



# EMODnet Thematic Lot n° 5 - Chemistry

EASME/EMFF/2020/3.1.11/Lot 5/SI2.846161

Start date of the project: 03/10/2021 (24 months)

**Centralisation Phase**

**Quarterly Progress Report (5th)**

**Reporting Period: 01/10/2022 – 31/12/2022**



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### Disclaimer

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# 1. Highlights in this quarter

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*[List progress for each of the tasks specified in Section 1.4.1 of the Tender Specifications; provide an explanation for any tasks in which progress has not been noted. Provide in the table a list of all Milestones and Deliverables as from the technical workplan in numerical order, the date due and status. Max 2 pages]*

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

During the reporting period, several new datasets were entered by EMODnet data centres and delivered into the data portal. This achievement was the result of regular email messages that were sent to the partnership to urge data population with new and updated datasets. In parallel, the network of NODCs continued to be involved in managing beach litter, seafloor litter and micro-litter data collected by Member States as part of MSFD monitoring activities and as solicited by the JRC. Additionally, EMODnet Chemistry has been proposed as the data portal to gather eutrophication and contaminants data, and a dialogue has been initiated to decide the appropriate way to report data numerosity (how many CDIs per country, MSFD sea area, year, and season).

## **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**

Following the delivery of the regional aggregated, validated and harmonised data collections, the six regional leaders have been very involved in generating the DIVA interpolated maps, each for selected eutrophication parameters, and a series of meetings were organised to align the process. With this new delivery, we rationalised the number of layers following the new approach.

In parallel, the metadata of the existing data products layers were modified following requests from the Central Portal team.

At the end of December 2022, MSFD beach litter data collected by Member States during 2015–2021 were harvested and then prepared for delivery to the JRC.

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

All EMODnet Chemistry datasets are made available through the CDI Data Discovery & Access service. Dedicated OGC WMS-WFS services, which give the locations of datasets per chemical group (P35) and options to click on the map objects to return to those group records within the CDI service interface, are loaded in the Central Portal Map Viewer.

The EMODnet Chemistry products catalogue, based upon the SeaDataNet Sextant catalogue, has been edited in its metadata records following the needs of the Central Portal team. An operational OGC CSW service is maintained for the Sextant products catalogue, which is harvested by the Central Portal to include the metadata records of the data products in the CP Central Catalogue service.

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

During the reporting period, OGS, MARIS, ULg, AWI and IFREMER actively interacted with the Central Portal Team (VLIZ + EMODnet Secretariat) through JIRA tickets. The static content was further refined and improved, as were all dedicated services, metadata and data products. In fact, EMODnet Chemistry maintains two catalogues: 1) the CDI catalogue, which allows discovery of and access to datasets, and is continued as an 'external' service reached by users through the narrative section and through the CDI map layers in the Map Viewer; 2) the Sextant product catalogue, which manages the metadata records of the data products and which has its content harvested by the Central Portal for inclusion in the Catalogue Service, while the

associated data products (eutrophication data collections and DIVA maps, and contaminants data collections) are shared with the Central Portal for direct downloading. The Ocean Browser service continues to feed the Central Portal Map Viewer with eutrophication DIVA maps, while marine litter and contaminant maps are shared by means of OGC WMS-WFS services arranged through IFREMER and through the OGS Geoserver, respectively. Finally, the webODV service for viewing, extracting and exploring the eutrophication and contaminant data collections continues as an 'external' service and is made accessible through the narrative.

Although the loading of EMODnet Chemistry data products into the Central Portal has been completed, there are still issues to overcome and/or to improve for the publishing and the functionality for users. These are reported as JIRA tickets and when picked up, part of the cooperation between the Central Portal team and EMODnet Chemistry technical team.

#### **Task 5: Contributing content to dedicated spaces in the Central Portal:**

During the reporting period, the EMODnet Chemistry portal was kept up to date and contents were regularly provided for the EMODnet news and use cases pages, and for the monthly newsletters. In parallel, the shutdown of EMODnet Chemistry portal was announced to the partnership and a Google Drive folder was set up to share meeting minutes, documents and presentations related to the ongoing project phase. Unfortunately, all information on past project meetings, working documents, events and presentations are not available anymore. There is contact with the Central Portal Team to discuss how EMODnet Chemistry will be able to maintain its usual communication items such as news, publications, and guidelines in the new Central Portal setting.

#### **Task 6: Ensure the involvement of regional sea conventions:**

In line with the ongoing dialogue with the EC JRC, EMODnet Chemistry continued to support the regional sea conventions in carrying out a centralised reporting strategy for marine litter, based on a data management plan that is well defined, agreed and methodologically substantiated. In the reporting period, we participated in the TG ML meeting (online) and contributed to the discussion. We released the beach litter dataset with MSFD data for the period 2015–2021. The possibility of EMODnet Chemistry playing an active role in the collection of MSFD monitoring data for Descriptors 5 and 9 was discussed and proposed to the Member States' representatives.

Finally, invitations were sent out for the MSFD board of experts meeting (27 January, 10–11:30 CET), to discuss the new eutrophication data products) and the stakeholder consultation (10 March 2023).

