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

Reporting Period: 01/10/2019 – 31/12/2019

Contents

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1 Highlights during the reporting period

Provide a short summary of the key achievements and/or events of interest to a wider audience within this reporting period you wish to highlight. **Please make sure that progress in each of the tasks specified in Section 1.4.1 of the Tender Specifications is covered. For those tasks not experiencing significant progress, please state so.** *In addition, you can (but not required) also consider the indicators or any other of the reporting sections.*

This report covers the fourth quarter of 2019, and mark the start of Phase IV for EMODnet Chemistry (at 3/10/2019). During this period, the data portal and related services maintained all functionalities for the users and the data providers. In particular, the main achievements for the reporting period relates to Task 2, with a close relation to Task 5, Task 3 and Task 4. In fact, we loaded new dedicated maps (WMS and WFS layers) for contaminants (based on the regional harmonized, aggregated and validated data collections) in GeoServer, to be ready for their publishing in EMODnet Chemistry portal. Considering the sensitivity of the information linked to contaminants pollution, the publication took place only after the acceptance by the MSFD Board of experts, including RSCs, JRC and EEA.

In addition and still related to Task2, a consistent effort in this reporting period was dedicated to the harvesting of eutrophication and contaminants for the new MSFD regions. This is the first step toward the generation of the new aggregated and validated regional datasets.

New marine litter data came from different sources and were managed, completed with metadata, and ingested into the marine litter databases. Other chemical measurements were also loaded by the partnership and made available to the users. Feedback and user support was promptly given.

EMODnet Chemistry was presented and promoted to a number of events as shown in Chapter 6.

In the following the highlights for the period October - December 2019 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:

- All data held in EMODnet Chemistry repository are findable and accessible through the CDI Data Discovery and Access Service, interoperable and reusable. The numbers of data supplied are listed in Indicator 2 (restricted and unrestricted).

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

- New data products for contaminants were prepared for publication. To maximise the impact, the launch was postponed to 09/01/2020, just after Christmas vacation. No new development are reported for this interim period.

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

- Machine-to-machine connections to data and data products are installed and maintained available. 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.

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

- EMODnet Chemistry web portal is on line and is making findable, accessible, visible and downloadable both data and data products. A new section TOOLS have been added, to provide

access to all relevant data management tools to format (from a syntactic and semantic point of view) and validate marine litter data collected by the EMODnet Chemistry consortium. News and events are continuously updated (three additions for the period).

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 Data 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 started contacts to set data sharing with WOD, beginning with oxygen data. 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. The formats used by EMODnet Chemistry are in line and interoperable with international practices.

Task 7: Install a process to monitor performance and deal with user feedback:

- Procedures are up and running. No new progress to report.

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

- The helpdesk is kept operational in the reporting period. All support requests received via the Help desk are listed in Section 4.

In addition, intense interaction with EMODnet Chemistry stakeholders sustain the following crucial use cases related to:

1. Data delivery to EEA. EMODnet Chemistry continues the dialogue and collects feedbacks on the harmonized, aggregated and validated data collections for contaminants in biota provided to EEA. Being EMODnet Chemistry again in operation, the new timing for data sharing has been agreed.

2. Data support to JRC and TG ML. EMODnet Chemistry provides its assistance to JRC for implementing the new beach litter data collection covering 2017 and 2018 and to explore new data types of common interest.

3. The signing of the Memorandum of Understanding with CMEMS, set the starting of the cooperation, covering metadata and data exchange, enhancement of quality control procedures, development and distribution of joint products for the benefit of respective users, teaming up in relevant projects and joined activities.

These use cases, being all very specific and strategic, required dedicated effort prolonged over time for their proper advancement and set the basis for long-term collaborations. Their fulfilment is crucial to demonstrate the reliability and benefit of EMODnet Chemistry data portal.

2 Challenges encountered during the reporting period

Provide an overview of the main challenges encountered during the reporting period and the measures taken to address them, including those related to technical and data provision issues.

