



**EMODnet**



European Marine  
Observation and  
Data Network

# **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 (4th)**

**Reporting Period: 01/07/2022 – 30/09/2022**



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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, we noted a further increase in the data held by EMODnet data centres and delivered in the data portal. This is the result of the actions maintained also during this reporting period to prepare the data harvest for contaminants planned to be closed at the end of the summer. Regular email messages were shared with the data centres to urge data population with new and updated data sets. In parallel, the network of NODCs continued to be involved in managing beach data and micro-litter data collected by Member States as part of MSFD monitoring activity and solicited by JRC.

## **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**

Early July 2022, the data harvest has been undertaken for eutrophication data sets. Following the harvest, all six regional coordinators were provided with data packages for their region as well as with 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 implicates that they do not have to repeat their validation and harmonisation activities again for those 'old' data sets. Following the harvest distribution, the six regional leaders have become very involved in data aggregation and validation, and a series of meetings were organised to align the process focused on generating the eutrophication data products, namely regional aggregated, validated and harmonised data collections as well as DIVA interpolated maps, each for selected eutrophication parameters.

In parallel, the request from the Central Portal team to rationalise the number of existing data products layers in view of the centralisation process was taken into account. This resulted in the decision to group the already existing DIVA maps by sea regions and by season for which the product metadata catalogue was updated accordingly. The same approach will be followed for the publishing of the new eutrophication data products, once these are ready.

The gathering and population of the CDI service with contaminants data and marine litter data has also made very good progress and end September 2022 preparations were started for harvesting these data sets and then preparing data packages of these for the regional coordinators (contaminants) and OGS (marine litter coordinator).

## **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 has machine-to-machine services, developed as part of ENVRI-FAIR and Blue-Cloud projects. For the purpose of the centralisation process, a new url was taken into production for the CDI service, namely <https://cdi-chemistry.seadatanet.org/search> so that no longer use is made of the <https://www.emodnet-chemistry.eu> domain. Moreover, the exchange from the CDI service to the Central Portal Map Viewer is arranged by dedicated OGC WMS-WFS services which give the locations of CDI data sets per chemical group (P35) and options to click on the map objects to return to those group records within the CDI service interface. These

changes have been made earlier in the project and have been integrated into the CP Map Viewer at the test site.

The EMODnet Chemistry products catalogue is based upon the SeaDataNet Sextant catalogue and 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, which has been harvested by the Central Portal to include the metadata records into the CP Central Catalogue service. For this purpose and rationalisation, there have been made some edits to the Sextant metadata records.

**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 the meetings organised by the CP Team (VLIZ + EMODnet Secretariat) to prepare the static content, the dedicated services, and the metadata and data products to be migrated and centralised. The purpose of the narrative is to allow users to read about the EMODnet Chemistry objectives and activities which took place and are ongoing during the five contracts (namely since 2009 till 2022), and to get guidance for finding, viewing and downloading all its data and data products. As explained under Task 3 EMODnet Chemistry has two catalogues: 1) the CDI catalogue gives discovery and access to data sets and is continued as an 'external' service which can be reached by CP users through the narrative section and through the CDI map layers in the CP Map Viewer; 2) the Sextant product catalogue is maintained for managing the metadata records, but its content is harvested by the CP portal for inclusion in the CP Catalogue Service, while the associated data products (eutrophication data collections and DIVA maps, and contaminants data collections) are shared with the CP for direct downloading. Furthermore, EMODnet Chemistry generates maps for Marine Litter and Contaminants which are shared by means of OGS WMS-WFS services with the CP Map Viewer which arranges their publishing. For Marine Litter this is arranged through IFREMER while for contaminants an upgraded infrastructure is being configured by ISPRA, which should become soon available for testing before going into production. In addition, there are extra visualisation options for the DIVA maps which could not (yet) be arranged directly by the CP Map Viewer and therefore the Chemistry Ocean Browser service is continued to feed the CP Map Viewer. Finally, there is also the webODV service for extracting and exploring the eutrophication and contaminants data collection products. This service with advanced analytics and visualisation is continued as an 'external' service and is made accessible through the narrative, while work is ongoing for making also a few interesting maps by webODV which will be provided to the CP Map Viewer as OGC WMS-WFS services. These maps will be exemplary and will trigger users to make use of the webODV services. The centralisation is making good progress in the CP test domain following the agreed approach. However, there are still issues to overcome and/or to improve which are subject of JIRA tickets or part of the cooperation between the CP team and the EMODnet Chemistry technical team.