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

EMODnet Chemistry contributes to the implementation of the MSFD by providing the data management hub for many kinds of marine litter data (beach, seafloor, floating microlitter and in the sediment). Moreover, EMODnet Chemistry has been engaged as the data infrastructure for Member States to gather the eutrophication and contaminant datasets collected at the European scale as part of the MSFD in a comparable way to the task for gathering marine litter data.

Interactions with the Global Partnership on Marine Litter Digital Platform (GPML) to tune EMODnet Chemistry's contribution to the global system also continued in this reporting period.

#### **Task 8: Monitoring quality/performance and dealing with user feedback:**

Procedures are up and running with respect to the MSFD-regional approach and extracting differences per data provider, per sea region, per restricted or unrestricted. Downloaded metrics for the map viewer, DOI landing pages, CDI data service, data products catalogue, and webODV Data Explorer and Extractor are collected when users access them through the EMODnet Chemistry portal. However, user activities will not

be recorded anymore for the described EMODnet Chemistry products as made available through the Central Portal; therefore, these will not be reported anymore after the shutdown of the EMODnet Chemistry portal.

**Task 9: Maintain the existing thematic web portal for a maximum of 6 months from the start of the project:**

The EMODnet Chemistry portal is maintained up to date as described under Task 5. During the reporting period, steps to redirect all traffic to the Central Portal were initiated.

Status of the Milestones and Deliverables listed in the workplan					
Milestone/Deliverable in numerical order	WP	Date due	Status (To do/ Delivered/ Delayed)	Date delivered	If Delayed: reason for delay and expected delivery date
MS2 EMODnet Chemistry content contributed to the central portal	1	M3-M24	Delivered		
D1.1 Quarterly concise progress reports	1	M3, M6, M9, M12, M15, M18, M21	Delivered	M3 January 2022, M6 April 2022, M9 October 2022, M12 December 2022	
D1.2 Annual Interim report	1	M12 (3 October 2022)	Delivered	M13 3 Nov 2022	
D1.3 Final report	1	M24 (3 October 2023)			
D1.4 Handover plan for service continuity	1	M24			
D1.5i Consortium Agreement (plus Subcontracts and Advisory Agreements)	1	M2 (December 2022)	Delivered		
D1.6i Short minutes/action list of project meetings	1	M1, M6, M12, M18, M23	Delivered	M1 SC November 2021, M6 PFG December 2021, M6 SC End March 2022, M12 SC September 2022	
D1.7 Providing content to the central portal	1	Continuously	Delivered		
MS3 Chemistry (eutrophication, contaminants and microlitter) CDI metadata and datasets available from the central portal	2	M6, M18	Delivered	Continuous inclusion of CDI metadata and datasets available from the CP	
MS4 Marine litter datasets included in the EMODnet databases and available from the central portal	2	M12, M24	Delivered	Continuous inclusion of new datasets available from the CP	
D2.1 List of major rivers with identified data sources	2	M3 (January 2022)	Delivered	18/05/2022	

D2.2 Training activity for DC	2	M3 (January 2022)	Delivered	Dec 2021	
D2.3i Data harvested for eutrophication, including rivers	2	M8, M17	Delivered	01/07/2022	
D2.4i Data harvested for contaminants	2	M9, M20	Delivered	10/10/2022	
D2.5i Data harvested for microlitter	2	M12 (3 October 2022)	Delivered	10/10/2022	
D2.6 Updates on marine litter guidelines	2	M6 (April 2022)	Delivered	11/05/2022	
MS5 High resolution DIVA maps near major river mouths available from the central portal	3	M14	In progress		To be presented at the MSFD board of experts on 27/01/2023
MS6 Dedicated maps for contaminants available from the central portal	3	M16			
MS7 Pan-European maps for eutrophication available from central portal	3	M18			
MS8 Concentration maps of beach and seafloor litter available from the central portal	3	M20			
D3.1 Validated pan-European collections for eutrophication, including rivers	3	M12, M21	Delivered	12/10/2022	
D3.2 Validated collections for contaminants	3	M13, M22	Delivered	Dec 2022	
D3.3 Validated collections for beach and seafloor litter	3	M19			
D3.4 Validated collections for microlitter	3	M17			
D3.5 High-resolution DIVA maps near river mouths	3	M16			
D3.6 New maps for contaminants	3	M15, M24			
D3.7 New pan-European DIVA maps for eutrophication	3	M14, M23			
D3.8 New maps for microlitter	3	M23			
D3.9 New maps for beach and seafloor litter	3	M23			
MS1 EMODnet Chemistry data and data products available from central portal	4	M6	Delivered	03/04/2022	

D4.1 Standard machine- to-machine services delivered for common functionalities	4	M3	Delivered		See text under tasks 3 and 4
D4.2 Dedicated machine- to-machine services and APIs adapted / delivered for special functionalities	4	M6	Delivered		See text under tasks 3 and 4
D4.3 Upgraded databases for new litter types	4	M12	Ongoing		
D4.4 Improved services for eutrophication	4	M10	Delivered	03/08/2022	See text under task 4
D4.5 Improved services for marine litter	4	M10	Delivered	03/08/2022	See text under task 4
D4.6 Improved services for contaminants	4	M12	Ongoing		See text under task 4
D4.7 ODV Extractor with expanded plots and integrated in the central portal	4	M18	Ongoing		See text under task 4
D4.8 Monitoring data on visits and usage	4	Continuously	Delivered		
D5.1 Operate a helpdesk	5	Continuously	Delivered		
D5.2 Meetings of Board of MSFD experts	5	M6, M12, M18	Delayed		January 2023 (contaminants), February 2023 (eutrophication), September 2023 (litter) to be in line with the release of EMODnet Chemistry products (M14-15-16-23)
D5.3 International cooperation and interoperability	5	Continuously	Delivered		
D5.4 Promotional material and up-to-date thematic space at central portal	5	Continuously	Delivered		
D5.5 Presentations at relevant conferences	5	Regularly	Delivered		