[Please, provide information in the table.]

Main challenge	Measures taken
EEA requests EMODnet Chemistry to provide eutrophication and contaminants datasets by mid 2020	Tune activities to respect the new scheduling even if not respecting the original submitted planning.
Marine Litter data handling	Release of new data management tools to format (from a syntactic and semantic point of view) and validate marine litter data collected by the EMODnet Chemistry consortium. See TOOLS.
Full group meeting scheduling	Set the full group meeting back to back with EMODnet Jamboree in September 2020.
How to handle metadata requested by EEA for contaminants and eutrophication with EMODnet Chemistry	Agree with SeaDataNet of possible extensions to Odv format

3 Identified issues: status and actions taken

Provide an overview of the issues identified, if any, during the reporting period, the status of those issues, and actions taken to address them.

[Please, provide information in the table.]

Issue identified	Status (Pending/ Resolved)	Action taken
Ending of the contact	Resolved	EU
Budget cut for the new phase	Pending	Reduce the partnership and focus the actions
INSPIRE metadata fields (metadata and data url) should be filled in order to facilitate discovery and usage of OGC Web services (WMS, WFS, WCS)	Resolved	EMODnet Chemistry products catalogue provides the requested INSPIRE metadata fields. For instance, for marine litters, a metadata is also available through a **metadata URL** and this metadata provides users with **OGC services** available on this product. In the example above, two OGS services are available: - a **WMS**, which allows the product to be displayed in Ocean Browser (or others web GIS infrastructures) is provided in the metadata (visible in the XML) - and a **WFS**, allowing to download the product, is also described in the metadata. For DIVA maps it includes the following Metadata section: <MetadataURL type="TC211"> <Format>text/html</Format> <OnlineResource xlink:type="simple" xlink:href="http://www.emodnet-chemistry.eu/products/catalogue#/metadata/cc471ea1-f7be-11e8-93d9-f859715d4cd2"/> </MetadataURL> The entry to the Sextant catalogue includes the following DataURL in the netCDF format (https://www.opengeospatial.org/standards/netcdf) and OpenDAP URLs: <DataURL> <Format>application/x-netcdf</Format> <OnlineResource xlink:type="simple" xlink:href="http://ec.oceanbrowser.net/data/emodnet-domains/Arctic region/Autumn (September-November) - 6-years running averages/Water body chlorophyll-a.4Danl.nc"/> </DataURL> <DataURL> <Format>text/html</Format><OnlineResource xlink:type="simple" xlink:href="http://ec.oceanbrowser.net:8081/data/emodnet-domains/Arctic region/Autumn (September-November) - 6-years running averages/Water body chlorophyll-a.4Danl.nc.html"/> </DataURL>
Compliance with applicable data protection rules	Resolved	The action plan for achieving the compliance has been implemented. New data protection notice and cookies notice were posted on the Chemistry portal

4 User Feedback

List any useful feedback you received on your portal, your activities or those of other EMODnet projects/activities. Also provide any suggestions you have received for EMODnet case studies and/or future products/activities/events.

[Please, provide information in the table. If you wish to include the full user feedback in the report you can attach it in Annex.]

Date	Organisation	Type of user feedback (e.g. technical, case study, etc.)	Response time
01/10/19	Private	Contact by e-mail to propose to provide marine litter data	6 days
02/10/2019, 07/11/2019, 18/11/2019	Mercator Ocean	Personal contact to develop e joint MSFD portfolio with CMMS and EMODnet Chemistry products	Immediate
17/10/2019	CNR	Ask contribution to BLUEMED Pilot for Plastic	Immediate
28/10/2019	Ifremer	Ask to set a joint CMEMS-EMODnet Chemistry meeting	3 days
11/11/2019	JRC	Hosting longer term data of MSFD eutrophication relevant parameters	1 hour
11/11/2019	JRC	Dataset from the Black Sea	3 days
09/12/2019	EEA, ICES	Tuning timing for the release of EMODnet Chemistry aggregated datasets in line with EEA needs for reporting	Immediate

5 Meetings held/attended since last report

List here the internal and external meetings held/participated by the contractant (e.g. meeting, conference, training (workshop), etc.) since the last quarterly report. Please add a short description on the meeting as well as the nature and volume of the audience. At the bottom of the table, provide the total number of events organised and events participated.

