ERDDAP

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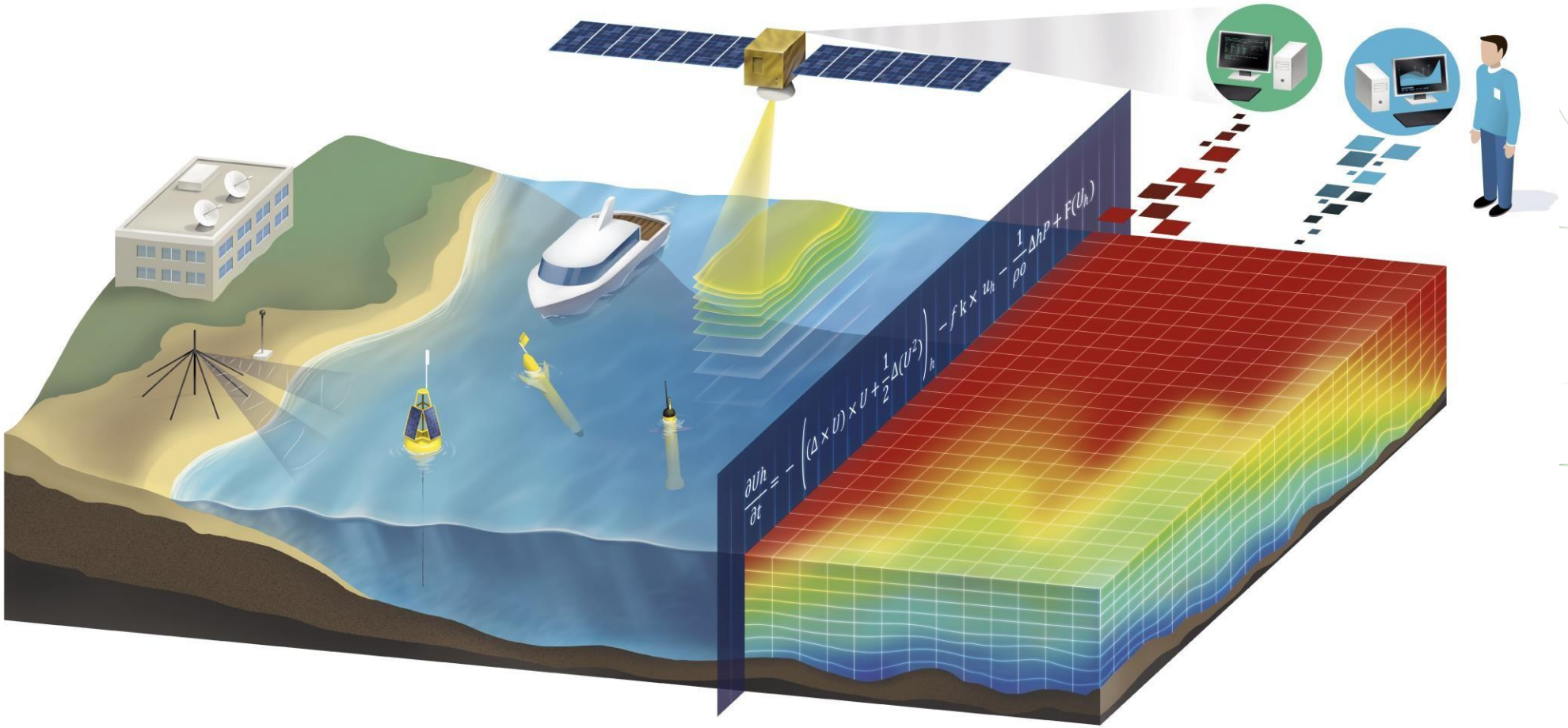
Ministero dell'Università e della Ricerca
Italiadomani

