



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 (7)

Reporting Period: 01/10/2023 – 31/12/2023



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1. Highlights in this quarter

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.

In the framework of migration of the EMODnet Ingestion to the Central Portal, two meetings took place between EMODnet Ingestion, CP technical team and EU (9 October and 23 of November 2023) to finalize the next steps for the migration plan of the Ingestion service to the CP. EMODnet Ingestion analyzed the target migration situation regarding the Submission service, namely splitting the front end and the back end, connected by an API. The back end, including the contents and API will stay at the servers of HCMR, while the front end will be hosted at the CP servers at VLIZ. A development – staging environment, to be provided by the CP, will be used during the development phase and prior to moving to the production. The work for the Submission service migration has been divided over four working packages (WP) and the estimated time for development is four months. The WPs are: a) API development, b) Frontend development, c) Testing, d) Staging /Deploy to Production. In this context, the required API development has started. The API features, have been identified as:

- RESTful
- Authentication/authorization
 - Token
 - ECAS
- Resource URIs
- Error Handling
- Versioning
- Limit enforcement (avoid abuse)
- Filtering, Sorting, Pagination operations

The existing solution is based on JSON encoding, which facilitates the control of the procedure. PHP language is used. The API operations needed have been identified. Some important issues to be addressed are:

- the incorporation of ECAS and specifically if and how it will be used for API authentication/authorization. It is agreed that CP will look into ECAS configuration details as it is also needed for the EMODnet Portal CMS, and will provide guidance information and support to Ingestion for adopting ECAS as AAI for the submission service. Replacing the current AAI (Marine-ID) with ECAS will also require an efficient plan for migrating the current Marine-ID registered users to an ECAS account, while preserving the relations of each user with the contents in the Submissions database;
- data upload management, since the files submitted need a temporary storage where the front end resides and then after that upload to Ingestion servers needs to take place. This procedure could be challenging for large datasets.

The front end, will be deployed at the CP test site by EMODnet Ingestion, which requires account access. Regarding the front-end development, a sample which will be provided by VLIZ is needed to start the development.

The planned migration also includes other activities:

- The static content of the EMODnet Ingestion website will move to a dedicated section of the Central Portal, comparable to the dedicated sections for each of the Thematic Lots. The CP Team has already prepared a draft version on the CP development site, which EMODnet Ingestion will review and complete in cooperation with CP team once the ingestion services are done;
- For the Viewing service it is planned to integrate its contents (full submission records) into the Central Portal Products Catalogue. Earlier a mapping analysis has been performed by HCMR, comparing the metadata formats of the Viewing service and the Products Catalogue, exploring how the published submission records might fit. The mapping analysis indicates that the Viewing service features multiple metadata fields which are not (yet) supported by the Products Catalogue. Also, the Submission service makes use of several controlled vocabularies and directories (such as EDMO, CSR, EDMERP). As follow up, the CP team will review the mapping analysis and together with EMODnet Ingestion will see how the format of the Products Catalogue might be expanded with extra tags to make it fit. Both catalogues are based on versions of the ISO 19115 model, so this seems to be feasible. MARIS and HCMR will provide a suitable example XML record to CP team. The back-end of the Viewing service will continue to be operated and managed by MARIS and for the regular transfer to the CP Products Catalogue, use will be made of XML files, which can be harvested by the CP GeoNetWork service.
- The realtime viewer service, as developed and managed by EMODnet Physics together with EMODnet Ingestion, will continue to be hosted by ETT, and this will interact with the Central Portal Map Viewer by means of an OGC WMS – WFS exchange. EMODnet Physics will have two map folders, one for its mature phase 2 maps of physics stations and access to their metadata and data sets, and another one for the phase 1 maps as part of EMODnet Ingestion. In practice, the functionality for both types will follow a common principle with maps and options for filtering, using ERDDAP and OGC WMS-WFS services. EMODnet Physics is well underway with finalizing the reorganization of its overall set-up, after which a test deployment can be undertaken;
- For internal communication, the Ingestion consortium uses an extranet. This will be continued as before and separately from the Central Portal.

MEDIN – MDE exchange to the Submission service: the latest json file with MEDIN output has been reviewed by NOC-BODC and HCMR. Remaining is the issue with the licensing schema. Licensing terms' definition is an ongoing task, undertaken by The Crown Estate. Once this is also settled, then the further technical deployment will take place of the MDE-MEDIN => INGESTION exchange process.

Task 2: Implement pathways for delivering data to final repositories

The total number of received submissions increased from 1509 to 1548, while the number of processed and published data submissions increased from 1367 to 1411, and of which, the number of fully elaborated data submissions went from 624 to 639 data. The KPI excel sheet provides more details.

Task 3: Facilitate machine-to-machine transfers

Activities have continued as planned, and several additional operational stations—such as river stations, gliders, and surface unmanned vehicles—have been integrated into the system. It's worth highlighting that this activity is supported by dissemination and engagement efforts in collaboration with other projects and initiatives (such as JERICO, BlueCloud, Physics, Chemistry, etc.). A number of workshops have been organized

to showcase the potential of data collected from cost-effective ocean sensors. Some of this data has already begun to be submitted for ingestion. To maintain this momentum, ongoing discussions are being held to integrate these activities under the Ocean Decade Program CoastPredict. Discussions have also occurred with the Decade Program Observing Together.

