



EMODnet Ingestion and safe-keeping of marine data

8th Quarterly Report

Reporting Period: 01/04/2018 – 30/06/2018

Date: 01/07/2018

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1. Highlights in this reporting period

- The number of **published data submissions** ‘as is’ in the **View Submissions service** (aka Summary Records service) has largely increased from **106 to 182 submissions** (metadata forms and related data sets) and of these **24** submissions (was **6**) have been elaborated **to Phase II** and their data sets are now also available at national and European portals;
- Partners have made further progress with promoting EMODnet Ingestion and encouraging data submitters. Next to the **182** published submissions **23** additional submissions are under processing and also further activities are underway for phase II elaboration on already published submissions;
- The portal section on **ingesting operational oceanography** has been updated in dialogue with the Copernicus CMEMS-INSTAC, EuroGOOS and EMODnet Physics. As a result the **CMEMS-INSTAC portal** now also promotes using the EMODnet Ingestion service at its [Submit data](#) section. Furthermore the technical set-up of the Sensor Web Enablement (SWE) pilot of EMODnet Ingestion and EMODnet Physics concerning **real time** oceanographic monitoring systems, allowing direct standardised access to selected data types from selected monitoring instruments, has been finalised and added to the portal. The (N)RT oceanographic data streams from a number of operators can be discovered and viewed through a [Pilot Viewing Service](#) which is hosted at the EMODnet Physics portal and advertised at the EMODnet Ingestion and EMODnet Physics portals.
- The 3rd EMODnet Ingestion project plenary meeting was held 16 – 17 April 2018 in Barcelona, Spain, hosted by CSIC, and was devoted largely to presenting and discussing progress, success factors, and plans by each of the EMODnet ‘ambassadors’ for marketing EMODnet and reaching out to potential data providers for joining the EMODnet Ingestion process.
- The second annual progress report was prepared and submitted to EASME, EU DG MARE and EMODnet Secretariate at 19th June 2018 together with the 2nd invoice.

2. Work package progress

The EU Tender specifications requested the following Tasks:

Task 1	Construct a web-portal
Task 2	Implement pathways for delivering data to final repositories
Task 3	Facilitate machine-to-machine transfers

Task 4	Operate a help-service for users to provide their data in the most appropriate format
Task 5	Allow providers of data to track the progress of their data from submission through to their storage in a repository
Task 6	Include a 'data wanted' function that allows users seeking certain types of information to specify their needs
Task 7	Participate in discussions with EMODnet partners in order to improve the efficiency of the whole collection, assembly and dissemination process
Task 8	Maintain a summary record of data delivered
Task 9	Engage in outreach activities towards significant holders of marine data whose data are not yet already available
Task 10	Service continuity
Task 11	Project Management

The EMODnet Ingestion consortium proposed a Work Plan that groups specific tasks, comparable in nature, under the same Work Packages (WP), also to make the execution with the large consortium easier and more effective.

Work Package No.	Work Package title	Covering tasks	WP leader
WP0	Project Management	Task 7 – EMODnet tuning Task 10 – service continuity Task 11 – Project Management	MARIS
WP1	Construct and operate central Data Ingestion portal with services	Task 1 - web-portal Task 5 – tracking service Task 6 – data wanted service Task 8 – summary service	HCMR
WP2	Implement and operate pathways	Task 2 – pathways Task 4 – help service	IFREMER
WP3	Facilitate machine-to-machine transfers	Task 3 – machine-to-machine	ETT
WP4	Marketing and outreach	Task 9 - outreach	RBINS

Progress on the Work packages and related tasks are described in the following pages.

WP0 – Project Management:

The 3rd EMODnet Ingestion project plenary meeting was held 16 – 17 April 2018 in Barcelona, Spain, hosted by CSIC, and was devoted largely to presenting and discussing progress, success factors, and plans by each of the EMODnet ‘ambassadors’ for marketing EMODnet and reaching out to potential data providers for joining the EMODnet Ingestion process. All presentations of the meeting as well as minutes and list of actions have been made available at the extranet. This activity is relevant for tasks 7 (EMODnet tuning) and 11 (Project Management).