ERDDAP

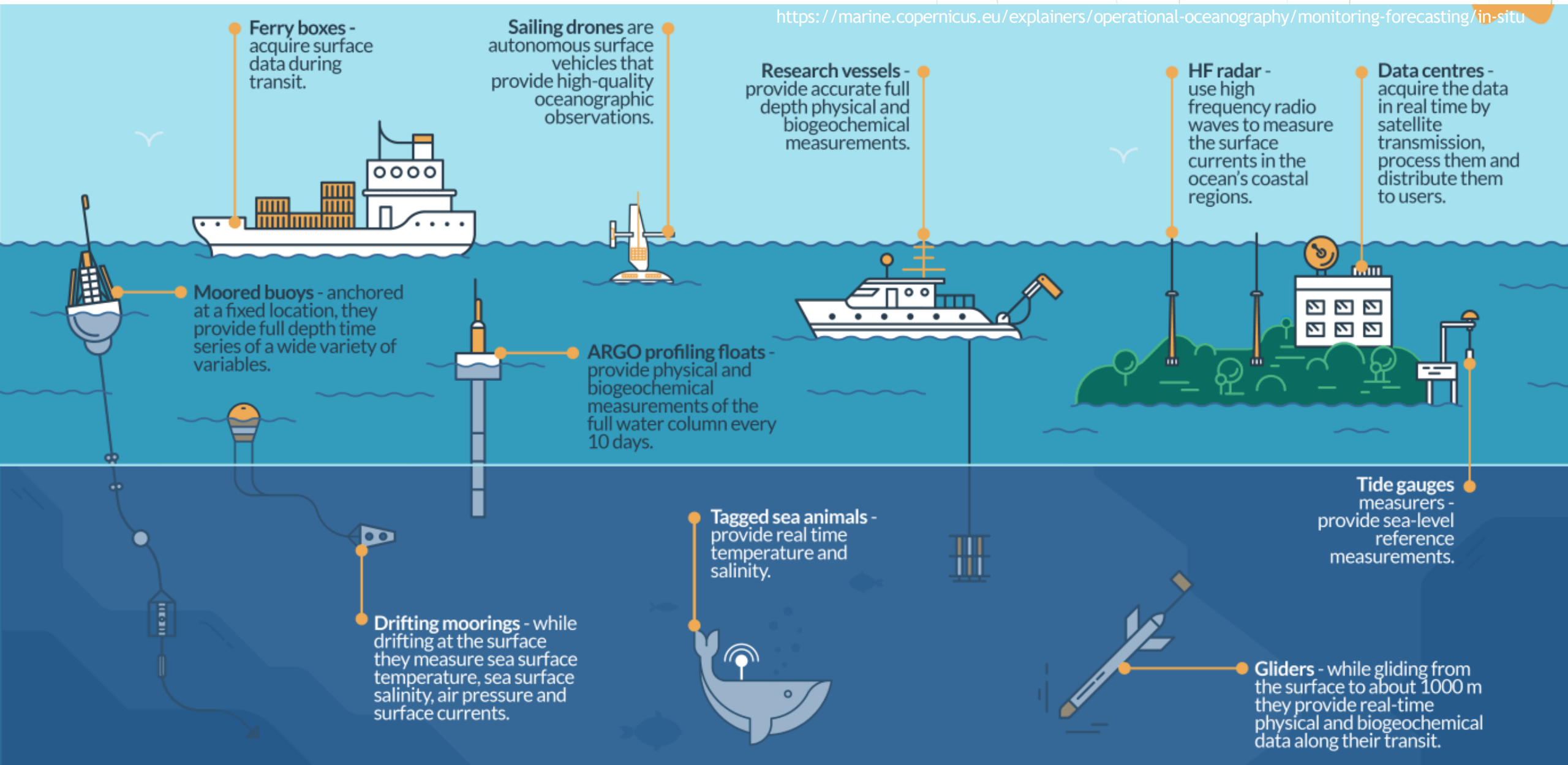
- Brief intro
- Configure your ERDDAP
- Use your ERDDAP