This is facilitating the ingestion/link of new sources and this figure is presenting the latest “as is” platforms. A list of platforms, that have been newly integrated in the reporting period, is given in Annex 2 and is illustrated in the following map. Notably, this outcome is the result of joint activities between Ingestion, Physics, MIC TWG, INS TAC, with the support and contribution of many other integrators.

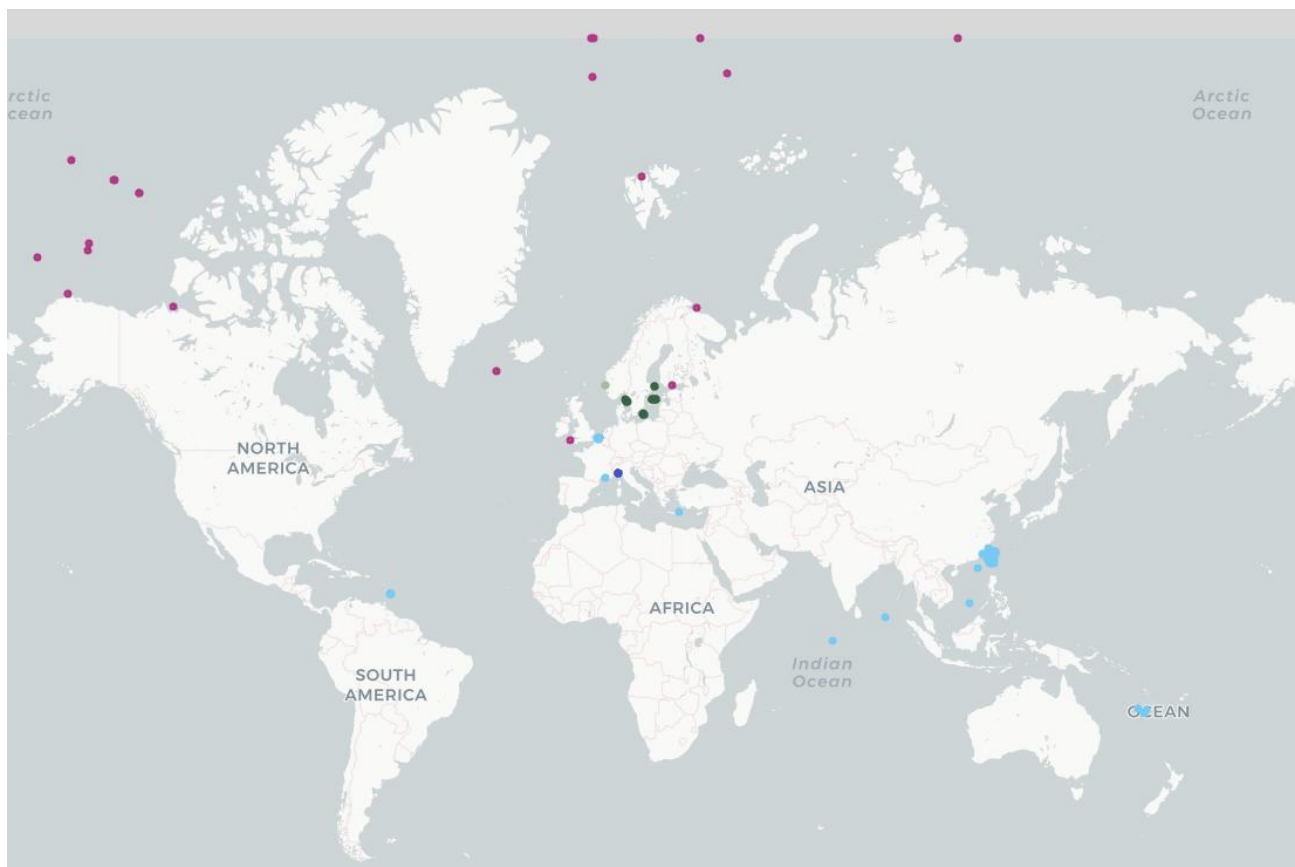


Figure 1. newly integrated platforms,

A session proposal on low-cost ocean sensors and data has been submitted for consideration at Ocean Sciences 2024 (<https://www.agu.org/Ocean-Sciences-Meeting>), Oceanology International 2024 (<https://www.oceanologyinternational.com/london/en-gb.html>), and MARTECH 2024 (<https://sarti.webs.upc.edu/martech/>).

