



# EMODnet



European Marine  
Observation and  
Data Network

## EMODnet Lot n° 5 - Chemistry

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

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

### Quarterly Progress Report (1st)

Reporting Period: 01/10/2021 - 31/12/2021



## Contents

<b>1.Highlights in this quarter.....</b>	<b>3</b>
<b>2.Identified issues: status and actions taken .....</b>	<b>6</b>
<b>3.User feedback (Contact Us form, online chat &amp; other communication means)7</b>	
<b>4.Meetings/events held/attended &amp; planned.....</b>	<b>9</b>
<b>5.Communication assets.....</b>	<b>13</b>
<b>6.Monitoring indicators .....</b>	<b>25</b>
<b>7.Annex: Other documentation attached.....</b>	<b>28</b>

## 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, the date due and status. Max 2 pages]*

This report covers the fourth quarter of 2021, which relates to the starting of the contract EASME/EMFF/2020/3.1.11/European Marine Observation and Data Network (EMODnet) Lot 5 – Chemistry and the closure of the previous one. In the following, the highlights for the period October-December 2021 are outlined for each of the tasks specified in Section 1.4.1 of the new Tender Specifications (Call EASME/2020/OP/0006):

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

- A training session was organised with the participation of all EMODnet data centres to reactivate data population, following new and updated guidelines, and share the latest improvements of the different tools and services available for ingesting, harmonizing, and validating data of eutrophication, ocean acidification, contaminants, and marine litter. To strengthen data interoperability with EEA, CMEMS and the EU MSFD Technical Group on Contaminants, new metadata fields were added, and the existing data were completed with information related to the instrument, the platform, the monitoring purpose, etc., and amended according to the feedback received. Following the request done by EU MSFD Technical Group on Marine litter to use EMODnet Chemistry data platform to collect MSFD monitoring data by all Member States, the network of NODCs continued to be involved in managing floating micro-litter data provided by Member States.

## **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 technical proposal, the first new data products are expected to be released at M12. During this quarter, we improved the description of the products in the catalogue and in the guidelines, published in the portal section ABOUT> GUIDELINES (see EMODnet Chemistry Regional climatologies produced with Data-Interpolating Variational Analysis (DIVA). Release 2021).

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

- The public discovery and access of all EMODnet Chemistry data sets is already arranged and operational through the CDI Data Discovery & Access service, that has a versatile user Interface, is INSPIRE compliant, and progress is being made as part of ENVRI-FAIR and Blue-Cloud projects with the development of an API for the CDI service.

EMODnet Chemistry products catalogue provides INSPIRE metadata fields, including a data URL and a metadata URL and this metadata description links users to OGC services available on the product, as WMS and WFS services. There is an OGC CSW service for the products catalogue itself.

## **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 participated to a couple of meetings organised by VLIZ with EMODnet Secretariat to identify data, data products and content to contribute to the central portal. The purpose is to allow users to find, view and download all EMODnet Chemistry data and data products developed during the five contracts (namely since 2009 till 2021) from the central portal. The catalogue will describe all results while the last version will be visualised in the central map viewer.

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

- During the reporting period, the thematic portal together with the central portal started to identify the content to be migrated and centralised. Meanwhile, EMODnet Chemistry portal was kept up to date: the section ABOUT has been extended with new Guidelines (1 addition), Reports (1 addition) and Project Meetings (2 additions). News (8 additions), Events and Presentations (6 additions), Posters and Flyers (1 addition), and Publications (5 additions) were updated in the PROMOTION section. The new video **EMODnet Chemistry: the treasure box for marine strategies** was further translated and promoted with the help of many EMODnet Chemistry partners and ambassadors; the subtitles were published at the beginning of October.

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

- In line with the ongoing dialogue with EC JRC, EMODnet Chemistry maintained support to the regional sea conventions carrying out a centralised reporting strategy for marine litter, based on a data management plan that is well defined, agreed and substantiated methodologically. In the reporting period, two extractions for beach and seafloor litter were released and customised to the needs of the experts chaired by EC JRC.

In addition, EMODnet Chemistry provided beach litter data in the HELCOM area to be used for the HELCOM HOLAS III beach litter assessment, and a dialogue is still ongoing to tune the output in data labelling, sub-region splitting, survey identification and reporting.

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

- EMODnet Chemistry contributed to the G20 MoEJ International Expert Meeting on Marine Plastic Litter Monitoring Data Sharing Project, where the prototype System for Microplastics Data-sharing was launched, together with the 'Data Entry Form Sheet' and the 'Data List Sheet' to collect marine litter data on a global scale.
- Further interactions are established to contribute to the development of the Global Partnership on Marine Litter Digital Platform (GPML), focused on the Marine Litter and Plastic Pollution Ontology peer review process started by the United Nations Environment Program.