[Please, provide information in the table.]

Date	Location	Type event (meeting, training (workshop), etc.)	Attended (A) / Organised (O)	Short description and main results (# participants, agreements made, etc.)
02/10/2019	Brussels	Workshop	A	Copernicus Marine for MSFD event organised by Copernicus to listen experience, needs and priorities for MSFD
03/10/2019	Brussels	Meeting	A	Listen DG ENV and MS requirements in terms of data for MSFD (WG DIKE)
04/10/2019	Brussels	Meeting	A	Report on achievements in marine litter data management and talk about how to improve interaction with EMODnet (TG DATA)
07-11/10/2019	Cascais, Portugal	Congress	A	42nd CIEMS Congress organised by the Mediterranean Science Commission
29-30/10/2019	Rome	Steering committee	O	Agreement on planned activities for the next period, following project tasks and stakeholders need (EEA mainly).
11-12/11/2019	Sopot, Poland	workshop	A	EMODnet Chemistry database and oxygen data quality control presented to the Oxygen Data Platform Scoping workshop
13/11/2019	Virtual meeting	Contaminants in Biota	O	A virtual meeting dedicated to evaluate the data format to be adopted for contaminants in biota was organised between EMODnet Chemistry and SeaDataCloud experts
05/12/2019	Trieste	Meeting	A	EMODnet Chemistry presentation for the 8th MONGOOS annual meeting
SUM of O			2	**(Total # of meetings organised)**
SUM of A			6	**(Total # of meetings attended)**

6 Outreach and communication activities

Please list all the relevant communication/outreach activities or products you have developed/executed during this period (including presentations, lectures, trainings, demonstrations, workshops, etc., and development of communication materials such as brochures, videos, press releases, newsletters, etc.). At the bottom of the table, provide a total number for every type of communication activity you have developed/executed (e.g. total # of press releases, total # of presentations given, etc.).

Table: Communication activities.

Date	Communication action/material	Short description (of the material, title, ...) and/or link to the activity	Main results (# participants, # views, # press clippings, etc.)
01/10/19	Oral presentation	EMODnet Chemistry results for MSFD and the contribution to MSFD portfolio	Agreement on the way forward
04/10/19	Short intervention	EMODnet Chemistry activities as contribution for MSFD (eutrophication, contaminants and marine litter data contribution)	Good agreement on the way forward
07-11/10/2019	Oral & poster presentation	How is EMODnet Chemistry evolving: use cases	Communicate EMODnet results to the Mediterranean community
11-12/11/2019	Oral presentation and further communication	Oxygen Data Platform Scoping workshop, Sopot, Poland	Communicate EMODnet results and possible contribution to the global Oxygen Data Platform
05/12/19	Oral presentation	EMODnet Chemistry was presented at the 8th MONGOOS annual meeting, Trieste, Italy	Outreach
SUM		5	**Total #**
SUM of Oral Presentations		4	**Total # of Oral Presentations**

Relevant scientific and/or popular publications (scientific papers, book chapters, conference papers, ...) you published or of which you know they have been published using/referring to EMODnet data or data products during this reporting period must also be reported here.

[Please, provide information in the table.]

Table: List of known publications using EMODnet data or data products.