In order to manage the different flows, the two phases of publishing, and to make the large amount of information ready for the central portal, the backend data management workflow was further elaborated and it is now organized with the use of the ERDDAP middle layer for data management. This ensures that the workflow from source to EMODnet (Physics) aligns well with other workflows (see figure 2)

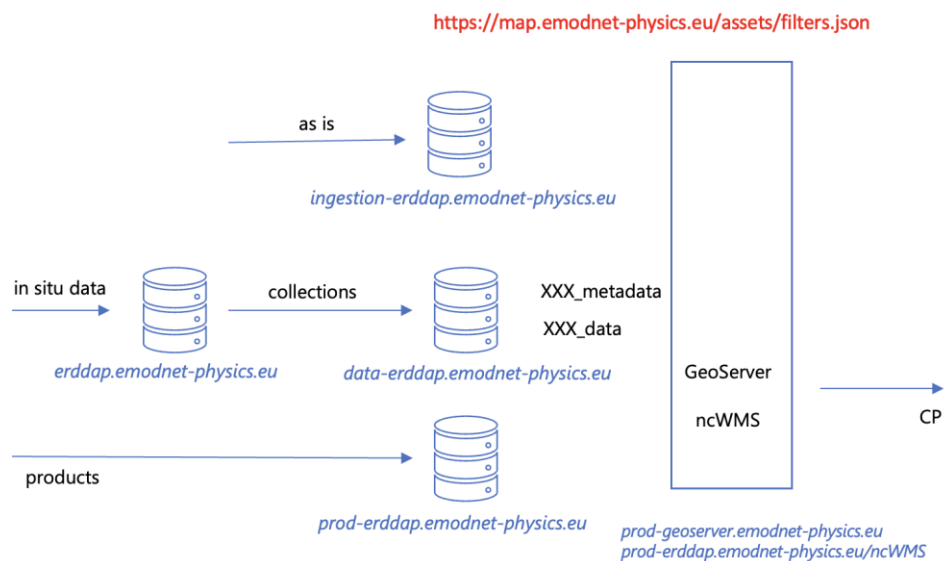


Figure 2: new set up of the EMODnet Physics for phase 1 (as-is) and phase 2 (structured) data streams

While the ingestion-erddap.emodnet-physics.eu provides the user an easy way to interact with latest ingested RT collections, the data is in parallel integrated into the metadata-controlled collections. This way, the RT data end up in a dedicated collection, which is offered to CP under a specific WMS layer.

As illustrated in **Error! Reference source not found.**, the EMODnet geoserver (prod-geoserver.emodnet-physics.eu) provides the CP with the WMS/WFS layers. For the in-situ data and collections, each layer is offering the position of the platform (type of the platform) and the WFS is offering the platform page html (metadata and charts). The html pages are populated with data from the collections in the ERDDAP server.

Information to include the new “as is” layer into CP is fully described under the JIRA ticket EM-911

See Annex 2 for a table listing all the platforms integrated during the reporting period.

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 four questions were received and answered. All were from VITO (Belgium) and consisted questions about how to prepare and submit Beach Litter data sets as part of the REMEDIES project. Following the guidance and support given, a first beach litter data set submission was received from Morocco and this submission was checked by OGS as sufficient for fitting the European Beach Litter database of EMODnet Chemistry. The submission will be elaborated further.

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 organizations 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.

A number of meetings took place in preparation of events with EMODnet Ingestion involvement, such as:

- EMODnet Ingestion participated in two preparation meetings (16 & 21 November 2023) with the EMODnet Secretariat regarding the Ingestion input during the Jamboree & Open Conference, 27-30 November 2023, Brussels, Belgium.
- EMODnet Ingestion participated in a follow-up meeting (6 November 2023) between EMODnet Secretariat and RGI. The discussion was initiated in 2021 with no much progress since then. RGI is a network with members from offshore renewable energy (private sector, NGOs, other) and they also engage with ministries and national authorities. A partnership between EMODnet and RGI would help to raise awareness of EMODnet amongst such actors and potentially streamline the submission of data from these data collectors into EMODnet.
- EMODnet Ingestion participated in one meeting (18 December 2023) with EMODnet Secretariat and EU to plan the EMODnet webinar (overview, draft agenda and timing) for EU Horizon Europe and Mission Ocean projects, which is planned for 28 February 2024. For this webinar a roadmap has been agreed that will be detailed between EMODnet Secretariat, EMODnet Ingestion, and DG-MARE in the coming weeks.

EMODnet Ingestion participated and contributed during the EMODnet Jamboree in Brussels – Belgium on 29 November 2023 to the ‘EMODnet for the Blue Economy Town Hall meeting’ presenting the Data ingestion with Blue Economy data sharing. EMODnet Ingestion also participated in the EMODnet Open Conference on 30 November 2023, in the Plenary Session 4: EMODnet, Ocean Observation and the marine knowledge value chain, with two presentations, namely a) EMODnet in the marine knowledge value chain, and b) EMODnet Data Ingestion: in search of new data providers from every sector of marine society.

During the EMODnet Jamboree, also a combined EMODnet Ingestion and EMODnet Physics meeting took place on Monday 27 November 2023, where the progress and the synergies between the projects were discussed.

The EMODnet Open Conference on 29-30 November 2023 itself was a huge success with many participants (300+) from various stakeholder groups and stimulating presentations and discussions. The poster “All hands on deck to put your data to work” on the success stories of EMODnet DIP 3 compiling 12 country cases was well perceived. The poster presented country cases collected by the Emodnet Ingestion roaring factory from around the European Seas, like the provision of numerous datasets by Marine Scotland Science and the collaborative integration of sensors with fishing by the Bering Data Collective.

