



EMODnet Thematic Lot n°5 - Chemistry

EASME/EMFF/2020/1.3.1.11/Lot 5/SI2.846161

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

Operational Phase

Quarterly Progress Report (14th)

Reporting Period: 01/01/2025 – 31/03/2025

V2



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1. Highlights in this quarter

[List the quarterly 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, status and date delivered. Max 2 pages]

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

EMODnet Chemistry uses the SeaDataNet infrastructure and standards to integrate and harmonise the marine chemistry datasets managed by its network of expert data centres (mainly NODCs). During the reporting period, population of new data sets but also deprecation of existing data sets took place because of identified errors. It is expected that these data sets will be repopulated after correction. As a total result 1.532 new datasets were added to the EMODnet Chemistry distributed CDI system, which manages eutrophication, contaminant and marine litter data. These new data sets were provided by 19 organisations, which are all members of the EMODnet Chemistry consortium. In the reporting period an extra metadata tag was added to the CDI service. This concerns an indication if a data set is located in the open seas beyond the 12 NM boundary or that it is located in the coastal and inland waters inside the 12 NM boundary. For this use was made of the 12 NM boundary data from the marine-regions website as managed by VLIZ. This was used to create a set of geographical masks (polygons) which were applied on the CDI metadatabase to identify data sets without, beyond and in both areas, in case of tracks and polygons. This location qualification metadata tag is now added to the CDI metadata and also made available in CDI – data harvest exports to Regional Coordinators. The qualification procedure has been integrated in the regular CDI import procedure, so that all managed CDI records will have the new tag. This information is relevant for the Regional Coordinators in their QA-QC work for eutrophication data.