Ocean Observations = data, data, data, data

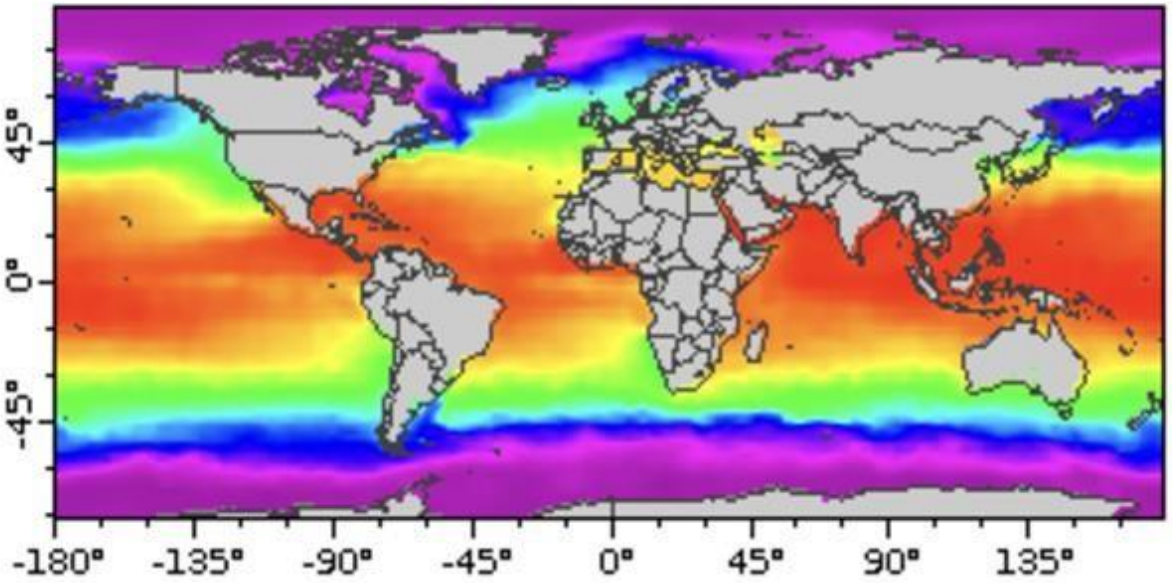


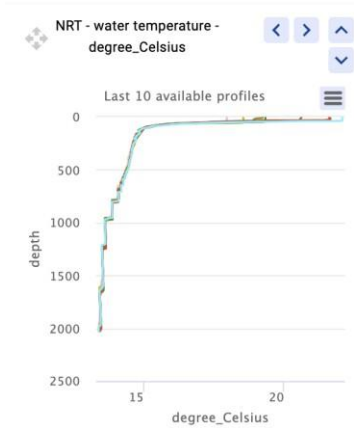
Heterogenous sources

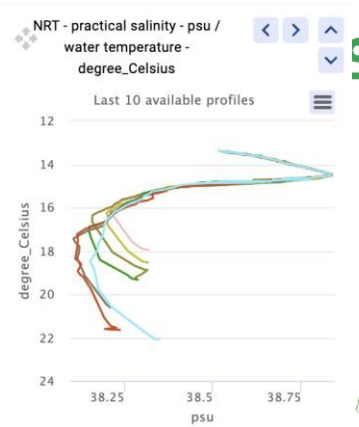
https://marine.copernicus.eu/explainers/operational-oceanography/monitoring-forecasting/in-situ