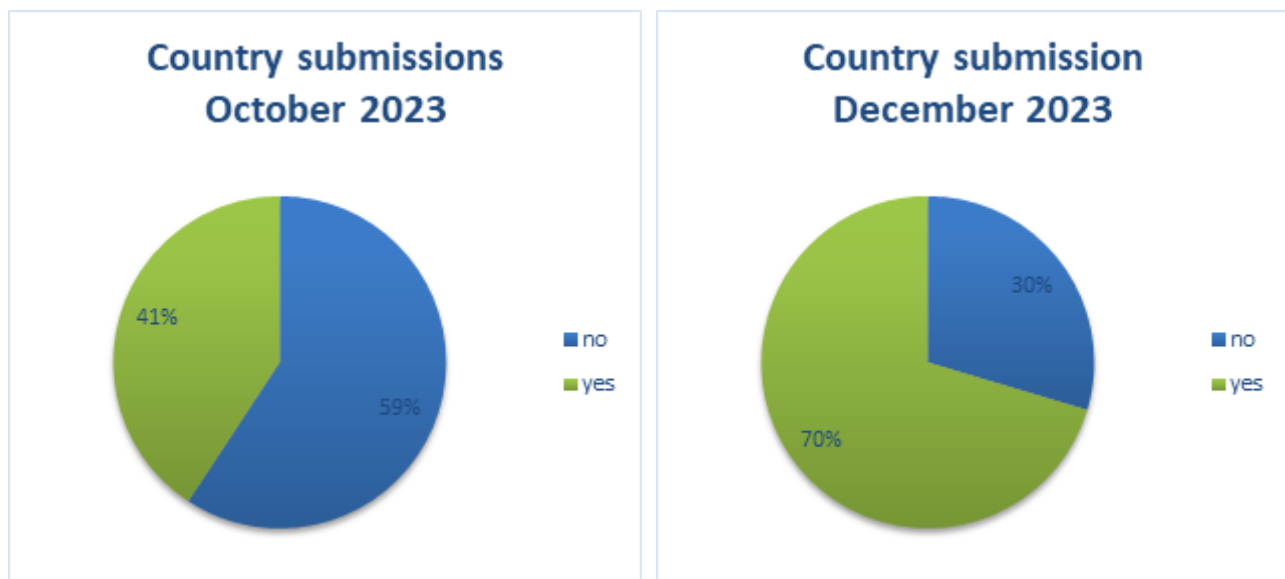
The central document compiling all outreach activities and events in one large file as a google document is being continuously updated. The file is shared with anyone with the link for collaboration and input for updating the outreach and events tables, like meetings or events, communication assets and scientific publications. The partners are being encouraged to continuously update the document with their latest outreach activities. Reminders to complete the document are sent regularly. The extended list of activities indicates clearly the large range of outreach activities by the partners during this quarter, with posters, oral presentations and training activities both on line and in person. "

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

In the previous quarter, a first draft of deliverable D4.6 was delivered. This concerns a user-friendly database that tracks the availability of license data in each participating country. This database is primarily oriented towards parameters relevant to coastal and offshore activities, particularly in the domains of aquaculture and offshore renewable energy. Its primary objective is to provide in-depth specifications and insights into the accessibility of data from all participating countries. The database is set up as an online spreadsheet, which allows EMODnet Ingestion partners to provide further entries and updates throughout the project's lifecycle, ensuring the most up-to-date information. The database can be found at the following link:

https://docs.google.com/spreadsheets/d/1egFbOT_OAv33rKMesimFn6ZcZOa7zJ2P/edit#gid=908349422

In the current reporting period, further significant advancements have been made in the population of the database with information from more countries. Notably, as of end previous quarter, information population from 11 out of the 27 countries had been achieved. By end of the current quarter, this number impressively increased to 19 out of 27 countries. This progress underscores the commitment of the Ingestion consortium to ongoing improvement and expansion of the database, even beyond initial project milestones.



Images: Completion of the license procedures database

Deliverable D4.6 and its findings are integral components for the ongoing roadmap development (scheduled for M12-M22). As key step in crafting the roadmap aimed at achieving a more harmonised approach, preparations for a **workshop** are already in progress, with the event itself expected to convene end of February 2024. The concept note for the upcoming workshop is added to this quarterly report as Annex 1. On short term, further dialogue is required with the EMODnet Secretariat and DG-MARE for finetuning the programme and launching promotion for the Workshop which is planned for 29th February 2024.

See Annex 1 with Draft programme for the dedicated Workshop.

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. The Q3 report has been prepared and submitted which was accepted by the EU. A plenary meeting for EMODnet Ingestion is planned for 3 – 5 April 2024.

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,b,c,d,e,f,g delivered; one more to do	M4, M7, M10, M13, M16, M19, M22	
D0.2: Interim report	0.1	M12	Delivered and accepted	27 April 2023; amended 29 June 2023	
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	1.2	M1 – M24	Delivered	Operational since M0	

operational (Marine-ID /EU Login)					
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	Underway		Delayed to M24 as agreed with EU
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	Delivered; integrated as Annex in Interim Report		
D3.2: Connections with new NRT and RT monitoring stations operational	3.1	M12, M24	Delivered; integrated as Annex in Interim Report		
D3.3: ERDDAP installation package	3.1	M12	Delivered.	M6	See Interim Report

