

SeaDataNet



About

SeaDataNet is a major pan-European infrastructure for managing, indexing and providing access to marine data sets and data products, acquired by European organisations from research cruises and other observational activities in European coastal marine waters, regional seas and the global ocean. Founding partners are National Oceanographic Centres (NODCs), major marine research institutes, UNESCO-IOC, ICES, and EC-JRC.

The SeaDataNet network was initiated in the nineties and over time its network of data centres and infrastructure with standards, tools, and services has expanded, inter alia with support of many EU projects such as Sea-Search, EuroCore, EuMarsin, EuroSeismics, BlackSeaScene, Upgrade-BlackSeaScene, GeoSeas, MicroB3, and in the last 10 years as part of SeaDataNet, SeaDataNet 2, ODIP 1 & 2, EMODnet projects, and SeaDataCloud. There is close cooperation with various other ocean observing communities such as EuroGOOS, as well as with other major marine data management initiatives and infrastructures, in particular with European Marine Observation and Data network (EMODnet) and Copernicus Marine Environmental Monitoring Service (CMEMS).

SeaDataNet develops, governs and promotes common standards, vocabularies, software tools, and services for marine data management, which are freely available from its portal and widely adopted and used. Moreover, the SeaDataNet network of data centres maintains and publishes a series of European directory services which are widely used. These give a wealth of data and information, such as overviews of marine organisations in Europe, and their engagement in marine research projects, managing large datasets, and data acquisition by research vessels and monitoring programmes for the European seas and global oceans.

Type & number of data sets

The CDI service is a SeaDataNet core service and it provides online unified discovery and access to vast resources of data sets, managed by > **110 connected SeaDataNet data centres** from **34 countries around European seas**. Currently it gives access to more than **2.8 Million data sets**, originating from more than 850 organisations in Europe, covering physical, geological, chemical, biological and geophysical data, and acquired in European waters and global oceans.

Core Services

A core SeaDataNet service is the Common Data Index (CDI) data discovery and access service which provides harmonized discovery and access to a large volume of marine and ocean data sets, both from research and monitoring organisations, which increasingly are major input for developing added-value services and products that serve users from government, research and industry.

The online CDI User Interface gives users powerful search options and a highly detailed insight in the availability and geographical spreading of marine data sets, that are managed by the connected data centres. The User Interface includes functions for requesting access, and if granted, for downloading data sets from all connected data centres.

The architecture of the latest version of the CDI service is illustrated in the following image:

