN WG Workshop ‘Storing environmental microplastics data.

Task 7: Contribute to the implementation of the EU legislation and broader initiatives for open data, particularly on issues of standardisation, interoperability and availability of reporting data, including by non-EU organisations, when relevant (OGS+ICES)

On 14 October 2025 in Brisbane, Australia, EMODnet Chemistry demonstrated its support for international marine policy against marine pollution at [SciDataCon 2025](#). This international conference provides a forum for scrutiny and discussion of frontier issues in research data. SciDataCon 2025 is an integral part of [International Data Week 2025](#), held at the Brisbane Convention & Exhibition Centre from 13 to 16 October 2025. EMODnet’s presentation formed part of the session entitled “The Transformative Role of Data in SDGs and Disaster Resilience”, which aimed to highlight the multifaceted value of data in generating tangible, evidence-based impacts. On 17 November 2025, OGS participated in the MOEJ-International workshop entitled “Utilisation of data and databases related to marine plastic pollution”. At the EMODnet Open Conference, held on 25–26 November 2025, Chemistry reported on its role as a world-leading regional data hub, delivering interoperable, open and free data products for the management of marine litter data, its contribution to the Federated Ocean Carbon data system, the Global Ocean Oxygen Database and Atlas (GO2DAT), and the harmonisation and quality control of chemical measurements.

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

Since centralisation, access to the Chemistry narrative on the EMODnet Portal is monitored via Europa Analytics and the EMODnet Secretariat provides quarterly statistics. Chemistry has developed an additional tool (Graylog) to monitor the viewing and downloading of EMODnet Chemistry data products from its providers. The Graylog widgets are configured to collect viewing and downloading statistics from AWI (for webODV), Maris (for CDI distribution layers) ULiege (for Ocean Browser), IFREMER Geoserver, HCMR Geoserver and OGS (for DOI landing pages). The EMODnet Chemistry Helpdesk is also centralised: all user interactions are recorded by the EMODnet Secretariat Helpdesk and forwarded to the batches via JIRA tickets. Relevant JIRA tickets are answered immediately. During the reference period, three feedback tickets were received from data users. All have been resolved. Two, from the University of Detroit and the EEA, concerned requests for information on data archived in the beach litter database. The third one, from ULiege, reported a malfunction of webODV, which was restored in a timely manner after a brief shutdown for problems with the computing center.

Task 9: Dedicate specific resources to the EMODnet Central Portal Task Force

We are currently awaiting the launch of the EMODnet Portal Task Force. During the TWG meeting, we highlighted the need to work on the EMODnet Portal functionalities related to products and in situ data. In particular, we propose to agree on a set of metadata (keywords) to improve the search function in the Product Catalogue and to develop a data catalogue with a dedicated search service.

Status of the Milestones and Deliverables listed in the workplan					
Milestone/Deliverable in numerical order	WP/ Task	Date due	Status (To do/ Delivered/ Delayed)	Date delivered	If Delayed: reason for delay and expected delivery date
D0.1 Quarterly concise progress reports	0	M3, M6, M9, M12, M15, M18, M21	Delivered (M3)	15/01/2026	
D0.2 Annual reports	0	M12, M24			
D0.3 Handover plan for service continuity	0	M24			
D0.4i Consortium Agreement with partners	0	M2 (December 2025)	Delivered	10/12/2025	
D0.5i Bilateral Agreements with subcontractors	0	M2 (December 2025)	Delivered (draft version)	27/10/2025	
D0.6i Short minutes/action list of project meetings	0	M1, M6, M12, M18, M23	Delivered (M1 project full group meeting)	24/11/2025	
D1.1i Training activity for DCs with the support of online resources	1	M8			
D1.2i Data harvested for eutrophication, including rivers	1	M2 (December 2025), M14	Delivered	15/12/2025	
D1.3i Data harvested for contaminants	1	M2 (December 2025), M14	Delivered	15/12/2025	
D1.4i Data harvested for beach and seafloor	1	M7 (May 2026), M17			
D1.5i Data harvested for micro litter	1	M7 (May 2026), M17			
D2.1 Validated pan-European collections for eutrophication, including rivers	2	M7 (May 2026), M19			
D2.2 Validated collections for contaminants	2	M7 (May 2026), M19			
D2.3 Validated collections for beach and seafloor litter	2	M11, M21			
D2.4 Validated collections for micro litter	2	M11, M21			