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

D3.4: DAB installation package	3.1	M12	Under testing (see WHOS activity)		
D3.5: SWE to ERDDAP software module	3.2	M22	Delivered and in use in new M-to-M set-up for Task 3		
D3.6: Upgraded Viewing service for NRT and RT stations	3.2	M12	Delivered		See Interim Report
D4.1: Inventory updated of potential data sources and providers in European countries and priorities	4.1	M8	Delivered	M8	
D4.2: Updated promotion material	4.4	M12, M24	Regularly		
D4.3: Results of marketing and outreach activities	4.2	M12, M20	M12 integrated in Interim Report; M20 to be integrated in Final 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	Delivered	M15	Delivered with Q2-2023 report
D4.6: Database about availability of license data per country	4.3	M18	2 nd and wide populated version Delivered	M18, M21	See Task 9
D4.7: Reporting on license data Workshop	4.3	M22	To do	Workshop planned at 29 Feb 2024; see Annex 1	Delayed to M24

2. Identified issues: status and actions taken

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
EM-781: Data Flow and Process flow per use case for Data Ingestion	Resolved	Analysis done and reported on JIRA		5 Oct 2023
EM-785: DI to provide information about the Physics SWE demonstrator	Resolved	See EM-911 with specs from EMODnet Physics		Dec 2023
EM-768: An epic to collect together JIRA for the DIP centralisation	Pending	Folder to follow all DIP migration activities	End March 2024	
EM-783 Risk Analysis on using ECAS for whole DIP system	Pending	CP Team to analyse; results also relevant for DIP Submission service	End Feb 2024	
EM-305/322 Content Inventory Data Ingestion	Pending	CP team has made a narrative compilation and composed a first Ingestion narrative at CP test site for check and completion by DIP	End Feb 2024	
EM-893 Setup EMODnet styled page for the submission service	Pending	CP team to set up an example page with the EMODnet/Europa styling header/footer/page styling	End Jan 2024	
EM-888 Ingestion metadata harvesting by CP Geonetwork - issues to be checked by CP	Pending	Ingestion made mapping which has to be reviewed by CP team how to make a fit	End Jan 2024	
EM-827: Data Ingestion to send email address	Resolved	Data Ingestion to send email address		Mid Dec 2023

B. Issues / challenges identified by the thematic assembly group itself				
Priority issue / challenge	Status	Action(s) taken / remaining actions planned	Date due	Date resolved

	(Pending/ 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

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

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

4. Monitoring indicators

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 44 and of this 15 were elaborated to phase 2. The overall number of published submissions went from 1367 to 1411.
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.
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	Submission Viewing service	New data submissions were received from 14 organisations, mostly academic and research.
9) Visibility & analytics for web pages	Grafana	The visits to the Homepage, Submission service and Viewing service are quite stable in time.
10) Visibility & analytics for web sections	Grafana	The Viewing Service which publishes the completed submissions generates most traffic and this is quite stable over time. Overall, there is no high traffic on the site, but is also not to be expected considering the function of EMODnet Ingestion in the EMODnet framework.
11) Average visit duration for web pages	Grafana	The average daily visit duration for the Viewing service section went up from 20 sec to 30 seconds, while the homepage continued at 35 seconds

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

5. Annex 1: D4.7 - Draft programme for Workshop on improving availability of data collected for coastal and offshore licensing

Concept Note – Needs refinement

Background and Purpose:

EMODnet as the EU focal point for in situ data, data products and services for the Ocean, Marine and Coastal waters, plays a crucial role in enhancing marine data acquisition and management practices across Member States. In several European countries there is legislation concerning licensing for coastal and offshore activities which includes collection of data for assessment and monitoring purposes. From a recent analysis, undertaken as part of EMODnet Ingestion, in particular for offshore aquaculture and renewable energy activities, it appears that there is a diversity in current practices and approaches towards availability of the collected marine data sets. Therefore, there is opportunity to refine our understanding and explore the feasibility of a more harmonized approach. To this end, a workshop is proposed, bringing together stakeholders and EMODnet Ingestion members to present, discuss, and evaluate findings on existing practices.

Objectives:

1. **Initiate the Development of a Roadmap:** The workshop aims to lay the groundwork for a roadmap towards a more harmonized approach in data acquisition and data management within license procedures.
2. **Presentation and Discussion of Current Practices:** Findings on current practices in different Member States will be presented and discussed, with a focus on identifying best practices and areas for improvement.
3. **Exploration of Harmonization Feasibility:** Engage in a comprehensive discussion to assess whether a harmonized approach is desirable and feasible, both between and within Member States.

Date and Format:

- Scheduled for February 29, 2024, from 14.00 to 16.30 CET.
- The workshop will be conducted online and moderated by Deltares.
- Invitations and a draft agenda will be shared in advance.

Draft Agenda:

14:00 - 14:10 | Welcome and Introduction (10 minutes) (Deltares)

- Opening by Deltares
- Participant Introductions: Using Mentimeter: Where are you from and which organisation?
- Welcome Remarks: Brief introduction of the challenge at hand by EU representative

14:10 - 14:20 | Overview of EMODnet Ingestion and Workshop Goals (10 minutes) (MARIS and Deltares)

- Context Setting: Overview of EMODnet role and importance.
 - By MARIS
- Workshop Objectives: Detailed explanation of the workshop's aims and expected outcomes.
 - By Deltares

14:20 - 14:30 | Presentation of Findings from D4.5 and D4.6 (10 minutes) (Deltares)

- Presentation: Key findings and insights from the D4.5 and D4.6 reports.
- Q&A Session: Brief question and answer segment for clarifications.