EMODnet Chemistry participated in activities for transparent and accessible seas and oceans (linked to the UN Ocean Decade) and in the periodic meetings of groups of experts engaged in the implementation of global data platforms supporting the sea-related objectives of the UN 2030 Agenda for Sustainable Development.

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

- Procedures are up and running. COVID-19 emergency did not affect the functionality. The new web service developed by OGS has collected download metrics for the map viewer, DOI landing pages, the data products catalogue and webODV Data Explorer and Extractor. User activities are not recorded for EMODnet Chemistry products described and made available through the Central Portal.

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

- EMODnet Chemistry portal is maintained up to date as described under Task 5, where the alignment with the Central Portal is ensured.

<b>Status of the Milestones and Deliverables listed in the workplan</b>				
Deliverable	WP	Date due	Status (Delivered/ Delayed)	If Delayed: reason for delay and expected delivery date
<b>D1.1</b> - Quarterly concise progress reports (M3)	1	15/01/2021	Delivered	
<b>D1.5i</b> - Consortium Agreement	1	December 2021		
<b>D1.6i</b> - Short minutes/action list of project meetings	1	Oct-Nov 2021	Delivered	
<b>D1.7</b> - Providing content to the central portal	1	Continuously	Delivered	
<b>D2.1</b> - List of major rivers with identified data sources	2	January 2022	In progress	
<b>D2.2i</b> - Training activity for DC	2	January 2022	Delivered	
<b>D4.1</b> - Standard machine- to-machine services delivered for common functionalities	4	January 2021	In progress	

<b>Status of the Milestones and Deliverables listed in the workplan</b>				
Milestone	WP	Date due	Status (Delivered/ Delayed)	If Delayed: reason for delay and expected delivery date
<b>EMODnet Chemistry content contributed to the central portal</b>	2	January 2021	Delivered	

## 2. Identified issues: status and actions taken

[Provide an overview of the issues identified by CINEA (Table A), if any, since the start of the project phase (provide date), 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 issues and challenges identified by yourself, if any.]

<b>A. Priority issue(s) identified and communicated by CINEA/ DG MARE/ SECRETARIAT</b>				
Priority issue	Status (Pending/Resolved)	Action(s) taken / remaining actions planned	Date due	Date resolved
<b>Chemistry to report on number and volume of downloaded data and data products by 29th of October 2021</b>	Resolved	Done, but we are waiting for confirmation. Jira status of EM-359 is: In review		
<b>Chemistry Quality of Service Monitoring</b>	Resolved	The problem was corrected by Ifremer's IT department.	December 2021	

<b>B. Issues / challenges identified by the thematic assembly group itself</b>				
Priority issue / challenge	Status (Pending/Resolved)	Action(s) taken / remaining actions planned	Date due	Date resolved
<b>Trust-IT uptime graph for Chemistry is wrong. It should be always 100% for Q4. It happened also in the past</b>	Pending	Jira EM-438 was created. We are waiting, but for now we've fixed the graph before including it in the indicator's spreadsheet	January 2022	
<b>Wrong uptime data in Grafana di Chemistry</b>	Resolved	Jira EM-385 was created. Closed after action by TRUST-IT	December 2021	
<b>Web Services MetadataUrl and DataUrl fields</b>	Resolved	Extension reinstalled	October 2021	

### 3. User feedback (Contact Us form, online chat & other communication means)

*[Provide a list of all user feedback received on your portal in chronological order since the start of the project (provide date). 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 (i.e. has the query been resolved or not yet), 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
04/10/2021	University of Malta	Technical	e-mail	2 hours	resolved	Sea Floor Litter Data is now correctly validated	n/a
5/10/2021	JRC	Asked progress in collecting 2020 coastline beach litter	e-mail	3hours & 1 day	Resolved	Extract information from the database in the given format	
28/10/2021	Marevivo NGO	Request to collect marine litter data on coastal benthic waters	e-mail	1 day	Resolved	The tool and support in its usage will be provided	
16/11/2021	Ifremer	Request to collaborate on microplastic in biota	Personal contact	Prompt	Resolved	Positive feedback with the suggestion to face the task in the next contract phase	

<b>10/12/2021</b>	JRC	Asked overview of microlitter data collection	e-mail	1 day	Resolved	Extract information from the CDI service in the given format	
<b>10/12/2021</b>	Niva	Request to join potential EMODnet chemistry event	e-mail	3 days	Resolved	Positive feedback to collaborate with the delivery of a list of events	
<b>11-12/2021</b>	JRC	Information on EMODnet metadata and format for contaminants	e-mail	continuous	On-going	Personal contact and info exchange	Dialogue to consolidate interactions and collaboration is ongoing
<b>23/12/2021</b>	IEO	Visualisation of microlitter data with ODV	e-mail	12 days	Resolved	An alternative tool to plot microlitter data was given	



