EMODnet Thematic Lot n°4 - Chemistry

EASME/EMFF/2018/1.3.1.8

Start date of the project: 03/10/2019 - (24 months)

EMODnet Phase IV – Quarterly Progress Report (6th)

Reporting Period: 01/01/2021 – 31/03/2021

Contents

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1. Highlights in this quarter

This report covers the first quarter of 2021. In the following, the highlights for the period January - March 2021 are outlined for each of the tasks specified in Section 1.4.1 of the Tender Specifications:

Task 1: Develop a common method of access to data held in repositories:

- Raw chemistry data sets for eutrophication, ocean acidity, contaminants and marine macro litter are gathered from many data sources and are findable, accessible, interoperable and reusable thanks to the adoption by EMODnet Chemistry of the SeaDataNet Common Data Index (CDI) data discovery and access service. While marine litter data for beach litter and seafloor litter, also coming from different sources, are managed in two central databases, involving a lot of efforts for validation, classification, and metadata documenting. Due to the high heterogeneity of the source data, dedicated data formats have been developed and deployed, able to hold all needed metadata and data elements. During the period, all EMODnet data centres continued with filling the platform with new data and by completing or amending the datasets already available in the portal, following the requests raised from the data aggregation and validation process. In consultation with relevant EU stakeholders (JRC, TG-ML, RSCs, etc.), a proposal was finalised and published for expanding the Marine Litter data management portfolio of EMODnet Chemistry with Floating Marine Macro Litter (FMML). This proposal can be found at the portal at: https://www.emodnet-chemistry.eu/doi/documents/Proposal-EMODnet-floating-marine-macrolitter-data-management.pdf. This document provides background information about the state of the art and results of the analysis for a data management strategy for Floating Marine Macro Litter (FMML). This expansion again underpins the increasing role of EMODnet Chemistry as European data management hub for many kinds of Marine Litter data, which is accepted by the MSFD community of EU services, Regional Sea Conventions, and Member States. On the other hand, it requires guarantees on sustainability of services as the MSFD community will increasingly depend on it. Also, more data handling capacity might be needed overtime.

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

- Aggregated data collections are produced for eutrophication, contaminants and marine litter. Based on those new collections, derived map products of EMODnet Chemistry concerning 6-year analyses for selected eutrophication parameters, interpolated on a regular grid, are updated and published. Additionally, pan-European climatological maps over all data are created with monthly basis, while high resolution analyses are performed on selected areas. Updated maps for marine litter at measurement points were presented and discussed with the board of MSFD experts, who welcomed the proposition to show litter distribution at basin scale. The Map viewer is used to show all products, which can also be found and retrieved from the catalogue service. In the reporting period, the ODV tool for data validation and aggregation was updated for the Regional Coordinators (RCs) to provide further functionality for preparing the new data collections. Moreover, OGS and the RCs were busy in updating the products metadata catalogue to describe the updated collections, supported by MARIS and IFREMER. The release of the updated data collections for all groups of parameters is expected in April 2021.

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

- The technical infrastructure for EMODnet Chemistry comprises a number of components, which are developed, maintained, and operated by a number of technical partners. In previous periods, already activities have taken place for achieving INSPIRE compliance and fulfilling INSPIRE requirements, also tuning with the EMODnet Technical Working Group. Further activities are underway for reviewing and streamlining the workflows for the Marine Litter and Contaminants map products. For that purpose, a dedicated technical meeting took place considering the transfer of Marine Litter from the ML database system at OGS to the GIS processing environment at IFREMER where the Marine Litter maps are produced for wider publishing

through OGC services. It was concluded that the transfer should be considered as an internal exchange between OGS and IFREMER which will can be easily solved without having to develop an API. This conclusion also takes into account the fact that the public discovery and access of all Marine Litter data sets is already arranged and operational through the CDI Data Discovery & Access service. This service 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.