14:30 - 15:00 | Best Practices in Offshore Renewable Energy Licensing (30 minutes)

- Country Presentation: Overview of licensing procedure in selected countries
- Group Discussion/Miro board?: Focused discussion on best practices and challenges in offshore energy.
- Moderator Summary: Each group's moderator to summarize key points.

15:00 - 15:30 | Best Practices in Aquaculture Licensing (30 minutes)

- Country Presentation: Overview of licensing procedure in selected countries
- Group Discussion/Miro board?: Focused discussion on best practices and challenges in aquaculture.
- Moderator Summary: Each group's moderator to summarize key points.

15:30 - 15:40 | Coffee Break (10 minutes)

15:40 - 16:10 | Plenary Discussion: Harmonization Needs and Feasibility (30 minutes)

- Group Feedback: Representatives from each breakout session to share insights.
- Open Discussion: Collective discussion on the need for and feasibility of a harmonized approach.

16:10 - 16:25 | Roadmap Development and Next Steps (15 minutes)

- Initial Thoughts on Roadmap: Presentation of preliminary ideas for the roadmap.
- Feedback and Suggestions: Gathering input and suggestions from participants.

16:25 - 16:30 | Closing Remarks and Acknowledgements (5 minutes) (Deltares)

- Summary of Key Takeaways: Brief recap of the workshop's main points.

Conclusion:

This workshop represents a step towards understanding and potentially harmonizing data acquisition and management practices as part of licensing procedures across EU member countries. The engagement of stakeholders and experts in this dialogue is crucial for the successful development of a more unified and efficient approach.

Additional information

Invited participants:

- Stakeholders as identified in D4.4
- Consortium partners
- Other EMODnet partners?

Actions:

- Finalize agenda
- Finalize invitation
- Share invitation (15-19 Jan)
- Identify best practices together with partners

6. Annex 2: List of platforms as ingested in reporting period as part of EMODnet Ingestion – Physics cooperation

The following table lists the newly integrated platforms.

Name	Lat	Lon	Last value	Provider	Country	Integration date
Adcp03	44,403862	8,875772	2024-01-08T08:12:03Z	University of Genova - Dipartimento di scienze della terra, dell'ambiente e della vita - DISTAV	ITA	2023-10-17T15:27:04Z
Adcp02	44,403862	8,875772	2024-01-08T08:12:03Z	University of Genova - Dipartimento di scienze della terra, dell'ambiente e della vita - DISTAV	ITA	2023-10-17T15:27:04Z
Adcp01	44,403862	8,875772	2024-01-08T08:12:03Z	University of Genova - Dipartimento di scienze della terra, dell'ambiente e della vita - DISTAV	ITA	2023-10-17T15:27:27Z
Adcp04	44,413924	8,817242	2023-11-22T10:42:02Z	University of Genova - Dipartimento di scienze della terra, dell'ambiente e della vita - DISTAV	ITA	2023-10-17T15:27:04Z
HFR-Vestlandet	60,25	4,75	2023-12-10T12:30:00Z	Norwegian Meteorological Institute	NOR	2023-11-15T15:15:09Z
kaso	35,4186	26,92184	2024-01-08T08:14:00Z	ISRAEL ELECTRIC COMPANY	ISR	2023-10-02T06:20:01Z
mpaw	51,3605556	3,11833333	2024-01-08T08:10:00Z	Maritieme Dienstverlening en Kust (Belgium)	BEL	2023-10-23T10:17:04Z
hien2	-20,692833	164,942167	2024-01-08T08:10:00Z	Service hydrographique et océanographique de la marine (France)	FRA	2023-12-13T11:22:02Z
lifo2	-20,918472	167,278694	2024-01-08T08:10:00Z	Service hydrographique et océanographique de la marine (France)	FRA	2023-12-20T13:23:00Z
ptbc2	43,398056	4,982778	2024-01-08T08:06:00Z	NAVY HYDROGRAPHIC AND OCEANOGRAPHIC SERVICE, MILITARY OCEANOGRAPHY CENTRE	FRA	2023-10-03T08:22:22Z
brid2	13,1113555	-59,631414	2024-01-08T08:05:00Z	Barbados Meteorological Services (Barbados)	BAR	2023-10-23T10:17:28Z
bcon	13,179314	-59,466331	2024-01-08T08:05:00Z	Barbados Meteorological Services (Barbados)	BAR	2023-11-17T15:17:27Z
mpcw	51,3886111	2,43777778	2024-01-08T08:05:00Z	Maritieme Dienstverlening en Kust (Belgium)	BEL	2023-10-23T10:25:55Z
nieu	51,1505556	2,72805556	2024-01-08T08:05:00Z	Maritieme Dienstverlening en Kust (Belgium)	BEL	2023-10-23T10:21:48Z