## 2. Identified issues: status and actions taken

[Provide an **overview of issues** identified by CINEA (Table A) - 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
<b>Several JIRA tickets are open to prepare the centralisation</b>	Ongoing	Interaction with Chemistry network to rationalise the content (static and data products)		
<b>Chemistry - EMODnet Catalogue Tags (EM-533)</b>	Pending	The list has been posted by Chemistry. Now waiting for implementation by CP	n.a.	n.a.
<b>Fix the problem with spaces in file names in THREDDS (EM-653)</b>	Done	Changes are made by Chemistry as requested by CP. Now waiting for review by CP	15/10/2022	October 2022
<b>Chemistry to review layer legends and add units where they are missing (EM-648)</b>	Done	Information was added as requested	11/10/2022	
<b>Chemistry to provide input to the Tools &amp; Guidelines section (EM-640)</b>	Done	Input provided	13/10/2022	
<b>Standardise the navigation menu on left hand side of page (EM-633)</b>	To do	Ticket created on 27/9/2022. Under analysis		
<b>Centralisation Checklist for review (EM-607)</b>	To do	Review content		
<b>NEW Chemistry page on CP (EM-506)</b>	Done	Content is continuously revised and enriched by EMODnet Chemistry with the help of CP team.	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
<b>Wrong uptime metrics in Grafana (EM-438)</b>	Resolved	Alignment of information		08/08/22
<b>Insert new Q1-2022 Chemistry use cases to Grafana (EM-548)</b>	Resolved	No statistic will be provided due to Centralisation		25/07/2022



<b>Non harvested data products from Chemistry CSW (EM-551)</b>	Resolved	Action taken by the CP		26/07/2022
<b>Filtering in the Product Catalogue: from default fields to more user-friendly items (Geographic area, Matrix, Theme, ...)</b>	Pending	Ticket open		

### 3. User feedback

*[Provide a list of all user feedback received in the reporting period in chronological order. Indicate the type of the feedback received, a clear description of the query, and the actions undertaken to resolve the issue (e.g. update of metadata, fixing a particular issue with the map viewer). Indicate the status of the query, and if not provide an explanation why. List any feedback you received on the portal that can be used to build EMODnet use cases.]*

Overview of user feedback and/or requests received in this quarter							
Date	Organisation	Type of user feedback (e.g. technical, case study, etc.) and short description of the feedback received	Means of contact	Response time	Status of user query (Resolved/Pending)	Measures taken to resolve the query	Status: if not (yet) resolved/ pending, explain reason why and expected timeline
13/10/2022	Provider of data from Cyprus	Request to change the title of a dataset	email	3 hours	Resolved	OGS sent the request to the NODC of reference	
04/10/2022	ISPRA data provider	Information on data formats and available tools	email	2 hours	Resolved	In depth explanation provided by IFREMER via email	
04/10/2022	VLIZ data provider	Confirmation that submitted datasets were formatted correctly	email	5 hours	Resolved	OGS confirm that the format was correct via email	
29/11/2022	CNR	Request to update the EDMERP entry of EuroSea project	email	10 minutes	Resolved	OGS informs CNR who is responsible for this update	
8/12/2022	HCMR	Check some changes to QC flags of OGS-NODC data	email	3 hours	Resolved	OGS gave feedback via email	

19/12/2022	Institute for Water of the Republic of Slovenia (data provider)	Request to check which data from Slovenia are available in the EMODnet database	email	1,5 hours	Resolved	OGS informed about the available Slovenian data	
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## 4. Meetings/events held/attended & planned

[List organisational meetings/events held/participated (incl. presentations, lectures, trainings, demonstrations, workshops, etc.) since the last quarterly report and planned in the future. Please add a short description on the meeting as well as the nature and volume of the audience.

When listing a meeting, please indicate whether it was an internal (i.e. within your partnership/lot) or external meeting (i.e. outside your partnership/lot).]