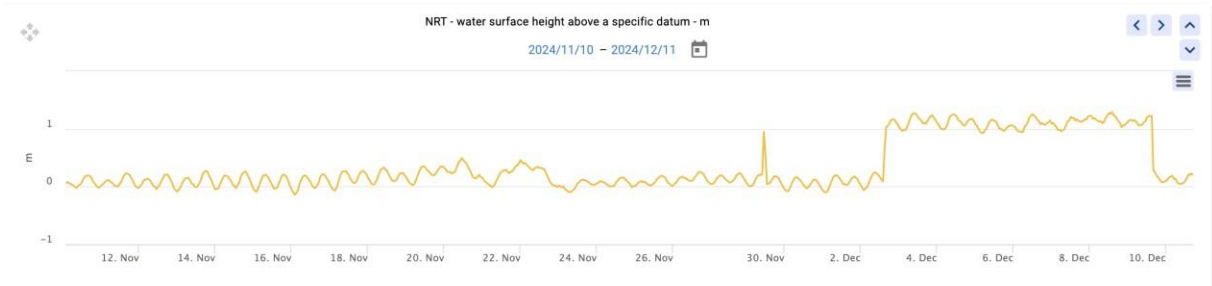


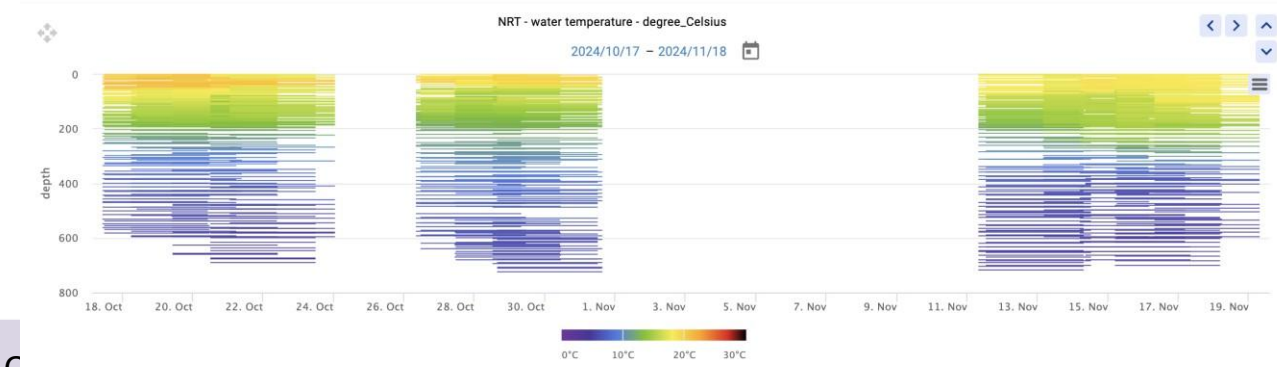
Heterogeneous data





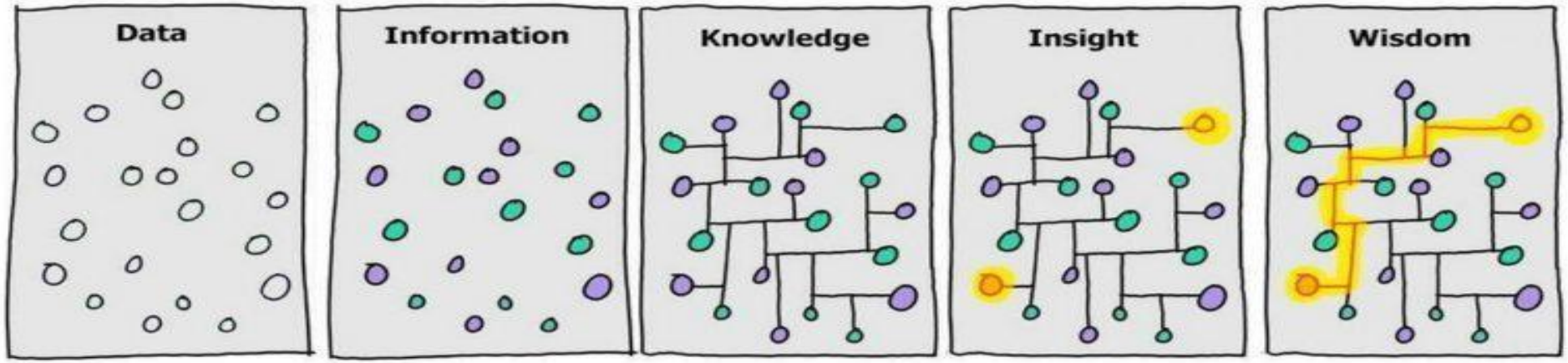






Training current future RI research staff: “Marine Data Management & Data C

Taking the unorganized and making it organized…



DIKIW

Horizon Europe: data “as open as possible, as closed as necessary” (open by default – CC-BY)
in any case metadata must be FAIR and under CC0

Rowley, J. 2007. The wisdom hierarchy: representations of the DIKW hierarchy. Journal of Information Science, 33,163–180. https://doi.org/10.1177/0165551506070706

