



EMODnet



European Marine
Observation and
Data Network

EMODnet - Ingestion and safe-keeping of marine data

CINEA/EMFAF/2021/3.4.10/02/SI2.868290

Start date of the project: 30/03/2022 (24 months)

Centralisation Phase

Quarterly Progress Report (4)

Reporting Period: 01/01/2023 – 31/03/2023



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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, further develop and migrate a web-portal

During the reporting period the EMODnet Ingestion portal and its services were maintained and care was taken to ensure that all services continued to operate as required. Maintenance involves: content updates; adding new data centres contacts; manual work on submitted metadata mapping and missing values, automatic updating of Submission service vocabularies on a regular basis; exchange (JSON) of Submission service with Summary service; users support; and technical upgrades and improvements.

Early January 2023, the Central Portal has been launched, whereby all thematic portals have been de-activated and migrated to the Central Portal. Early April 2023 a first meeting is planned between EMODnet Ingestion and the Central Portal team to discuss a feasible migration too for EMODnet Ingestion.

Task 2: Implement pathways for delivering data to final repositories

The total number of received submissions increased from 1308 to 1419, while the number of processed and published data submissions increased from 1176 to 1262 and of which, the number of fully elaborated data submissions went from 536 to 564 data. This is illustrated in the following image while the separate statistics (attached) will provide more insight in the division over EMODnet themes and external data providers.

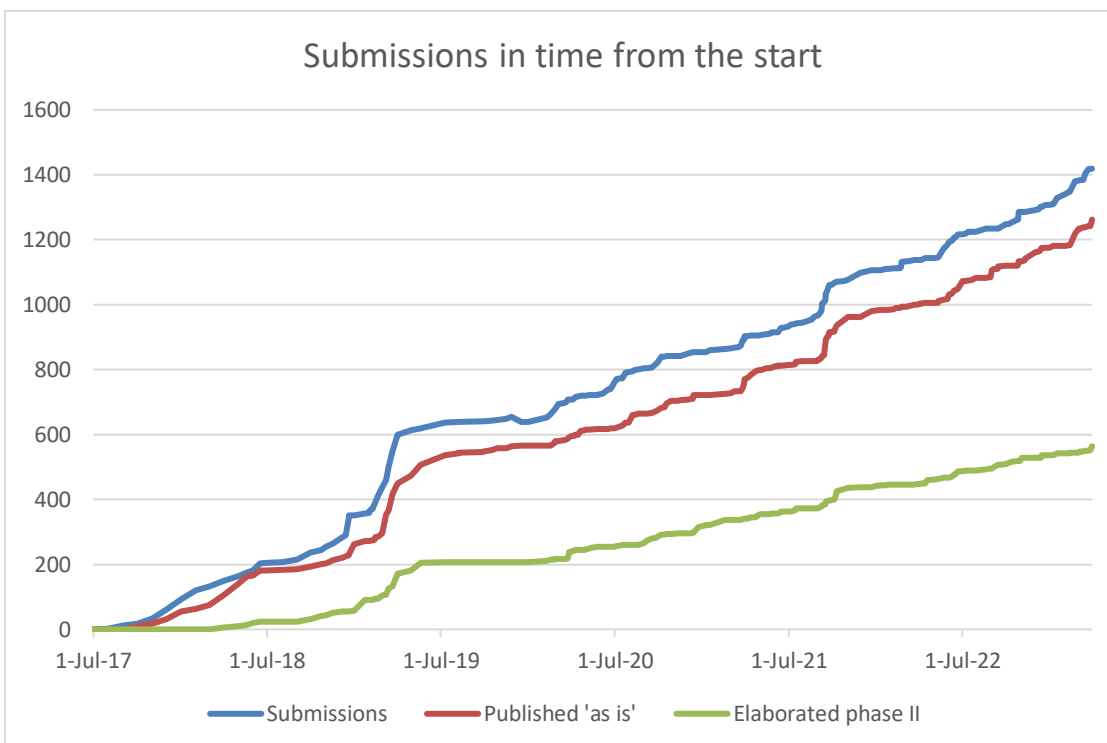


Image: number of submissions and phase 1 and phase 2 publications over the 3 contracts

Again, a major contribution came from the exchange with the SeaDataNet SEANOE data citing service (<https://www.seadatanet.org/Software/SEANOE>). In the current contract there were so far 113 SEANOE submissions of which 53 have been processed to phase 1 and 27 to phase 2. Another continuing driver is the cooperation with the H2020 Eurofleets+ project which organizes scientific cruises with research vessels from the European fleet as transnational access activities. So far, 15 data submissions from Eurofleets+ cruises have been processed, 9 to phase 1 and 6 to phase 2. This is a good example of a EU project which makes use of EMODnet Ingestion for its data management, ensuring inclusion in the leading European marine data management infrastructures and EMODnet.