A. Meetings/events organised and attended in the quarter					
Date	Location	Type event (internal or external meeting; training/workshop)	Was a presentation given? (yes/no + short description)	Meeting attended (A) / organised (O)	Short description and main results (# participants, agreements made, etc.)
05/10/2022	Genova	workshop	yes	A	GENOA SEA SUSTAINABLE CITY - EMODnet (program and focus on Physics, Chemistry, Ingestion) was presented and discussed during the event. <a href="https://www.genovabluedistrict.com/eventi/genoa-sea-sustainable-city/">https://www.genovabluedistrict.com/eventi/genoa-sea-sustainable-city/</a> Event was hybrid (about 50 in presence)
06/10/2022	Online	webinar	no	A	GPML webinar "Advancing science-policy linkages to tackle plastic pollution" Participants: GPML multi-stakeholder partnership that brings together all stakeholders working to prevent marine litter and plastic pollution Highlighted the Mass Balance Approach for quantification of marine litter and plastic pollution and the urgency to phase

					out single-use plastic packaging. Discussed the risks deriving from the use of additives.
10/10/2022	Online	External meeting	no	A	Data Harmonization Community of Practice (CoP), GPML. Participants: members of the CoP: a consultative community that brings unique knowledge and skills to the GPML to develop a global agreement on marine litter and plastic pollution. Confirmed that the implementation of the resolution to end plastic pollution and create an international legally binding instrument by 2024, adopted by members at the fifth UN Environment Assembly (UNEA-5) in March 2022, requires the support of sound data and science to enable evidence-based decision-making, action planning and monitoring to reduce plastic throughout its life cycle. EMODnet Chemistry is highly involved in the work carried out by the CoP.
13/10/2022	Trieste Online	webinar	Yes	O	Webinar given by OGS-NODC on EMODnet Chemistry entitled “Development, validation and use of EMODnet chemistry datasets and climatologies is the title of the webinar by Alessandra Giorgetti from the National Institute of Oceanography and Applied Geophysics - OGS Participants: about 100 onsite, 300 online Promoted EMODnet Chemistry
11-13/10/2022	Brussels Online	workshop	Yes	A	Euro Argo workshop: 11-13 October 2022
5-19/10/2022	Online	workshop	No	A	Ocean Practices, OBPS Workshop VI
20-21/10/2022	Online	workshop	Yes	A	EMODnet together with EC DG MARE organised a series of two online workshops on “EMODnet marine data for the offshore renewable energy sector”. This is the second one focused on the Mediterranean Sea and Black Sea

					<p>Participants: private and public sector, including (but not limited to) offshore renewable energy operators, national authorities and wider policy makers at national, regional and EU levels, research &amp; academia, marine consultancies and marine data services</p> <p>Explored opportunities and applications for EMODnet's diverse open source in-situ marine environmental data and human activities data and data products to support and innovate the offshore energy sector in Europe</p>
20/10/2022	Online	workshop	No	A	<p>The UNESCO Global Partnership on Marine Litter (GPML) organised the workshop</p> <p>"Plastic Additives and Circularity &amp; Human Health and Environmental Impacts Across the Lifecycle of Plastics".</p> <p>Participants: GPML community</p> <p>Speakers pointed to the need to simplify the production of plastics by reducing chemicals and to transparency by indicating what chemicals are in plastics and what hazards they pose, as well as to the circularity of plastics instead of recycling.</p>
21/10/2022	Online	Internal meeting	No	O	<p>EMODnet Chemistry meetings on data collections for contaminants</p> <p>Participants: OGS, AWI, Uliege, SMHI, IMR, NIMRD, AU-DCE, HCMR, IFREMER, ICES</p> <p>Discussed the progress made in the creation of data collections for contaminants</p>
26-28 October, 2022	Constanta Romania	Conference	Yes <a href="http://www.marblue.ro/Book_of_Abstracts_MARBLUE_site.pdf">http://www.marblue.ro/Book_of_Abstracts_MARBLUE_site.pdf</a>	A	<p>1<sup>st</sup> International Conference MARBLUE 2022</p> <p>Participants: more than 150</p> <p>Black Sea data and data products were presented to the audience. See the "Black Sea in the Context Of Emodnet Chemistry" poster presentation.</p> <p><a href="https://padlet.com/marblue/a47ql9ecy8dg17tp/wish/2336754476">https://padlet.com/marblue/a47ql9ecy8dg17tp/wish/2336754476</a></p>

09-10/11/2022	Online	External workshop	Yes	A	Arctic ROOS workshop: Opportunities and challenges for in situ ocean observing in the Arctic. Participants: about 50 attendees EMODnet was presented
11/11/2022	Taranto	workshop	Yes	A	GREENBLUEDAYS - A innovative forum on sustainable development in Southern Italy Participants: more than 300 EMODnet (mainly Physics, Chemistry, and Ingestion) was presented and discussed during the session "new economy of the sea: compatibility and sustainability" - <a href="https://greenbluedays.it/tavola-rotonda-la-nuova-economia-del-mare-a-taranto-compatibilita-e-sostenibilita/">https://greenbluedays.it/tavola-rotonda-la-nuova-economia-del-mare-a-taranto-compatibilita-e-sostenibilita/</a>
15/11/2022	Online	Internal meeting	No	O	EMODnet Chemistry meetings on data collections for contaminants Participants: OGS, AWI, Uliege, SMHI, IMR, NIMRD, AU-DCE, HCMR, IFREMER, ICES Discussed the progress made in the creation of data collections for contaminants
15/11/2022	Online	Internal meeting	Yes	O	EMODnet Chemistry meeting on contaminants data vocabularies Participants: OGS, HCMR, IMR, IFREMER, ICES, SMHI, NIMRD, BODC, Uliege, AU-DCE, AWI Discussed progress made and actions to be taken in the short term to revise the vocabularies used to standardise data on contaminants
16/11/2022	On-line	External course	Yes	A	International ocean governance course organised by International Ocean Institute (IOI) Malta. Participants: policymakers, civil servants, mid-career professionals, educators, researchers and postgraduate students, media professionals, civil society members, having coastal or marine related responsibilities, functions or interests

