EMODnet Thematic Lot n° 4 - Chemistry

EASME/EMFF/2018/1.3.1.8

Start date of the project: 03/10/2020 - (24 months)

EMODnet Phase IV – Quarterly Progress Report (4th)

Reporting Period: 01/07/2020 – 30/09/2020

Contents

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1. Highlights in this quarter

*[**Please make sure that progress is listed for each of the tasks specified in Section 1.4.1 of the Tender Specifications**. Please provide an explanation for any tasks in which progress has not been noted, max 2 pages]*

This report covers the third quarter of 2020. During this period, EMODnet Chemistry partnership was asked to actively contribute in the data collection and updating after a series of regional events (held at the end the previous quarter) aiming at motivating data providers to continue populating new CDIs and data records, following the latest formats and validation tools. As a result, the database was enriched in the last quarter with almost **50.000 new datasets** as reported in the performance indicators. In parallel, the new data call launched by TG ML to gather new beach litter data for 2017-2018 from MS confirmed the role of **EMODnet Chemistry, acting as European data portal for Marine Litter**. Moreover, following the delivery of eutrophication datasets to EEA in June 2020, the aggregated and validated collections on contaminants were **shared with EEA** in July 2020. The dialogue with **CMEMS** continued with the aim to finalise the joint EMODnet – CMEMS MSFD portfolio, starting with products relevant for D5-eutrophication in the Baltic Sea. The draft was shared with EEA and feedback was collected to plan the next steps.

In the following the highlights for the period July - September 2020 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. The data gathering activities are particularly relevant in the reporting period, stimulated by a series of meetings organised at regional scale with data providers. The new data management proposal for handling seafloor litter images and videos is under revision.

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. 6-year analysis are produced for selected eutrophication parameters, interpolated on a regular grid, while dedicated maps are produced for contaminants and marine litter at measurement points. The Map viewer shows all products, also interrogated in the catalogue service. For eutrophication, also maps are included displaying the distribution of data locations, and giving information on the number of observations related to a single parameter (e.g. water body pH map). By clicking on the dots representing the sampling stations, access is given to time series or vertical profiles. In the reporting period, efforts were undertaken by the Regional Coordinators to satisfy EEA request with the latest contaminants collection, after the earlier release of the eutrophication. All data products were mapped to BODC vocabularies for offering a better search filters in data products catalogue: Matrix Categories - L04 and Themes - P36.

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

- Machine-to-machine connections to data and data products are upgraded following the Technical Guidance for the implementation of INSPIRE View Services. EMODnet Chemistry products catalogue provides the INSPIRE metadata fields requested for enabling machine-to-machine connections, by including information on OGS services and data URL. The INSPIRE validator tool is used for validating the service. All MetadataURL point to standard XML and to a human readable text.

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. Now, 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. News and events are continuously updated (nine additions for the period) and distributed with all promotion materials.

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.

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

- EMODnet Chemistry participated in the G20 Workshop on harmonized monitoring and data compilation of marine plastic litter organised by the Ministry of the Environment, Japan (MOEJ) confirming its international relationships. 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. EMODnet Chemistry vocabularies and metadata directories are also adopted by a non-EU organisation (BODC), enabling interoperability and data sharing.

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. OGS has developed a new web service that collects download metrics for the indicators. During this quarter, the map viewer joined the DOI landing page as a second client using this new web service, and data products catalogue will follow soon.

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.

2. Identified issues: status and actions taken

[Provide an overview of the issues identified by EASME (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.]