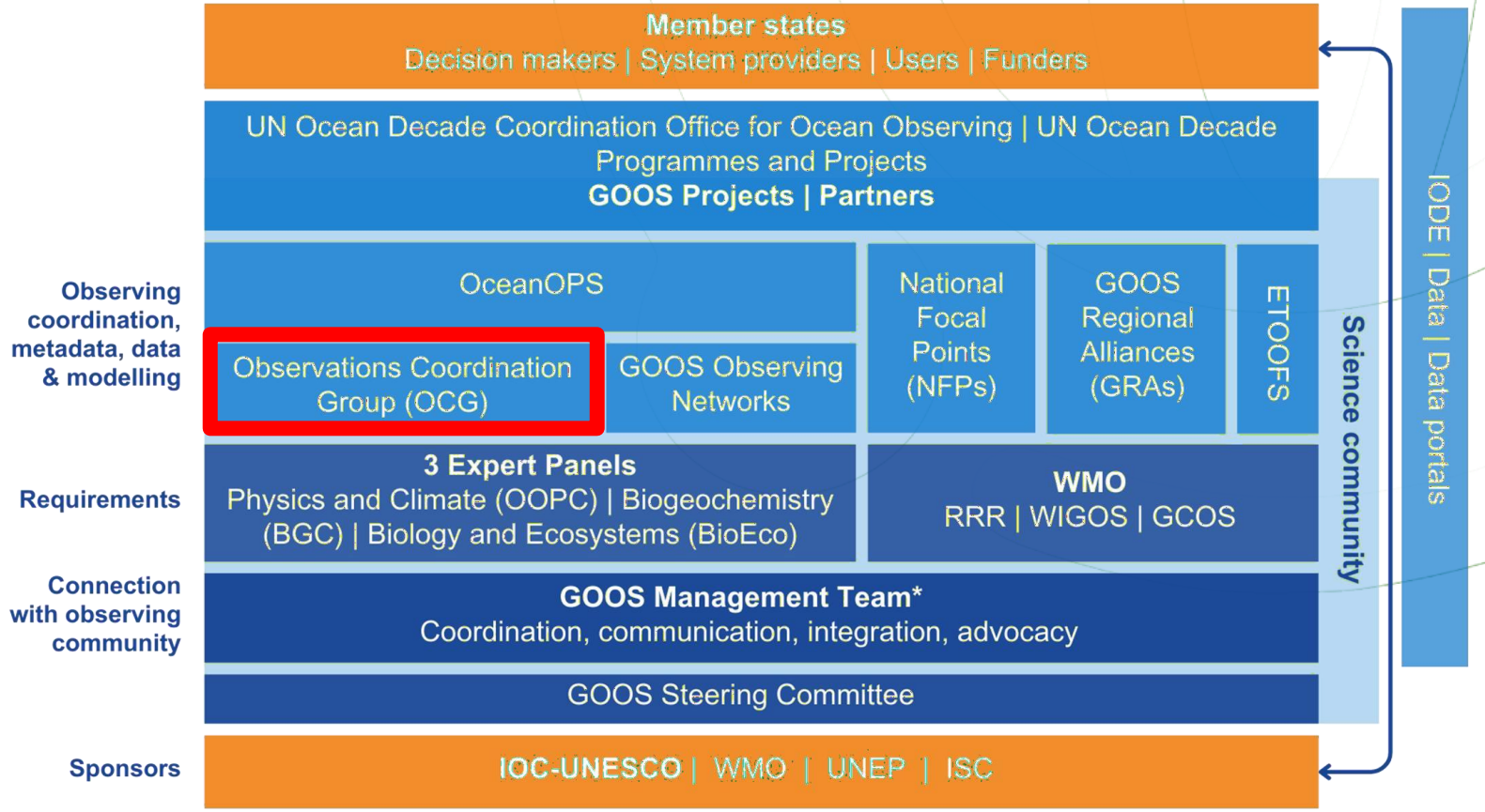
but ...

FAIR data it is not always trivial

- Most data servers lack a search system.
  - It's hard to find datasets of interest.
- Different data servers use different request protocols
  - (XML, SOAP+XML, OPeNDAP, WCS, WFS, SOS, HTML form, shopping cart, ...)
- Different data servers return data in different formats.
  - (XML, SOAP+XML, DAP binary, ASCII text, HDF4, HDF 5, NetCDF, ...!)
- and it usually isn't the file format that you want
  - (html table , ESRI. asc, .kml, .mat, .csv, .tsv, .json, .xhtml)
- Different datasets have time formatted in different ways
  - ("Jan 2, 1985", "02-JAN-1985", "1/2/85", "2/1/85", "1985-01-02", Year +DayOfyear, "seconds since 1900-01-01", "days since 1-1-1", ...!)
- Most datasets have insufficient metadata.
  - That makes it hard to understand the data.