## 4. Meetings/events held/attended & planned

*[Organisational meetings/events held/participated (incl. presentations, lectures, trainings, demonstrations, workshops, etc.) by the contractor 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					
Date	Location	Type event (internal or external meeting, training/workshop)	Indicate if a ppt was given (yes/no + short description)	Meeting attended (A) / organised (O)	Short description and main results (# participants, agreements made, etc.)
25-29/10/2021	Virtual	Training session	No	A	<p>Implementing the Ocean Data and Information System (ODIS) architecture</p> <p>Participants: digital stakeholders interested in reliably sharing and discovering key ocean data through the ODIS network</p> <p>The training session allowed attendees to understand or stay up-to-date on the Ocean InfoHub project and the Ocean Data and Information System.</p>
12/11/2021	Virtual	External meeting	No	A	<p>ICES WGML meeting</p> <p>Participants (9): data managers involved in the reporting of micro-litter to ICES.</p> <p>EMODnet Chemistry standards and the harvesting of the EMODnet portal were discussed.</p>
16/11/2021	Virtual	Internal meeting	Yes, 11 ppt: EMODnet Chemistry new phase tasks and objectives per WP	O	<p>5th Phase Steering Committee meeting</p> <p>Participants: EMODnet Chemistry phase V partners and subcontractors.</p>

					Recalled EMODnet Chemistry major achievements and future challenges. <a href="#">Minutes available</a>
17-19/11/2021	Virtual	External meeting	Yes, Poster ' <a href="#">Marine Litter Database and associated products</a> '	A	<p>Virtual exhibition 'One Integrated Marine Debris Observing System (IMDOS) for a Clean Ocean'</p> <p>Participants: 197 international marine litter experts involved in evaluating ways forward for implementing the Integrated Marine Debris Observing System (IMDOS).</p> <p>The UN Decade of Ocean Science for Sustainable Development called for action to establish the IMDOS.</p>
23-25/11/2021	Virtual	External meeting	Yes, <a href="#">'EMODnet Chemistry marine litter data management'</a>	A	<p>EUROSEA macroalgal workshop</p> <p>Participants: experts in macroalgae, associated ecosystems and pollutants that are threatening their survival</p> <p>Set out priorities for data standards and sharing, integration, and operating procedures for observations in this ecosystem and economic area.</p>
29/11/2021	Virtual	External meeting	No	A	<p>G20 MoEJ International Expert Meeting on Marine Plastic Litter Monitoring Data Sharing Project</p> <p>Participants: international experts engaged in the G20 Marine Plastic Litter Monitoring Data Sharing Project.</p> <p>Presented the prototype 'Microplastics Data-sharing System', the 'Data Entry Form Sheet' and the 'Data List Sheet' to collect marine litter data on a global scale.</p>
13-14/12/2021	Virtual	Internal meeting	Yes, 10 ppt on Data management and data products generation	O	<p>EMODnet Chemistry portal: 5th Phase Project Full Group meeting</p> <p>Participants: EMODnet Chemistry V partners, subcontractors and advisories.</p> <p>Recalled EMODnet Chemistry major achievements and future challenges. Organized a training session to smooth</p>

			Guidelines and tools for data management (training session)		the new data population and data product generation. <a href="#">Minutes available</a>
15-16/12/2021	Virtual	External meeting	Yes, 2 presentations on <a href="#">micro</a> and <a href="#">macro</a> litter data management	A	MSFD Technical Group on Marine Litter meeting Participants: MSFD TG ML Described EMODnet Chemistry marine litter data management
16/12/2021	Virtual	External meeting	Yes, ' EMODnet Chemistry 4 Black Sea Eutrophication & contaminants Data products'	A	Tenth Session of the IODE Steering Group for the ODINBlackSea Project Participants: representatives of all Black Sea countries The main results of EMODnet Chemistry 4 for the Black Sea were presented.
17/12/2021	Virtual	Workshop	No	A	EC workshop 'Future of our seas' Participants: diverse group of stakeholders, from scientists to EC representatives, able to confront their views on the future of the MSFD. The MSFD was considered a valid instrument to protect the marine environment. Political enforcements and/or incentives were urgently advised to guarantee its implementation.
21/12/2021	Virtual	External meeting	No	A	ICES WGML meeting Participants (13): WGML and EMODnet Chemistry data managers It was discussed how WGML work can be of help for alignment of ICES and EMODnet standards and reporting format.
<b>SUM</b>				<b>O</b>	<b>Total # of meetings organised = 2</b>
<b>SUM</b>				<b>A</b>	<b>Total # of meetings attended = 9</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
14/01/2021	Virtual	Internal meeting	O	EMODnet Chemistry task force for contaminants Taking steps forwards the P01 revision by experts of contaminants and vocabularies as well as data users.
17 Jan-9 Feb/2022	Virtual	Competition	A	Blue-Cloud Hackathon - Challenge 3A Demonstrating how EMODnet Chemistry data can be used to make predictions about the environmental conditions of a marine area.
18-19/01/2022	Virtual	Info-days	A	Info-days for EU Missions of the Horizon Europe research and innovation programme for 2021-2027 The event will provide specific information on the new EU Missions' Work Programme calls, funding opportunities and timelines.
20/01/2022	Virtual	External meeting	A	TG ML Seafloor litter baselines meeting Discussing this topic with TG ML on the base of EMODnet Chemistry DB
27/01/2022	Virtual	External meeting	A	Data Harmonization Community of Practice (CoP) kick-off meeting
14-16/02/2022	Virtual	External	A	International Ocean Data Conference 2022 Participants will discuss how to further develop and improve products and services for the scientific needs and societal benefits.
14-16/02/2022	hybrid	conference	A	International Ocean Data Conference

