EMODnet Data Ingestion and safe-keeping of marine data

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Quality controlled and accurate data of the marine environment are essential for many applications in the Blue Society for research, governance, and industry.

The costs of marine data collection by European organisations is circa **1.4 billion Euro per year**: ~ 1.0 billion for in-situ; ~ 0.4 billion for remote sensing.

Nowadays, a major part is discoverable and accessible thanks to marine data management infrastructures, such as national data centres, SeaDataNet, EurOBIS, ICES, CMEMS, and others, whereby EMODnet has given an enormous boost to cooperation and seeking interoperability and harmonization.

However there is still a lot of valuable marine data collected and sitting at public authorities, research communities, and industry, which do not arrive at these repositories.
To **identify**, **encourage** and **support data holders** (from public and private sectors) to become part of the mainstream processes of the EU data repositories.

To launch and operate an **extra EMODnet portal** with services to facilitate data holders submitting marine data sets for publishing, further processing and safekeeping by expert data centres, and subsequent distribution through EMODnet thematic portals for **open use**.

**Aims of EMODnet Ingestion**

**Workflow from submission to elaborating and processing for publishing in EMODnet**
Portal – launched Feb 2017

www.emodnet-ingestion.eu

1st Project: 3 years contract with EU, 2016-2019
2nd Project: 2 years contract with EU, 2019-2021
Submission service for data files

submission.emodnet-ingestion.eu/
Landing page

Dashboard with functions depending on role:
- Data Submitter
- Data Centre
- Master
Dataset Identification

DATASET GENERAL INFORMATION

Title of dataset * 1
2011-GEMS, Zone 8 - Bristol Channel Atlantic Array, Metocean assessment

Narrative summary of dataset * 1
GEMS Survey Ltd. (GEMS) was awarded a contract by Channel Energy Limited to undertake metocean data collection in the Bristol Channel as part of the Atlantic Array wind farm development project. The scope of work includes the deployment of two acoustic wave and current (AWAC) units and one Directional Wave Rider Buoy. Ancillary work includes water and sediment sampling and water profiling. Following non-recovery of AWAC devices, TRIAXYS Directional Wave buoys were utilised for the rest of the survey. This series contains both reports and datasets associated with the Metocean Assessment.

DATASET FORMATS

Dataset format * 1
Text or Plaintext
**Data Submission service**

- Distinction between 2 phases in the life cycle of a data submission:
  - **Phase I**: from data submission to publishing ‘as is’
  - **Phase II**: further elaboration and integration (of subsets) in national, European and EMODnet thematic portals.

- **Step 1**: Data submitter completes a number of key fields of the submission form and uploads a zip file with the datasets and related documentation;

- **Step 2**: Data Centre is assigned who reviews and completes the submission form for publishing ‘as is’ in Summary Service

- **Step 3**: Data Centre elaborates, where possible, the data sets, resulting in availability in **standard formats** in EMODnet thematic portals
Data processing pathways
Network of data centres ‘recruited’ from EMODnet Ingestion and Thematic portals consortia to act as ‘assigned data centres’

At present **50 Data Centres** covering all thematics
Data Summary Service
for search, browse and data download

Example:
Marine Scotland Science cruises:
Data now in EMODnet Chemistry
Optimizing pathways
M2M transfers

Coupling with SeaDataNet/SEANOE data citing service:
- Dynamic exchange has been deployed
- >100 Seanoe scientific data submissions are now in EMODnet

Coupling with the Crown Estate Marine Data Exchange (MDE) is under development

www.seadatanet.org/Software/SEANOE

www.marinedataexchange.co.uk/
Connection of NRT data streams to the EU operational oceanography data exchange managed by Copernicus CMEMS-INSTAC and EuroGoos

- Multiple sources connected (HFR sites, river stations, T-MEDNET and SailDrone, wave buoys, Fish vessel data)
- Long term archival at SeaDataNet through EMODnet Ingestion

RT data exchange

- Use of SWE standards by several operators
- >1500 sensors connected to the SWE demo
- Adoption of SWE toolkit by EF+ project for underway data streams
Submission progress
ca. 900 submissions in total, Phase I-II

Submissions and processing in time

- Submissions
- Published 'as is'
- Elaborated phase II
Submission progress

Published (> 700 phase I – II records)

No of submissions per theme

- Physics: 42.9%
- Human Activities: 27.0%
- Seabed Habitats: 0.1%
- Biology: 7.9%
- Chemistry: 6.9%
- Geology: 1.7%
- Bathymetry: 13.5%

No of submissions per sector type, from 126 Organizations

- Research Institute: 56%
- University: 8%
- Company: 21%
- Government: 13%
- NGO: 2%
- Other: 2%

*Graphs show distribution of submissions per theme and sector type.*
Marketing and outreach activities

- **Identify potential data sources** and data providers (industry, Navies, Academia/Research Institutes, NGO, Governments)
- **Reach out** to potential data providers
- **Motivate** data providers to participate with their data submissions
- **Market and promote** the Data Ingestion service and its function in the overall EMODnet scheme
- **Data Centres** function as EMODnet ambassadors
- Organisation of **national EMODnet days** in several countries
- **Presentations** at many conferences
- **Promotional material**: roll-out, bookmarks, poster, standard presentations, leaflets, video
- **Links** at all EMODnet portals
Marketing and outreach activities

Check out the movie, It’s YouTube
The EMODnet Data Ingestion portal in 3 minutes
www.emodnet.eu

Your gateway to marine data in Europe