DIGITAL OBJECT IDENTIFIER MINTING SERVICE

SeaDataNet provides DOI attribution and metadata management services by using the SEANOE (SEA scieNtific Open data Edition) system to facilitate scientists to publish their research data in the field of marine sciences as citable resources. The DOI minting service is freely available to everyone is interested in publishing ocean data as new service called "Publish your data" and available from the SeaDataNet website.

NEW FEATURES (soon available)

Improved search and download
Services on the cloud
Linked data
Virtual research environment
Sensor web enablement
On-line visualisation and Data analysing services

NOTICE

Partnership

Coordinators: **IFREMER** (Scientific)   **MARIS** (Technical)

AU-DMU	ENEA	IHPT	MI	RIHMI-WDC	UNIBO
AWI	ETT	IMGW	MRI	SHOM	UOM
BSH	EU-JRC	IMR	MSI	SIO-RAS	VLIZ
CINECA	EUROGOOS	INGV	NERC-BODC	SMHI	52°North
CNR	FMI	IO PAN	NIB	STFC	
CNRS	GEOMAR	IO-BAS	NIMRD	SYKE	
CSC	GRNET	IOF	NIOZ	TSU-DNA	
CSIC	HCMR	IOLR	OGS	UiB	
Deltares	ICES	LHEI	ORION	UkrSCES	
DKRZ	IEO	METU-IMS	RBINS	ULG	

SeaDataCloud   Horizon 2020
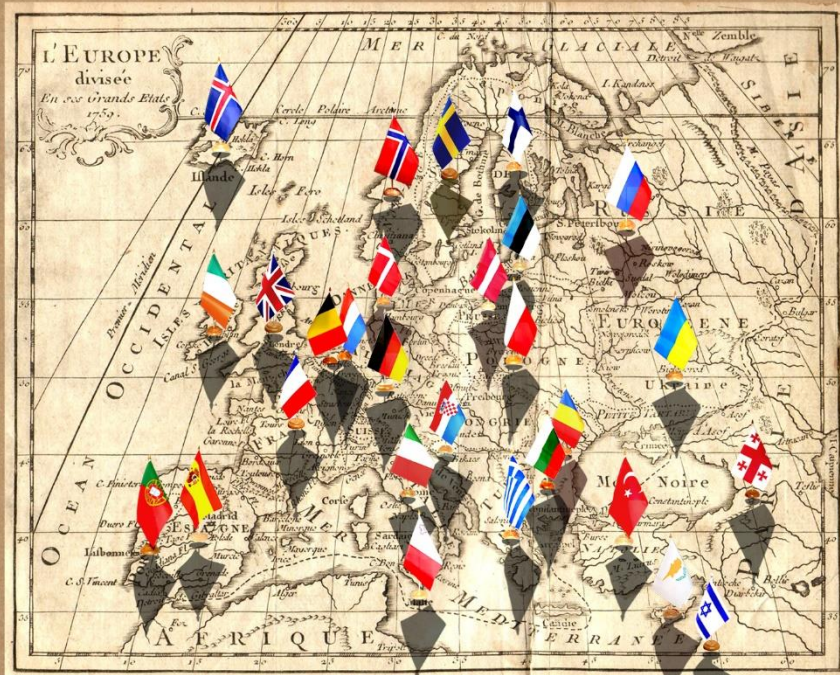
SEADATACLOUD

Enhancing SeaDataNet, the Pan-european infrastructure for marine and ocean data giving access to high quality multidisciplinary data

https://www.seadatanet.org

Contacts: sdn-userdesk @ seadatanet.org

Aim Of The Project

The relevance of marine and oceanographic studies is widely recognized. Nowadays, there is a common interest in realizing a good understanding and monitoring of the oceans whose outcomes may not only have social implications but also represent economic opportunities. Climate models can be improved with in situ measurements but scientists need reliable large amounts of data to carry on progress in oceanographic sciences. Public organisations and private companies have generated large amounts of data, from different instruments over decades, thanks to the availability of new technologies, now these resources constitute a precious worth with a potential to expand the knowledge of seas at global scale Since 2006, SeaDataNet (SDN) a pan-European infrastructure has been supplying free access to marine and ocean data, data products and metadata services as well as analysis tools. Even if the infrastructure is mature, standards are always evolving along with technology, thanks to the SeaDataCloud project, the SDN infrastructure is building upon and expanding its achievements with new kind of data and metadata formats compliant to ISO, OGC and W3C standards, as well as new services. The infrastructure is going to provide more personalised and advanced services by adopting cloud and High Performance Computing (HPC) technology, implementing real time data management and linked data.