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

During the reporting period, EMODnet Chemistry portal was kept up to date. In particular, the section ABOUT has been extended with new Guidelines (1 addition), Reports (2 additions) and Project Meetings (3 additions). Moreover, News (2 additions), Events and Presentations (7 additions) and 1 Cooperation Agreement were updated in the PROMOTION section. Contents has also been regularly provided for the EMODnet news and use cases pages and for the monthly newsletters. There is contact with the CP Team to discuss how EMODnet Chemistry will be able to maintain these items such as news, publications, and guidelines also in the new situation with the Central Portal.

**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, we participated to the TG ML (on line) contributing to the discussion.

In addition, we received by HELCOM positive feedback on the dataset of beach litter monitoring data in their area for the period 2020 and 2021 released in April

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

EMODnet Chemistry contributes to MSFD implementation by providing the data management hub for many kinds of marine litter data (beach, seafloor, floating microlitter and in the sediment). We established a close dialogue with the JRC and the D8/D9 Contaminants working group to evaluate MSFD reporting formats and how they fit with EMODnet Chemistry metadata schemas. Moreover, there is interest from EU JRC and DG Environment to engage EMODnet Chemistry as the infrastructure for Member States as part of MSFD to gather the contaminants data sets in a comparable way as the task for Marine Litter gathering at European scale has become a structural activity.

Interactions also continued with the Global Partnership on Marine Litter Digital Platform (GPML), to tune EMODnet Chemistry contribution to the global system.

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

Procedures are up and running, with the MSFD-region approach and extracting differences per data provider, per sea region, per restricted or unrestricted. Download metrics for the map viewer, DOI landing pages, CDI data service, the data products catalogue and webODV Data Explorer and Extractor are collected when users access them through EMODnet Chemistry portal. 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. The alignment with the Central Portal is ensured by the activities described in Task 4.

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	
D1.2 Annual Interim report	1	M12 (3 October 2022)	In progress		
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 202	
D1.7 Providing content to the central portal	1	Continuously	Delivered		
MS3 Chemistry (eutrophication, contaminants and microlitter) CDI metadata and data sets available from the central portal	2	M6, M18	Delivered	Continuous inclusion of CDI metadata and datasets available from the CP	
MS4 Marine litter data sets 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 central portal	3	M14			
MS6 Dedicated maps for contaminants available from 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 central portal	3	M20			
D3.1 Validated pan-European collections for	3	M12, M21	Delivered	12/10/2022	

eutrophication, including rivers					
D3.2 Validated collections for contaminants	3	M13, M22			
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 central portal	4	M18	Ongoing		See text under task 4
D4.8 Monitoring data about visits and usage	4	Continuously	Delivered		
D5.1 Operate Help-desk	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>	In review	Changes are made by Chemistry as requested by CP. Now waiting for review by CP	15/10/2022	n.a.
<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-632)</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. 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		
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### 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	contact	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
21/06/2022	Adriatic Rowing Society (Italy)	Collaboration: The Adriatic Rowing Society has asked the OGS to help manage marine litter data collected through the tool called Seabin. This was installed thanks to the agreement with Lifegate.	email to OGS	26/09/2022	Pending	Email response from OGS	
07/07/2022	ISPRA	Requested a copy of a publication	EMODnet Chemistry contact form (emodnet+form@inogs.it)	10/10/2022	Resolved	Email response: the publication was sent and OGS explained that they are open and easily accessible through the DOI.	

<b>20/07/2022</b>	Aarhus University, Institute of Ecoscience (Denmark)	Technical: information to fill out metadata for the Danish beaches	EMODnet Chemistry contact form (emodnet+form@inogs.it)	5 hours	Resolved	Email response from OGS	
<b>25/08/2022</b>	ISPRA (Italy)	Technical: request of confirmation that submitted beach litter data were correct	Mail to NODC (OGS)	12 hours	Resolved	Email exchange to check, validate and load the data set into the database	
<b>05/09/2022</b>	CNR-ISMAR	Technical: support request to submit beach litter data collected with a new App	Mail to info@emodnet-chemistry.eu	12 hours	Resolved	Email: OGS gave full information on how to submit the data	
<b>05/09/2022</b>	JRC	Litter data 2015-2020 survey availability table	Mail to OGS	2.5 hours	Resolved	Table provided by email	
<b>05/09/2022</b>	JRC	Beach litter data extraction 2015-2020	Phone call to OGS	2 days	Resolved	Data file provided by email	
<b>13/09/2022</b>	ULiege	Technical: support request to download EMODnet Chemistry data for specific parameters in the Black Sea.	EMODnet Chemistry contact form (emodnet+form@inogs.it)	6 hours (first reply)	Resolved (3/10/2022)	Email exchange: OGS provided full information to download the data via the CDI data Discovery and Access Service and the webODV data Explorer and Extractor	