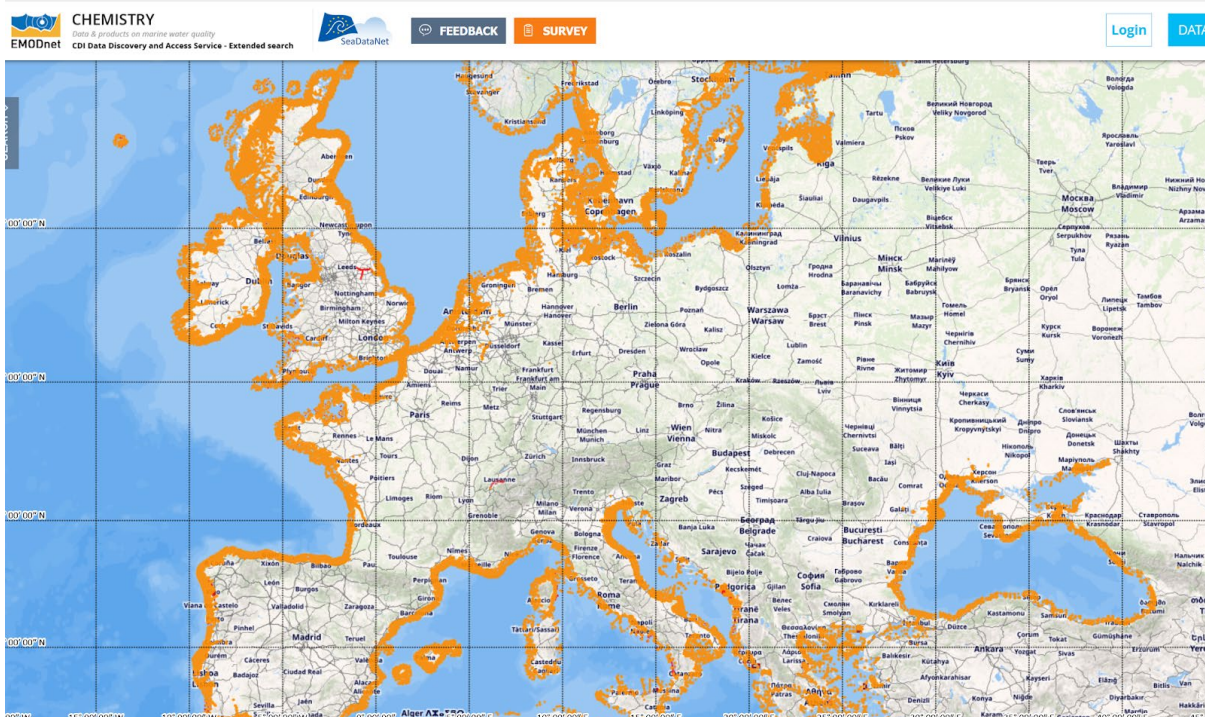


Figure: CDI data sets labelled as located in non-open water

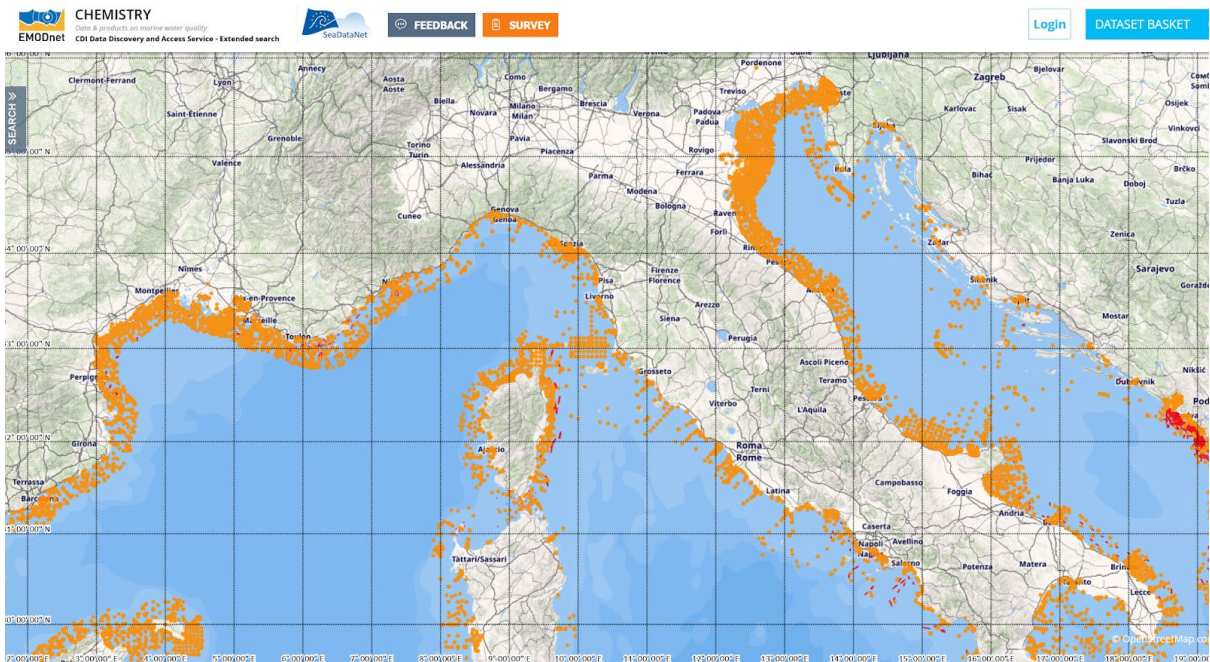


Figure: CDI data sets labelled as located in non-open water

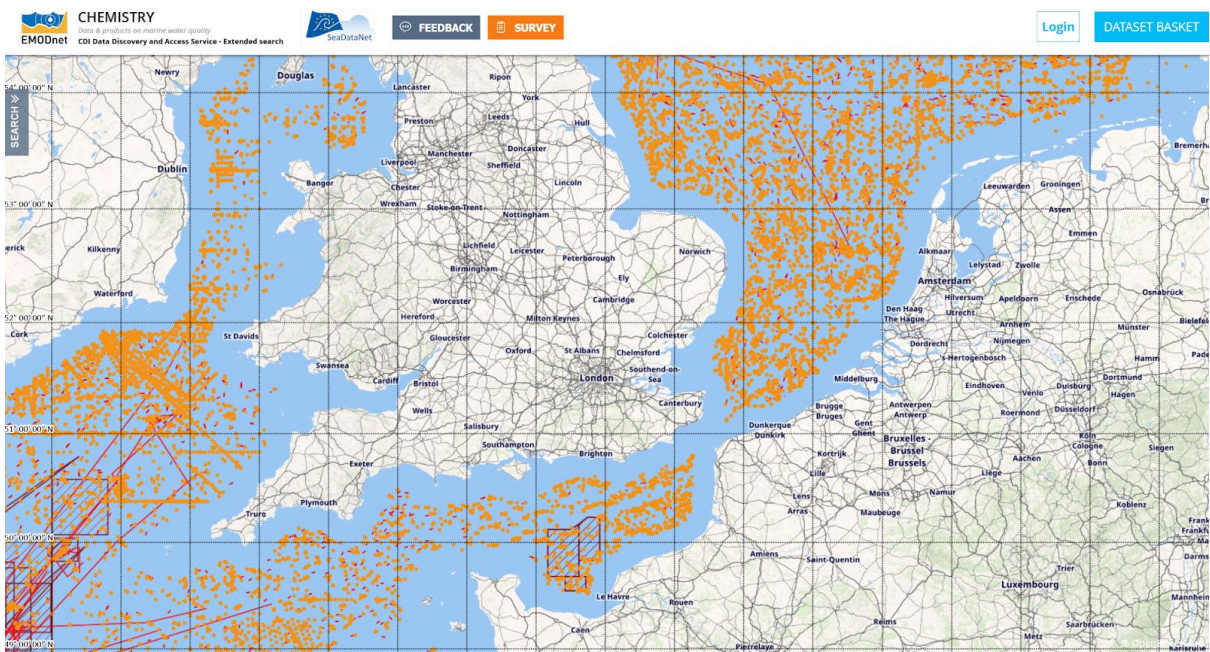


Figure: CDI data sets labelled as located in open water

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

During the reporting period, the regional coordinators met regularly on 10 January 2025, 6 February 2025, 25 February 2025 and 21 March 2025 to discuss progress with the validation and harmonisation of eutrophication and contaminants datasets. In particular, a big revision of the list of P01 to be aggregated in the selected P35 was done, together with the revision of the harmonisation rules. The working group dedicated to the revision of the data quality control protocol met on 9 January 2025, identified the open and non-open water requirement and provided the 12NM boundary shapefiles to Maris. This definition will be highly beneficial for the MSFD activities that need to identify and select stations close to the coast.

In the map viewer, 18 maps for beach litter, 9 maps for seafloor litter and 15 maps for floating microlitter were updated or newly created as well as 6 layers to improve the accessibility of eutrophication data collection in the OGS ERDDAP.

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

All EMODnet Chemistry data products are included in ULiege's Ocean Browser (for the eutrophication maps), in the HCMR Geoserver (for the contaminants maps) and in the IFREMER Geoserver (for the marine litter maps). These map layers are accessible via the EMODnet Map Viewer. In addition, all interpolated DIVA eutrophication maps are available via the EMODnet ERDDAP service.

During the reporting period, harmonised and validated data collections for both eutrophication and floating micro-litter data were made available as a WMS service displaying the stations on the EMODnet Map Viewer and via the EMODnet Chemistry ERDDAP instance (<https://erddap.emodnet-chemistry.eu/erddap/index.html>). The next step will be to expand the services to include harmonised and validated data collections on beach and seafloor litter, and contaminants.

The CP team has initiated an action for harmonising the structure and contents for specific elements of the EMODnet Product Catalogue service. The entries from EMODnet Chemistry are maintained in the SeaDataNet Sextant service, as managed by IFREMER, which are harvested every night by the Product Catalogue service. IFREMER has explored the impact of the harmonisation action, made a plan for identified adaptations needed, and has made a start with its deployment. Some adaptations require more efforts as they imply structural changes in the Sextant service. This effort is shared with EMODnet Bathymetry which also uses the Sextant service for documenting its products.