SeaDataCloud project involves a network of 56 partners across 34 countries, bordering the European seas, it connects more than 110 data centres and provides harmonized discovery and access to more than 2.3 million data set for physics, chemistry, biology, geology, bathymetry and seismics.

Viewing service for a selection of data

Main Data Users Capabilities

SeaDataNet presents metadata services providing information regarding which marine organisations in Europe carried out research projects and/or monitoring activity, in which locations, in which period and how. By adding information such as the existence of large datasets and reports on vessel cruises data end-users have the opportunity to get more easily relevant data to their needs, besides information for potential collaborations.

1. Exploration and Discovery

Find data that you are looking for with the data discovery service that allows to:
- Searching through multidisciplinary data, using search filters and map tools, and selecting data of interest;
- Putting additional WMS layers to the map;
- Viewing details of each data;
- Browsing and manipulating results;
- Data subsetting by filtering the results;
- Saving the current query for future use.

### 2. Register As User And Download Data

When you have found data to download, you have to register at Marine-Id, a registration and authentication service that provides credentials to get data. Before you can submit your data requests and download data sets you have to login to the Marine-Id service. To manage your data orders a shopping basket mechanism is available that tracks orders data downloads.

3. Use Data Products

High quality observational data is analyzed to generate products to inform policy makers, managers, and the public in coastal countries. Historical data collections of all temperature and salinity measurements within SeaDataNet covering all EU sea basins are available as well as gridded climatologies with reports describing products characteristics and quality.

4. Data Visualisation And Analysis
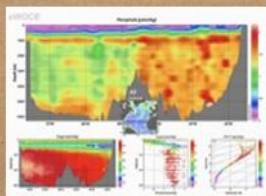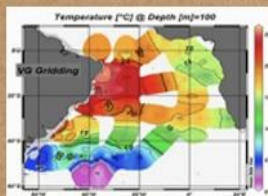
ODV   **DIVA**   **OCEAN BROWSER**

Tools And Services For Data Providers

In order to facilitate and to standardise the data and metadata preparation, specialised software tools have been released. The software to transform data and to prepare metadata are summarized below, furthermore other tools have been developed to study, analyse phenomena that help to understand marine environment.

How To Generate Standard Data And Metadata

The software consist in java applications, thus available for windows and linux platforms, downloadable free of charge at the SDN web site. They can work Internet free, they use the SDN common vocabularies and thus they need the network connectivity only to update the vocabularies terms, on user demand. They can be used in interactive and batch modes.

Nemo To Generate Standard Data

Nemo is the reformatting software, to transform ASCII files to one of the SeaDataNet common data transport formats: ODV, MedAtlas and netCDF.
The files that can be converted are:

    Vertical profiles;
    Time series;
    Trajectories data.

It is possible to convert all the files contained in a directory, to several files in SeaDataNet formats, at once but at the condition that the set of input files are homogenous in the information position, it means that the files must have similar information at the same columns and with the same length of characters.

Mikado For Metadata Generation

This software has been designed to help partners and data providers to generate the standard metadata in the form of an XML description for all the SeaDataNet metadata catalogues:

- the Common Data Index - CDI for data indexing
- the Cruise Summary Reports - CSR;
- the Marine Environmental Datasets - EDMED;
- the European Directory of Marine Environmental Research Projects - EDMERP;
- the European Directory of ocean Observing Systems - EDIOS.

Data providers are expected to produce CDI metadata for the data they want to share, comply with agreed standards, and can contribute to metadata catalogues to provide background for on going and previous activities in European seas. Data centers can manually prepare XML entries by entering input into the Mikado interface or can automatically generate XML entries using the information referenced in CSV files or local databases.

NEMO

SDN files
- ODV
- NetCDF
- MEDATLAS

ASCII

COUPLING Table

CSV file

MIKADO

DATABASE

MANUAL DATA ENTRY

XML Description files
- Index File (CDI)
- Cruise Report(CSR)
- Data Sets (EDMED)
- EDMERP for project
- EDIOS for observing systems