Task 4: Develop a web portal allowing users to find, visualise and download data:

- The EMODnet Chemistry portal has been reviewed and restyled following the observations received from EMODnet Secretariat. The section ABOUT is completely updated and rewritten. The section DATA ACCESS provides quick and easy access to the harmonized and validated data collections, while measurement data, as delivered by the originators, are available through a Data Discovery and Access service. The section DATA PRODUCTS, enriched with clear descriptions of all available results, allows the user to browse, visualise and download data products. The online webODV service provides powerful functionality for MSFD users and the research community. It offers MSFD users easy options for browsing, sub-setting, and exporting data sets from the EMODnet Chemistry aggregated validated data collections into a number of formats, e.g. for use in environmental assessments. WebODV offers scientists easy options for exploring these data collections as a 'treasure box', allowing them to do fundamental science and prepare graphics, like ocean sections of specific parameters. These can include interpolations using the integrated DIVA tool, which adds to making graphics, ready for scientific abstracts and papers. The webODV is operational for eutrophication collections, while very good progress is made with expanding the interfaces for handling the contaminants data collections, which is very challenging due to the complexity of many different contaminants variables and how to make meaningful extractions and graphics. News and events are continuously updated (ten additions for the period) and distributed with all promotion materials. During the reporting period, **a new promotional video** is under development and EMODnet Chemistry participates in the video EMODnet4Policy due to its relevance in the MSFD implementation.

Task 5: Ensure the involvement of regional sea conventions:

- Dialogue with four Regional Sea Conventions has been maintained through the participation in the MSFD Technical Groups (on Contaminants and Marine Litter), where a regular dialogue is established, and through the MSFD Board of experts, consulted prior to the release of new products. During the reporting period, the **MSFD board of experts** was consulted to show and discuss the new marine litter maps. Based on the feedback received, the data products are tuned to be ready to their release in April 2021.

Task 6: Facilitate interoperability with data distributed by non-EU organisations:

- During this reporting period, EMODnet Chemistry was invited at the International Expert Meeting on Marine Plastic Litter Monitoring Data Sharing Project, organised by the Ministry of the Environment-Government of Japan, to evaluate the development of a global data platform for micro and macro litter. As EMODnet Chemistry builds upon the SeaDataNet pan-European infrastructure, it has strategic links and long-standing communication with non-EU countries and in particular with Australia, Canada, and USA.

Task 7: Install a process to monitor 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. Unfortunately, there is an issue with the Matomo statistics for the main EMODnet Chemistry domain as there is a long period without any user activities while the site was operational at OGS and the supporting services as operated by other partners which are promoted as gateways through the main domain do show normal user statistics. Further analysis is needed to ensure proper monitoring forwards and attempting to restore statistics backwards for the missing period, e.g. by importing the logs into MATOMO.

Task 8: Operate a help desk offering support to users:

- The helpdesk is kept operational in the reporting period. COVID-19 emergency did not affect the functionality. All support requests received via the Help desk are listed in Section 4.

EMODnet
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Quarterly Progress Report

Status of the Milestones and Deliverables listed in the workplan				
Milestone/Deliverable	WP	Date due	Status (Delivered/ Delayed)	If Delayed: reason for delay and expected delivery date
D1.1: Quarterly concise progress reports	WP1	M3, M6, M9, M12, M15, M18, M21	Delivered	-
D1.2: Annual Interim report	WP1	M12	Delivered	-
D1.5: Consortium Agreement	WP1	M2	Delivered	-
D1.6: Short minutes/action list of Coordination Group Meetings	WP1	M1, M6, M12, M18, M23	Delivered	-
D2.1: Revised guidelines for contaminants data management	WP2	M2	Delivered	-
D2.2: Remote technical workshop to train DC in contaminants data management	WP2	M2	Delivered	-
D2.3: Guidelines for QC for contaminants	WP2	M6	Delivered	-
D2.4: Close data harvesting for contaminants	WP2	M6	Done	-
D2.5: Close data harvesting for eutrophication	WP2	M6	Done	-
D2.6: Guidelines for new marine litter formats (floating macro and microplastics)	WP2	M6	Delivered	Following MSFD TG ML interest, more focus was given to microplastics in sediments and seafloor images. Guidelines for seafloor litter images and videos is delivered.

