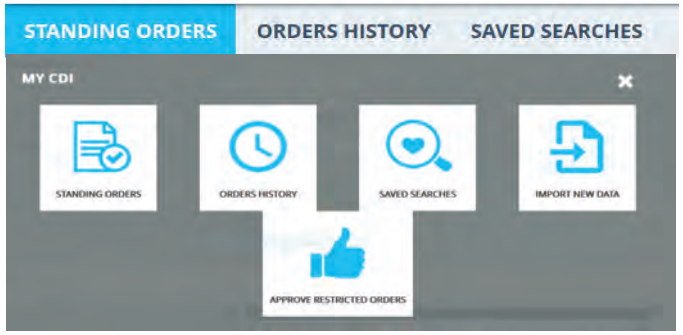
New Services

DOI Digital Object Identifier minting service assigns a unique and persistent identification to ocean data for purposes of data citation and reproducibility of research results.

MySeaDataNet service provides information to end users about order status and order history and a tool to save and share searches.



Data ingestion service uses a tool accessible in the user space of data centres to deliver metadata in the central repository. A complete picture of the received orders, divided into standing and approved, is available in online reports also including e-mail addresses and affiliations of the end-users that have ordered data.

Prototypes

A VRE (Virtual Research Environment) is available for partners to test and give feedback. It provides different tools for oceanographers with the aim of using the computational capacity and the storage of servers in the cloud. WebODV, the online version of ODV software for data analysis, allows a researcher to aggregate, extract, manage and qualify large dataset.

DIVAnd, an improved version of DIVA which is a software designed to perform spatial interpolation of oceanographic observations, has been implemented in the cloud. Furthermore, the VRE offers advanced visualisation services to gain more knowledge.

The most important objective of the VRE is the possibility to foster research and experts collaborations globally by giving them a cloud environment in which people can share/produce together outcomes by means of different communication channels.

Sensor Web Enablement (SWE) demonstrator is for publishing data using Sensor Web standard, it makes possible to share real-time sensor data streams.

Towards **FAIRness** in data sharing some activities are ongoing to improve the findability, accessibility, interoperability and reuse of available data.

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SeaDataCloud - Further developing the pan-European infrastructure for marine and ocean data management. The project is funded by the European Commission Horizon 2020 programme, under the grant agreement no 730960

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SeaDataCloud

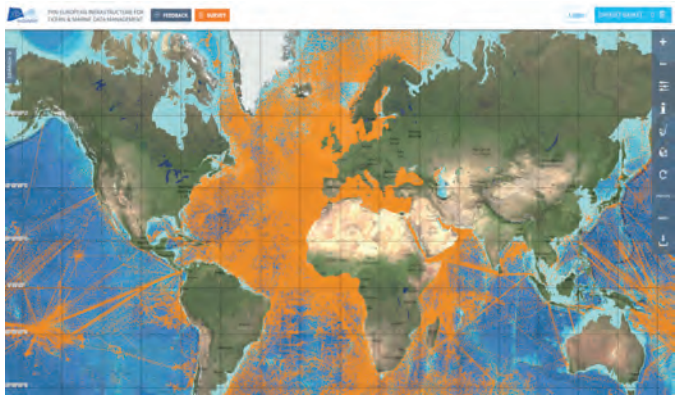
Cloud, virtualization and other achievements for SeaDataNet the Pan-european infrastructure for marine and ocean data

SeaDataCloud

Nowadays, there is a general awareness regarding the potential value of ocean data sharing and the benefits that an e-infrastructure allowing access to harmonised multi-disciplinary ocean data can bring to society. One of the most relevant e-infrastructures in Europe managing marine and ocean data is SeaDataNet. It provides an organised and efficient access to a wide variety of resources such as: data, data products and metadata catalogues. The first 2 are downloadable resources coming from a collaborative network of 115 data centres belonging to 35 countries whereas the third one enables the expansion of professional networks at national and international levels. Information about marine organisations in Europe, their engagement in marine research projects, managing large datasets, and data acquisition is available.

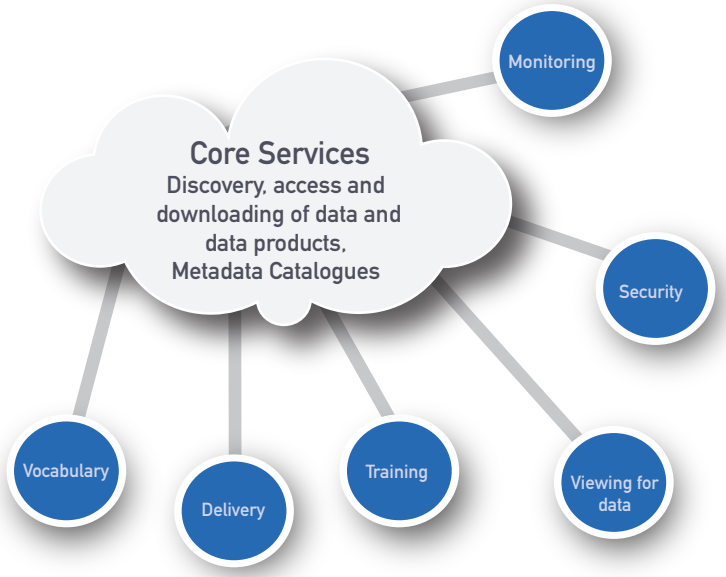
Some SeaDataNet metadata catalogues

The infrastructure is for storing, accessing and downloading heterogenous marine data and to preserve it over the longer period.



Data availability map

Other ocean data e-infrastructures in Europe have similar goals.
The main characteristics of SeaDataNet include high quality historical data defined by using the QC guidelines released in collaboration with the marine scientific community. This is due to a quality flag system by which data producers label each data record defining the accuracy of the data in an unambigous manner. Furthermore, a procedure to detect anomalies is carried out during the generation of data products that enables to improve the overall data quality.



New technologies are dynamic and in the past few years have changed significantly with a growing impact in data and applications management. For this reason SeaDataNet is upgrading its Information Technology (IT) architecture thanks to the SeaDataCloud project, funded by the European Commission. It has the aim to renew the electronic infrastructure allowing it to offer new services based on the cloud and High Performance Computing (HPC) technologies. The partnership with EUDAT, a consortium of high performance centres, has allowed it to improve the shareability and the availability of the data.

Key areas covered

physical oceanography,
chemistry, geology,
geophysics, meteorology,
bathymetry and biology

Services improvements

Enhanced graphical user interface (GUI)
Faster downloads
Improved reliability of the system
More agile data ingestion system for data providers
Improved machine to machine interfaces
Expansion with new data types:
Gliders, HF-radar, Flow cytometry