Status of the Milestones and Deliverables listed in the workplan					
Milestone/Deliverable in numerical order	WP/ Task	Date due	Status (To do/ Delivered/ Delayed)	Date delivered	If Delayed: reason for delay and expected delivery date
D2.5 New maps for contaminants	2	M15			
D2.6 New DIVA maps for eutrophication, including focus near river mouths	2	M21			
D2.7 New maps for micro litter	2	M17			
D2.8 New maps for beach and seafloor litter	2	M17			
D3.1 Standard machine- to-machine services to core data products	3	M3	Delivered	03/10/2025	
D3.2 Dedicated machine- to-machine services for data collections	3	M18			
D4.1 Improved services for eutrophication	4	M21			
D4.2 Improved services for marine litter	4	M21			
D4.3 Improved services for contaminants	4	M21			
D4.4 webODV data Explorer and Extractor tool	4	M21			
D5.1 Up-to-date news and use cases in the thematic section of the central portal	5	Continuously	delivered		
D5.2 Promotional material and text in the thematic section of the central portal	5	Continuously	delivered		
D6.1 Meetings of Board of MSFD Experts	6	M16 , M18, M22			
D7.1 International cooperation and interoperability	7	Continuously	delivered		
D8.1 Operate Help-desk via Jira tickets	8	Continuously	delivered		

Status of the Milestones and Deliverables listed in the workplan					
Milestone/Deliverable in numerical order	WP/ Task	Date due	Status (To do/ Delivered/ Delayed)	Date delivered	If Delayed: reason for delay and expected delivery date
D8.2 Monitoring data about visits and usage	8	Continuously	delivered		
D9.1 Short minutes/action list of Chemistry TWG meetings	9	Every 6 months			
D9.2 Contributions to the Central Portal Task Force	9	Regularly	delivered		

2. Identified issues: status and actions taken

[Provide an **overview of issues** identified by CINEA/ DG MARE/ Secretariat (Table A) in the past quarter - new as well as pending ones, the status of those issues, and actions taken to address them and/or roadmap with remaining actions planned to resolve the issues. In Table B, provide information about any issues and challenges identified by yourself.]

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
webODV branding (EM-1175)	Pending	DG MARE will provide guidelines for using EMODnet branding on external services	n.a.	
Chemistry to provide deadline by when metadata records can be adapted to meet the guidelines (EM-1073)	Pending	The SeaDataNet data transport formats vocabulary were chosen. IFREMER has compiled a list of values that are to be added to this vocabulary. IFREMER has then submitted the request via the BODC github: https://github.com/nvs-vocabs/L24/issues/3 . BODC-NODC is looking into it. Once the vocabulary has been updated, IFREMER will update the vocabulary in GeoNetwork and the existing metadata.	n.a.	
Chemistry videos (EMODCOM-231)	Pending	A new video for webODV will be produced once the use of EMODnet branding on external services has been decided.	n.a.	
Review Data/product level description (EM-1196)	Pending	EMODnet Chemistry proposed some reviews via the indicated Github	19th TWG	
Vector time series layers do not allow to download different timesteps through the subset and download tool (EM-1110)	Pending	Awaiting feedback from the Secretariat	n.a.	