Date	Name of journal, conference, ...	Publication title	Authors	Organisation(s)
01/11/19	Ocean & Coastal Management, 181.	EMODnet marine litter data management at pan-European scale	Maria Eugenia Molina Jacka, Maria del Mar Chaves Montero,François Galgani, Alessandra	Istituto Nazionale di Oceanografia e di Geofisica Sperimentale, Division of Oceanography, Borgo

			Giorgetti, Matteo Vinci, Morgan Le Moigne, Alberto Brosich	Grotta Gigante, 42/C, 34010, Sgonico, TS, Italy IFREMER, Laboratoire LER/PAC, Immeuble Agostini, ZI Furiani, 20600, Bastia, France IFREMER, Service Valorisation de l'Information pour la Gestion Intégrée et la Surveillance, Centre Atlantique, Rue de l'Ile d'Yeu, BP 21105, 44311, Nantes Cedex 03, France
15/11/19	Ocean Science, 15(6), 1489-1516.	Modelling the marine ecosystem of Iberia–Biscay–Ireland (IBI) European waters for CMEMS operational applications	Elodie Gutknecht, Guillaume Reffray, Alexandre Mignot, Tomasz Dabrowski, and Marcos G. Sotillo	Mercator Ocean, Parc Technologique du Canal, 8–10 rue Hermes, 31520 Ramonville-Saint-Agne, France Marine Institute, Rinville, Oranmore, Co. Galway, H91 R673, Ireland Puertos del Estado, Av. Partenón, 10, 28042 Madrid, Spain

7 Annex: Other documentation attached

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

8 Monitoring indicators

Please consult and fill in the designated excel template in annex, and provide a comment in the table on each indicator when possible/applicable.

[Please provide information in the table.]

Table: Comments on the progress indicators in the excel template.

Progress indicator	Comment
1.1 Volume of available acquired data	EMODnet Chemistry data volume is very high and this reduces the trend values calculated as growth rate (((ACTUAL-LAST)/LAST)*100). Nevertheless, this reporting shows a number of decreases, which can be largely explained by the fact that the whole CDI database and related data sets have been validated for their syntax and semantics as part of the migration to the new upgraded CDI service. Thereby a number of data files have been temporarily de-activated awaiting their correction by data providers. It is expected that the number will increase in the next quarter.
1.2 Number and coverage of built & external data products	Numbers are the same as last quarter since this period we were busy in the preparation of new data products that will be reported in the next report.
2. Organisations supplying each type of data	66 Data providers are listed, with related contributions. Numbers are stable.
3. Interfaces to access or view data: list changes or new items within reporting period	All interfaces available are listed.
4. Usage of data and data products per interface and per theme	These numbers of map visualisations count only the default visualisation of each map, without taking into account year changing by the user. Numbers are generally very low (e.g. 2 visits for Beach Litter - Material categories percentage per year between 2012 and 2017 - Other sources) and needs technical revision
5. Distribution of users that have used the portal's data and data products per organisation type and country, and their main use cases	Crucial use cases by EEA and JRC are reported. Furthermore, academia and research users are prevalent (93 % for products, 70 % for data). private companies are more interested in row data rather than data products.
6. External products (websites, apps, …) built on top of web-services: update since last quarterly report	All external website known to us are listed.
7. Published use case and number of readings	Figures are provided by TRUST-IT. There are no new use cases as the existing one are active and require continuous interaction.

8. Portal and Social Media visibility	Figures are provided by TRUST-IT.
9.1 Technical monitoring	Figures are provided by TRUST-IT.
9.2 Portal user-friendliness	Figures are provided by TRUST-IT.
10. Visibility & Analytics for web pages	Figures are provided by EMODnet Secretariat. The numbers of year 2018 seem wrong. Q4 is slightly higher than Q3.
11. Visibility & Analytics for web sections	Figures as provided by EMODnet Secretariat. As expected, data followed by data products are the most visited web sections. Both of them are higher in Q4, especially the data web section.
12. Average visit duration for web pages	Figures as provided by EMODnet Secretariat. All listed web pages show a nice increase comparing Q4 and Q3, especially the "Explore Marine Litter" page. There is a decrease only for the "Welcome" page, which probably means that visitors pass faster to the inner pages.