As part of task 11 the coordinator prepared the 7th quarterly progress report which was accepted by the EU (EASME and DG MARE). The coordinator also prepared and submitted at 19th June 2018 also the second annual progress report which includes an extensive overview of the promotion and marketing activities as undertaken by the individual project members for the Ingestion project. Also the 2nd invoice was submitted.

In the quarterly reporting period the coordinator of EMODnet Ingestion has participated in the following relevant meetings:

Date	Location	Topic	Short Description
16 – 17 April 2018	Barcelona - Spain	2nd EMODnet Ingestion Projectgroup meeting	Presentations and discussions on progress with project activities, in particular with marketing, outreach and submissions. Planning further activities.

WP1 – Construct and operate central Data Ingestion portal with services:

In the present quarter a few updates have been undertaken for the EMODnet Ingestion portal as part of task 1 (web –portal). For instance, in discussion with EuroGOOS and CMEMS INSTAC the pages with information about how to join the European marine data exchange for operational oceanography were updated. The position of ingesting operational data in the site map was prioritized to second position after submitting data files. And a few news items were added.

As part of task 8 (summary service) further optimization has taken place for the View Submissions service concerning replacing so-called orphan data for organisations from free text into controlled EDMO terms. This prevents various spellings for the same organization and improves the integrity of the metadata of the published data submissions for searches, reports and detailed pages.

WP2 – Implement pathways to forward submitted data to the appropriate repository:

Concerning task 2 (pathways) the number of qualified data centres from the EMODnet Ingestion network and EMODnet Thematic networks that are included in the Data Centre Matrix of engaged data centres has consolidated at 49. Many of them have been actively involved in the processing of data submissions that were relevant for their expertise and country.

At the 3rd project meeting it was agreed that partner GEUS (Denmark) on behalf of the European Geological Data Infrastructure (EGDI) as being developed and operated by the network of marine geological surveys in Europe, will function as EMODnet Ingestion data centre for completing and processing marine geology data set submissions and if possible, making these fit for publishing in EGDI. This is complementing capabilities at national data centres for handling marine geological data sets.

Comparable ‘safety nets’ have been agreed for marine biological data whereby VLIZ on behalf of EurOBIS will complement national capabilities of the EMODnet Ingestion data centres network, for bathymetric data whereby Shom will play this role, and for seabed habitats data whereby this role is divided over regions with each region having a leading data centre.

During the reporting quarter further progress has been made with achieving data submissions and with completing these by assigned data centres to be published ‘as is’ in the View Submissions service. The number of published submissions has increased from **106** to **182**. The features of these submissions will be further described under WP4 and its indicators. Moreover an increasing number have been elaborated and populated into European data infrastructures driving EMODnet portals, namely from **6** to **24** submissions.

For task 4 (help service) four requests were received and answered. Two requests concerned possible submissions to enrich the Human Activities portal with information on dredging activities from SE.D.RI.PORT project (<http://interreg-maritime.eu/fr/web/se.d.ri.port/projet>) and [data on European ports](#) from IFREMER (France). Both requests are being dealt with by the coordinator of EMODnet Human Activities. One request from TARMAC Ltd (UK) concerned use of EMODnet Bathymetry web services in their offshore charts of UK Marine Aggregate licence areas. The other request concerned a question from IRTA (Spain) about the EMODnet data exchange policy. Both requests were answered same day by the help desk.

WP3 – Facilitate machine-to-machine transfers:

The task 3 (machine-to-machine) **NRT machine-to-machine ingestion** aims at identifying and arranging additional NRT data stations for EMODnet Physics. These can originate from additional operators that

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are willing to get connected and share their NRT data freely in EMODnet Physics. The portal explains how the NRT exchange is organised between operators of observing stations and EuroGOOS – Copernicus and it gives a link to the EMODnet Physics portal to show how NRT stations can be displayed and used.