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
Make data easier to access, with interfaces, also fit for non-professionals, to visualise data	Pending	Adopt and adapt webODV components for discovery, subsetting by a number of criteria, visualising and exporting the subsets in a number of formats, all in an easy way and fast	7/2020	
Improve the user focus of portal (less info, more services)	Resolved	Review and reshuffle the portal, placing the products and their services more centrally as major output from EMODnet Chemistry	5/2020	5/2020
INSPIRE compliance for metadata fields in EMODnet Chemistry OGC web services	Resolved			

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
Get data corrections following the regional data validation process	Resolved	Motivate data centres with dedicated meeting at regional scale	9/2020	9/2020
Get additional metadata to fulfil EEA and CMEMS needs	Resolved	Release of updated guidelines with clear instructions	9/2020	9/2020

Get new recent data in the system	Resolved	Motivate data centres with personal contacts (remote meeting and series of emails, including giving support)	9/2020	9/2020

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
15/05/20	noaa.gov	Question: Can we download and obtain EDMONET chemistry data to put into the World Ocean Database?	contact form	55 min.	resolved	Simple response	NA

4. Meetings/events held/attended & planned

[Organisational meetings/events held/participated (incl. presentations, lectures, trainings, demonstrations, workshops, etc.) by the contractant 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.)
18/6/20	Remote	Meeting	Yes. Data infrastructure is based on EMODnet Chemistry	A	ADRION HarmoNIA Final event. As appears in a dedicated use case, HarmoNIA uses data from EMODnet Chemistry
18/6/20	Remote	Meeting	Yes. Data infrastructure is based on EMODnet Chemistry	A	ADRION Thematic Cluster on Coastal and Marine Environment management activities. As appears in a dedicated use case, HarmoNIA uses data from EMODnet Chemistry
3/7/20	Remote	Meeting	No ppt but sharing of portfolio draft	A	Bilateral meeting with Mercator Ocean to agree on the way forward in the development of the joint MSFD portfolio
07/09/20	Remote	Webinar	ppt: EU efforts for data harmonisation for policy purposes	A	G20 Marine Litter Workshop, 2020

8/7/20	Remote	Meeting	No ppt, informal communication for common agreement	A	Bilateral meeting organised by EEA to discuss marine Litter data availability for an European marine litter assessment
9/7/20	Remote	Internal meeting	No ppt, minutes document with action list is available	O	Video-conference with RL to review the contaminants datasets to be delivered to EEA
10/9/20	Remote	Meeting	No ppt, activity promoted on the Chemistry portal	A	Development of an on-line multiple-choice questionnaire "SDG 14 module" with Mercator Ocean, UNDESA and SULITEST.org
22/9/20	Remote	Webinar	Input for joint overview	A	EMODnet Open Conference
26/09/20	Trieste	Festival	ppt: Trieste Next 2020: Let's get the Sea plastic free	A	Trieste Next - Festival of Scientific Research: raised awareness on marine plastic litter during an underwater clean-up event organized by WWF-Miramare MPA
SUM			**1**	**O**	**Total # of meetings organised =1**
SUM			**7**	**A**	**Total # of meetings attended = 6**

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
20-21/10/2020	Remote	EATIP-Copernicus Marine-EMODnet workshop on data for aquaculture	A	To explore opportunities and applications for marine environmental data to support aquaculture sector
12-14/4/21	Amsterdam	International Conference on Marine Data and Information Systems	A	Disseminate EMODnet Chemistry results

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)
10/07/20	On line communication (section News/Events)	Regional leaders' meetings: participants and main topics	Keep users and visitors of the Portal up to date with the latest outcomes achieved	
10/07/20	On line communication (section Guidelines)	Guidelines for including information in the CDIs https://www.emodnet-chemistry.eu/about/documents	Keep users and visitors of the Portal up to date with the latest documents released	
17/07/20	On line communication (section News/Events)	EMODnet phase 5: the call for tenders https://www.emodnet-chemistry.eu/promotion/news	Keep informed users and visitors of the Portal about the latest EMODnet call for tender	
06/09/20 08/09/20	On line communications with presentation (section News/Events)	ppt: EU efforts for data harmonisation for policy purposes https://www.emodnet-chemistry.eu/promotion/events	Share and discuss the EU achievements on marine	G20 Workshop on harmonized monitoring and data compilation of