## 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.)
27/06-01/07/2022	Online Lisbon (Portugal)	Summer school	Yes	A	INTERREG Med SHAREMED project Summer school  Lecture by OGS entitled "Main environmental threats in the Mediterranean Sea, data and information needs: lessons from SHAREMED stakeholder consultation".  Participants: 20 from ten different nationalities.
2-8/07/2022	Trieste (Italy)	Summer school		A	Blue Growth Summer School at OGS entitled "Copernicus Marine Service as a supporting tool to foster Sustainable Blue Economy"  Lecture by OGS: "Where to find data: EMODnet data discovery and access"  At the hands-on session and working groups OGS explained how to use EMODnet Chemistry webODV data Explorer and Extractor  Participants: circa 30
4/07/2022	online	Internal meeting	No	O	Opening meeting on the first data harvest for eutrophication and contaminants: 4 July 2022

<b>05/07/2022</b>	web	workshop	yes - EMODnet status and activities for glider network	A	European Glider Data Management Workshop - <a href="https://www.groom-ri.eu/european-glider-data-management-workshop-agenda-2/">https://www.groom-ri.eu/european-glider-data-management-workshop-agenda-2/</a> - <a href="https://docs.google.com/document/d/1hQSNbznH6sm5Eo1KjrkK1og1vQDOjRtwGa0xryANe54/edit#">https://docs.google.com/document/d/1hQSNbznH6sm5Eo1KjrkK1og1vQDOjRtwGa0xryANe54/edit#</a>
<b>06/07/2022</b>	Batumi, Georgia	National event	Yes (video material of EMODnet Ingestion and EMODnet Chemistry projects.)	O	The national event was organized under the auspice of government of Georgia dedicated to the Black Sea affairs, problems, achievements etc. TSU was one of the organisers. The computer accessories made from the plastic waste with the logos of the projects were presented and distributed among attendees during the sessions.  Participants: circa 200
<b>06/07/2022</b>	online	Internal technical meeting	No	A	EMODnet CP meeting to discuss the integration of EMODnet Chemistry contents  Participants: CP and EMODnet Chemistry Technical Teams  Make steps toward to carry out the Centralization
<b>07/07/2022</b>	online	External meeting	Yes (info to structure the task team 6 and achieve its objectives)	O	UN SciNMeet (the Science We Need for the Mediterranean Sea We Want (SciNMeet Programme): building up the Task Team 6 “Data sharing”  Participants: OGS (Task Team 6 facilitator and representative of EMODnet Chemistry and EMODnet), UNEP/MAP, IMS-METU, IOC/IODE  The project is among the actions that will contribute to facing the UN Ocean Decade challenges
<b>11/07/2022</b>	online	Summer school	Yes	A	EMODnet program, goals, projects and actions were introduced before digging into in situ data management and sharing (with EMODnet provided tools such ERDDAP docker)
<b>12/07/2022</b>	online	Internal technical meeting	No	A	EMODnet CP meeting to discuss the integration of EMODnet Chemistry contents  Participants: CP and EMODnet Chemistry Technical Teams  Make steps toward to carry out the Centralization