Guidelines for microplastics in sediments is expected for M15 |
| D3.1: Release of validated collections for contaminants to EEA | WP3 | M12 | Delivered | - |
| D3.2: Presentation of draft new maps for contaminants as viewing service to MSFD board | WP3 | M15 | Delayed | We decided to involve the MSFD board of experts on marine litter maps first. The meeting will be organised in the next quarter. |

D3.4: Release of validated collections for eutrophication to EEA	WP3	M12	Delivered	-
D3.8: First version concentration maps of marine and beach litter	WP3	M12	Delayed	The new concentration maps were shown to the MSFD Board of experts who provided comments that are presently in the implementation phase. Expected delivery by the end of April 2021.
D4.1: EMODnet Chemistry portal upgraded with extra functionalities	WP4	M6	Delivered	
D4.2: Upgraded databases for marine litter	WP4	M10	Done	
D4.3: Improved viewing services in OceanBrowser	WP4	M15	Done	
D4.4: Set-up viewing services for contaminants	WP4	M12	Done	
D4.5: Adoption of SDC Collaborative Virtual Environment (CVE) prototype	WP4	M12	Delivered	wedODV represents a powerful tool for the users to explore and analyse data (in addition to extract subsets)
D4.6: On-line ODV application as part of operational CVE	WP4	M15	Done	
D4.7: Monitoring data about visits and usage	WP4	Continuously	Done	
D5.1: Operate Help-desk	WP5	Continuously	Done	
D5.2: Meetings of Board of MSFD experts	WP5	M15 , M18, M21	Done	The first workshop focused on marine litter was held on 30/03/2021
D5.3: International cooperation and interoperability	WP5	continuously	Done	
D6.1: Promotional plan, with listing of events	WP6	M3	Done	
D6.2: Promotional material handout	WP6	M6, M12	Delivered	As meeting in person is not feasible, a promotional newsletter was produced and circulated
D6.3: Implementation of promotional plan	WP6	M6-M24	Done	

		M12, M24	Delivered	A tutorial animation was produced for webODV and a new one for the portal and the available products is under preparation
D6.4: Animation with existing products explaining the role of EMD Chem in the MSFD plan	WP6			
D6.5: Presentations at relevant conferences	WP6	regularly	Done	

Status of the Milestones and Deliverables listed in the workplan				
Milestone/Deliverable	WP	Date due	Status (Delivered/ Delayed)	If Delayed: reason for delay and expected delivery date
MS1: Chemistry (contaminants and eutrophication) CDI metadata and data sets included in CDI Service	WP2	M6	Done	
MS2: Marine litter and microlitter data sets from data providers, OSPAR, EEA, DeFishGear, ICES, MEDITS and Member States included in the EMODnet databases	WP2	M12	Done	
MS3: First version concentration maps of marine and beach litter and microplastics	WP3	M12	Delayed	More data than expected have been received by EMODnet Chemistry, confirming its role of European data portal for Marine Litter. Expected delivery April 2021
MS4: Updated data collections for contaminants and eutrophication to EEA	WP3	M12	Delivered	
MS5: Updated dedicated maps for contaminants in viewing service	WP3	M15	Delayed	Due to late delivery of marine litter maps, the discussion and presentation of new results to the MSFD board was delayed
MS8: On-line ODV application as part of operational initial CVE	WP4	M15	Done	
MS9: Implementation of the promotional plan	WP6	M6-M24	On-going	

2. Identified issues: status and actions taken

A. Priority issue(s) identified and communicated by EASME/ DG MARE/ SECRETARIAT				
Priority issue	Status (Pending/Resolved)	Action(s) taken / remaining actions planned	Date due	Date resolved
Matomo is no longer tracking pages of emodnet-chemistry.eu domain (JIRA EM-183)	Resolved	Trust-IT discovered (06/04/21) that Matomo has no Q1 stats for the Chemistry's Portal, but only from other web domains belonging to the Portal, e.g. the Map Viewer. Tim Collart created (07/04/21) a Jira issue stating that this issue starts on 17/12/2020, which means it also affected the stats of 2020-Q4. OGS and VLIZ analysed and resolved this issue within one day. The Portal is using Matomo's API which requires an authentication token. The screenshot in the Jira issue EM-183 shows that a new token was created due to a migration, but never used. Chemistry node wasn't informed about this new token, and not even about a need to verify stats due to a Matomo's migration. Unfortunately, it's not possible to recover the lost stats from 17/12/2020 to 07/04/2021.	08/04/2021	08/04/2021 (But Matomo metrics for Q1 is lost)
Constant monitoring of Matomo's traffic. Not urgent but a better coordination is needed	Pending	To be discussed and agreed at the TWG	20-21/4/2021	