			litter data management on a large scale	marine plastic litter
08/09/20	On line communication (section News/Events)	EMODnet Chemistry Portal: 2020 data availability https://www.emodnet-chemistry.eu/promotion/news	Keep users and visitors of the Portal up to date with 2020 data availabitiy	
10/09/20	On line communication (section News/Events)	EMODnet Webinar: 10 years of achievements https://www.emodnet-chemistry.eu/promotion/news	Keep informed users and visitors of the Portal about results achieved by EMODnet	
11/09/20	On line communication (section News/Events)	SeaDataCloud Workshop: Hi-Tech to High knowledge https://www.emodnet-chemistry.eu/promotion/news	Keep informed users and visitors of the Portal about the relevance of the SDN infrastructure	
11/09/20	On line communication (section News/Events)	Sulitest Specialized Module on SDG 14 project: kickoff meeting https://www.emodnet-chemistry.eu/promotion/events	Keep informed users and visitors of the Portal about the participation in this awareness and dissemination project	kickoff meeting of the working group of expert for the Sulitest Specialized Module on SDG 14 project
15/09/20	On line communication (section Publications)	Seasonal and Interannual Trends of Oceanographic Parameters over 40 Years in the Northern Adriatic Sea in Relation to Nutrient Loadings		

		Using the EMODnet Chemistry Data Portal https://www.emodnet-chemistry.eu/promotion/papers		
23/09/20	On line communication with presentation (section News/Events)	ppt: Trieste Next 2020: Let's get the Sea plastic free https://www.emodnet-chemistry.eu/promotion/news	Keep informed users and visitors of the Portal about the activities to raise awareness on ML issues	Trieste Next - Festival of Scientific Research
25/09/20	On line communication (section Publications)	A European threshold value and assessment method for macro litter on the coastlines https://www.emodnet-chemistry.eu/promotion/papers	Keep informed users and visitors of the Portal about the latest publications	
28/09/20	On line communication (section Publications)	Heavy Metals in the Adriatic-Ionian Seas: A Case Study to Illustrate the Challenges in Data Management When Dealing With Regional https://www.emodnet-chemistry.eu/promotion/papers	Keep informed users and visitors of the Portal about the latest publications	
30/09/20	On line communication (section Publications)	Dissolved inorganic nutrients in the western Mediterranean Sea (2004–2017) https://www.emodnet-chemistry.eu/promotion/papers	Keep informed users and visitors of the Portal about the latest publications	
SUM				**Total # of on line communications =14**

SUM				Total # of presentations = 2

B. Planned communication products			
Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
12/20	Video	Web ODV tutorial	Make users familiar with the web ODV tool
	Video	Data access and service plus Map viewer tutorial	Promote the EMODnet Chemistry functionalities
	Newsletter	Regular, the first one e.g. on marine litter	Disseminate EMODnet Chemistry achievements

[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)
13/08/20	Journal: Water	Seasonal and Interannual Trends of Oceanographic Parameters over 40 Years in the Northern Adriatic Sea in Relation to Nutrient Loadings Using the EMODnet Chemistry Data Portal https://doi.org/10.3390/w12082280	Grilli, F.; Accoroni, S.; Acri, F.; Bernardi Aubry, F.; Bergami, C.; Cabrini, M.; Campanelli, A.; Giani, M.; Guicciardi, S.; Marini, M.; Neri, F.; Penna, A.; Penna, P.; Pugnetti, A.; Ravaioli, M.; Riminucci, F.; Ricci, F.; Totti, C.; Viaroli, P.; Cozzi, S.	CNR-IRBIM), Università Politecnica delle Marche, Fano Marine Center, FMC, CNR-ISMAR, OGS University of Urbino, Tecnopolo Bologna, University of Parma
31/08/20	EU Science HUB publications	A European threshold value and assessment method for macro litter on the coastlines https://op.europa.eu/en/publication-detail/-/publication/bbf9b149-f97e-11ea-b44f-01aa75ed71a1/language-en doi:10.2760/54369, JRC121707	Van Loon, W., Hanke, G., Fleet, D., Werner, S., Barry, J., Strand, J., Eriksson, J., Galgani, F., Gräwe, D., Schulz, M., Vlachogianni, T., Press, M., Blidberg, E. and Walvoort, D., 2020.	JRC
01/09/2020	Journal: Marine Pollution Bulletin	Spatio-temporal evaluation of macro, meso and microplastics in surface waters, bottom and beach sediments of two embayments in Niterói, RJ, Brazil https://doi.org/10.1016/j.marpolbul.2020.111537	Rebeca Oliveira Castroa, Melanie Lopes da Silva, Mônica R.C. Marques, Fábio Vieira de Araújo	Federal University Fluminense, State University of Rio de Janeiro