<b>12-13/07/2022</b>	Rome (Italy)	External meeting	Yes (TT6 follow up)	A	SciNMeet kick off meeting Participants (for task team 6 (TT6)): Representatives of UNEP/MAP, Info/RAC, IOC/IODE, INGV, OGS, IEO and HCMR - for EMODnet and MONGOOS Discussed objectives and activities of the TT6 -data sharing
<b>04/08/2022</b>	web	Conference	Yes – Role of EMODnet as open and free data hub	A	Open Science Conference - SCAR OSC data session: Sharing science data FAIRly to support interdisciplinary research collaborations. Participants: About 70
<b>08/08/2022</b>	Rome (Italy)	External workshop	No	A	INTERREG Med SHAREMED project meeting Participants: project partners + key stakeholders Emphasise the role that EMODnet Chemistry plays in the project
<b>30/08/2022</b>	online	External technical meeting	No	A	UNESCO Working Group on Vocabulary for ocean acidification data Participants: representatives of IOC/UNESCO, NOC-BODC, OGS, ICOS, SOCAT, NOAA Regular meetings with UNESCO for SDG 14.3.1. to discuss vocabulary for ocean acidification data. Vocabulary is fundamental to define the SDG 14.3.1 Indicator Methodology describing how to measure and report the key carbonate chemistry variables for ocean acidification to enable the global comparison of ocean acidification. IOC-UNESCO, with support from GOA-ON (Global Ocean Acidification Observing Network), reports on ocean acidification for the Global Climate Indicators and the yearly Statement on the State of the Global climate.
<b>02/09/2022</b>	online	External technical meeting	No	A	UNESCO Working Group on Metadata for ocean acidification data Participants: representatives of IOC/UNESCO, NOC_BODC, OGS, ICOS, SOCAT, NOAA Regular meetings with UNESCO for SDG 14.3.1. to discuss metadata for ocean acidification data. Metadata are fundamental to define the SDG 14.3.1 Indicator Methodology describing The SDG 14.3.1 Indicator Methodology describes how to measure and report the key carbonate chemistry variables for ocean acidification to enable the global comparison of ocean acidification. IOC-UNESCO, with support from GOA-ON (Global Ocean Acidification Observing

					Network), reports on ocean acidification for the Global Climate Indicators and the yearly Statement on the State of the Global climate.
<b>8-9/09/2022</b>	online	Internal meeting	Yes (available <a href="#">here</a> )	O	5th Phase Steering Committee meeting: 08-09 September 2022 Participants: EMODnet Chemistry partners and subcontractors Discuss upcoming activities planned for the current phase per each WP and evaluate the status of the actions defined during the previous SC meeting that occurred on 30-31 March 2022
<b>13-14/09/2022</b>	Malta	External workshop	No	A	INTERREG Med SHAREMED project Participants: project partners + key stakeholders Emphasise the role that EMODnet Chemistry plays in the project
<b>16/09/2022</b>	online	Internal meeting	No	O	EMODnet Chemistry Centralization: static content (Jira ticket EM-506) Participants: OGS, MARIS, AWI Discuss link to external services and webODV data products
<b>18-23/09/2022</b>	online	External conference	Yes (Coastline Litter in Europe - Data for policy)	A	7th International Marine Debris Conference Participants: Global experts on marine debris The EC JRC gave an oral presentation on the general topic of the conference "Stories and lessons from around the world: how monitoring can contribute to the development of marine litter policies". The OGS is among the authors of the abstract and pptx presentation submitted by EC JRC, which also include a good description of EMODnet Chemistry.
<b>21-22/09/2022</b>	Brussels (Belgium)	Internal meeting	Yes (Technical updates EMODnet Chemistry)	A	EMODnet 12th Technical Working Group Participants: EMODnet TWG's representatives
<b>22/09/2022</b>	online	Workshop	Yes (Gathering in situ marine environmental)	A	The second EMODnet-Copernicus Marine Thematic workshop on Coastal issues Participants: EMODnet: Secretariat, thematic and data ingestion Coordinators, technical experts & Sea-basin Checkpoint Coordinators, Copernicus Marine Service (Mercator Ocean



			I data - Chemistry)		International and Copernicus Marine Service INSTAC), European Commission (DG MARE, DG DEFIS, CINEA) Production of key messages on joint/aligned coastal activities of EMODnet and Copernicus Marine Service
<b>25/09/2022</b>	Genova, Italy	Workshop	Yes (overview of EMODnet program, EMODnet Physics and Ingestion, Chemistry to enable new services and sustainable developments )	A	Salone Nautico 2022 – International Boat Show – The sustainability comes from the sea: living experiences according to the One Health Approach Workshop. The theatre of the sea, at the heart of the event, hosted the workshop to discuss sustainability and oceans.  Participants: more than 150 people on site.  The event had a big hype on local newspapers and social channels.
<b>27-28/09/2022</b>	Online Brest (France)	General assembly	No	A	Copernicus Marine Service In Situ Thematic Centre General Assembly (27-29 Sept 2022) Participants: INSTAC members and INSTAC stakeholders  Share the same understanding of INSTAC and agree on 2023-2024 planned upgrades and evolutions Plan and agree on communication activities related to in situ products Discuss data stewardship (Differences in in situ data in the common areas of the regions, Metadata, Service KPI, Data flow).
<b>29/09/2022</b>	online	External Technical meeting	No	A	Third meeting of the Marine In situ Collaboration TWG: (part of the Copernicus Marine Service In Situ Thematic Centre General Assembly, 27-29 Sept 2022)  Participants: EMODnet Ingestion, Physics, Chemistry, Copernicus Marine Service In Situ TAC, EuroGOOS Office and EuroGOOS Task Teams, SeaDataNet/SeaDataCloud