Task 3: Facilitate machine-to-machine transfers

The goal of the task is to continue facilitating faster availability of data by establishing direct connections between monitoring stations and repositories and towards EMODnet by machine-to-machine transfers and expand and upgrade the Sensor Web Enablement (SWE) demonstrator.

During the period the activities focused on upgrading the demonstrator service for providing access to realtime and near real time observing stations. Therefore, the existing user interface to show newly connected stations and operators has been upgraded. See: <https://realtime.emodnet-physics.eu>

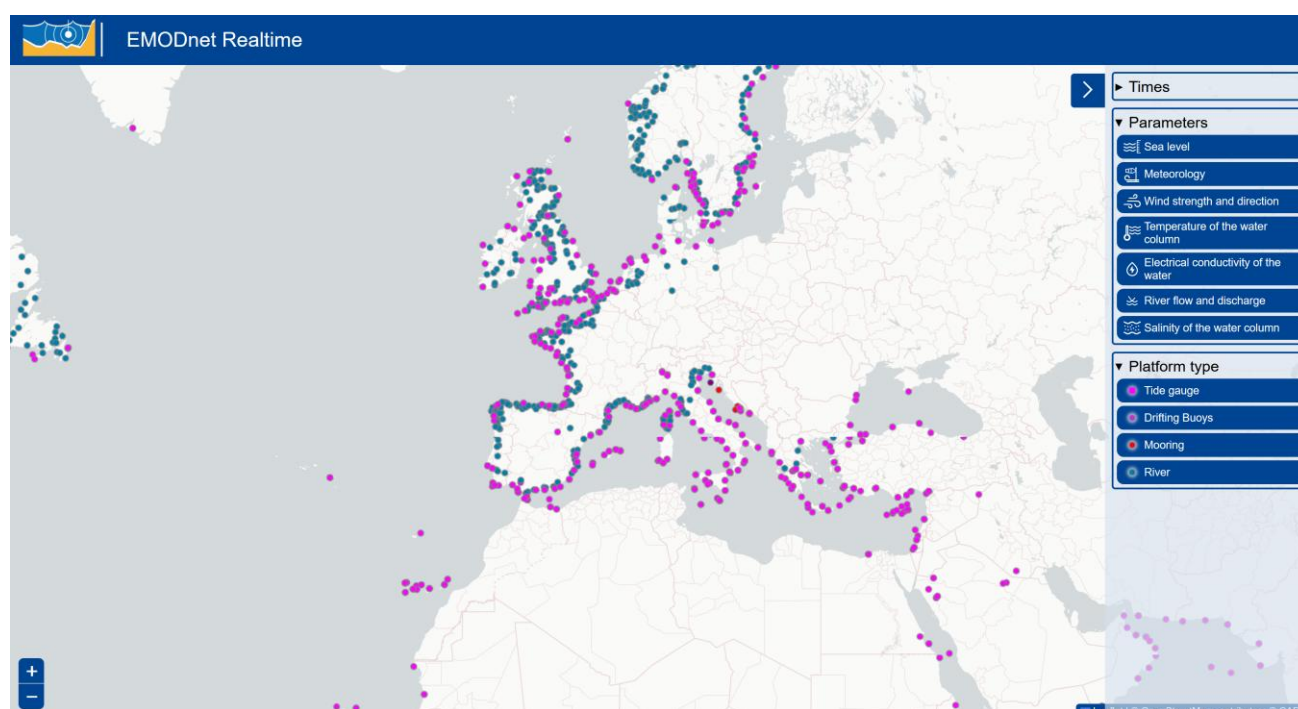


Image: upgraded viewer for observing stations connected through EMODnet Ingestion – Physics cooperation