Further promotion towards potential operators is ongoing and implemented as a cooperation between EMODnet Ingestion and EMODnet Physics. In the reporting period the following meeting was held:

- **SWE Colloquium - how to join European operational oceanography**, 26 April 2018, Sopot – Poland, bringing together EMODnet partners MARIS, BODC, EuroGOOS, ETT, and MI with invited Polish oceanographic community of IMGW, PIG, IO PAN, and MIG. The programme and presentations of this SWE colloquium can be found at the [EMODnet Ingestion portal](#).

More of these Workshops are planned and It is expected it will deliver new NRT operators and/or new NRT stations for EuroGOOS and CMEMS INSTAC, which then become available automatically on the EMODnet physics portal through the existing pathways. In parallel it will deliver new historical oceanography data sets that will go through the Submission service and as part of phase II be populated into SeaDataNet, which then automatically will make these historic data sets also available on the EMODnet physics portal through the existing pathway.

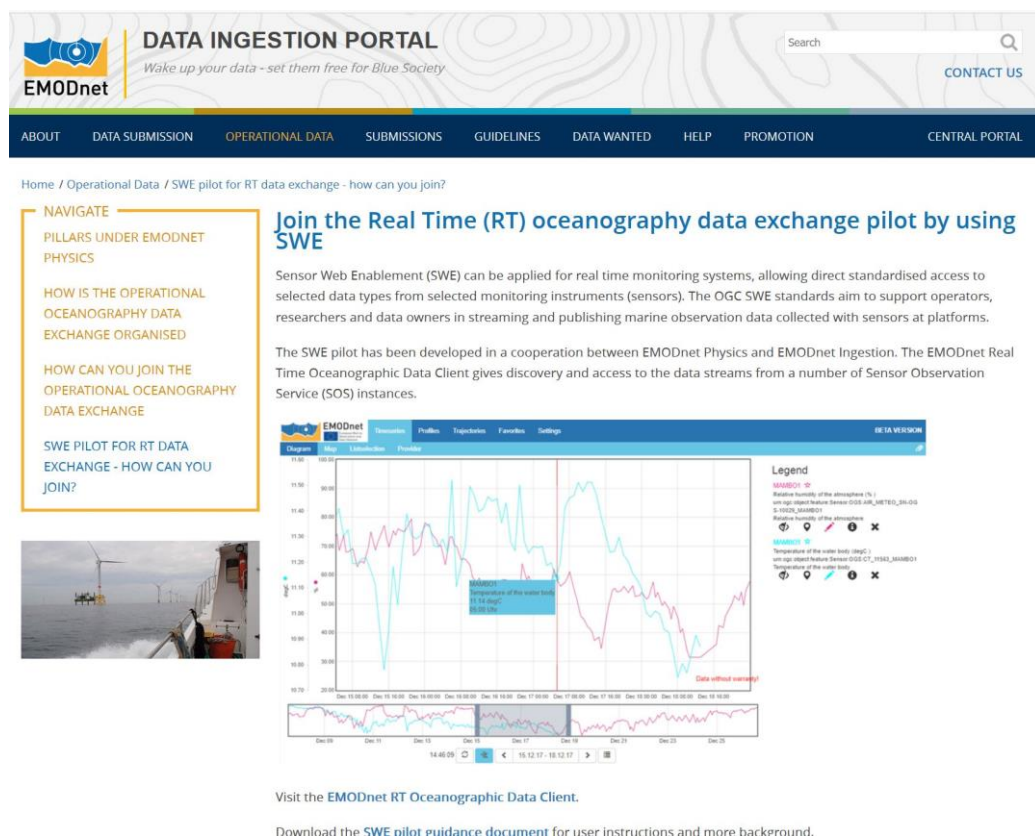


Image: SWE – RT section at the EMODnet Ingestion portal

For the **Sensor Web Enablement (SWE) pilot** a [section](#) (see image above) has been published at the Ingestion portal to highlight to platform operators the benefits of adopting SWE standards and services, and how to get connected to the EMODnet SOS Viewer. The latter includes a link to the dedicated page with [viewing service](#) at the EMODnet Physics website. Instructions how to use the Viewer are also included at EMODnet Ingestion. This will be expanded soon with a guidance document how an operator can adopt SWE and set up itself SOS services which might be coupled to the Ingestion and Physics Viewer.