## 5. Communication assets

[List all the relevant communication and dissemination products and assets you have developed since the start of the project phase (provide date) (e.g. brochures, videos, press releases, newsletters, blogs) and are planning to do. At the bottom of the table, provide a total number for every type of communication product you have developed (e.g. total # of press releases, etc.) or provide a summary from the actions on Twitter from (e.g. Twitter Analytics: number of Tweets and followers of Twitter account).]

A. Communication products				
Date	Communication material	Short description (of the material, title, ...) of the asset	Main results	Name of event at which material was disseminated (if applicable)
October 2021	web news / central portal	EMODnet <a href="#">news digest</a> : Data collections even more accessible and user friendly with webODV	Briefly inform EMODnet partnership and users on main EMODnet Chemistry monthly achievements	
<b>October 2021</b>	Subtitles for the Youtube promotion video	Promotion Video on YouTube With the help of EMODnet Chemistry partners, subtitles in other UN languages RU/ ES + Chinese and further European languages (IT / DE / NL) will be added. Facilitated access to the work done by EMODnet Chemistry in five U.N. languages (EN / FR / RU / ES + Chinese) and additional European languages (IT / DE / NL).	Increase the fruibility of the promotion video	
02/10/2021	web news	EMODnet Chemistry portal <a href="#">news section</a> : Read the new EMODnet Chemistry-based paper: Data quality and FAIR principles applied to marine litter data in Europe	Inform on the latest scientific publications based on EMODnet Chemistry data	
04/10/2021	web news	EMODnet Chemistry portal <a href="#">news section</a> : EMODnet Chemistry regional data collections linked to webODV Data Explorer and Extractor	inform on the improved accessibility to the webODV tool	
06/10/2021	web news	EMODnet Chemistry portal <a href="#">publications section</a> : Marine Pollution Bulletin: Data quality and FAIR principles applied to marine litter data in Europe	Inform on the latest scientific publications focused on EMODnet Chemistry activities	

12/10/2021	web news	EMODnet Chemistry portal <a href="#">news section</a> : EMODnet Chemistry video for all with the new multi-language subtitles	Inform on the improved fruibility of the new promotion video	
15/10/2021	web news	EMODnet Chemistry portal <a href="#">reports to EU section</a> : 4th Phase: 2021Q3 Trimonthly Report, Jul-Sept	Inform on the periodic upgrade delivered to the EC.	
22/10/2021	web news	EMODnet Chemistry portal <a href="#">news section</a> : Q&A: How can the work of EMODnet Chemistry have global relevance?	Inform on the increasing importance of the project on a global scale	
22/10/21	Flyer	A4 description of marine litter data collected through EMODnet Ingestion portal	Provide an informative, which can be printed as a small poster or flyer, and posted on a website.	
22/10/21	post on Twitter	Promotion of the <a href="#">Marine Litter Use Case</a> in EMODnet Ingestion.	Impressions: 1666 Likes: 18 Retweets: 8	Account @MarianneBiodiv (154 followers). Retweets by OGS, NODC-IT, Lifewatch ERIC, DOORS BlackSea, TUDAV, C.Troupin and others.
Nov/2021	web news	EMODnet <a href="#">news digest</a> : Marine litter database system from EU to global perspective	Briefly inform EMODnet partnership and users on main EMODnet Chemistry monthly achievements	
16/11/2021	presentation	11 presentations: 1. <a href="#">WP1 – Project management and international cooperation (OGS)</a> 2. <a href="#">WP2 – Metadata and data population by data providers: who has to catch up: making use of ICES for selected countries (MARIS)</a> 3. <a href="#">WP2 – Review of guidelines, quality control information and vocabularies(OGS)</a> 4. <a href="#">WP2 – Nutrients loads by major rivers (ETT)</a> 5. <a href="#">W3 – Project planning for generation of data products, including collections (OGS)</a>	Show and discuss the main tasks and objectives of the current phase	EMODnet Chemistry 5th Phase Steering Committee meeting