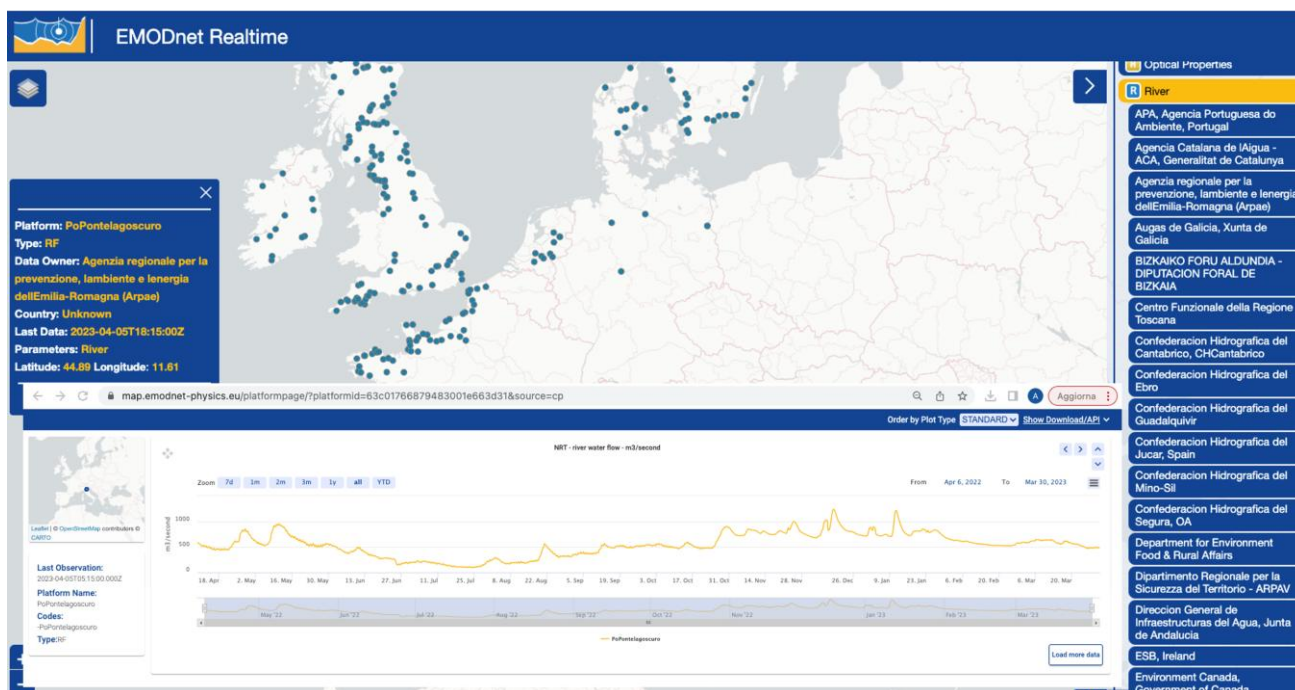


Image: plots of time series of operational observing stations

For connecting operational oceanography providers and their stations, the same approach is used as for the delayed mode data sets, so phase 1 is about publishing as-is and phase 2 is about further elaborating the metadata and data formats. In phase 1 the new viewer serves as a quick shop-window to show the connected stations. While in phase 2, data flows are elaborated together with their operators and stations become part of the structured European operational oceanography exchange with EMODnet Physics, CMEMS INSTAC and EuroGOOS.

For the purpose, ETT together with SMHI, CNR and 52North are focusing on developing easy connectors for oceanographic operators that are interested, next to the realtime viewer which serves as the phase 1 shop-window. Developments for connectors focus on: 1) ERDDAP, 2) DAB, 3) SWE services, and 4) OGC OM-JSON based timeseries API.

An EMODnet ERDDAP docker package is already available at Github to organizations willing to adopt it, anyhow to facilitate new users to find, use and install it: <https://github.com/EMODnet-Physics> For ERDDAP also a deployable map viewer has been developed by ETT as a Docker container, which operators can install at their own premises. The DAB comprises a metadata broker, developed by CNR, by which several metadata protocols can be converted to a common metadata catalogue for discovery and access to observation data flows from multiple operators. The DAB technology is also used in SeaDataNet and Blue-Cloud for supporting federated search and access to multiple data repositories. Moreover, by using the DAB tool a dialogue was started with WHOS about giving access to data from hydrological and meteorological stations nearby river estuaries. The SWE solution, developed by 52North is applied in the Eurofleets+ project to receive metadata and data from research vessels during cruises and to make this info available through a dedicated dashboard. This system is operational and already data from many cruises have been gathered. Currently, 52North is working on optimising the storage and access to keep an acceptable performance for dashboard users. However, using the SOS model has been surpassed by new technologies, and therefore 52North is now considering adopting and elaborating the OGC OM-JSON based timeseries API as a new connector.