					Work together on further harmonisation of standards, procedures and workflows for the ingestion and exchange of operational data
<b>29/09/2022</b>	web	Workshop	Yes – updates on EMODnet and available features from the CP.	A	EuroGOOS FerryBox Annual Workshop <sup>1</sup> . Coordination with the FB TT is important for both Physics, Chemistry and Ingestion themes. The importance of working on a clear data licence (CC-BY) was largely discussed.
<b>30/09/2022</b>	online	Internal technical meeting	No	O	Status of data validation to produce regional data collections for eutrophication Participants: OGS, Regional Coordinators (HCMR, NIMRD, SMHI, IMR, Au-DCE, IFREMER), AWI, ULiege, ICES  Review the progress of the new eutrophication data collection, discuss and solve possible problems and determine the next steps and the corresponding deadlines.
<b>30/09/2022</b>	online	Internal technical meeting	No	O	Meeting to discuss Sextant records [jira ticket EM-653] Participants: OGS, IFREMER, ULiege
<b>30/09/2022</b>	online	External meeting	Yes (EMODnet Data Management of contaminants in the marine environment: current	A	Meeting on MSFD contaminants data from member states Participants: OGS, DG MARE, EC JRC  Discuss the actions needed to respond to the request from EC JRC to improve the harmonisation, comparability and accessibility of data collected by MS and reported under the MSFD. EC JRC requested that the work already done by EMODnet Chemistry be leveraged and that the data infrastructure be made the basis for further data collection and compilation.

<sup>1</sup> <https://eurogoos.eu/events/8th-ferrybox-workshop-eurogoos-task-team-meeting/>

			approach and needs for MSFD community)		
<b>SUM</b>				<b>O</b>	<b>Total # of meetings organised = 7</b>
<b>SUM</b>				<b>A</b>	<b>Total # of meetings attended = 20</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>10/2022</b>	online	Internal meeting	O	Meeting to discuss vocabulary for contaminants
<b>10/2022</b>	online	Internal meeting	O	Meeting to discuss vocabulary for ocean acidification
<b>10/2022</b>	online	External meeting	A	Data Harmonization Community of Practice (CoP) - Discuss progress to data and the next steps, including proposing a strengthened working modality for the CoP to validate data harmonization efforts within the GPML Digital Platform
<b>10/2022</b>	Tbilisi, Georgia	International Scientific conference	A	Title of the event: The Development of mining and geology is the precondition for the revival of economy  TSU submitted a presentation on ML and a paper in the proceedings of the conference (using data from the EMODnet database).
<b>3-4/10/2022</b>	Bruxelles (Belgium)	Forum	A	The 1st Ocean Partnership Forum between the EU and Canada on ocean data collaboration. Representatives of the partnership, namely, Canada and the European Union will hold the forum. The lead bodies for the Partnership are the Department of Fisheries

				and Oceans for Canada and the Directorate-General for Maritime Affairs and Fisheries of the European Commission for the European Union.  Support a healthy and sustainable ocean, as defined in the Canada-European Union Declaration establishing an Ocean Partnership.
<b>03-05/10/2022</b>	Milazzo, Italy	workshop	O	<a href="https://www.metrosea.org/special-sessions">https://www.metrosea.org/special-sessions</a>
<b>6/10/2022</b>	online	webinar	A	Global Partnership on Marine Litter Webinar  Advancing Science-Policy linkages to Tackle Plastic Pollution and Marine Litter Date
<b>10-11/10/2022</b>	Taranto, Italy	workshop	A	GreenBlueDays
<b>11-13/10/2022</b>	Online and Brussels (Belgium)	workshop	A	7th Argo Science Workshop  Insight on ocean acidification data
<b>13/10/2022</b>	Webinar	Training	A	Development, validation and use of the EMODnet Chemistry data sets and climatologies
<b>14/10/2022</b>	Web	meeting	A	EuroGOOS DATAMEQ
<b>14/10/2022</b>	Online	Workshop	O (by VLIZ) A (by OGS)	Ocean Best Practices Workshop VI – “Paving the way for best practices in citizen science for environmental plastic observations” Session to discuss goals and guiding principles on citizen science for plastic observations.
<b>19-20/10/2022</b>	Web	workshop	A	Offshore Energy Mediterranean Sea (by ETT)
<b>21/10/2022</b>	online	Internal meeting	O	Meeting to evaluate the status of Contaminants data validation