Task 4: Contribute data, data products and content to a central portal that allows users to find, view and download data and data products:

All EMODnet Chemistry data, data products and content are made available via the EMODnet Map Viewer, the EMODnet Products Catalogue and the narrative in the EMODnet Portal. The EMODnet portal services are fed by machine-to-machine services from EMODnet Chemistry partners to provide the map viewer and catalogue with data and data products that are made available for direct download.

During the reporting period, the titles of the EMODnet Chemistry section in the map viewer were redesigned and a new section with a WMS service to display the station distribution for the harmonised and validated data collections for both eutrophication and floating micro-litter data was added. The data collections were made accessible via the maps using the EMODnet Chemistry ERDDAP instance.

At the same time, the Sextant product catalogue maintained by IFREMER was updated with the metadata records for the harmonised and validated data collections for beach and seafloor litter, which are now aggregated at regional level.

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

During the reporting period, EMODnet Chemistry updated the content of its narrative section, adding content on the EMODnet Chemistry board of experts on the MSFD. It also contributed to the section 'Reports' with 2

new, namely the Q42024 and the report on the meeting with the Board of MSFD experts meeting on contaminant maps held on 04/02/2025). Finally, 9 web news/newsletters and 1 use case were prepared for publication on the portal and included in the monthly newsletter.

Task 6: Ensure the involvement of regional sea conventions:

During the reporting period, EMODnet Chemistry organised two meetings with the Board of experts on the MSFD, which aims to improve interaction with stakeholders involved in the Regional Seas Conventions and the Marine Strategy Framework Directive (MSFD). The meetings took place on 4 February 2025 and 24 March 2025 to show and discuss further improvements to the latest maps on the spatio-temporal distribution of contaminants and marine litter. As already reported in task 5, the web content of the board was published on the EMODnet Chemistry page.

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

EMODnet Chemistry contributes to the implementation of EU legislation in line with the discussions and agreements resulting from participation in the MSFD working groups and technical groups (DIKE, Data, ML, Contaminants).

During the reporting period, the OGS represented EMODnet Chemistry in the Technical Group on Marine Litter (TG ML) on 28 January 2025, and in the TG ML meetings focusing on seafloor macrolitter threshold values on 24 January 2025, 14 February 2025 and 28 February 2025. In parallel, the OGS team met with the JRC team on 17 January 2025, 20 January 2025, 28 January 2025 and 5 February 2025 to agree on the proposal for the management of seafloor litter from imagery. The OGS discussed the results of EMODnet Chemistry in the Technical Group on Data (TG DATA) on 11 and 18 March 2025, highlighting the role it plays in the management of MSFD Art. 19(3) data and possible improvements.

Finally, the international working group on Ocean Acidification met on 7 February 2025, 18 February 2025 and 20 March 2025 to discuss the metadata model for the federated ocean carbon data system.

Task 8: Monitoring quality/performance and dealing with user feedback:

Since centralisation, access to the Chemistry narrative on the EMODnet Portal is monitored via Europa Analytics and the EMODnet Secretariat provides quarterly statistics. Chemistry has developed an additional tool (Graylog) to monitor the viewing and downloading of EMODnet Chemistry data products from its providers. The Graylog widgets are configured to collect viewing and downloading statistics from AWI (for webODV), Maris (for CDI distribution layers) ULiege (for Ocean Browser), IFREMER Geoserver, HCMR Geoserver and OGS (for DOI landing pages). The EMODnet Chemistry Helpdesk is also centralised: all user interactions are recorded by the EMODnet Secretariat Helpdesk and forwarded to the batches via JIRA tickets. Relevant JIRA tickets are answered immediately.

Task 9: Maintain the existing thematic web portal for a maximum of 6 months from the start of the project:

This Task refers to the first project phase. No activity is reported for the renewal period as Chemistry has migrated to the EMODnet Portal.