		<p>6. <a href="#">W3 – Lesson learned, needs and gaps in data collection and generation/publication of maps on contaminants (ISPRA)</a></p> <p>7. <a href="#">W3 – Marine litter data collections (micro e macro) (OGS)</a></p> <p>8. <a href="#">W4 – Possible EMODnet Chemistry vision on centralization ahead of meeting with CP team (MARIS)</a></p> <p>9. <a href="#">W4 – Plan for development of API for the webODV Extractor service and derived advanced services for the Map viewer (AWI)</a></p> <p>10. <a href="#">W4 – Expanding ML database system: new data and needs from global perspective (OGS)</a></p> <p>11. <a href="#">W5 – Uptake, outreach, and interaction. Planning next EMODnet/ICES data integration for EEA indicators (ICES)</a></p>		
17/11/2021	web news	EMODnet Chemistry portal <a href="#">project meetings section</a> : 5th Phase Steering Committee meeting: 16 November 2021	Inform the partnership and users on the main topic discussed during a specific meeting and the resulting agreements	
17-19/11/2021	poster	<a href="#">‘Marine Litter Database and associated products’</a>	Increase the visibility of the Marine Litter Database and associated products	Virtual exhibition “One Integrated Marine Debris Observing System (IMDOS) for a Clean Ocean”
22/11/2021	web news	EMODnet Chemistry portal <a href="#">event section</a> : One Integrated Marine Debris Observing System for a Clean Ocean: 17-19 November 2021	Inform on EMODnet Chemistry involvement in the implementation of the Integrated Marine Debris Observing System (IMDOS) for a Clean Ocean	
23-25/11/2021	presentation	<a href="#">EMODnet Chemistry marine litter data management experience: seafloor litter focus</a>	Share EMODnet Chemistry marine litter data management experience	EUROSEA macroalgal workshop
27/11/2021	web news	EMODnet Chemistry portal <a href="#">event section</a> : EUROSEA macroalgal workshop: 23-25 November 2021	Share EMODnet Chemistry marine litter data management experience	

01/12/2021	web news	EMODnet Chemistry portal <a href="#">guidelines section</a> : EMODnet Chemistry Regional climatologies produced with Data-Interpolating Variational Analysis (DIVA). Release 2021	Notify that new guidelines are available	
02/12/2021	web news	EMODnet Chemistry portal <a href="#">event section</a> : G20 MoEJ International Expert Meeting on Marine Plastic Litter Monitoring Data Sharing Project: 29 November 2021	Inform on the latest meeting attended on a global scale	
2/12/2021	presentation	1 presentation: <a href="#">EMODnet current status and needs from the expert community</a>	Share EMODnet Chemistry contaminants data management experience	MSFD Group of experts on contaminants meeting
02/12/2021	<a href="#">EC web campaign</a>	<a href="#">A pledge</a> for the EC 'Make Europe Blue' campaign	Participate in EC dissemination actions in favour of environmental protection	EC 'Make Europe Blue' campaign
<b>02/12/2021</b>	web news	EMODnet Chemistry portal publications section: Frontiers: High-Resolution Reanalysis of the Mediterranean Sea Biogeochemistry (1999–2019)	inform on the latest publications based also on EMODnet Chemistry data	
04/12/2021	web news	EMODnet Chemistry portal <a href="#">event section</a> : MSFD Group of experts on contaminants meeting: 2 December 2021	Inform on the latest meeting attended on a European scale	
05/12/2021	web news	EMODnet Chemistry portal <a href="#">news section</a> : Les Etoiles de l'Europe trophy goes to SeaDataCloud	Inform on relevant achievements of infrastructures adopted by the project	
07/12/2021	web news	EMODnet Chemistry portal <a href="#">news section</a> : EMODnet Chemistry pledges to Make Europe Blue	Inform on the participation in the EC campaign	
13-14/12/2021	presentation	10 presentations: 1. <a href="#">The new project phase, deliverables &amp; milestones (OGS)</a> ; 2. <a href="#">Data collections for nutrients: general characteristics, strengths and weaknesses per sea region (RLs)</a> ;	Show and discuss the main tasks and objectives of the current phase	5th Phase Project Full Group meeting