<b>24/10/2022</b>	Nantes	External meeting	A	MSFD TG on contaminants
<b>26-28/10/2022</b>	Online + Constant, Romania	Conference	A	A MARBLUE conference - blue growth initiative for research and innovation in the Black Sea
<b>End October 2022</b>	Online	Internal meeting	O	Meeting to discuss the new data products for contaminants in order to ensure they are in line with the requirements of the EMODnet centralisation process and the needs of the MSFD
<b>End October 2022</b>	Online	Internal meeting	O	Meeting to discuss DIVA maps. In particular 1. WOD data input, 2. the joint Physics/Chemistry document on data/products at the river mouths
<b>20-21/11/2022</b>	Florence, Italy	workshop	O	HFR TT – MONGOOS WS and GA
<b>End Nov 2022</b>	Online	Internal meeting	O	Eutrophication data: organise a meeting on criteria to mapping new P01 codes into P35
<b>Mid December 2022</b>	Online	Internal meeting	O	Status of DIVA maps production

## 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)
05/07/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry portal events section:</a> SHAREMED Summer School: 27 June - 1 July 2022	information on the main training course attended	
07/07/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry portal project meeting section:</a> Opening meeting on the first data harvest for eutrophication and contaminants: 4 July 2022	Informed the partnership and users on the main topic discussed during a specific internal meeting and the resulting agreements	
10/07/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry portal events section:</a> Blue Growth Summer School at OGS: 2-8 July 2022	information on the main training course attended	
15/07/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry portal events section:</a> SciNMeet kick off meeting: 12-13 July 2022	information on the main scientific events attended	
15/07/2022	OGS website contents	<a href="#">SciNMeet kick off meeting: 12-13 July 2022</a> (also in Italian)	information on the main scientific events attended	
18/07/2022	EMODnet CP web news article	<a href="#">EMODnet presented at the SciNMeet kick off meeting</a>	information on the main scientific events attended	
18/07/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry portal reports to EU section:</a> 5th Phase: 2022Q2 Trimonthly Report, Apr-June	Made the EMODnet Chemistry documentation for the EC open and transparent	
08/08/2022	EMODnet CP web news article	<a href="#">EMODnet Chemistry teaches PhD students and young scientists</a>	Provided an informative on the latest news/events	

16/08/2022	EC initiative	EMODnet Chemistry supports the EC initiative for chemical safety (The European Commission calls for evidence relating to a proposal for a regulation to improve access to chemical data by removing technical and administrative barriers.)	Support EC initiatives for chemical safety by an effective regulation	
24/08/2022	Chemistry web news	EMODnet Chemistry supports the EC initiative for chemical safety	Inform on the latest synergies with EC	
30/08/2022	EMODnet CP web news article	<a href="#">EMODnet Chemistry responds to EC survey on chemical data for safety assessments</a>	Provide an informative on the latest synergies with EC	
31/08/2022	<a href="#">EMODnet Summer newsletter</a>	EMODnet presented at SciNMeet kick off meeting	Provide an informative on the latest news/events on a monthly basis	
31/08/2022	<a href="#">EMODnet Summer newsletter</a>	EMODnet Chemistry teaches PhD students and young scientists	Provided an informative on the latest news/events on a monthly basis	
31/08/2022	<a href="#">EMODnet Summer newsletter</a>	EMODnet Chemistry responds to EC survey on chemical data for safety assessments	Provided an informative on the latest news/events on a monthly basis	
06/09/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry portal cooperation agreements section:</a> MOU with Euro-Argo ERIC	Make the EMODnet Chemistry document regarding cooperation open and transparent	
12/09/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry portal project meeting section:</a> 5th Phase Steering Committee meeting: 08-09 September 2022	Informed the partnership and users on the main topic discussed during a specific internal meeting and the resulting agreements	
14/09/2022	OGS website contents	<a href="#">Trieste Next 2022</a> (also in Italian)	Promote upcoming events	
19/09/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry portal guidelines section:</a> Updated guidelines for SeaDataNet ODV production Eutrophication Contaminants, Rev 16 Sept 22	Make the new guidelines easily and freely available	
19 and 22/09/2022	Mail to OGS researchers targeted on marine sciences	Trieste Next 2022: the value of Open Science	Informed 117 researchers	