WP4 – Marketing and outreach activities:

Marketing and outreach activities are undertaken as part of task 9 (outreach) by all consortium members and aim at promoting the EMODnet Ingestion portal and services as well as identifying, encouraging and supporting potential data providers to submit relevant marine data sets by means of the Ingestion portal. It is done in synergy with the central promotion as undertaken by the EMODnet Secretariat and making also use of the EMODnet Thematic networks which are deeply involved in the pathways of processing and uptake of submitted data sets. The aim is to engage different communities by understanding their needs and establishing win – win situations.

At the 3rd EMODnet Plenary meeting in April 2018 and in follow-up messages in May 2018 detailed reports about their campaigns, events, and experiences were given by each country and these have been documented in great detail in the 2nd Annual Progress report.

Key indicators:

Portal statistics:

All EMODnet Thematic portals and the Central EMODnet portal have included references and links to the EMODnet Ingestion portal.

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Apr-18	7,889	9,054	58,163	75,463	2.08 GB
May-18	7,803	9,044	58,264	72,124	1.81 GB
Jun-18	7,950	9,245	54,681	64,393	1.35 GB

Statistics of submissions.

End of June 2018 there are > 200 submissions in the Submission service, of which **182** already have been published in the Summary service. The following figures give characteristics of those published submissions.