		<a href="#">3.Data collections for contaminants: general characteristics, strengths and weaknesses per sea region (RLs);</a> <a href="#">4.Marine litter data collections (OGS);</a> <a href="#">5. Data products for eutrophication (RLs);</a> <a href="#">6. Data products for marine litter (IFREMER) (OGS);</a> <a href="#">7.CDI Service, present status of data and metadata population (MARIS);</a> <a href="#">8.Nemo, Mikado and Octopus. Importance of using the SeaDataNet tools (IFREMER);</a> <a href="#">9.General and specific recommendations for dataset preparation: marine litter (OGS)</a> <a href="#">10.General and specific recommendations for dataset preparation: eutrophication and contaminants (OGS)</a>		
15/12/2021	web news	EMODnet Chemistry portal <a href="#">project meeting section</a> : 5th Phase Project Full Group meeting: 13-14 December 2021	Inform the partnership and users on the main topic discussed during a specific meeting and the resulting agree	
15-16/12/2021	presentation	2 presentations: <a href="#">EU coastline litter data 2015-2020: data collection;</a> <a href="#">Microlitter baselines: collection of floating microlitter data</a>	Discuss EMODnet Chemistry marine litter data management	MSFD Technical Group on Marine Litter meeting
16/12/2021	web news	EMODnet Chemistry portal <a href="#">news section</a> : Q&A: How does the EMODnet Chemistry machine work? Read the first steps!	Raise interest in the EMODnet Chemistry work	
16/12/2021	presentation	<a href="#">EMODnet Chemistry 4 Black Sea Eutrophication &amp; contaminants Data products</a>	Present the main results of EMODnet Chemistry 4 for the Black Sea	Tenth Session of the IODE Steering Group for the ODINBlackSea Project
18/12/2021	web news	EMODnet Chemistry portal <a href="#">event section</a> : MSFD Technical Group on Marine Litter meeting: 15-16 December 2021	Inform on the involvement in the MSFD TG ML activities	

22/12/2021	web news	EMODnet Chemistry portal <a href="#">event section</a> : Future of our seas: 17 December 2021	Inform on the participation in this EC workshop on the MSFD review	
23/12/2021	web news	EMODnet Chemistry portal <a href="#">publications section</a> : A Global Ocean Oxygen Database and Atlas for Assessing and Predicting Deoxygenation and Ocean Health in the Open and Coastal Ocean.	inform on the latest paper based also on EMODnet Chemistry data	
28/12/2021	web news	EMODnet Chemistry portal <a href="#">news section</a> : EMODnet Chemistry Marine Litter data: an EMODnet Ingestion success story	Inform on the fruitful interaction among EMODnet Ingestion and Chemistry to collect marine litter data	
28/12/2021	web news	EMODnet Chemistry <a href="#">posters and flyers section</a> : EMODnet Chemistry Marine litter: a new successful story for EMODnet Ingestion	Inform on the fruitful interaction among EMODnet Ingestion and Chemistry to collect marine litter data	
28/12/2021	<a href="#">web news</a> (in Georgian)	<a href="#">TSU website</a> : Ivane Javakhishvili Tbilisi State University (TSU) participated in the tender announced by the European Commission (EASME / 2020 / OP / 0006 "European Marine Observation and Data Network (EMODnet)" - Lot 5 "Chemistry" (EASME / EMFF / 2020 / 3.1)	Inform on the Georgian University participation in the latest phase of EMODnet Chemistry project	
28/12/2021	web news	EMODnet Chemistry portal <a href="#">publications section</a> : ESECR: Data Sharing, Public Engagement and Innovation: the Open Science Pillars to Support Knowledge Based Marine Strategies	Inform on the latest scientific publications	
<b>29/12/2021</b>	Web news	EMODnet Chemistry portal publications section: Marine Pollution Bulletin: Scientific knowledge on marine beach litter: A bibliometric analysis	Inform on the latest scientific publications	

<b>B. Planned communication products</b>			
Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
Jan 2022	web news	EMODnet Chemistry 2021 top 5 on EMODnet Chemistry, Central Portal web sites, and EMODnet news digest	Inform on the past year achievements
Jan 2022	web news	updated guidelines to produce SeaDataNet ODV file for eutrophication and contaminants on EMODnet Chemistry web site and EMODnet news digest	Inform on the latest user manual released
Jan-Feb 2022	web news	Q&A news reporting responses from EMODnet Chemistry's regional leaders to questions related to generating data collections for contaminants and eutrophication.	Raise interested in the data collection workflow stressing the important role played by all parties involved
Jan-Feb 2022	web news	Scheduled attended events: IODE international conference, TG ML meeting on seafloor litter baselines, EU missions info-days, Data Harmonization Community of Practice (CoP) kick-off meeting	Inform on events attended
Jan-Feb 2022	web news	EMODnet Chemistry at the Blue-Cloud Hackathon on EMODnet Chemistry and EMODnet Portal and EMODnet news digest.	inform on the participation in the competition
Jan-Feb 2022	web news	Publication of the paper: Numerical modelling of marine litter distribution in Georgian coastal waters of the Black Sea (JEPE, in press)	inform on the latest scientific papers
Jan-March 2022	web news	EMODnet Chemistry use cases on EMODnet Chemistry and Central Portal	Inform on the latest use cases
14-16/02/2022	live presentation	2 live presentations: 1. PAPER 67 ' How the marine data management at European scale can provide quality datasets to evaluate marine litter issues and contribute to the improvement of the existing monitoring processes' in session 2 sub item 2.6 (Data Science: scientific insight through data management). 2. PAPER 78 'EMODnet Chemistry: harmonising and consolidating in Europe for a global engagement' in session 3 sub item 3.3 (Expanding the pool: new partnerships (private sector, other digital stakeholder groups)	Share EMODnet Chemistry expertise with the attendees in the International Ocean Data Conference 2022
March 2022	news	Extended publication on the Marine Litter Use Case on EMODnet Chemistry & Ingestion websites	Extend partnership of ML data providers
March 2022	news	Updated movie on webODV tool	Update the existing webODV tutorial to explain contaminat-related functionalities

[For the reporting period, please list all publications, e.g. peer-reviewed journals, book chapters, conference papers, etc.) of which you are aware, within the reporting period, including a reference to the EMODnet data or data products which is being discussed.]