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
Grafana graphics are not significant nor updated promptly (JIRA EM-119)	Pending. We asked for a more consistent definition of web session, now waiting for its implementation by TRUST-IT	Trust-IT script should sum multiple Matomo entries as single number saved in the database used by Grafana	12/2020	Trust-IT provided metrics based on the changes, but the result isn't in line with the agreed definition. Hopefully it will be resolved during 04/2021, so we'll have it for the Q2 report.

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

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
05/01/2021	CEFAS, UK	Request for participation to the OSPAR microplastic expert group	Web form	1.5 h	resolved	Agreed on participation	n/a
18/01/2021	SOCIB	Ask details on how to connect to the data platform	Web form	7 h	resolved	Information provided	n/a
17/3/2021	Leuven University	Plastic bags extremely heavy	e-mail	1 hour	resolved	Information provided	n/a

4. Meetings/events held/attended & planned

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.)
06/01	Web	External	Yes, big picture EMODnet	A	Possible collaboration with the Centre for the Fourth Industrial Revolution and the Ocean (C4IR Ocean)
08/01	Web	Internal	No	O	Tuning developments in webODV, for eutrophication and contaminants Participants: AWI, MARIS and OGS
11/01	Web	Internal	No	O	RLs meeting on 2nd data harvesting for eutrophication and contaminants Participants: MARIS, OGS, AWI, IMR, SMHI, NIMRD, HCMR, AU-DCE, IFREMER
14/01	Web	Workshop	Yes, EMODnet Chemistry management of ML data	A	OSPAR microplastic expert group meeting Participants: OSPAR microplastic expert group (MPEG), OGS, and other ML experts
15/01	Web	External	Yes, EMODnet General	A	Baltic SC meeting
19/01	Web	Internal	No	O	Marine Litter products discussion Participants: OGS, IFREMER
20/01	Web	External	No	A	Sulitest SDG14 module 4th meeting

					Participants: Sulitest NGO, OGS, EMODnet Secretariat, UNDESA, Mercator Ocean International and other experts on the UN Agenda 2030 for SD and marine scientists.
26-28/01	Web	Workshop	No	A	CMEMS GA Participants: Copenicus community
01/02	Web	Internal	No	O	RLs meeting on 2nd data harvesting for eutrophication and contaminants Participants: MARIS, OGS, AWI, IMR, SMHI, NIMRD, HCMR, AU-DCE, IFREMER
02/02	Web	Internal	Yes, WP1,WP2,WP3,WP4,WP5,WP6	O	EMODnet Chemistry Project Meeting Participants: EMODnet Chemistry partners, subcontractors, and members of the advisory forum
03/02	Web	External	No	O	Synergies between Plastic busters interreg MED project and EMODnet Chemistry Participants: OGS, ISPRA
08/02	Web	Internal	No	O	Seafloor marine litter data Participants: ICES, OGS
11/02	Web	External	No	O	EMODnet-CMEMS joint portfolio of data products fit for the MSFD purposes Participants: EMODnet Chemistry, Mercator Ocean International
16/02	Web	External	Yes, Intro EMODnet and Arctic portal	A	Arctic ROOS AM Participants: SMHI, Arctic ROOS member institutes
18/02	Web	Internal	No	O	EMODnet Chemistry promotional movie Participants: OGS, MARIS, RBINS, AWI
18/02	Web	Internal	No	O	EMODnet Chemistry meeting on DIVA maps