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oste1	51,2342861	2,9266805 6	2024-01-08T08:05:00Z	Maritieme Dienstverlening en Kust (Belgium)	BEL	2023-10-23T10:24:50Z
blkw	51,3105556	3,1163888 9	2024-01-08T08:05:00Z	Maritieme Dienstverlening en Kust (Belgium)	BEL	2023-10-23T10:18:11Z
zwdw	51,3552778	3,1780555 6	2024-01-08T08:05:00Z	Maritieme Dienstverlening en Kust (Belgium)	BEL	2023-10-23T10:25:41Z
mphw	51,3897222	3,1986111 1	2024-01-08T08:05:00Z	Maritieme Dienstverlening en Kust (Belgium)	BEL	2023-10-23T10:18:11Z
zldw	51,3463889	3,2002777 8	2024-01-08T08:05:00Z	Maritieme Dienstverlening en Kust (Belgium)	BEL	2023-10-23T10:25:41Z
bspe	13,250253	- 59,640894	2024-01-08T08:04:00Z	Barbados Meteorological Services (Barbados)	BAR	2023-10-23T10:26:29Z
Male2	-0,686	73,152	2024-01-08T08:01:00Z	Maldives Meteorological Department (Maldives)	MDV	2023-11-08T19:22:06Z
ouin2	-21,982878	166,68327 6	2024-01-08T07:58:00Z	Service hydrographique et oceanographique de la marine (France)	FRA	2023-11-14T11:23:41Z
tnan	10,3736	114,3603	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:25:50Z
tdos	20,7	116,69	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:21:34Z
tshu	24,4211	118,2892	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:28:39Z
tlia	24,4075	118,4267	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:23:28Z
tcim	23,19	119,42	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:18:20Z
tpen	23,5619	119,5782	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:27:09Z
tjib	23,7386	119,6132	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:23:55Z
tdoj	23,2546	119,6678	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:21:34Z
tmat	26,1617	119,9428	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:25:21Z
tjia	23,2116	120,083	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:23:29Z
tsic	23,0236	120,1119	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:29:26Z
twun	23,4667	120,1225	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:30:26Z
tboz	23,6186	120,1375	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:16:35Z

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tdog	23,45	120,1394	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:21:34Z
tanp	22,9883	120,1497	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:18:20Z
tmai	23,7861	120,1603	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:23:27Z
tyon	22,8189	120,1975	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:30:45Z
tkao	22,6144	120,2883	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:23:28Z
txil	22,3533	120,3833	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:30:26Z
tluk	24,0849	120,4204	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:23:27Z
tdon	22,4651	120,4383	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:21:34Z
ttai	24,2878	120,5331	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:29:24Z
tfan	22,3636	120,5931	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:21:33Z
tsyu	21,9856	120,7119	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:29:24Z
thou	21,9458	120,7453	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:21:30Z
twai	24,6514	120,7714	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:30:27Z
tdaw	22,3375	120,8972	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:21:29Z
thsi	24,8486	120,9206	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:21:30Z
tfug	22,7908	121,1931	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:22:54Z
tjhu	25,1181	121,2433	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:23:55Z
tche	23,0972	121,3799	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:18:50Z
txig	23,1589	121,4036	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:30:45Z
tdan	25,1839	121,4075	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:18:50Z
tdas	25,1757	121,4248	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:18:50Z

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tlyu	22,6605	121,473	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:24:26Z
tshi	23,4947	121,5062	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:28:39Z
tlan	22,0577	121,5079	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:23:30Z
tlin	25,2839	121,5103	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:23:55Z
thua	23,9806	121,6236	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:22:54Z
tkee	25,155	121,7522	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:23:28Z
thep	24,3031	121,7561	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:21:30Z
tzha	25,1406	121,7998	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:30:45Z
twus	24,8686	121,8396	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:30:26Z
tsua	24,5925	121,8658	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:31:31Z
tlon	25,0975	121,9181	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:24:57Z
tful	25,0217	121,9503	2024-01-08T07:00:00Z	Central Weather Administration (Taiwan)	TWN	2024-01-04T13:21:32Z
dni2	6,2547	88,7919	2024-01-08T05:00:00Z	Unknown	IND	2023-10-07T17:25:09Z
bois	13,0706	-59,547	2023-11-14T12:53:00Z	Barbados Meteorological Services (Barbados)	BAR	2023-11-17T15:23:00Z
mpsw	51,4183333	3,2986111 1	2023-10-24T11:40:00Z	Maritieme Dienstverlening en Kust (Belgium)	BEL	2023-10-23T10:24:40Z
3,0053E+14	62,1988	-27,6722	2023-12-14T18:00:00Z	Unknown	Unknown	2023-10-28T02:33:59Z
3,0053E+14	51,0225	-5,6989	2023-12-14T18:00:00Z	Unknown	Unknown	2023-10-28T02:31:21Z
3,0053E+14	83,9364	1,1353	2023-12-14T18:00:00Z	Unknown	Unknown	2023-10-28T02:33:59Z
3,0053E+14	79,7823	15,6764	2023-12-14T18:00:00Z	Unknown	Unknown	2023-10-28T02:33:59Z
3,0053E+14	69,8672	32,3757	2023-12-14T18:00:00Z	Unknown	Unknown	2023-10-28T02:31:20Z
3,0053E+14	84,037	41,4796	2023-12-14T18:00:00Z	Unknown	Unknown	2023-10-28T02:33:59Z