### List of known publications using EMODnet data or data products

Date	Type and name of journal, conference, ...	Publication title including DOI (if known)	Author(s)	Organisation(s)
November 2021	Environmental Sciences and Ecology: Current Research (ESECR)	<a href="#">Data Sharing, Public Engagement and Innovation: the Open Science Pillars to Support Knowledge-Based Marine Strategies.</a>	C.Altobelli, A. Giorgetti A., P. Diviacco, S. Salon, A. Saraò, V. Tirelli.	National Institute of Oceanography and Applied Geophysics - OGS, Italy
November 2021	Frontiers in Marine Science	High-Resolution Reanalysis of the Mediterranean Sea Biogeochemistry (1999–2019)	G. Cossarini, L. Feudale, A. Teruzzi, G. Bolzon, G. Coidessa, C. Solidoro, V. Di Biagio, C. Amadio, P. Lazzari, A. Brosich, S. Salon	National Institute of Oceanography and Applied Geophysics - OGS, Italy
December 2021	Marine Pollution Bulletin	Scientific knowledge on marine beach litter: A bibliometric analysis	C.Cesarano, G. Aulicino G., C. Cerrano, M. Ponti, M. Puce S.	Dipartimento di Scienze della Vita e dell'Ambiente, Università Politecnica delle Marche, Italy Dipartimento di Scienze e Tecnologie, Università degli studi di Napoli Parthenope, Italy Dipartimento di Scienze Biologiche, Geologiche e Ambientali, Università di Bologna, Italy Reef Check Italia onlus, Ancona, Italy
December 2021 (paper version)	Marine Pollution Bulletin	<a href="#">Data quality and FAIR principles applied to marine litter data in Europe</a>	E. Partescano, M.E. Molina Jack, M. Vinci, A. Cociancich, A. Altenburger, A. Giorgetti, F. Galgani.	National Institute of Oceanography and Applied Geophysics - OGS, Italy Institut Français de Recherche pour l'Exploitation de la Mer (Ifremer), France
December 2021	Frontiers in Marine Science	<a href="#">A global ocean oxygen database and atlas for assessing and predicting deoxygenation and ocean health in the open and coastal ocean.</a>	M. Gregoire, V. C. Garçon, H. Garcia, D. Breitbart, K. Isensee, A. Oschlies, M.j Telszewski, A. Barth, H. C. Bittig, J. Carstensen, T. Carval, F. Chai, F. Chavez, D.J. Conley, L. Coppola, S.	Department of Astrophysics, MAST-FOCUS, Geophysics and Oceanography, University of Liège, Belgium

			<p>Crowe, K. Currie, M. Dai, B. Deflandre, B. Dewitte, R. Diaz, E. Garcia-Robledo, D. Gilbert, A. Giorgetti, R.N. Glud, D.GUTIERREZ, S. Hosoda, M. Ishii, G.I Jacinto, C. Langdon, S.K. Lauvset, L.A. Levin, K. E. Limburg, H. Mehrrens, I. Montes, S.W. Ahmad Naqvi, A. Paulmier, B.G. Pfeil, G. Colborne Pitcher, S. Pouliquen, N.N. Rabalais, C. Rabouille, V. Racapé, M. Roman, K.A. Rose, D.L. Rudnick, J. Rummer, C. M. Schmechtig, S. Schmidtko, B. Seibel, C. Slomp, R. Sumaila, T. Tanhua, V. Thierry, H. Uchida, R. Wanninkhof, M.i Yasuhara</p>	<p>Laboratoire d'Études en Géophysique et Océanographie Spatiales, CNRS/IRD/UPS/CNES, France</p> <p>National Centers for Environmental Information, National Oceanic and Atmospheric Administration, United States</p> <p>Smithsonian Environmental Research Center, United States</p> <p>Intergovernmental Oceanographic Commission of UNESCO, France</p> <p>GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany</p> <p>International Ocean Carbon Coordination Project, Institute of Oceanology of Polish Academy of Sciences, Poland</p> <p>Department of Astrophysics, GHER-FOCUS, Geophysics and Oceanography, University of Liège, Belgium</p> <p>Leibniz Institute for Baltic Sea Research Warnemünde, Germany</p> <p>Department of Bioscience, Aarhus University, Denmark</p> <p>Coriolis, IFREMER, France</p> <p>School of Marine Sciences, University of Maine, United States</p> <p>Monterey Bay Aquarium Research Institute, United States</p> <p>Department of Geology, Lund University, Sweden</p>
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				<p>College of Marine Science, University of South Florida, St. Petersburg, FL, United States</p> <p>Faculty of Geosciences, Utrecht University, Netherlands</p> <p>Fisheries Economics Research Unit, University of British Columbia, Canada</p> <p>Ifremer, CNRS, IRD, LOPS, University of Brest, France</p> <p>Atlantic Oceanographic and Meteorological Laboratory, NOAA, United States</p> <p>School of Biological Sciences, Division for Ecology and Biodiversity, Swire Institute of Marine Science, and State Key Laboratory of Marine Pollution, The University of Hong Kong, China</p>
In press	The Journal of Environmental Protection and Ecology (JEPE)	Numerical modeling of marine litter distribution in Georgian coastal waters of the Black Sea	D. Demetrashvilia, K.Bilashvilia, N.Machitadze, N.Tsintsadze, V.Gvakharia; N.Gelashvilia, V.Trapaidzea, I.Kuzanova	alv. Javakhishvili Tbilisi State University (Tbilisi, Georgia); Scientific Research Firm GAMMA (Tbilisi, Georgia); Institute of Hydrometeorology of Georgian Technical University, Georgia



