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User Manual for the CDI Data Discovery and Access Service

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Introduction

The Chemistry CDI Data Discovery and Access Service is managed by SeaDataNet and provides users with highly detailed insight into the availability and geographical distribution of chemistry in situ data (concerning eutrophication, contamination, marine pollution, and acidification), acquired and managed by a growing group of national data centres and data providers from research institutes, monitoring agencies, private companies and civil society. It also provides a unified user interface for requesting access and downloading individual datasets. The CDI metadata are in the public domain and freely browsable for all users. Most of these chemical observation datasets can also be downloaded freely; however, there are also datasets which are restricted and require obtaining permission from the owners. Anyway, requests for downloading are arranged through a shopping mechanism, which requires initial registration to the SeaDataNet Marine-ID service.

Main steps

Users can discover and request access to measurement data and related metadata through a sophisticated interface that allows searching by a set of criteria.

The process from searching to getting access to requested measurement datasets is illustrated and explained below. This mechanism allows users to retrieve original datasets from the distributed system of data centres.



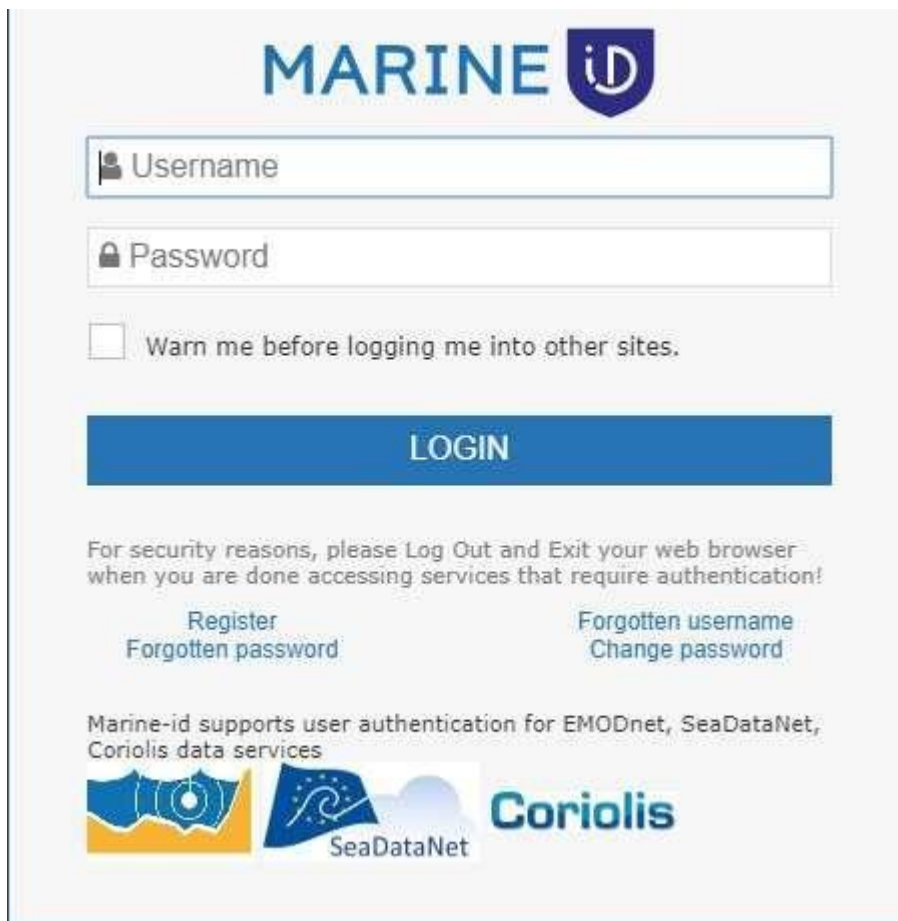
Figure 1: Mains steps to be taken to download the datasets

Search data or just browsing

All users can freely query and browse in the system; however, submitting **requests for data access requires that users are registered** in the EMODnet/SeaDataNet central user register (Marine-ID), thereby agreeing with the overall SeaDataNet User Licence. Registered users are provided with a smooth user experience and more options.



Figure 2: The easy way for users to choose between browsing or downloading datasets



The image shows the MARINE ID login and registration interface. At the top is the "MARINE ID" logo. Below it are two input fields: "Username" and "Password". There is a checkbox labeled "Warn me before logging me into other sites." Below the checkbox is a blue "LOGIN" button. Underneath the button is a security warning: "For security reasons, please Log Out and Exit your web browser when you are done accessing services that require authentication!". Below the warning are two columns of links: "Register" and "Forgotten password" on the left, and "Forgotten username" and "Change password" on the right. At the bottom, it says "Marine-id supports user authentication for EMODnet, SeaDataNet, Coriolis data services" and features logos for EMODnet, SeaDataNet, and Coriolis.