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3,0003E+14	78,91297	- 134,98345	2023-12- 14T17:01:00Z	Unknown	Unknown	2023-11- 04T03:18:58Z
800055	79,63159	- 142,83885	2023-12- 14T06:57:00Z	Unknown	Unknown	2023-11- 04T03:21:33Z
3,0013E+14	78,92333	- 134,92921	2023-12- 14T06:44:00Z	POLAR SCIENCE CENTER	UNKNOWN	2023-10- 03T02:23:23Z
3,0023E+14	87,08755	33,31801	2023-12- 14T02:00:00Z	Unknown	Unknown	2023-11- 04T03:19:58Z
3,0053E+14	86,05698	0,74254	2023-12- 14T00:00:00Z	Alfred-Wegener-Institute for Polar and Marine Research	Unknown	2023-11- 04T03:21:35Z
3,0053E+14	74,50019	- 165,57121	2023-12- 13T14:30:00Z	Unknown	Unknown	2023-10- 22T02:31:46Z
3,0053E+14	86,0181	1,449	2023-12- 13T13:00:00Z	Unknown	Unknown	2023-10- 28T02:33:59Z
3,0043E+14	80,65114	- 155,36125	2023-12- 13T08:00:00Z	Unknown	Unknown	2023-11- 04T03:27:38Z
3,0023E+14	85,27834	110,8821	2023-12- 12T21:59:00Z	Unknown	Unknown	2023-11- 04T03:18:57Z
3,0053E+14	71,32303	-156,6143	2023-12- 07T14:00:00Z	US International Arctic Buoy Program	Unknown	2023-12- 02T03:31:21Z
3,0043E+14	79,6514	- 142,44629	2023-12- 04T08:00:00Z	Unknown	Unknown	2023-11- 04T03:19:57Z
3,0003E+14	70,06461	- 124,71564	2023-11- 28T11:00:00Z	Unknown	Unknown	2023-11- 04T03:18:58Z
3,0053E+14	60,2034	24,9592	2023-11- 27T05:00:00Z	Unknown	Unknown	2023-11- 22T03:20:25Z
3,0053E+14	75,02159	- 150,50535	2023-11- 25T05:20:00Z	Unknown	Unknown	2023-10- 22T02:29:36Z
3,0053E+14	75,60021	- 150,05959	2023-10- 22T02:40:00Z	Unknown	Unknown	2023-10- 22T02:30:08Z
SEA056_M68	60,00705	19,67595	2024-01- 08T02:20:19Z	Voice of the Ocean Foundation	SE	2023-12- 15T15:01:35Z
SEA069_M23	58,0990833	10,96345	2024-01- 07T21:02:42Z	Voice of the Ocean Foundation	SE	2023-12- 27T15:50:38Z
SEA063_M69	55,50755	16,367116 7	2024-01- 07T19:29:53Z	Voice of the Ocean Foundation	SE	2023-12- 15T15:00:03Z
SEA077_M28	58,1506833	19,93435	2024-01- 07T10:43:08Z	Voice of the Ocean Foundation	SE	2023-12- 07T15:02:02Z
SEA078_M19	58,1659	18,9814	2024-01- 07T08:12:42Z	Voice of the Ocean Foundation	SE	2023-12- 07T15:04:02Z
SEA067_M51	55,5534833	16,352583 3	2023-12- 15T07:59:01Z	Voice of the Ocean Foundation	SE	2023-11- 29T15:00:04Z

SEA076_M21	59,9978667	19,7045167	2023-12-14T11:51:17Z	Voice of the Ocean Foundation	SE	2023-11-17T15:08:11Z
SEA069_M22	57,7942333	11,34765	2023-12-14T11:13:17Z	Voice of the Ocean Foundation	SE	2023-12-02T15:08:02Z
SEA066_M52	58,1634	18,9596667	2023-12-06T10:54:02Z	Voice of the Ocean Foundation	SE	2023-11-20T15:10:24Z
SEA079_M16	58,1504	19,9176	2023-12-06T09:07:28Z	Voice of the Ocean Foundation	SE	2023-11-13T15:08:26Z
SEA069_M21	57,63145	11,4553333	2023-12-01T08:55:25Z	Voice of the Ocean Foundation	SE	2023-11-17T15:03:09Z
SEA063_M67	55,5503833	16,33775	2023-11-29T10:04:33Z	Voice of the Ocean Foundation	SE	2023-11-14T03:00:09Z
SEA069_M19	57,73405	11,2915167	2023-11-15T11:12:23Z	Voice of the Ocean Foundation	SWE	2023-10-23T14:00:59Z
SEA056_M66	55,7166167	16,25215	2023-11-13T12:46:54Z	Voice of the Ocean Foundation	SWE	2023-10-18T14:00:05Z
SEA077_M25	58,14605	19,9191667	2023-11-11T10:25:10Z	Voice of the Ocean Foundation	SWE	2023-10-07T17:00:36Z
SEA078_M15	58,02155	19,0129	2023-11-11T07:20:55Z	Voice of the Ocean Foundation	SWE	2023-10-07T17:00:06Z
SEA069_M17	57,8374167	11,3203833	2023-10-10T12:03:56Z	Voice of the Ocean Foundation	SWE	2023-10-10T14:00:33Z