					General EMODnet presentation was given
22-24/11/2022	Florence	External	Yes	A	MONGOOS Annual Meeting. Participants: about 45 General EMODnet presentation was given
06/12/2022	Online	Internal meeting	Yes	O	EMODnet Chemistry meetings on data collections for contaminants and DIVA maps Participants: OGS, HCMR, IMR, IFREMER, ICES, SMHI, NIMRD, BODC, Uliege, AU-DCE, AWI Discussed progress on data collections for contaminants, corresponding maps and DIVA maps. The latter in view of the meeting with the MSFD board of experts on eutrophication held on 27/01/2023
12/12/2022	Online	External meeting	No	A	Meeting of the Ocean & Coasts Domain of UNEP GPML's Data Harmonization Community of Practice Participants: OGS and other members of the group "Ocean & Coasts domain" of UNEP GPML's Data Harmonization Community of Practice Discussed 1. the setting of a common approach to organizing the Ocean & Coasts domain of UNEP GPML's Data Harmonization Community of Practice and clarifying the relation to IMDOS, 2. Priority work towards global interoperability of existing data management initiatives, 3. Plans for dedicated technical workshops in 2023
28/12/2022	Brest (France)	Internal meeting	Yes	O by Cedre	Marine litter Participants: meeting with Indonesian delegation involved in environment Presentation of the Cedre's actions on marine litter and especially the French beach litter monitoring programme.
<b>SUM</b>				<b>O</b>	<b>Total # of meetings organised = 6</b>
<b>SUM</b>				<b>A</b>	<b>Total # of meetings attended = 13</b>



<b>B. Meetings/events planned in the future</b>				
Date	Location	Type event (meeting, training (workshop), etc.)	Meeting to be attended (A) / organised (O)	Short description and main expected outcomes
<b>13/01/2023</b>	Online	Internal meeting	O	EMODnet Chemistry meetings on data collections for contaminants and DIVA maps Discuss progress on data collections for contaminants, corresponding maps and DIVA maps. The latter in view of the meeting with the MSFD board of experts on eutrophication held on 27/01/2023
<b>18/01/2023</b>	Online	External meeting	A	K.O. Meeting on updating the EMODnet portal content Get information to provide EMODnet Chemistry (mainly) static content to the CP team
<b>18-20/01/2023</b>	Copenhagen (Denmark)	Workshop	A	ICES Workshop on the revision of the DOME litter data format (WKLIDA) Optimise the format of microlitter data leveraging EMODnet Chemistry expertise.
<b>26/01/2023</b>	Online	External meeting	A	EMODnet Sea Basin CheckPoint Discuss the results of the previous phase and get ideas for the possible next phase.
<b>26/01/2023</b>	Online	External meeting	A	SDG Federated System - Vocabularies Working Group
<b>27/01/2023</b>	Online	Internal meeting	O	Meeting with the board of MSFD experts on eutrophication Present DIVA map outlines, data QC and how they are created. Get feedback from the experts.
<b>06/02/2023</b>	Online	Internal meeting	O	EMODnet Chemistry data products: Eutrophication and contaminants

				Discuss progress made in the creation of the maps for contaminants and DIVA maps.
<b>16/02/2023</b>	Online	External meeting	A	EMODnet Centralisation webinar Familiarise with the new unified EMODnet portal
<b>End February</b>	Online	Internal meeting	O	Meeting with the board of MSFD experts on contaminants Present contaminant map outlines, data QC and how they are created. Get feedback from the experts.
<b>03/03/2023</b>	Online	External meeting	A	MOEJ - International Expert Meeting on Marine Plastic Litter Monitoring Data Sharing Project, MOEJ
<b>9-10/03/2023</b>	Trieste (Italy) Online	Internal meeting	O	PFG meeting, SC, stakeholder consultation Discuss EMODnet Chemistry progress and actions to be taken in the short term. Collect the needs of the stakeholders.
<b>20-21/03/2023</b>	Paris (France)	Conference	A	International Ocean Data Conference (IODE/IOC) Since 2022, annual Ocean Data Conferences are held to take stock of the community's commitments and recommendations, and report on problems and solutions, lessons learned, and challenges identified.
<b>27-28/03/2023</b>	Online	Hackathon	O (part of Coaching & Mentoring Team)	EMODnet Open Sea Lab 3.0 Hackathon Explore and test the new features brought by EMODnet's new centralised portal and to put their skills to test in evolving innovative ways of using open-source data to support important marine targets.
<b>March 2023</b>	Online	Webinar	O by Cedre	Webinar of the operators of the French beach litter monitoring programme.
<b>First semester 2023</b>	Onsite (tbd)	Training	O by Cedre	Training and meeting onsite of operators of the French beach litter monitoring programme.

## 5. Communication assets

[List all the relevant communication and dissemination products and assets you have developed in the reporting period (e.g. brochures, videos, press releases, newsletters, blogs) and are planning to do. At the bottom of the table, provide a summary from the actions on Twitter from (e.g. Twitter Analytics: number of Tweets and followers of Twitter account).]