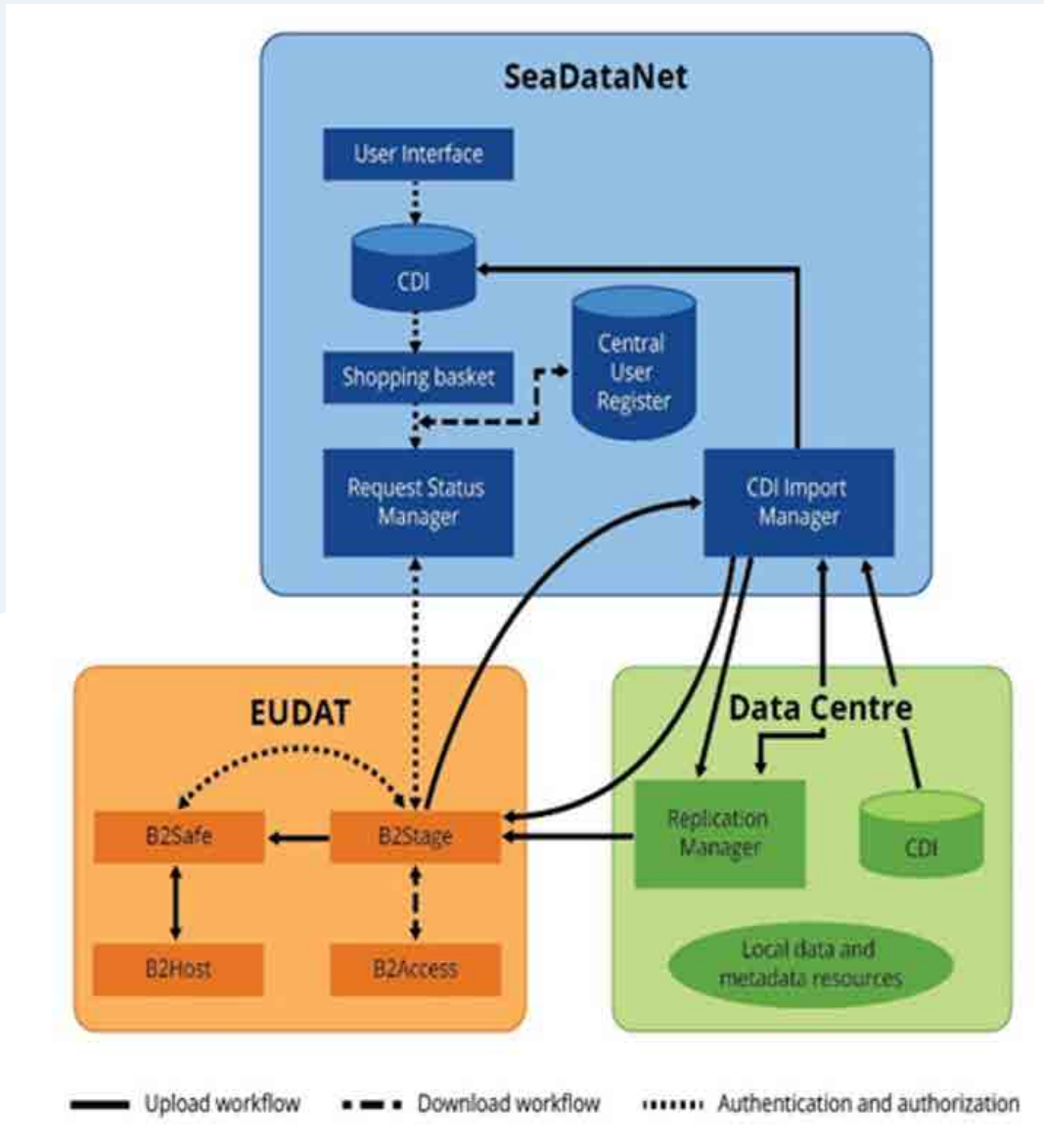


Figure 1 - CDI system architecture

SeaDataNet operates the CDI data discovery and access service. For exchange to the Blue-Cloud Data Discovery & Access Service it features an INSPIRE compliant API at aggregate metadata level and a data access API with Marine-ID authentication, capable of processing data requests at the aggregate metadata level.

Main operators are: MARIS, IFREMER, BODC, HCMR, and EUDAT members (CSC, CINECA, GRNET, DKRZ, and STFC). Data Providers: currently >110 data centres consisting of NODCs, marine research institutes, hydrographic surveys, geological institutes, environmental monitoring agencies, international organisations, and some industry.

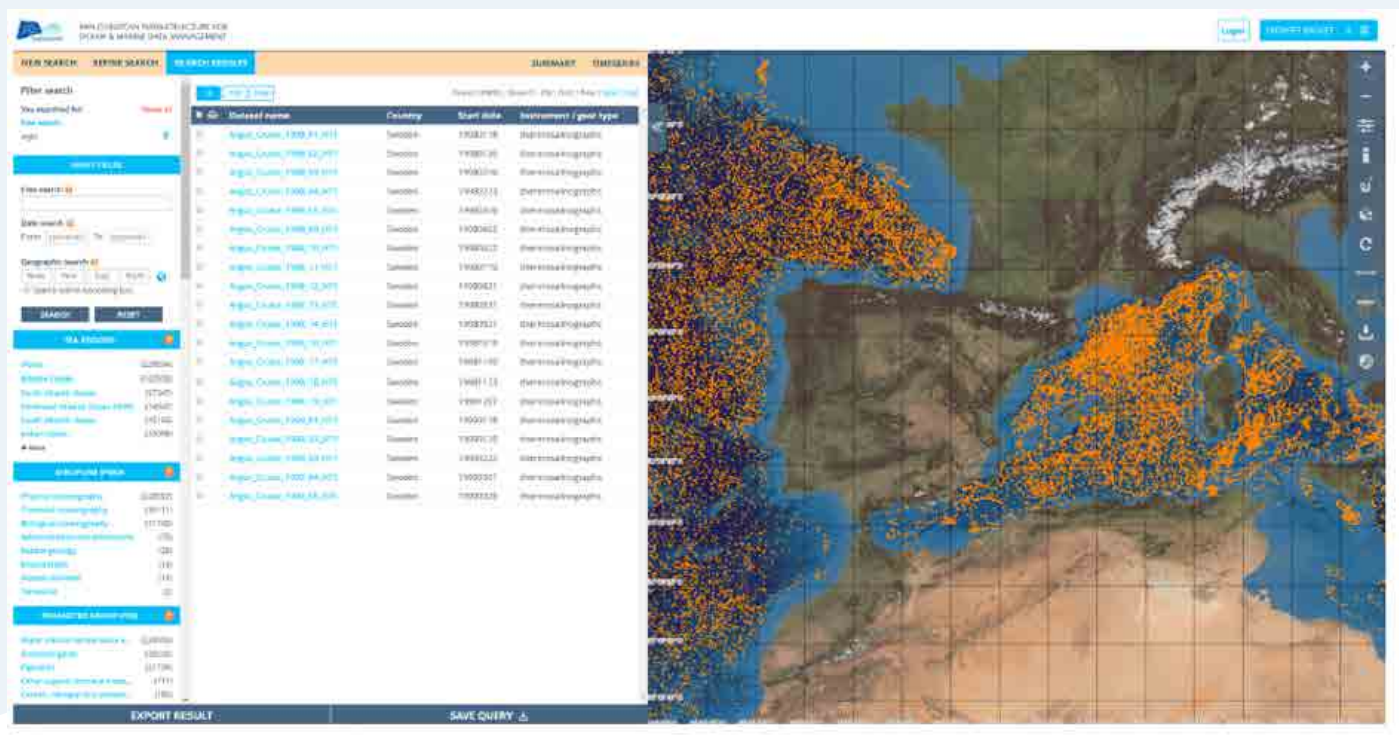


Figure 2 - New dynamic user interface of the upgraded CDI data discovery and access service

Function in Blue-Cloud

SeaDataNet is one of the blue data infrastructures, federated in the Blue-Cloud DD&AS, and serves as one of the pillars of the initial Blue-Cloud framework. Furthermore, use is made of the experiences and system components as developed by SeaDataNet for the upgraded CDI data discovery and access service.

URL: cdi.seadatanet.org/search

Partners involved: MARIS, Ifremer, CSC, CINECA, DKRZ, VLIZ



Factsheet available at <https://blue-cloud.org/data-infrastructures/seadatanet>



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