ERDDAP

- ERDDAP is reusable, free, and open-source software.
- adopted by GOOS Observation Coordination Group (OCG)
- Implements a FAIR Data Strategy for the Global Ocean Observing Networks
- ERDDAP leverages on standards
- ERDDAP is NOT a portal - it's a framework upon which portals can easily be built

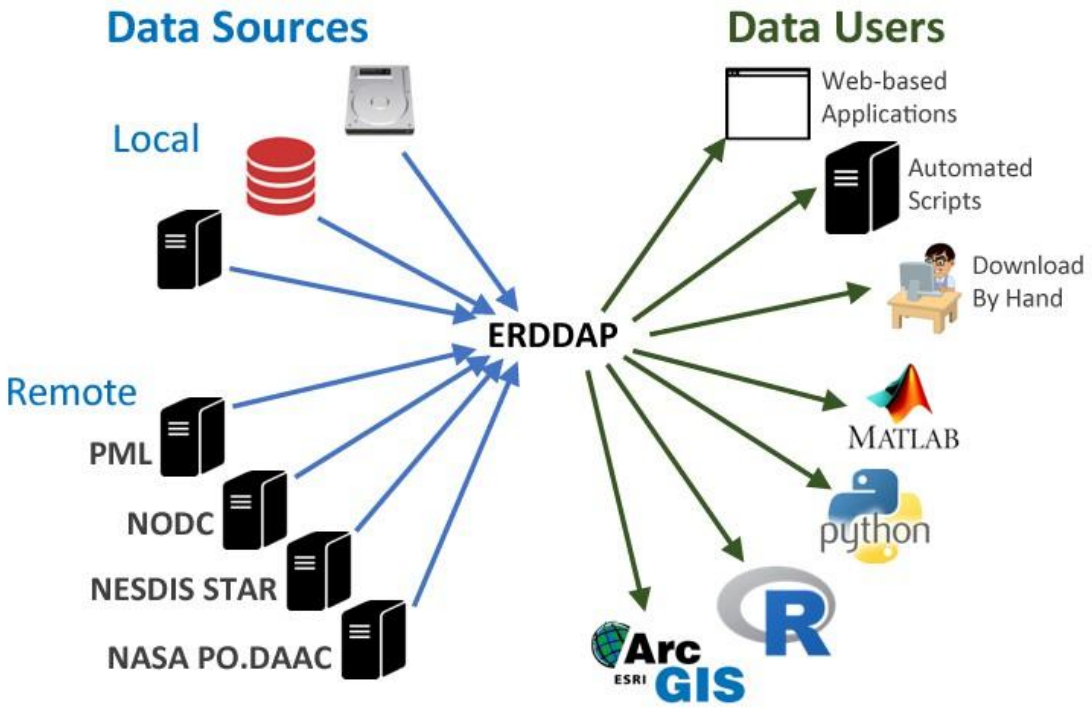


ERDDAP

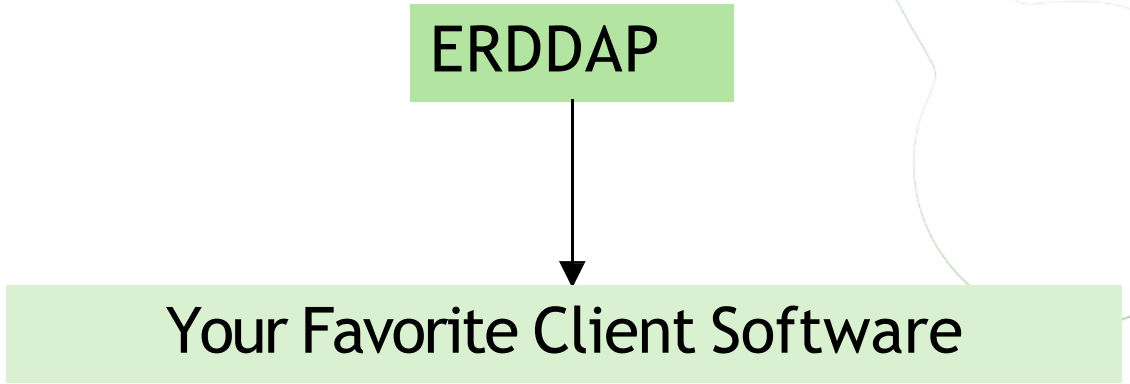
ERDDAP acts as a middleman between the user and the data source