					Participants: OGS, AWI ,ULiege, IMR, SMHI, NIMRD, HCMR, AU-DCE, IFREMER
23/02	Web	Internal	No	O	webODV tool for contaminants Participants: AWI, MARIS and OGS
23/02	Web	External	No	O	Meeting to discuss Data Ingestion from Nord Stream Participants: SMHI and Nord Stream representatives
24/02	Web	External	No	A	EMODnet Chemistry at the International Expert Meeting on Marine Plastic Litter Monitoring Data Sharing Project Participants: OGS, Ministry of the Environment-Government of Japan, ML experts
25/02	Web	Internal	No	O	APIs for EMODnet Chemistry Participants: OGS, MARIS, MI, BODC, ULG
03/03	Web	Internal	No	O	EMODnet Chemistry promotional movie Participants: OGS, MARIS, RBINS, AWI
11/03	Web	External	No	O	EMODnet-CMEMS joint portfolio of data products fit for the MSFD purposes Participants: EMODnet Chemistry, Mercator Ocean International
12/03	Web	Internal	No	O	EMODnet Chemistry promotional movie Participants: OGS, MARIS, RBINS
12/03	Web	External	No	O	How to use ERDDAP data server and benefits for EMODnet Chemistry Participants: OGS, MARIS, ETT
16/03	Web	Internal	No	O	EMODnet Chemistry meeting on DIVA maps Participants: OGS, AWI, ULiege, IMR, SMHI, NIMRD, HCMR, AU-DCE, IFREMER
18/03	Web	Internal	No	O	EMODnet Chemistry promotional movie

					Participants: OGS, MARIS, RBINS
23/03	Web	External	No	A	Sulitest sdg14 module 5th meeting
					Participants: Sulitest NGO, OGS, EMODnet Secretariat, UNDESA, Mercator Ocean International and other experts on the UN Agenda 2030 for SD and marine scientists.
24-25/03	Web	External	No	A	Marine Data to support Aquaculture in the Mediterranean and Black Sea
					Participants: EMODnet, CMEMS, EATiP, DG MARE, Copernicus / EMODnet users, data providers, coastal managers and aquaculture data end users
25/03	Web	Internal	No	O	EMODnet Chemistry promotional movie
					Participants: OGS, MARIS, RBINS, AWI, ULiege
29/03	Web	External	No	O	EMODnet-CMEMS joint portfolio of data products fit for the MSFD purposes
					Participants: EMODnet Chemistry, Mercator Ocean International
30/03	Web	Internal	No	O	EMODnet Chemistry meeting on DIVA maps
					Participants: OGS, AWI, ULiege, IMR, SMHI, NIMRD, HCMR, AU-DCE, IFREMER
30/03	Web	Workshop	Ye, Marine Litter products	O	EMODnet Chemistry MSFD board of experts meeting on new marine litter products.
					Participants: 24 marine litter experts from Europe
SUM				**O**	**Total # of meetings organised = 23**
SUM				**A**	**Total # of meetings attended = 9**

B. Meetings/events planned in the future

Date	Location	Type event (meeting, training (workshop), etc.)	Meeting to be attended (A) / organised (O)	Short description and main expected outcomes
08-09/04	Web	External	A	Argo Baltic Arctic WS
20-23/04	Web	External	A	IODE XXVI
12-14/04	Web	External	A	IMDIS
Late May	Web	Internal	O	MSFD board of expert meeting on new products for eutrophication
30/04	Web	External	A	Egu2021
03-05/05	Web	External	A	EuroGOOS Conference
June	Web	Internal	O	MSFD board of expert meeting on new products for contaminants
14-17 June	Web	External	A	EMODnet Open Conference and Jamboree
17 June	Web	Internal	O	EMODnet Chemistry plenary meeting
17 June	Web	Internal	O	EMODnet Chemistry SC meeting
June	Trieste	External	A	UN Ocean Decade week