A. Communication products developed				
Date	Communication material	Short description (of the material, title, ...) of the asset	Main results	Name of event (if applicable)
03/10/2022	web content on EMODnet Chemistry portal	European Researchers' Night 2022: 30 September 2022	Raise awareness on topics related to marine pollution	
03/10/2022	<a href="#">web news on OGS-NODC website</a>	NODC at the European Researchers' Night 2022	Raise awareness on topics related to marine pollution	
3/10/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	<a href="#">EUropean researchers' night in Trieste, a QUIZ to talk about marine pollution, biodiversity loss</a>	Raise awareness on topics related to marine pollution	
6/10/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	<a href="#">On @il piccolo the QUIZ on sea and ocean (Quiz sugli oceani), organised by NODC, is mentioned as one of the interesting events in the rich programme of the European Researchers' Night</a>	Raise awareness on topics related to marine pollution	
07/10/2022	web content on EMODnet Chemistry portal	GPML webinar "Advancing science-policy linkages to tackle plastic pollution": 6 October 2022	Increase visibility of activities for a variety of partners and (potential) users	
12/10/2022	web content on EMODnet Chemistry portal	Data Harmonization Community of Practice, GPML: 10 October 2022	Increase visibility of activities for a variety of partners and (potential) users	
17/10/2022	web content on EMODnet Chemistry portal	Webinar on EMODnet Chemistry: 13 October 2022	Increase visibility of activities for a variety of partners and (potential) users	
17/10/2022	web content on EMODnet Chemistry portal	Euro Argo workshop: 11-13 October 2022	Increase visibility of activities for a variety	

			of partners and (potential) users	
17/10/2022	web content on EMODnet Chemistry portal	5th Phase: 2022Q3 Trimonthly Report, July-September	Increase visibility of activities for a variety of partners and (potential) users	
17/10/2022	presentation linked to <a href="#">web news on OGS-NODC website</a>	slide on EURO ARGO and EMODnet Memorandum of Understanding, July 2022	Increase visibility of activities for a variety of partners and (potential) users	
17/10/2022	presentation linked to <a href="#">web news on OGS-NODC website</a>	NODC presents EMODnet Chemistry: 13 October 2022	Increase visibility of activities for a variety of partners and (potential) users	
17/10/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	On 13 October NODC gave a webinar entitled "Development, validation and use of @EMODnet Chemistry datasets and climatologies.	Increase visibility of activities for a variety of partners and (potential) users	
17/10/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	Post on the presentation also describing the new agreement between @EuroArgoERIC and @EMODnet	Increase visibility of activities for a variety of partners and (potential) users	
19/10/2022	web content on EMODnet Chemistry portal	Ocean Practices, OBPS Workshop VI: 5 - 19 October 2022	Increase visibility of activities for a variety of partners and (potential) users	
19/10/2022	presentation linked to <a href="#">web news on OGS-NODC website</a>	Ocean Best Practices Workshop VI: 5 - 19 October 2022	Increase visibility of activities for a variety of partners and (potential) users	
19/10/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	<a href="#">@nodcogs at @OGS_IT, scientific coordinator of @EMODnet Chemistry is proud to contribute to this pilot !</a>	Increase visibility of activities for a variety of partners and (potential) users	
19/10/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	<a href="#">@nodcogs brought the experiences of @EMODnet Chemistry and @EUROqCHARM on this topic in the session entitled "'Paving the way for best practices in citizen science (CS) for environmental plastic observations'.</a>	Increase visibility of activities for a variety of partners and (potential) users	

24/10/2022	web content on EMODnet Chemistry portal	EMODnet marine data for the offshore renewable energy sector: 20-21 October 2022	Increase visibility of activities for a variety of partners and (potential) users	
25/10/2022	web content on EMODnet Chemistry portal	GPML Workshop: 20 October 2022	Increase visibility of activities for a variety of partners and (potential) users	
25/10/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	"Intense, challenging and interesting," said @nodcogs team involved in @EMODnet Chemistry and @EUROqCHARM about the @gpmicaribe workshop "Plastic Additives and Circularity & Human Health and Environmental Impacts Across the Lifecycle of Plastics".	Increase visibility of activities for a variety of partners and (potential) users	
26-28/10/2022	<a href="#">poster</a>	RBINS with NIMRD, IO-BAS, TSU and MARIS had a Poster Presentation at MARBLUE – Session IV: Observing the Black Sea. This poster includes two EMODnet Ingestion success stories on marine litter from Romania, Bulgaria and Georgia. It is entitled "Your data work at EMODnet-Ingestion.eu". Have a look at the poster in PDF:.	Increase visibility of EMODnet activities in the Black Sea, with a focus on EMODnet Chemistry	1st International MARBLUE Conference "Blue Growth: Challenges and opportunities for the Black Sea".
28/10/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	#Elsevier celebrates NODC for the open access publication "@EMODnet marine litter data management at pan-European scale".	Increase visibility of activities for a variety of partners and (potential) users	
28/10/2022	<a href="#">web news on OGS-NODC website</a>	Elsevier recognises the value of NODC's Open Science	Increase visibility of activities for a variety of partners and (potential) users	
28/10/2022	web content on EMODnet Chemistry portal	Thanks to EMODnet Chemistry OGS has received an Open Science Certificate	Increase visibility of activities for a variety of partners and (potential) users	
07/11/2022	<a href="#">Video</a>	NODC video also promoting EMODnet Chemistry	Increase visibility of activities for a variety of partners and (potential) users	