Figure 3: Marine ID provides registration and authentication services

The Search interface

The Search interface enables users to search data and start shopping. It is possible to search by several criteria spanning from time to coordinates, to parameter groups, originators and collators.

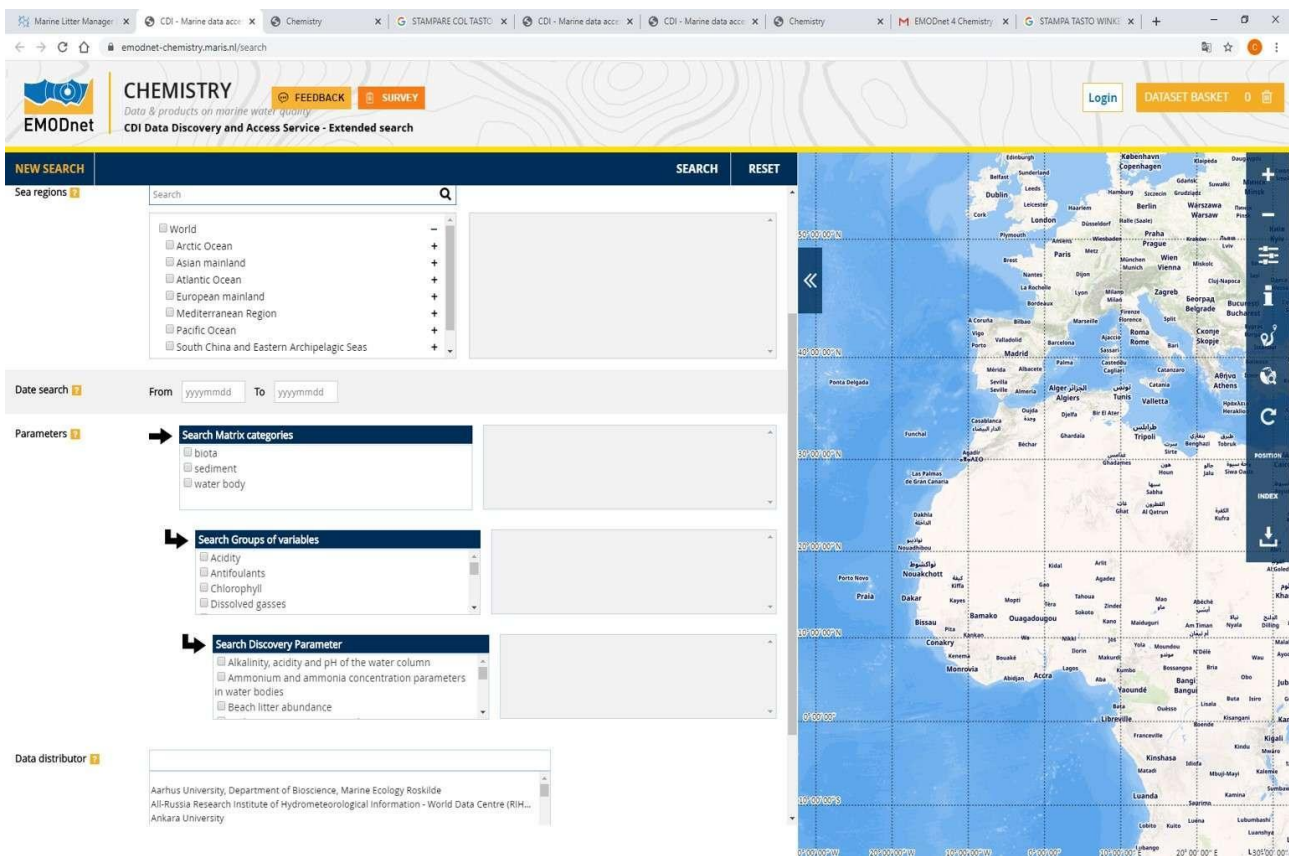
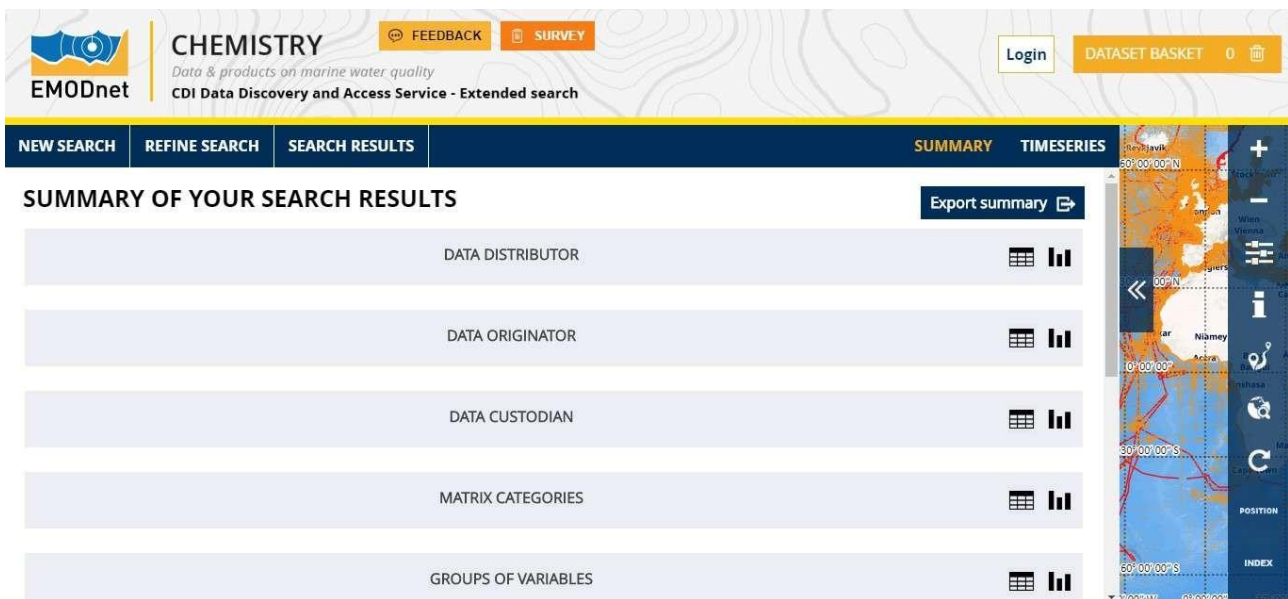