5. Communication assets

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)
04/01		New Year Newsletter	Inform on key success of previous year and on new partnerships under development	Dissemination to EMODnet Chemistry (on 27/12) and to SDC all + IMDIS (on 4/1)
	Article on website + emails	Monthly contribution to EMODnet NewsDigest	Inform on key progress and releases	
08/01	Online Communication Portal - News section	4th Phase regional leaders videoconference: 11th January 2021	Keep users informed on the progress of the project	
08/01	Online Communication Portal - News section	Happy new year from EMODnet Chemistry: 2020 Top 5	Keep users informed on the 2020 outcomes of the project	
12/01	Online Communication Portal – Guidelines section	Seafloor data format template	Provide users with the template developed for seafloor data	
12/01	Online Communication Portal – Guidelines section	Guidelines and forms for gathering marine litter data: beach and seafloor trawlings	Explain users how to easily collect and harmonize specific marine litter data following the EMODnet Chemistry methodology	
18/01	Online Communication Portal – Reports to EU section	4th Phase 2020Q4 Trimonthly Report: October-December	Share with EMODnet Chemistry members and all users the outcomes of the latest 3 months of 2020	
20/01	Online Communication Portal – Publications section	Environ.Res.Lett.: The quest for seafloor macrolitter: a critical review of background knowledge, current methods and future prospects	Make available the latest publications	
20/01	Online Communication Portal - News section	Read the latest publication on seafloor macrolitter	make it easier to find the latest publications	

20/01	Online Communication Portal – project meetings section	4th Phase Regional Leaders videoconference: 11 January 2021	Provide users with details on internal meetings	
25/01	Online Communication Portal – Events section	EMODnet Chemistry at the OSPAR microplastic expert group meeting	Keep users and visitors informed on the upcoming events	
25/01	Online Communication Portal - News section	3rd EMODnet Chemistry Project Group meeting in one week	Keep users and visitors informed on the upcoming events	
26/01	Online Communication Portal - News section	4th Phase Regional Leaders meeting: 1 February 2021	Keep users and visitors informed on the upcoming events	
28/01	Online Communication Portal – Media section	EU Science Hub: The quest for hidden marine litter	Raise people awareness and disseminate information	
28/01	Online Communication Portal – Media section	GARR News: an ocean of data for a healthy planet (IT)	Raise people awareness and disseminate information	
29/01	Online Communication Portal – Guidelines section	Proposal for Floating Marine Macro litter data management at European level	Keep users and visitors informed on the latest contribution of EMODnet Chemistry to EU ML data management	
03/02	Online Communication Portal – project meetings section	4th Phase Project Coordination Group meeting: 2 February 2021	Provide users with details on internal meetings	
4/2	EMODnet Chemistry Virtual backgrounds	Custom background to help branding the work of our community while also giving a more professional look to our participation in remote meetings	Tool for branding EMODnet Chemistry at on line events	Was sent to all people involved in EMODent Chemistry + published among the promotion material available on the web portal (12/2)
	New mailing list with stakeholders outsides main people involved in EMODnet	At last PG meeting, all participants and partners were invited to share new contacts to enlarge our diffusion mailing list for news and press-releases.	New mailing list created and slowly growing for outreach and awareness raising	SMHI & RBINS has provided a list of new contacts
09/02	Online Communication	4th Phase RLs Leaders meetings on 2nd data harvest	Provide users with details on internal meetings	

	Portal – project meetings section	for eutrophication and contaminants: 19Oct20-30Nov20-11Jan21-1Feb21		
12/02	Online Communication Portal – Poster and flyers section	EMODnet Chemistry virtual backgrounds for remote meetings	To promote sense of belonging in EMODnet Chemistry partnership	
12/02	Online Communication Portal - News section	EMODnet cited as a pillar for HQ open-access data	Keep users and visitors informed on the role played by EMODnet Chemistry as EU gateway to HQ open-access marine data	
12/02	Online Communication Portal - News section	EMODnet Chemistry on SEMED digital platform	Keep users and visitors informed on the role played by EMODnet Chemistry at Mediterranean scale	
24/02	Online Communication Portal - News section	EMODnet Chemistry at the International Expert Meeting on Marine Plastic Litter Monitoring Data Sharing Project	Keep users and visitors informed on the upcoming events	
24/02	Online Communication Portal – project meetings section	4th Phase meeting on DIVA maps for eutrophication: 18 February 2021	Provide users with details on internal meetings	
28/02	Online Communication Portal – Media section	Linkiesta: Abbissi affollati (Crowded abysses)	Raise people awareness and disseminate information	
28/02	Online Communication Portal – Video tutorial section (help desk)	Viewing and downloading products, 2019 (Phase 3)	Make it easy to use the viewing and downloading services	
22/03	Online Communication Portal - News section	New HQ marine litter data for new HQ products	Keep users informed on the progress of the project	
22/03	Online Communication Portal – Guidelines section	Quality Control steps for EMODnet Chemistry Eutrophication aggregated datasets - v2021	Keep users informed on the harmonization and validation process	
23/03	Online Communication Portal – project meetings section	4th Phase meeting on DIVA maps for eutrophication: 16 March 2021	Provide users with details on internal meetings	