20/09/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry news:</a> Q&A: What about Euro-ARGO ERIC and its interaction with EMODnet Chemistry?	Provide an informative on the latest news/events	
21/09/2022	Post on OGS Facebook account	<a href="#">Trieste Next 2022: the value of Open Science</a>	13 likes	
21/09/2022	EMODnet CP web news article	<a href="#">EMODnet Chemistry publishes recommendations for ocean acidification data management</a>	Provide an informative on the latest technical material published	
24/09/2022	Public event	Trieste Next 2022: the value of Open Science	Information on the main events organised 50 participants	
24/09/2022	Video	<a href="#">Video recording</a> (in Italian) of Trieste Next event dedicated to Open Science (see row above) available on Trieste Next website and on YouTube	74 views (updated as of 05/10/2022)	
24/09/2022	Presentation	Trieste Next 2022: the value of Open Science	Shown at the event and published on the NODC website in IT and EN)	Trieste Next 2022 Science Festival
25/09/2022	Post on OGS Twitter account	<a href="#">European Researchers' Night 2022</a>	11 likes 8 Retweet or Quote Tweet	
26/09/2022	Post on OGS Twitter account	<a href="#">European Researchers' Night 2022</a>	22 likes 16 Retweet or Quote Tweet	
26/09/2022	Mail to targeted OGS researchers on marine sciences	European Researchers' Night 2022	Informed 117 researchers	
26/09/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry portal events section:</a> 7th International Marine Debris Conference: 18-23 September 2022	Inform on the latest scientific events attended	
26/09/2022	OGS website contents	<a href="#">European Researchers' Night 2022: Quiz on Sea and Ocean</a>	Promote upcoming events	
26/0/2022	Post on OGS Facebook account	<a href="#">European Researchers' Night 2022: Quiz on Sea and Ocean</a>	17 likes 5 shares	
27/0/2022	Post on OGS Facebook account	<a href="#">Trieste Next 2022: the value of Open Science</a>	12 likes 2 shares	



27/09/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry portal events section</a> : Trieste Next 2022, the value of Open Science: 24 September 2022	Promote the event and spread the presentation and the YouTube video	
30/09/2022	<a href="#">EMODnet September newsletter</a>	EMODnet Chemistry publishes recommendations for ocean acidification data management	Provided an informative on the latest news/events on a monthly basis	
30/09/2022	Public event	European Researchers' Night 2022: Quiz on sea and ocean	Interactive quiz online in English to find out about the main themes of SDG14 of the UN 2030 Agenda for Sustainable Development through the special SULITEST quiz. Explain that the EMODnet Secretariat and Chemistry were part of the expert group that developed the quiz and the extended awareness test on SDG 14. Explain what EMODnet has done to improve knowledge about the state of the seas and oceans	SHARPER project "European Researchers' Night 2022" (Trieste, Italy)
30/09/2022	Presentation	European Researchers' Night 2022: Quiz on sea and ocean	Provide insight into the quiz expert group, EMODnet Chemistry, marine litter, and the impact of climate change.	SHARPER project (Trieste, Italy)
30/09/2022	Informative material	European Researchers' Night 2022: Quiz on sea and ocean	Provide the complete quiz in Italian and the informative feedback for each question.  The informative material was sent to 20 participants via email.	SHARPER project (Trieste, Italy)
30/09/2022	Chemistry portal web contents	<a href="#">EMODnet Chemistry portal events section</a> : Third meeting of the Marine In situ Collaboration TWG	Inform on the latest scientific and technical meetings attended	
30/09/2022	Post on OGS Twitter account	<a href="#">European Researchers' Night 2022: Quiz on Sea and Ocean</a>	4 Retweet or Quote Tweet 5 likes	