Figure 4: A screenshot of the Search interface with some of the available search criteria

Then, **search results** are listed and data geographical locations are indicated on a map. The list can be retrieved anytime clicking on the search results button. Clicking on each dataset name, users can retrieve the full related metadata: what, where, when, how, and who of the

data set. It also gives standardised information on the data access restrictions that apply. Users can either save search query and rerun it again in the future, clicking on **save query** button, or include the selected data sets in a **shopping basket** ticking the boxes related to the selected datasets. Clicking on **Summary**, users can get information on the selected datasets per topic, e.g. per data distributor, originator, group of variables.

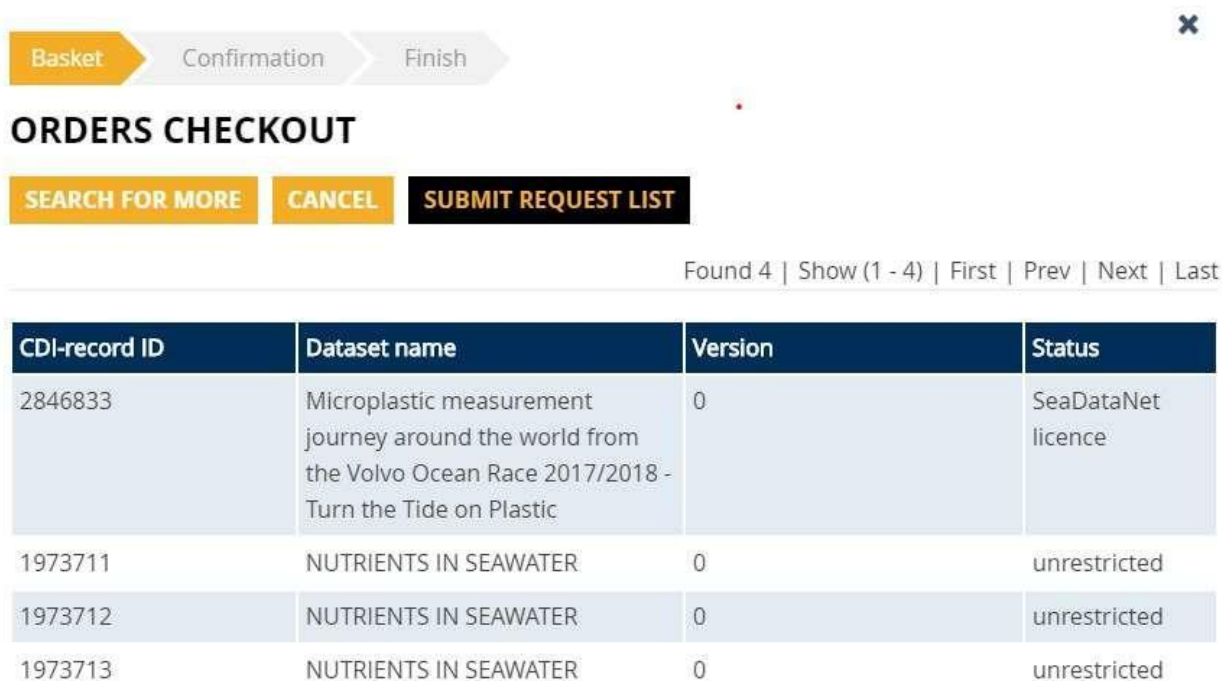


The screenshot displays the EMODnet Chemistry search results summary interface. At the top, the EMODnet logo and 'CHEMISTRY' title are visible, along with 'Data & products on marine water quality' and 'CDI Data Discovery and Access Service - Extended search'. Navigation buttons for 'FEEDBACK' and 'SURVEY' are present. A 'Login' button and a 'DATASET BASKET' with a count of 0 are also shown. The main navigation bar includes 'NEW SEARCH', 'REFINE SEARCH', 'SEARCH RESULTS', 'SUMMARY', and 'TIMESERIES'. The 'SUMMARY OF YOUR SEARCH RESULTS' section features an 'Export summary' button and five filterable categories: DATA DISTRIBUTOR, DATA ORIGINATOR, DATA CUSTODIAN, MATRIX CATEGORIES, and GROUPS OF VARIABLES. Each category is represented by a light blue bar with a table icon and a bar chart icon. A map view is visible on the right side of the interface.

Figure 5: The Summary interface, which allows users to filter data information by different categories

Shop and Orders check out

Once the datasets are selected, the shopping mechanism is accessible clicking on the **DATASET BASKET** tab:



Found 4 | Show (1 - 4) | First | Prev | Next | Last

CDI-record ID	Dataset name	Version	Status
2846833	Microplastic measurement journey around the world from the Volvo Ocean Race 2017/2018 - Turn the Tide on Plastic	0	SeaDataNet licence