25/3	Twitter post	Release of new maps on beach litter and seafloor litter in Europe		Published on account of Atlantic Strategy in Ireland (15 retweets, 2 citations, 17 like) including a retweet by National Hub France with a comment in French
26/03	Online Communication Portal - News section	EMODnet Chemistry at the workshop Marine Data to support Aquaculture in the Mediterranean and Black Sea	Keep users and visitors informed on the upcoming events	
26/03	Online Communication Portal - News section	The new marine litter products under the magnifying lens of the MSFD experts	Keep users and visitors informed on the upcoming events	
30/03	Online Communication Portal – Publications section	RC Technical report: A Joint List of Litter Categories for Marine Macrolitter Monitoring	Keep users informed on relevant publications	
31/03	Online Communication Portal – project meetings section	4th Phase MSFD board of experts meeting on new ML maps: 30 March 2021	Provide users with details on the most relevant meetings	
March	LinkedIn post	Announcement of EMODnet Open Conference with a top message mentioning "RBINS / BMDC is a partner of EMODnet-Chemistry and EMODnet-Data Ingestion. Join us for the Open Conference and Jamboree 2021 (hybrid event). Call for posters by 6 April #event #open #marine #data #chemistry #conference #EMODnetConference"	95 views	LinkedIn
SUM				**Total # of on line communications =**
SUM				**Total # of presentations =**

B. Planned communication products			
Date	Communication material	Short description (of the material, title, …) and/or link to the asset	Main results expected
April	Video	Video for Sulitest SDG14 module	inform on EMODnet Chemistry participation in the group of experts who developed the questionnaire and quiz devoted to the SDG 14 of the UN Agenda 2030 for SD
April	Presentation/Video	EGU2021	inform on EMODnet Chemistry international cooperation
April	Presentation	IMDIS2021	inform on EMODnet Chemistry ML data management: recent outcomes and challenges
Late May	Presentation	Proposal for new products for eutrophication	show and discuss new products with experts of MSFD to verify if they fit the purpose of the Directive
Late May	Presentation	Proposal for new products for contaminants"	show and discuss new products with experts of MSFD to verify if they fit the purpose of the Directive
14-17 June	Poster	EMODnet Chemistry, a treasure for Marine Strategies (launched at the EMODnet Open Conference and Jamboree)	Awareness raising on EMODnet Chemistry activities and data and product portfolio
17 June	Presentation	EMODnet Chemistry plenary meeting	Involve all EMODnet partnership and evaluate the state of progress of planned activities
17 June	Presentation	EMODnet Chemistry SC meeting	involve EMODnet partners and subcontractors and evaluate the state of progress of planned activities
June	Presentation	UN Ocean Decade week – AMP Miramare Trieste (WWF)	inform on EMODnet Chemistry participation in the SDG14 literacy module and to introduce the quiz
June	Promotional Video	EMODnet Chemistry, a treasure for Marine Strategies	Inform on EMODnet Chemistry activities, structure and goals
June	Video	Participation in the EMODnet4Policy video	inform on EMODnet Chemistry contribution to the MSFD implementation
	Twitter posts	Both OGS and NODC publish EMODnet results on Twitter	Inform on EMODnet Chemistry activities