04/09/2020	Journal: Earth System Science Data	Dissolved inorganic nutrients in the western Mediterranean Sea (2004–2017) (https://doi.org/10.5194/essd-12-1985-2020)	Belgacem, M., Chiggiato, J., Borghini, M., Pavoni, B., Cerrati, G., Acri, F., Cozzi, S., Ribotti, A., Álvarez, M., Lauvset, S. K., and Schroeder, K.	ISMAR-CNR, Università Ca' Foscari Venezia, ENEA, ISMAR-CNR, IAS-CNR, IEO, NORCE
16/09/2020	Journal: Frontiers in Marine Sciences	Heavy Metals in the Adriatic-Ionian Seas: A Case Study to Illustrate the Challenges in Data Management When Dealing With Regional Datasets (https://doi.org/10.3389/fmars.2020.571365)	Maria Eugenia Molina Jack, Rigers Bakiu, Ana Castelli, Branko Čermelj, Maja Fafanđel, Christina Georgopoulou, Giordano Giorgi, Athanasia Iona, Damir Ivankovic, Martina Kralj, Elena Partescano, Alice Rotini, Melita Velikonja and Marina Lipizer	OGS, University of Tirana, UoM-IMBK, Marine Biology Station Piran, Ruder Boskovic Institute, Region of Western Greece, ISPRA, Hellenic Centre for Marine Research, Institute of Oceanography and Fisherie Croatia, Slovenian Environment Agency

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 **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?**	Database queries done by MARIS.	For CDIs, a lot of quality control activities have been ongoing in this quarter by Regional Coordinators validating regional data collections for eutrophication and contaminants and providing feedback to data providers for corrections. Moreover, a lot of new data sets have been entered. Overall, this has resulted in an increase of data. As discussed earlier with Secretariat it is not possible to monitor and report data volumes for CDIs.
B) Usage of data in this quarter	Database queries done by MARIS.	There is an impressive growth of manual data downloads. The biggest data request was for a water quality research (environmental management).
2. Current status and coverage of total number of data products A) Volume and coverage of available data products **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?**	Products descriptions. Volume is based on a calculation and P36 mapping.	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	There is a big increase in manual downloads, while map visualisations trend is mixed.

	visualisations are based on Matomo events sent by the Map Viewer.	
3. Organisations supplying/approached to supply data and data products within this quarter	Database queries done by MARIS.	For CDIs, a lot of quality control activities have been ongoing in this quarter by data providers, following reports by Regional Coordinators and checks with OCTOPUS software.
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 on metrics sent to the new web service.	For CDIs, number of users is lower than in previous quarter, while the volume of downloaded CDI data sets is higher. Data – CDI service: We see a positive private companies interest: Business and Private company_x005F_x0001_11,11%, Reason:_x005F_x0001_Input for models.
6. Published use cases	Grafana, based on data from Matomo.	All use cases on the Portal have similar number of views. There is a drop in the number of views, especially on the Central Portal.
8.1. Technical monitoring	Grafana, based on monitoring script launched by TRUST-IT.	There are no issues.
8.2. Portal user-friendliness (Visual harmonization score)	Report by email from TRUST-IT.	
9. Visibility & Analytics for web pages	Grafana, based on data from Matomo.	
10. Visibility & Analytics for web sections	Grafana, based on data from Matomo.	
11. Average visit duration for web pages	Grafana, based on data from Matomo.	

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.]