1973711	NUTRIENTS IN SEAWATER	0	unrestricted
1973712	NUTRIENTS IN SEAWATER	0	unrestricted
1973713	NUTRIENTS IN SEAWATER	0	unrestricted

Figure 6: The basket with the basic information of the datasets requested by the user

View progress on line

All data requests are forwarded automatically from the EMODnet Chemistry portal to the relevant data providers. This process is controlled via the **Request Status Manager (RSM) service** at the portal that communicates with the data providers. The RSM service allows users to check the status of their requests and download datasets from the associated data providers, once access has been granted. On their turn, data providers can follow, via the

RSM service, all transactions for their datasets online and can handle requests that might require their mediation.

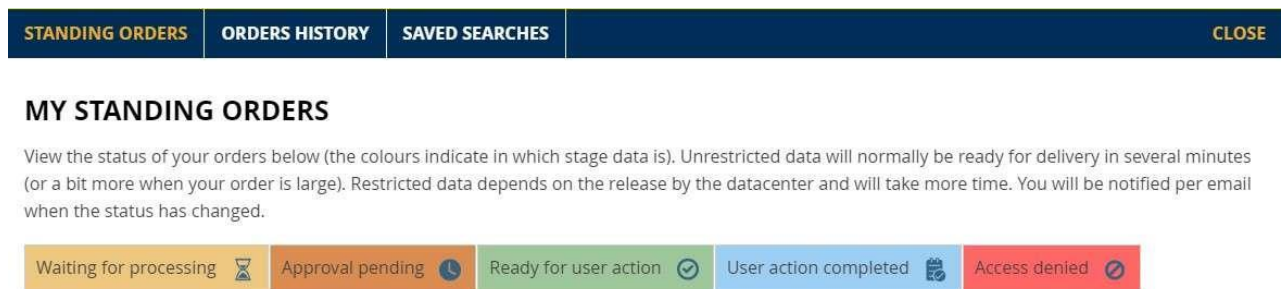


Figure 7: The Request Status Manager (RSM) service

Data download

Each CDI metadata record includes a **data access restriction tag**. It indicates under which conditions the data set is accessible to users. Its values can vary from 'unrestricted' to 'no access' with a number of values in between. During registration every user will be qualified by its national NODC/Marine Data Centre with one or more **SeaDataNet roles**. The RSM service combines for each dataset the given data access restriction with the role(s) of the user as registered in the SeaDataNet central user register. This determines per dataset request, whether a user gets direct access automatically, whether it first has to be considered by the data centre, that therefore might contact the user, or that no access is given.

Remark: Data for beach litter and seafloor litter are gathered, managed and published by means of two central databases, which are developed and populated by EMODnet Chemistry in cooperation with the MSFD Technical Group on Marine Litter (TG-ML), EU JRC, RSC's, ICES, and several relevant EU projects, regional and local initiatives. For microlitter it has been decided to adapt the SeaDataNet service approach and dedicated guidelines are formulated in concertation with the TG-ML.