<b>B. Planned communication products</b>			
Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
<b>26/10/2022</b>	Poster	Poster presenting EMODnet, EMODnet Ingestion and three success stories collected from around the Black Sea, among which: Long term monitoring data from Georgia shared with EMODnet Chemistry; ONG Mare Nostrum from Romania, who submitted marine litter data to Data	Raise interest and awareness on EMODnet activities, and in particular contributions from around the Black Sea to EMODnet Chemistry
<b>10/2022</b>	OGS website contents	Trieste Next 2022: the value of Open Science	Promote the event and spread the presentation and the youtube video
<b>10/2022</b>	post on NODC Twitter account	Trieste Next 2022: the value of Open Science	Promote the event
<b>10/2022</b>	post on NODC Twitter account	European Researchers' Night 2022: Quiz on Sea and Ocean	Promote the event
<b>Oct-Dec/2022</b>	OGS website contents		Inform on latest news, events attended/organised for general public, scientists and decision makers
<b>October 2022</b>	Video	Promotional video on the NODC	Promote the NODC and its activities including EMODnet Chemistry
<b>October 2022</b>	NODC and OGS web contents, social media, mail to targeted mailing list, events etc.)	Promotional campaign of the NODC video	Promote the NODC video and its contents including EMODnet Chemistry
<b>Until operational</b>	Chemistry portal web contents		Promote any EMODnet Chemistry outputs and activities
<b>4/11/2022</b>	Public Event	Science+Fiction Festival (Trieste)	promote the NODC video and its contents including EMODnet Chemistry
<b>Oct-Dec/2022</b>	EMODnet newsletter		Promote relevant EMODnet Chemistry outputs and activities
<b>Oct-Dec/2022</b>	CP web content for Chemistry		Promote relevant EMODnet Chemistry outputs and 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
NA	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 (accepted for publication)			
19/09/2022	guidelines	M. Lipizer, M.E. Molina Jack, E. Kubin, L. Buga, L. Fyrberg, J. Gatti, A. Iona, G. Moncoiffe, A. K. Østrem, R. Schlitzer, K. Wesslander, A. Giorgetti 2022 EMODnet Phase V - Updated guidelines for SeaDataNet ODV production. Eutrophication & Contaminants, 16/09/2022, 28 pp., doi: 10.13120/c1933032-9fa9-4678-8539-ffa1560921c		<a href="https://doi.org/10.13120/c1933032-9fa9-4678-8539-ffa1560921c">https://doi.org/10.13120/c1933032-9fa9-4678-8539-ffa1560921c</a>	Yes

#### B. Other/non-peer reviewed types of publications (co-)authored in the quarter

Date of publication	Type of publication e.g. paper; conference proceedings; book chapter; ...	Full reference	ISBN	DOI	Is it open access? Yes/No
NA	conference proceedings	Kukhalashvili V., Demetrashvili D., Kvaratskhelia D., 2022. The history of the study of the circulation of the Black Sea, the peculiarities of the circulation and their influence on the spread of oil pollution. Conference proceedings of the International scientific conference "Modern problems of ecology" Batumi (Georgia). 16-17 October 2022.			

*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 data sets have been entered, resulting in a steady increase of data. Little new data for Black Sea due to war.
What is your opinion on the data coverage within EMODnet for your thematic?	Sea regions in CDI service have been reformulated to follow latest EEA regional polygons. Was considerable effort but now in place.	Data coverage is highly depending on parameter type. Only nutrients and dissolved gasses are covering coastal and open sea areas of all sea basins, in a quite 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) Usage of data in this quarter	CDI RSM shopping ledger service and personal requests	For CDIs, this quarter the number of requests for CDI data files has reduced considerably; possibly due to holiday period. Number of users decreased slightly from 8 to 7. Marine litter data were requested and delivered by personal contact (phone call and email).
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Sextant Product Catalogue	No new products have been added in the reported period.

B) Usage of data products in this quarter	Download Tracking service for data products	"There is an increase in manual downloads of almost all datasets. However, there is a decrease in downloads for contaminants products. As for map views, there is an increase for silicate, acidity, dissolved gases and chlorophyll datasets, but other products have a decrease."
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	CDI catalogue service	Despite holiday period a reasonable number of new data sets (ca 8400) have been entered by 13 regular data providers in response to coordinated effort for meeting the harvesting deadlines for eutrophication, contaminants and marine litter data sets.
4. Online 'Web' interfaces to access or view data	N.A.	No changes in this period.
5. Statistics on information volunteered through download forms	CDI RSM shopping ledger service for users of CDI service	For CDIs, number of users this quarter is 7 compared to 8 previous quarter, while number of CDIs is considerably lower. All users from Europe.
6. Published use cases	Matomo	As reported in ticket EM-599, we don't have the stats from Central Portal for Q3.
8.1. Technical monitoring	Matomo – Grafana	Good uptime and response time.
9. Visibility & Analytics for web pages	Matomo – Grafana	There is a traffic increase in general.
10. Visibility & Analytics for web sections	Matomo – Grafana	There is a traffic increase in general.
11. Average visit duration for web pages	Matomo – Grafana	We have a decrease on visit duration in general.

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

## 7. Annex: Other documentation attached

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