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
D1.1 Quarterly concise progress reports	WP1	M3 (03/01/2024), M6 (03/04/2024), M9 (03/07/2024), M12 (03/10/2024), M15 (03/01/2025), M18 (03/04/2025), M21 (03/04/2025)	Delivered (M3 Q42023, M6 Q12024, M9 Q22024, M12 Q32024, M15 Q42024)	15/01/2024, 15/04/2024 15/07/2024 15/10/2024 15/01/2025 15/04/2025	
D1.2 Annual Interim report	WP1	M13	Delivered	03/11/2024	
D1.3 Final report	WP1	M26			
D1.4 Handover plan for service continuity	WP1	M26			
D1.5i Short minutes/action list of project meetings	WP1	M1 (03/10/2023), M6 (03/04/2024), M12 (03/10/2024), M18 (03/04/2025), M23 (03/09/2025)	Delivered (M1, M6, M12)	28/11/2023 (PFG meeting) 19/04/2024 (SC meeting) 23-24/09/2024 (PFG+SC meeting) 21/03/2025 (SC meeting)	
D1.6 Providing content to the central portal	WP1	Continuously	Delivered		
D2.2i Training activity for DC	WP2	M4 (03/02/2024)	Delivered	30-31/01/2024	
D2.2i Data harvested for eutrophication, including rivers	WP2	M3 (03/01/2024), M12 (03/10/2024)	Delivered	M3 15/02/2024, M12 06/12/2024)	
D2.3i Data harvested for contaminants	WP2	M4 (03/02/2024), M14 (03/12/2024)	Delivered	(M4 28/03/2024, M14 04/12/2024)	
D2.4i Data harvested for beach and seafloor	WP2	M7, M17	Delivered	M7 26/09/2024 (beach litter) 26/11/2024 (seafloor litter) M17 delayed	At the SC meeting on 21 March 2025, the participants decided to postpone the deadline from 3 March to the end of May 2025, as the data is expected from the

					data providers in April and May.
D2.5i Data harvested for micro-litter	WP2	M7, M17	Delivered	M7 25/06/2024 M17 Delayed	At the SC meeting on 21 March 2025, the participants decided to postpone the deadline from 3 March to the end of May 2025, as the data is expected from the data providers in April and May.
D2.6i Data harvested for new litter types	WP2	M16			
D2.7 Updates on marine litter guidelines	WP2	M6 (03/04/2024)	Delayed	Delayed	The submission is postponed to allow endorsement by TGML and the International Experts Group by the end of March 2025
D3.1 Validated pan-European collections for eutrophication, including rivers	WP3	M7, M19	Delivered	28 June 2024 (M7)	
D3.2 Validated collections for contaminants	WP3	M7, M19	Delivered	28 June 2024 (M7)	
D3.3 Validated collections for beach and seafloor litter	WP3	M11, M21	Delivered (M11)	Beach litter 27/11/2024, seafloor litter 12/12/2024	
D3.4 Validated collections for micro-litter	WP3	M11, M21	Delivered	12 September 2024 (M11)	
D3.5 Validated collections for new litter types	WP3	M20			
D3.6 High-resolution DIVA maps near river mouths	WP3	M21			
D3.7 New maps for contaminants	WP3	M15			
D3.8 New pan-European and regional DIVA maps for eutrophication	WP3	M21			

D3.9 New maps for micro litter	WP3	M17	Delivered		
D3.10 New maps for beach and seafloor litter	WP3	M17	Delivered		
D4.1 Standard machine-to-machine services	WP4	M3	Delivered	January 2024	
D4.2 Dedicated machine-to-machine services and APIs adapted / delivered for special functionalities	WP4	M9	Delivered		
D4.3 Upgraded databases for new litter types	WP4	M12	Delayed		This is prevented by the lack of defined guidelines (D2.7)
D4.4 Improved services for eutrophication	WP4	M10	Delivered		
D4.5 Improved services for marine litter	WP4	M10	Delivered		
D4.6 Improved services for contaminants	WP4	M12	Delivered		
D4.7 Improved webODV tool and integration in central portal	WP4	M18	Delivered		
D4.8 Monitoring data about visits and usage	WP4	Continuously	Ongoing		
D5.1 Operate Help-desk via Jira tickets	WP5	Continuously	Delivered		
D5.2 Meetings of Board of MSFD experts	WP5	M16, M18, M22	M16 Delivered (contaminants, 04/02/2025) M18 Delivered (marine litter 24/03/2025)		
D5.3 International cooperation and interoperability	WP5	Continuously	Delivered		
D5.4 Promotional material and up-to-date thematic space at central portal	WP5	Continuously	Delivered		
D5.5 Presentations at relevant conferences	WP5	Regularly	Delivered		