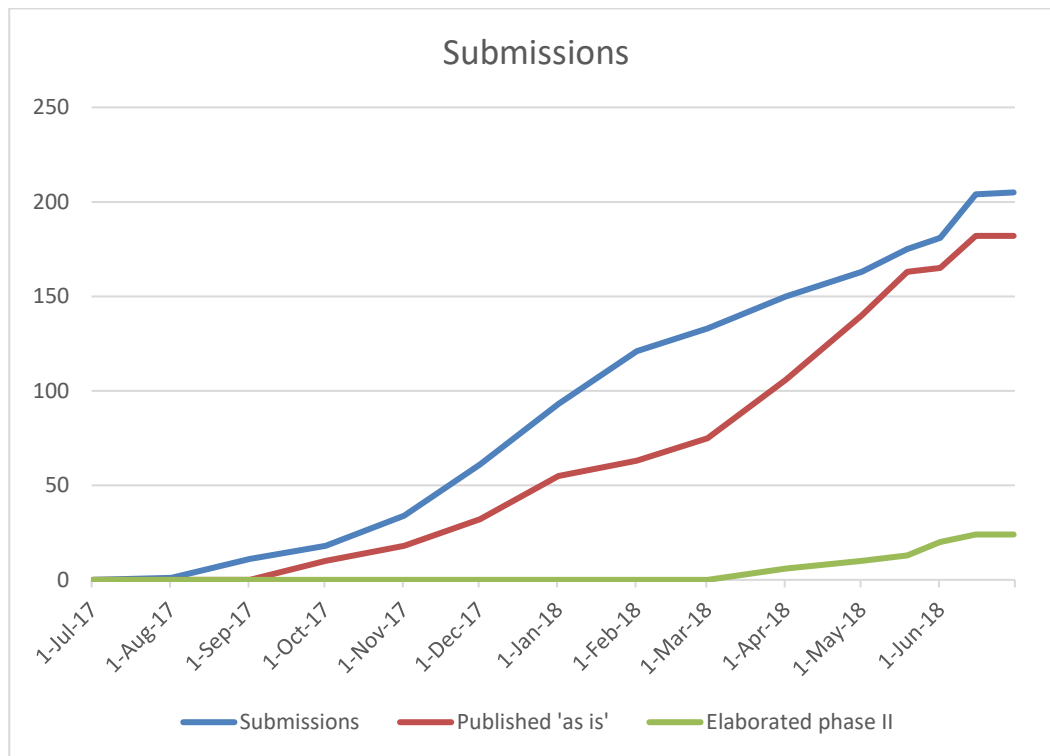


Image: Submissions and processing in time

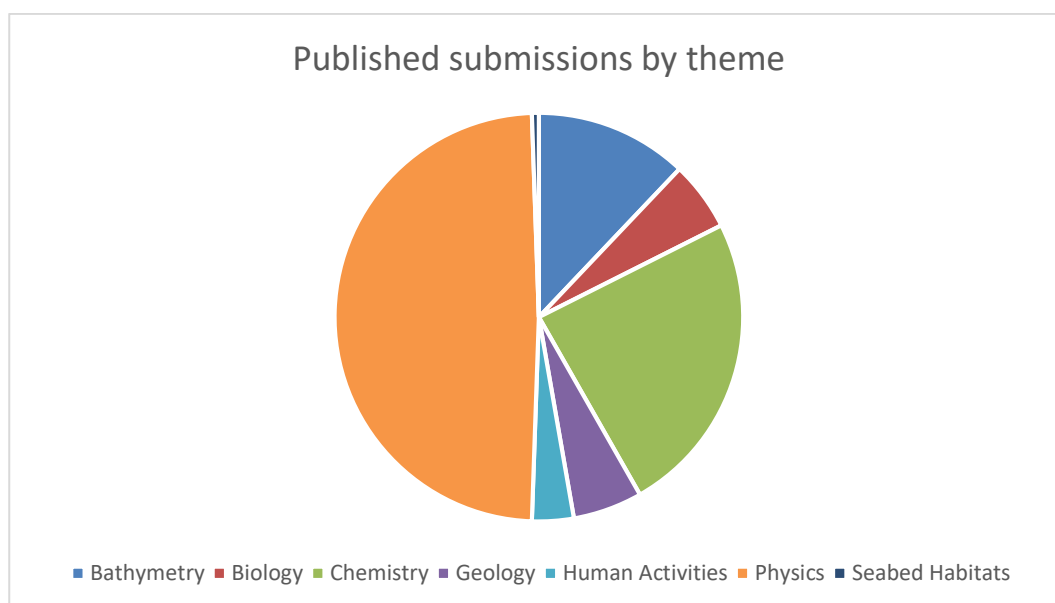


Image: Published submissions by theme