07/11/2022	<a href="#">web news on OGS-NODC website</a>	Launch of the NODC video also promoting EMODnet Chemistry	Increase visibility of activities for a variety of partners and (potential) users	
08/11/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	<a href="#">The #EMODnet SC held its 17th meeting 7-8 Nov</a>	Increase visibility of activities for a variety of partners and (potential) users	
08/11/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	<a href="#">Have you seen the latest @EMODnet newsletter?</a>	Increase visibility of activities for a variety of partners and (potential) users	
08/11/2022	web content on EMODnet Chemistry portal	EMODnet in the OGS video celebrating the 20th anniversary of the NODC	Increase visibility of activities for a variety of partners and (potential) users	
21/11/2022	web content on EMODnet Chemistry portal	5th Phase meetings on data collections for contaminants: 21 Oct and 15 Nov 2022	Increase visibility of activities for a variety of partners and (potential) users	
22/11/2022	web content on EMODnet Chemistry portal	5th Phase meeting on contaminants data vocabularies: 9 June and 15 Nov 2022	Increase visibility of activities for a variety of partners and (potential) users	
Dec 2022	Use cases compilation	In collaboration with EMODnet Ingestion, a compilation of 12 use cases has been produced. Among them, 6 are focused on EMODnet Chemistry data.	Increase visibility of activities for a variety of partners and (potential) users	
Oct-Dec 2022	Tweets	A series of tweets on the preparation of the poster for MARBLUE and the use cases, including the new case on MARE NOSTRUM contribution to the MLDB	Increase visibility of activities for a variety of partners and (potential) users	
13/12/2022	news media	<a href="#">Marine pollution</a>	Increase visibility of activities for general public	
December 2022	news media	<a href="https://rivistanatura.com/una-mappa-dell'inquinamento-marino-e-non-solo/">https://rivistanatura.com/una-mappa-dell'inquinamento-marino-e-non-solo/</a>	Increase visibility of activities for general public	
13/12/2022	news media	<a href="#">Trieste</a>	Increase visibility of activities for general public	
14/12/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	<a href="#">Quality control</a>	Increase visibility of activities for a variety of partners and (potential) users	

14/12/2022	<a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	EMODnet Open Sea Lab 3.0 Hackathon!	Increase visibility of activities for a variety of partners and (potential) users	
15/12/2022	web content on EMODnet Chemistry portal	5th Phase: Interim Report, October 2021 - October 2022	Increase visibility of activities for a variety of partners and (potential) users	
October 2022	EMODnet CP web content (news) and newsletter	<a href="#">EMODnet Chemistry at the 7th International Marine Debris Conference</a>	Increase visibility of activities for a variety of partners and (potential) users	
October 2022	EMODnet CP web content (use case) and newsletter	<a href="#">EMODnet Chemistry: the gateway to HELCOM beach litter data</a>	Increase visibility of activities for a variety of partners and (potential) users	
November 2022	EMODnet CP web content (news) and newsletter	<a href="#">New information collected for a better assessment of marine pollution</a>	Increase visibility of activities for a variety of partners and (potential) users	
December 2022	EMODnet CP web content (news) and newsletter	<a href="#">EMODnet Chemistry for a better quality of contaminants data in sediment</a>	Increase visibility of activities for a variety of partners and (potential) users	

## B. Planned communication products

Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
<b>Feb 2023</b>	web content	Compilation of Chemistry – Ingestion use cases (by RBINS)	Increase visibility of activities
<b>18-20/01/2023</b>	presentation	EMODnet Chemistry format and guidelines for microlitter data (ICES Workshop on the revision of the DOME litter data format)	Share EMODnet Chemistry expertise on management of microlitter data with ICES to optimise the data flow
<b>27/01/2023</b>	7 presentations	EMODnet Chemistry DIVA maps (Meeting with the board of MSFD experts on eutrophication)	Present DIVA maps to the board of MSFD experts on eutrophication and collect feedback
<b>February 2023</b>	LinkedIn	Post to spread the word on the unification of all EMODnet Thematic Portals (using social media guidelines sent)	Increase in visits to EMODnet Chemistry products by Cedre's followers on LinkedIn.

<b>February 2023</b>	Newsletter	Newsletter article to introduce the new central portal to EMODnet.	Increase in visits to EMODnet Chemistry products by the followers of the Cedre's newsletter.
<b>end February</b>	presentation	EMODnet Chemistry contaminants maps (Meeting with the board of MSFD experts on contaminants)	Present contaminants maps to the board of MSFD experts on contaminants and collect feedback
<b>9-10/03/2023</b>	presentations	PFG meeting, SC, stakeholder consultation	Steer EMODnet Chemistry activities and collects feedback from stakeholders
<b>20-21/03/2023</b>	presentation	International Ocean Data Conference (IODE/IOC)	Document EMODnet Chemistry activities to contribute to the IODE/IOC conference
<b>March 2023</b>	Newsletter LinkedIn) (+	Newsletter article and LinkedIn post following our participation in the next EMODnet Chemistry meeting held in Trieste, Italy.	Increase in visits to EMODnet Chemistry products by the followers of the Cedre's newsletter.
<b>On monthly basis</b>	a EMODnet monthly news digest	production of content for EMODnet newsletter	Increase visibility of activities
<b>regularly</b>	EMODnet web content	production of content for EMODnet CP	Increase visibility of activities
<b>regularly</b>	posts via @nodcogs twitter account	Tweets posted at <a href="https://twitter.com/nodcogs">https://twitter.com/nodcogs</a>	Increase visibility of activities