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)
19/01	Environmental Research Letters	Environ.Res.Lett.: The quest for seafloor macrolitter: a critical review of background knowledge, current methods and future prospects (doi: 10.1088/1748-9326/abc6d4)	David Fleet , Thomais Vlachogianni), Georg Hanke	LKN-SH/DE, MIO-ECSDE/G, EU Joint Research Centre, MSFD Technical Group on Marine Litter
25/03	JRC technical report	Joint List of Litter Categories Manual (doi: 10.2760/127473)	Miquel Canals, Christopher K Pham, Melanie Bergmann, Lars Gutow, Georg Hanke, Erik van Sebille, Michela Angiolillo, Lene Buhl-Mortensen, Alessando Cau, Christos Ioakeimidis, Ulrike Kammann, Lonny Lundsten, George Papatheodorou, Autun Purser, Anna Sanchez-Vidal, Marcus Schulz, Matteo Vinci, Sanae Chiba, François Galgani, Daniel Langenkämper, Tiia Möller, Tim W Nattkemper, Marta Ruiz, Sanna Suikkanen, Lucy Woodall, Elias Fakiris, Maria Eugenia Molina Jack and Alessandra Giorgetti	Universitat de Barcelona, Universidade dos Açores, Alfred-Wegener-Institut, European Commission, Joint Research Centre (JRC), Utrecht University, Istituto Superiore per la Protezione e Ricerca Ambientale (ISPRA), Stazione Zoologica Anton Dohrn (SZN), Institute of Marine Research, Università di Cagliari, Barcelona Convention Secretariat, Thünen Institute of Fisheries Ecology, Monterey Bay Aquarium Research Institute, University of Patras, Universität Osnabrück, Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS), Japan Agency for Marine-Earth Science and Technology (JAMSTEC), IFREMER, Bielefeld University, University of Tartu, Baltic Marine Environment Protection Commission, Finnish Environment Institute (SYKE), Marine Research Centre, University of Oxford

6. Monitoring indicators

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	Database queries done by MARIS.	Several new data sets have been entered. Overall, this has resulted in a steady increase of data.
B) Usage of data in this quarter*	Database queries done by MARIS.	For CDIs, this quarter there are almost the same number of requests for CDI data files as in previous quarter. While number of users is also almost the same compared to previous quarter: 25 versus 29.
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Manual from individual volumes and sub-themes (P36).	No new data products.
B) Usage of data products in this quarter*-	Database queries done by OGS based on metrics sent to the new web service Map visualisations are based on Matomo events sent by the Map Viewer.	There is a big increase in map visualisations, especially for 'Dissolved gases'. However, manual downloads have decreased. As for the total volume downloaded, we see that also this time the highest value belongs to Fertilisers.
3. Organisations supplying/approached to supply data and data products within this quarter	Database queries done by MARIS.	Several new data sets have been entered by a number of data providers. Overall, this has resulted in a steady increase of data.
4. Online 'Web' interfaces to access or view data	Simple information collating.	No changes in this period.
5. Statistics on information volunteered through download forms	Database queries done by OGS based	Data – CDI service: Higher number of users. We see a positive private companies interest: Business and Private company 13.79%, Reason: Research and review.

	on metrics sent to the new web service.	Data products – Map viewer: A big increase in Business and Private company interest: 22.73%, Reason: Commercial/Industry.
		Data products (Aggregated Datasets) – WebODV Data Explorer and Extractor: New interface. Already quite popular. The metrics is for one month. We expect even higher numbers in the next report.
6. Published use cases	Grafana, based on data from Matomo.	Matomo issue. No data for the reported period.
8.1. Technical monitoring	Grafana, based on monitoring script launched by TRUST-IT.	Excellent.
8.2. Portal user-friendliness (Visual harmonization score)	Report by email from TRUST-IT.	There is no change in the good harmonisation score.
9. Visibility & Analytics for web pages	Grafana, based on data from Matomo.	Matomo issue. No data for the reported period.
10. Visibility & Analytics for web sections	Grafana, based on data from Matomo.	Matomo issue. No data for the reported period.
11. Average visit duration for web pages	Grafana, based on data from Matomo.	Matomo issue. No data for the reported period.

*NB: OGC web services do not provide usage information. Therefore, map visualisations and WMS/WFS requests as reported in Indicator 1 and 2 is not applicable. Map viewer as a web service client sends view events to Matomo, so only for products map visualisations metrics is available

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

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