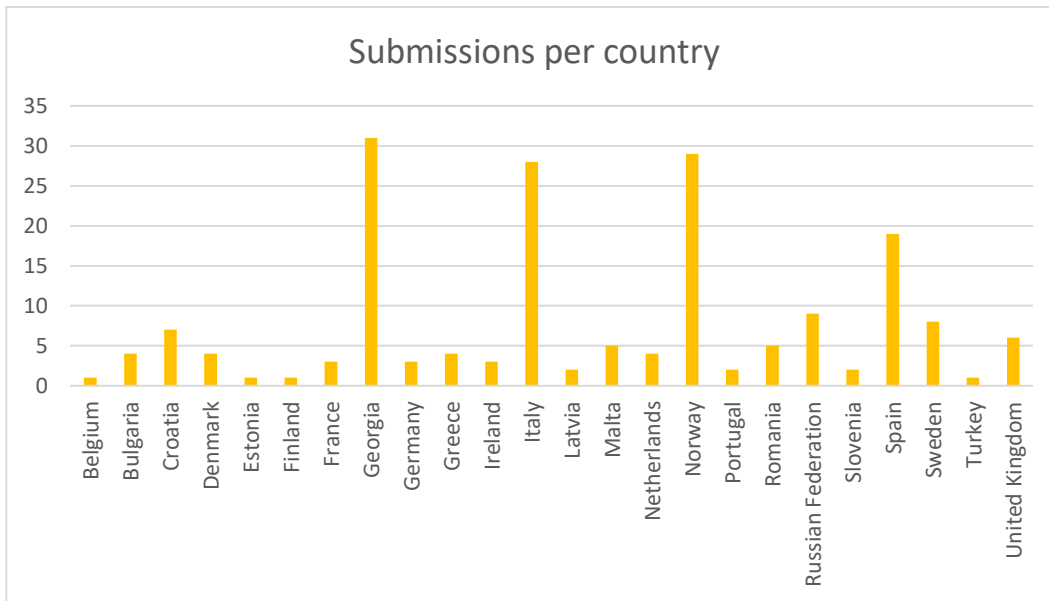


Image: Published submissions by country of submission

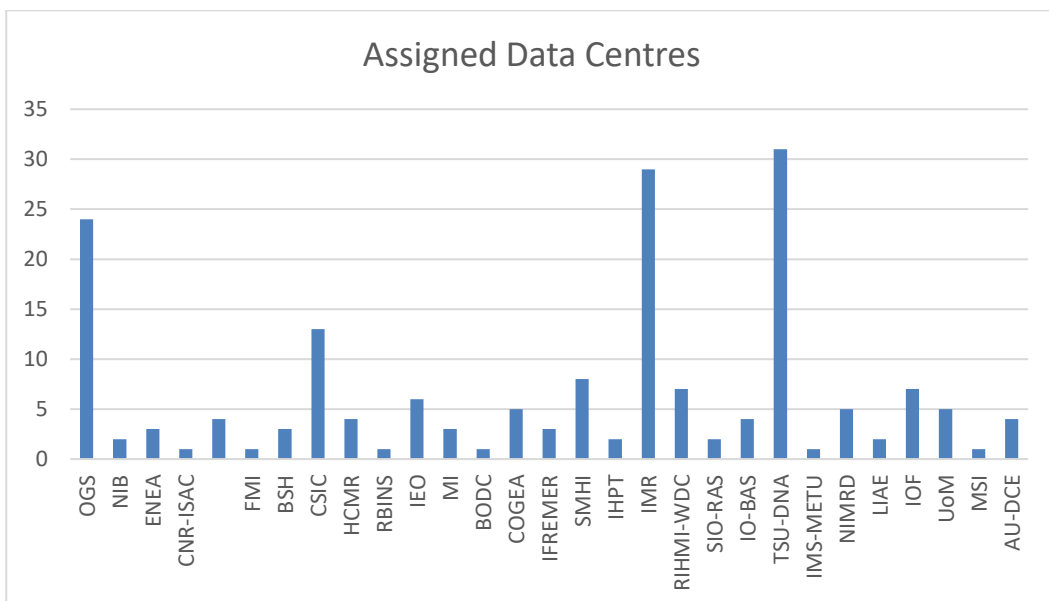
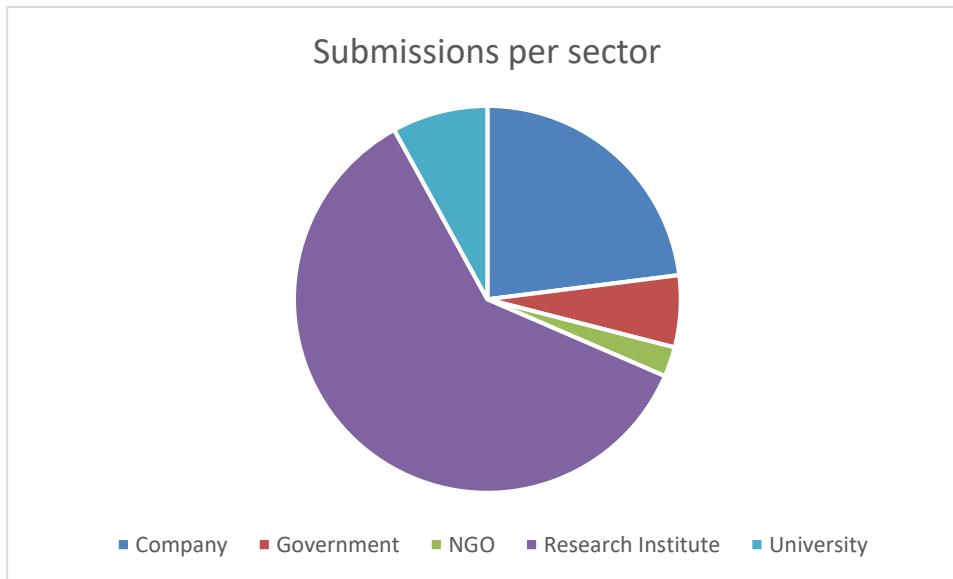