Task 4: Operate a help-service for users to provide their data in the most appropriate format

The portal has a service-desk, which is operated on working days. Users can either email their questions or ask for a call back. Emails are sent to a generic service desk mailbox. All queries are saved and tracked in the Open-source Ticket Request System (OTRS), allowing providing statistics on the questions received. Recorded queries are analysed in order to elaborate a Frequently Asked Questions (FAQ) page at the portal. In the reporting period only two questions were received and answered. As part of the migration, it is planned to start making use of the Central Portal Help Desk which runs through JIRA. This will be worked out next quarter.

Task 5: Allow providers of data to track the progress of their data from submission through to their storage in a repository

Data providers can follow the processing of their data submissions in the Submission Service, which is done in several steps each indicated by a status field. Data providers are contacted by assigned data centres, in case there are additional questions about the ingested data sets.

Task 6: Participate in discussions with EMODnet partners in order to improve the efficiency of the whole collection, assembly and dissemination process

All coordinators of EMODnet Thematic projects are partners in EMODnet Ingestion which guarantees a mutual tuning with EMODnet Ingestion. Moreover, EMODnet Ingestion coordinators are involved in the communication of the EMODnet Steering Committee and Technical Working Group.

Task 7: Maintain a summary record of data delivered

This function is offered by the View Submissions service. Each completed submission is migrated to that service for publishing as part of a discovery and access service. Distinction is made in phase I and II which is one of the search facets. Editing activities take place aimed at replacing so-called orphan data for organisations from free text into controlled EDMO terms, orphan data for projects into controlled EDMERP terms, and orphan terms for Cruises into controlled Cruise Summary Reports (CSR) terms in order to improve the integrity and richness of the metadata.

Task 8: Engage in outreach activities towards significant holders of marine data whose data are not yet available.

During the reporting period, RBINS continued promoting the project in social media and supported some partners to increase the visibility of their communication activities.

RBINS has prepared a new EMODnet Ingestion flyer which has been printed in 4000 copies to be shared over the EMODnet Ingestion consortium for their promotion activities. The leaflet highlights the EMODnet Ingestion principles, and also a selection of success stories, in particular to support the objective of mobilising coastal and offshore licensing data.

A Leaflet with compilation of 12 use cases has been published on the Central and Ingestion portals, while also a compilation of 6 Chemistry success stories was prepared and sent to OGS for further promotion

In the coming months, the focus will be on preparing a briefing for data ambassadors to record a video presentation of their use case, using the Belgian case as an example.

Partners participated in quite a number of events which are gathered and will be listed in the coming Interim Progress Report.

Task 9: Improve and document the availability of data provided for coastal and offshore licensing.

The overall objective of this task is to engage with public authorities in Member States who receive data from licensing procedures for coastal or offshore activities. Specific attention is given to aquaculture and offshore energy. The Work Package is structured based on the following steps:

- Identification of potential stakeholders
- Inventory of data collection and licensing processes in each country
- Set up of a database
- Initiation development of a roadmap towards a more harmonised approach

In the previous period, Deliverable 4.4 was compiled and delivered with an inventory of identified stakeholders for licensing data. This inventory identified in total 128 stakeholders in 27 countries. More than half (52%) of the identified stakeholders were national governments from different ministries such as the Ministry of Energy, Ministry of Renewable Energy, Ministry of Environment and Water and the Ministry of Agriculture. This is followed by agencies (19%) and education such as universities and scientific institutes (9%).

In the current reporting period activities were undertaken for compiling Deliverable 4.5 - Inventory of current license data practices in each country – following on from Deliverable 4.4. The new inventory aims at establishing a baseline assessment of data collection and licensing processes in each country. This activity is led by Deltares and is currently still ongoing. The objective of this activity is twofold:

- Identify practices on data collection and licensing processes;
- Examine relevant previous EU-funded projects to identify common methodologies, roadmaps and synergies which would support the proposed approach of this project.