2. Identified issues: status and actions taken

[Provide an **overview of issues** identified by CINEA/ DG MARE/ Secretariat (Table A) in the past quarter - 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
EMODnet lots to check if filter values are displayed in the preferred order (EM-957)	Resolved	Final revision from EMODnet Chemistry TWG	n.a.	10/01/2025
View and Download in the Products Catalogue (EM-963)	Pending	GeoNetwork to be upgraded to a newer version		
Thematics to review the guidelines document on metadata harmonization (EM-1004)	Resolved			
Chemistry to provide deadline by when metadata records can be adapted to meet the guidelines (EM-1073)	Pending	Transfer options: done/in progress, Distribution Format: as this update will apply to all Sextant metadata, IFREMER cannot specify a deadline, Resource Constraints: this will have an impact on the XML structure of the Sextant metadata. IFREMER cannot provide a deadline.		
Creating a list of new features for the next release of MapViewer (EM-1042)	In Progress		27/01/2025	

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
Improvements in the map viewer (EM-1088)	Pending	Waiting for CP team reply		
No possibility to change the color scale in the climatologies (EM-743)	Pending	CP team will possibly add this as a new development to the viewer (in 2025), if it follows an OGC standard		

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
		(STYLE or COLORSCALERANGE)		
Tailor zoom-out coverage in map viewer (EM-1078)	Pending	Under review by the CP team		
Products download in the Map Viewewr (EM-962)	Pending	CP team will discuss it and come back to Chemistry on this		
Chemistry - EMODnet Catalogue Tags (EM-533 and EM-612)	In Progress	Further discussion at the last TWG (April 25)		

3. Communication assets

[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
	e.g. paper; conference proceedings; book chapter; ...				

B. Other/non-peer reviewed types of publications (co-)authored in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No
	e.g. paper; conference proceedings; book chapter; ...				

For a comprehensive overview of publications referring to/making use of EMODnet data and/or data products, please consult Google Scholar.

4. Monitoring indicators

[Refer to the standardised monitoring tool, i.e. 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 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. Also several data sets were de-activated because of identified errors. Most of these will be repopulated after correction.
What is your opinion on the data coverage within EMODnet for your thematic? B) Usage of data in this quarter	CDI catalogue service	The data coverage is very good for all European seas and there is a limited increase for most regions
	CDI RSM shopping ledger service and personal requests	The number of CDI downloads is slightly higher (+13%) than in the previous quarter.
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Sextant Product Catalogue	To promote the publication of the eutrophication data collection on the OGS ERDDAP, 6 maps (one per sea region) has been added to the map viewer. For marine litter, 18 (Beach litter) 9 Seafloor litter) and 15 (Floating microlitter) maps has been improved, updated or newly produced.
B) Usage of data products in this quarter	Download Tracking service for data products	A considerable increase can be observed this quarter of the number of downloads of EMODnet Products. This might be a very positive trend for Chemistry, demonstrating an increasing interest. Next quarter will show if this is a one-time increase or a persisting trend. In addition, we were able to count the visualisations of each layer included in the layers group "Distribution of observations (CDI records) per data category (P36)"
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	CDI catalogue service	New data have been supplied by 19 regular data providers. In some cases, data were deprecated because of identified errors.

Comments on the progress indicators in the indicators spreadsheet		
Progress indicator	Means of collecting figures	Comment
5.1 Daily number of page views of EMODnet Thematic entry page	Europa Analytics	The Chemistry section is visited every day with a maximum of 30 visitors per day. In this respect there is not much difference between the current and previous quarter.
5.2 Quarterly total number of visitors, page views, unique page views and percentage of returning visitors	Europa Analytics	The numbers in the last quarter are almost the same but somewhat higher as in the previous quarter, so quite steady. These numbers only concern the static narrative section, while it would be interesting to know how many maps and products are viewed and downloaded from the CP central services for chemistry.

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

5. Annex: Other documentation attached

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