Image: Published submissions by assigned data centres

Data Submitter / Originator	No	Type
AQUA4C	1	Company
Esgemar S.A. Estudios geologicos marinos	5	Company
GEMS Survey Ltd	1	Company
GeoMarine Ltd.	1	Company
Laboratory research centre LTD	17	Company
NoordzeeWind BV	4	Company
Scientific - Research Firm "GAMMA"	14	Company
Water Services Corporation	3	Company
Malta Environment and Planning Authority - Environment Protection Directorate	1	Government
Rijkswaterstaat Water, Traffic and Environment	4	Government
The Crown Estate	6	Government
Transport Malta - Maritime Division (ex. Malta Maritime Authority)	1	Government
Black Sea NGO Network	1	NGO
NGO MARINE SOUND	2	NGO
The Keep Sweden Tidy Foundation	2	NGO
All-Russia Research Institute of Hydrometeorological Information	6	Research Institute
Andalusian Institute of Earth Sciences (IACT). CSIC and University of Granada	4	Research Institute
Arctic and Antarctic Research Institute, Roshydromet (Saint-Petersburg)	1	Research Institute
Baltic Sea Research Institute Warnemuende (IOW)	2	Research Institute
CNR, Institute of Marine Sciences S.S. of Lerici (SP)	3	Research Institute
CNRS Paris Institute of Earth Physics, Marine Geoscience Laboratory	1	Research Institute
Deltares	4	Research Institute
ENEA Centro Ricerche Ambiente Marino - La Spezia	4	Research Institute
Estonian Environmental Research Centre	1	Research Institute
Finnish Environment Institute	1	Research Institute
Finnish Meteorological Institute	1	Research Institute
Hellenic Centre for Marine Research, Institute of Oceanography (HCMR/IO)	4	Research Institute
ICM-CSIC/ Institute of Marine Sciences	6	Research Institute
IEO/ Malaga Oceanographic Centre	1	Research Institute
IEO/ Santander Experimental Aquaculture Facilities	1	Research Institute
IEO/Spanish Oceanographic Institute	3	Research Institute
Institute of Marine Sciences, Barcelona	3	Research Institute
Institute of Oceanography and Fisheries	3	Research Institute
Institute of Oceanography and Global Change	1	Research Institute

Data Submitter / Originator	No	Type
International Ocean Institute - Malta Operational Centre (University Of Malta) / Physical Oceanography Unit	5	Research Institute
ISPRA-Institute for Environmental Protection and Research	16	Research Institute
LABORATORY OF SCIENCES OF MARINE ENVIRONMENT (LEMAR)	1	Research Institute
Latvian Institute of Aquatic Ecology	1	Research Institute
Marine Institute	3	Research Institute
National Institute for Marine Research and Development "Grigore Antipa"	5	Research Institute
National Research Council of Italy - Institute for Marine and Coastal Environment (IAMC) (Sezione Capo Granitola)	1	Research Institute
Norwegian Meteorological Institute	28	Research Institute
Ocean Physics and Satellite oceanography laboratory (LOPS) - UMR 6523 CNRS-Ifremer-IRD-UBO	2	Research Institute
P.P.Shirshov Institute of Oceanology, Southern branch	2	Research Institute
Puertos del Estado. Physical Environment Department	1	Research Institute
Swedish Meteorological and Hydrological Institute	6	Research Institute
Aarhus University	4	University
Las Palmas University. Department of Physics (ULPGC)	1	University
Marine and Environmental Sciences Centre - Faculty of Sciences of the University of Lisbon	2	University
University Bayreuth	3	University
University of Kyrenia	1	University
University of Leipzig	1	University
University of Rome Tor Vergata	1	University
University of Tuscia-Viterbo	3	University

Table: Overview of data submitters and originators with number of submissions



Graphics: submissions by sector of organisations

The above reported Ingestions all concern submissions of data sets made to the Submission service and then completed for publishing at the View Submission service. There are also direct ingestions which bypass the Submission service. This is the case for ingestions by oceanography operators to the European operational oceanography data exchange. Also there is a mission in EMODnet Ingestion to educate data providers and to arrange that regular submissions will go directly to the appropriate data centres and no longer through the Submission service.

3. Unexpected difficulties encountered

Nothing to report.