The collection of the information is done by the consortium members and is in practice quite a lengthy process and depending on the speed at which their national and local contact respond to the information requests of EMODnet partners. At the moment, the project team has been able to collect initial information for the countries indicated in the following image.

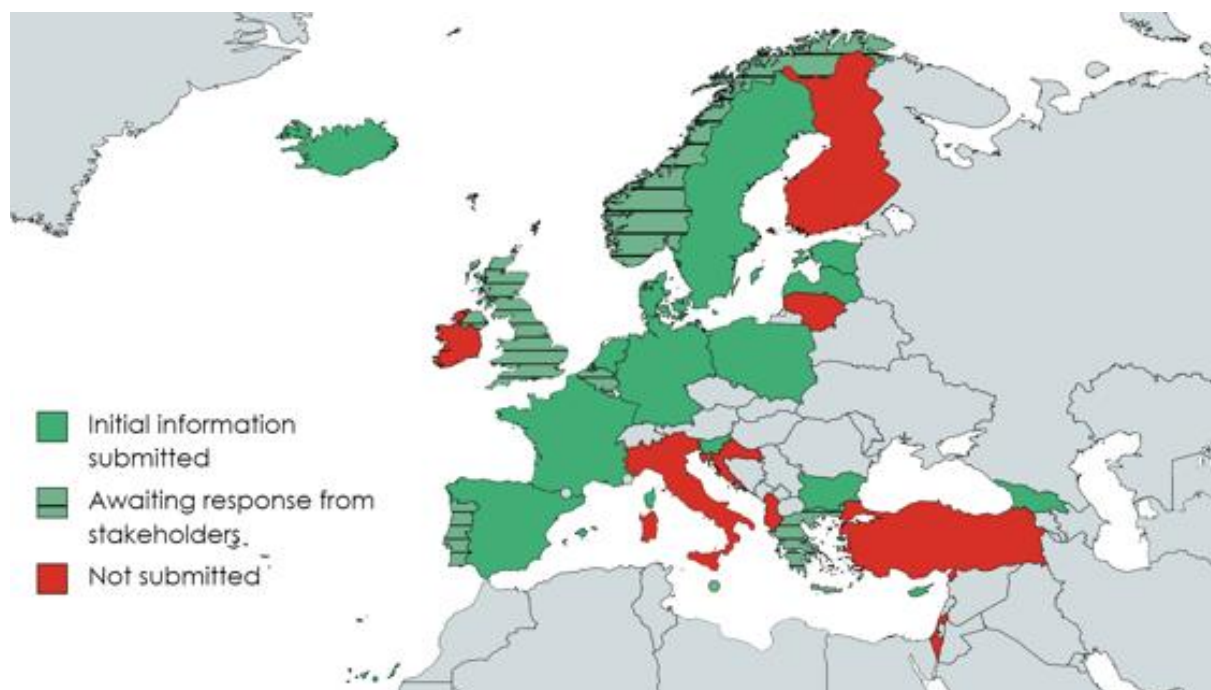


Image: Overview of current responses for the D4.5 inventory.

Task 10: Service continuity during operation and for transition

Coordination of the consortium is undertaken by MARIS and HCMR to ensure the continuity of the EMODnet Ingestion portal and its array of services.

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
D0.1: Quarterly concise progress reports	0.1	M4, M7, M10, M13, M16, M19, M22, M24	D0.1-a delivered; others to do	M4, M7, M10, M13	
D0.2: Interim report	0.1	M12	To do		
D0.3: Final report	0.1	M24	To do		
D0.4: Transition and hand over protocol	0.1	M24	To do		
D0.5i: Agreement and subcontracts	0.1	M1	All done		
D0.6i: Short minutes - action lists of internal coordination meetings	0.1	Regularly	Ongoing		
D1.1: Web portal operational, incl extranet	1.1	M1 – M24	Delivered	Operational since M0	
D1.2: Guidelines, manuals, handbooks on portal	1.1	M1 – M24	Delivered	Operational since M0	
D1.3: User Management service operational (Marine-ID /EU Login)	1.2	M1 – M24	Delivered	Operational since M0	
D1.4: Data Submission Service operational	1.3	M1 – M24	Delivered	Operational since M0	
D1.5: Data Submission Service upgraded	1.3	M1 – M8	Delivered	Operational since M6	
D1.6: Data tracking service operational	1.4	M1 – M24	Delivered	Operational since M0	
D1.7: View Submissions service operational	1.5	M1 – M24	Delivered	Operational since M0	