[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
October 2022 (online version) Dec 2022 (paper version)	paper	M. Lipizer, D. Berto, B. Cermelj, M. Fafandjel, M. Formalewicz, I. Hatzianetsis, N. Ilijanić, H. Kaberi, M. Kralj, S. Matijevic, M.E. Molina Jack, C. Parinos, J. Tronczynski, M. Giani 2022 “Trace metals and polycyclic aromatic hydrocarbons in the Eastern Mediterranean sediments: concentration ranges as a tool for quality control of large data collections”. Marine Pollution Bulletin Volume 185, Part A, December 2022, 114181		<a href="https://doi.org/10.1016/j.marpolbul.2022.114181">https://doi.org/10.1016/j.marpolbul.2022.114181</a>	Yes
19/09/2022	guidelines	Updated guidelines for SeaDataNet ODV production Eutrophication Contaminants, Rev 16 Sept 22		<a href="https://doi.org/10.13120/C1933032-9FA9-4678-8539-EFFA1560921C">https://doi.org/10.13120/C1933032-9FA9-4678-8539-EFFA1560921C</a>	Yes
in review	paper	Di Biagio, V., Salon, S., Feudale, L., and Cossarini, G.: Subsurface oxygen maximum in oligotrophic marine ecosystems: mapping the interaction between physical and biogeochemical processes, Biogeosciences Discuss. [preprint],		<a href="https://doi.org/10.5194/bg-2022-70">https://doi.org/10.5194/bg-2022-70</a> , in review, 2022.	Yes
16/10/2022	book paragraph	ELSEVIER book “ <a href="#">Oceanography of the Mediterranean Sea</a> ”: chapter 10 “Mediterranean observing and forecasting systems”, paragraphs on EMODNET portals.			No

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

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

## 6. Monitoring indicators

[Refer to the standardised monitoring tool, i.e. Matomo/ 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 Matomo/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	Several new datasets were entered, resulting in a steady increase in data.
What is your opinion on the data coverage within EMODnet for your thematic?	Sea regions in the CDI service were reformulated to follow the latest EEA regional polygons; it was a considerable effort but is now in place.	Data coverage is highly dependent on parameter type. Only nutrients and dissolved gases cover the coastal and open sea areas of all sea basins in a fairly homogeneous way (non-EU areas are still uncovered, for example in the southern Mediterranean Sea). The Chemicals by Region Matrix provides a rough overview: <a href="https://emodnet-chemistry.maris.nl/matrix">https://emodnet-chemistry.maris.nl/matrix</a>

B) Data usage in this quarter	CDI shopping service and personal requests RSM ledger and	For CDIs, the number of requests for CDI data files increased considerably during this quarter. The number of users increased from 7 to 12. Marine litter data were requested and delivered by personal contact (phone call and email).
2. Current status and coverage of the total number of data products A) Volume and coverage of available data products	Sextant Product Catalogue	No new products were added during the reported period.
B) Usage of data products in this quarter	Download tracking service for data products	There was a decrease in the number of manual downloads of eutrophication data, whereas there was a slight increase in that for contaminant data and an increase in that for all marine litter data products. As for map views, there was a consistent increase for fertilisers, contaminants and marine litter, whereas there was a decrease for dissolved gases. However, these differences with respect to the previous quarter could be partially due to more accurate counting.
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	CDI catalogue service	Despite the end of the year period, a reasonable number of new datasets (ca. 5100) were entered by 10 regular data providers.
4. Online 'Web' interfaces to access or view data	N.A.	No changes in this period.
5. Statistics on information	CDI shopping service RSM ledger	For CDIs, the number of users during this quarter was 12 compared with 7 during the previous quarter, while the number of CDIs was also considerably higher. All users were from Europe. For the Map viewer, the number of users was 215 compared with 70 during the previous quarter. These were mostly from European countries, but also from Asia. For the Sextant catalogue,

volunteered through download forms	service for users of CDI service		the number of users this quarter was 90 compared with 81 during the previous quarter. For DOIs, there were 24 users, whereas there were 308 for the WebODV. Both DOIs and WebODV manual downloads showed consistent decreases with respect to the previous quarter.
6. Published use cases	Matomo		As reported in ticket EM-599, we do not have the stats from Central Portal for Q4.
8.1. Technical monitoring	Matomo Grafana	–	Good uptime, but response time less than normal.
9. Visibility & Analytics for web pages	Matomo Grafana	–	There was a general increase in traffic.
10. Visibility & Analytics for web sections	Matomo Grafana	–	There was a general increase in traffic.
11. Average visit duration for web pages	Matomo Grafana	–	There was a general increase in traffic.

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

*From the next reporting period, Indicator 5: Statistics on information volunteered through download forms will be guarantee only for the CDI service.*

## 7. Annex: Other documentation attached

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