## 6. Monitoring indicators

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

Comments on the progress indicators in the excel template		
Progress indicator	Means of collecting figures	Comment
1. Current status and coverage of total available thematic data A) Volume and coverage of available data <b>If you don't use the provided sea-basin figures, please indicate why you do not use them, as from when, and what do you use instead and why?</b>	Matomo/ other (Please state which monitoring tool was used to collate the information in each case)	Several new data sets have been entered. Also, further quality control has led to deactivating a number of data sets. However, overall this has resulted in a steady increase of data.
B) Usage of data in this quarter	CDI RSM service	For CDIs, this quarter the number of requests for CDI data files is comparable to the previous quarter. Also, number of users is exactly the same, namely 16.
2. Current status and coverage of total number of data products A) Volume and coverage of available data products <b>If you don't use the provided sea-basin figures, please indicate why you do not use them, as from when, and what do you use instead and why?</b>	<b>Sextant Catalogue forms</b>	There are no changes in the reported period.
B) Usage of data products in this quarter	Matomo + <b>Sextant Catalogue forms</b>	There is a big increase in map visualisations, especially for silicates. Could be due to the summertime holiday period. The increase is smaller for manual downloads. In two cases there's a decrease, especially for contaminants. As for the total volume downloaded, we see that this time the highest value belongs to Chrolopyll, not to Dissolved gases, compared to the previous report.

3. Organisations supplying/approached to supply data and data products within this quarter	CDI service	Several new data sets have been entered by a number of data providers. For one data provider a temporary considerable deactivation took place for improving the data sets. These will be reentered soon again. However, overall there is a steady increase of data.
4. Online 'Web' interfaces to access or view data		No changes in this period.
5. Statistics on information volunteered through download forms	CDI RSM service and Sextant catalogue forms	Data - CDI service: The number of users is the same as in the previous quarter and also the number of CDIs requested is about the same as in the previous period. All users are from Europe and most of them are from Spain. Data products interfaces: Organisation type 'Business and Private company' is almost third of the 'Catalogue' users! It's also dominant for the 'webODV Data Explorer and Extractor'. Almost 35% of 'webODV Data Explorer and Extractor' users are from Asia, much more than in the other data products interfaces.
6. Published use cases		Highest number of views both on Chemistry is: 'EMODnet Chemistry contributed to the Joint List of Litter Categories for Marine Macrolitter Monitoring', while on Central Portal it's 'Joint Copernicus Marine & EMODnet catalogue: Chemistry contribution'.
8.1. Technical monitoring	Grafana	Excellent.
8.2. Portal user-friendliness (Visual harmonization score)	Report Trust-IT	There is no change in the good harmonisation score.
9. Visibility & Analytics for web pages	Grafana	There is a traffic increase for all pages, especially for the Help page.
10. Visibility & Analytics for web sections	Grafana	Major increase: Promotions Minor increase: Marine Litter Major decrease: About, Data, Help Minor decrease: Home, Products
11. Average visit duration for web pages	Grafana	Minor increase: Promotion Major decrease: Data, Help, About Minor decrease: Products, Home

*The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Matomo. In some cases, numbers from other monitoring systems may also be reported (e.g. Awstats, Google Analytics), and if so, must be reported in the table above. Each system uses different technical approaches and therefore has its strengths and shortcomings. Therefore, results are indicative and care should be taken when interpreting absolute numbers or comparing results from different tools. It is often more sensible to consider trends over time collected by the same monitoring tool.*

## 7. Annex: Other documentation attached

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