D1.7: Portal and services moved to Central Portal	1.1 – 1.5	M1 – M12 ¹	To do		
D2.1: Pathways operational	2.1	M1 – M24	Delivered	Operational since M0	
D2.2: Many submissions processed and published ‘as is’ (phase 1) and at EMODnet thematic services (phase 2)	2.1	M12, M24	Underway		
D2.3: Help service operational	2.2	M1 – M24	Delivered	Operational since M0	
D3.1: Updated documentation, standards and procedure for NRT and RT data published	3.1	M12, M24	Will be integrated in Interim Report		
D3.2: Connections with new NRT and RT monitoring stations operational	3.1	M12, M24	Will be integrated in Interim Report		
D3.3: ERDDAP installation package	3.1	M12	Delivered.	M6	See Github in Task 3
D3.4: DAB installation package	3.1	M12	Under testing (see WHOS activity)		
D3.5: SWE to ERDDAP software module	3.2	M22	Underway		
D3.6: Upgraded Viewing service for NRT and RT stations	3.2	M12	Delivered		See viewer in Task 3
D4.1: Inventory updated of potential data sources and providers in European countries and priorities	4.1	M8	Delivered	M8	

¹ Migration process has started in M15 in agreement with Contracting Authority, so should be arranged before M24

D4.2: Updated promotion material	4.4	M12, M24	Regularly		
D4.3: Results of marketing and outreach activities	4.2	M12, M20	Will be integrated in Interim Report		
D4.4: Inventory of identified stakeholders for licensing data	4.3	M6	2 nd and largely improved version Delivered	M6, M8	
D4.5: Inventory of current license data practices	4.3	M14	Underway		
D4.6: Database about availability of license data per country	4.3	M18	To do		
D4.7: Reporting on license data Workshop	4.3	M22	To do		

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

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

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
Jan. 23	News Digest	Contribution to EMODnet News Digest + Ingestion website: Visibility of the dataset inventory + stakeholders inventory results + enlarged use cases compilation			Yes
Feb 23	Leaflet A4 R/V	Update leafletA4 R/V with two new use cases in support of the objectives of WP4.2 and 4.3 (Off-shore licensing data); printed version to be disseminated to partners at the plenary meeting (11-12 April 2023)			Yes

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

April – June 2023	Video production #1	Feed a YT playlist with Ingestions videos + invite colleagues to present their case studies in a series of self recorded presentations with Zoom. A good briefing will be prepared.			Yes
April – Dec 2023	Use cases	Collect more use cases and describe these as success stories together with consortium partners			Yes
2023	ResearchGate	Publication of EMODnet Ingestion posters: to enlarge visibility of the project in Science Social Media (several EMODnet publications available)			Yes
2023	Academia.edu	Publication of EMODnet Ingestion posters: : to enlarge visibility of the project in Science Social Media (several EMODnet publications available))		Yes

For a compressive 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	Submission Viewing service	The total number of new phase 1 + phase 2 submissions in the current quarter is 86 and of this 28 were elaborated to phase 2. The overall number of published submissions went from 1176 to 1262.
What is your opinion on the data coverage within EMODnet for your thematic? B) Usage of data in this quarter	Submission Viewing service	The submissions are well divided over the EMODnet thematics. They follow more or less the division of ocean observation activities for different data types.
	Cloud storage of Submission Viewing service	The total number of download transactions and volume increased considerably compared to the previous quarter.
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	Submission Viewing service	There is a good mix in organisation types and countries. The total number of data providers has increased with 3 in the last quarter to 196.
5.1 Daily number of page views of EMODnet Thematic entry page	AWSTATS	The Europe Analytics are not available (yet) for EMODnet Ingestion as it has not yet been migrated to the Central Portal. Therefore, AWSTATS are included which report on the portal visits. The daily number of page views on average is circa 250
5.2 Quarterly total number of visitors, page views, unique page views and percentage of returning visitors	AWSTATS	The Europe Analytics are not available (yet) for EMODnet Ingestion as it has not yet been migrated to the Central Portal. Therefore, AWSTATS are included which report on the portal visits. The number of visits is quite high, but in the last quarter considerably lower than previous quarter.

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.]