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
Improvements in the map viewer (EM-1088 and related EM-1134)	EM-1088 Resolved, EM-1134 Pending	The issue with the number of decimals cannot be fixed by the CP	n.a.	31/12/2025
No possibility to change the color scale in the climatologies (EM-743)	Pending	Awaiting technical development by the EMODnet Portal team.	n.a.	
Products download in the Map Viewer (EM-962)	Pending	Waiting for the CP team to discuss it and come back to Chemistry on this	n.a.	
New EMODnet Chemistry product (EM-1152)	Pending	Waiting for the CP team to tackle this activity.	n.a.	
Chemistry - Web Services MetadataUrl and DataUrl fields (EM-84)	Resolved	The new layers are moved in an invisible folder in oceanbrowser till all operations for the publication are completed	n.a.	13/11/2025

3. Communication assets

[In Table A, list peer reviewed publications directly (co-)authored by consortium and project partners in the reporting period. In Table B, list all non-peer reviewed publications (co-)authored. In all cases, indicate the type of publication, provide the full reference incl. title, volume and issue etc., and whether the publication is open or closed access.]

A. (Co-)Authored peer-reviewed publications in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No
26 Nov 2025	journal article	Haimson, M. B., Lehahn, Y., and Sagi, T. (2025). An overview of the ocean data ecosystem. <i>Ocean Science</i> 21, 3131–3164. doi: 10.5194/os-21-3131-2025		10.5194/os-21-3131-2025	yes
December 2025	paper	Hanke, G., Canals, M., Nakajima, R., Bergmann, M., Galgani, F., Li, D., ... & Zhang, S. (2025). Out of sight, but not out of mind: Key issues regarding seafloor macrolitter monitoring: Issued by the expert community “International Seafloor Macrolitter Imaging and Quantification”. <i>Marine pollution bulletin</i> , 221, 118500.		https://doi.org/10.1016/j.marpolbul.2025.118500	Yes
April 2025	Conference proceedings	Molina Jack, Maria Eugenia, et al. "Boosting interoperability of EMODnet chemistry aggregated datasets with a new point of access." EGU General Assembly Conference Abstracts. 2025.		10.5194/egusphere-egu25-19483	
June 2025	Conference proceedings	Mendes, C., Palma, M., and Hanke, G.: Overview of EMODnet Chemistry eutrophication data: Informing a strategy for monitoring under the EU Marine Strategy Framework Directive, One Ocean Science Congress 2025, Nice, France, 3–6 Jun 2025, OOS2025-1038		https://doi.org/10.5194/oos2025-1038 , 2025	

B. Other/non-peer reviewed types of publications (co-)authored in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No
	e.g. paper; conference proceedings; book chapter; ...				

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

4. Monitoring indicators

[Refer to the standardised monitoring tool, i.e. Europa Analytics, to complete the indicators excel template, and provide a short explanation in the table below on the numbers and trends for each indicator when possible/applicable. Indicate clearly if monitoring was carried out using tools other than Europa Analytics.]

Comments on the progress indicators in the indicators spreadsheet		
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	More than 10.000 new data sets have been entered. Also a few data sets were deactivated because of identified errors.
What is your opinion on the data coverage within EMODnet for your thematic?	CDI catalogue service	The data coverage is very good for all European seas and there is a steady increase for most regions.
B) Usage of data in this quarter	CDI RSM shopping ledger service and personal requests	The number of CDI downloads is considerably higher (+286%) than in the previous quarter.
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Sextant Product Catalogue	In the referring period a new phase has started. The first new data products are scheduled for May 2026.
B) Usage of data products in this quarter	Download Tracking service for data products	This quarter, manual downloads show an overall positive trend, with a notable increase for dissolved gases, while silicates and marine litter show a decline. Visualisations remain consistently very high – two to three orders of magnitude above download numbers – indicating that most users prefer to explore the Chemistry products online, possibly saving the information through screenshots rather than downloading the data products.
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	CDI catalogue service	New data have been supplied by 15 regular data providers, while 1 data provider deprecated data sets because of identified errors.

Comments on the progress indicators in the indicators spreadsheet		
Progress indicator	Means of collecting figures	Comment
5.1 Daily number of page views of EMODnet Thematic entry page	Europa Analytics	No changes
5.2 Quarterly total number of visitors, page views, unique page views and percentage of returning visitors	Europa Analytics	The Chemistry section is visited every day with a maximum of around 30 visitors per day. In this respect there is not much difference between the current and previous quarter.

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

5. Annex: Other documentation attached

[List in Annex if you wish to provide any additional information.]