- Improve each dataset's metadata.
- Generate ISO 19115 metadata.
- Standardize the format of time data.
- Provide a unified way for users to search for datasets.
- Offer a standard way to request data from any dataset.
- Let users specify the response file format.
  Solve all of the problems I identified earlier.

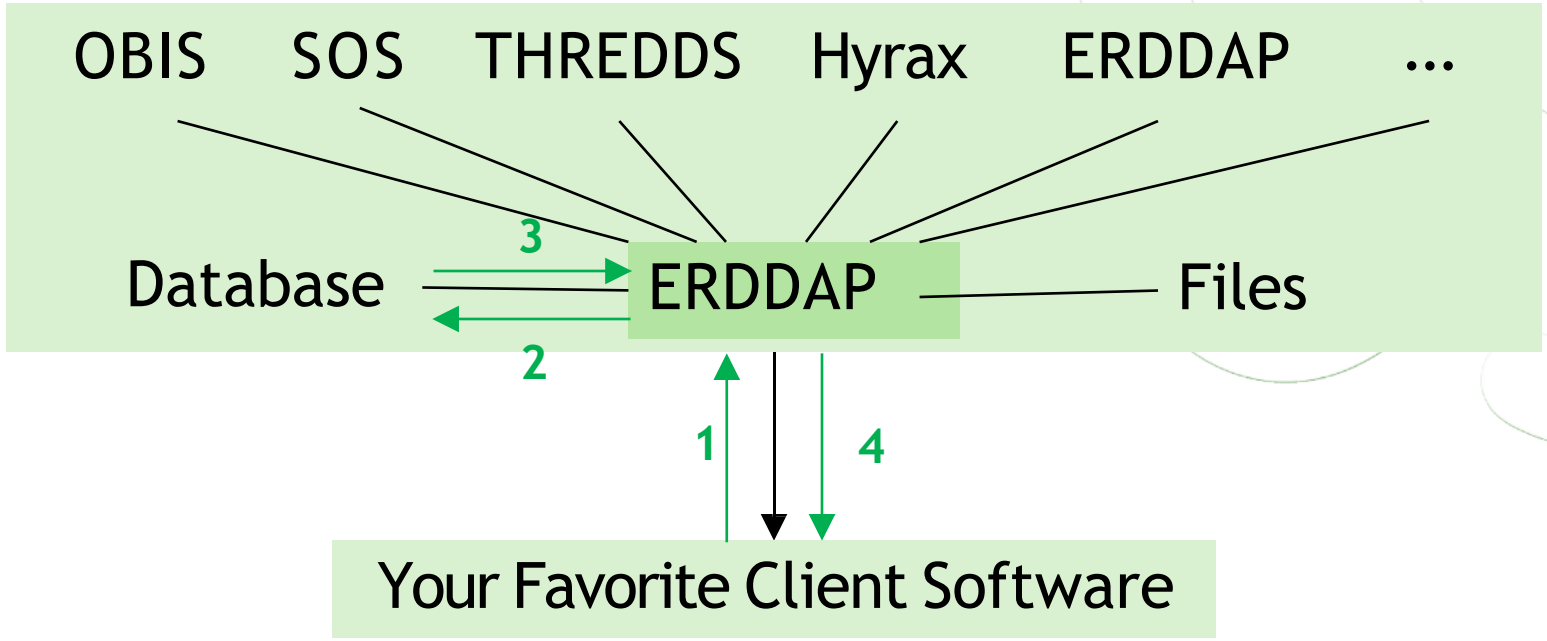
Make life easier for data providers and for users



ERDDAP and user's point of view



ERDDAP and data provider's point of view



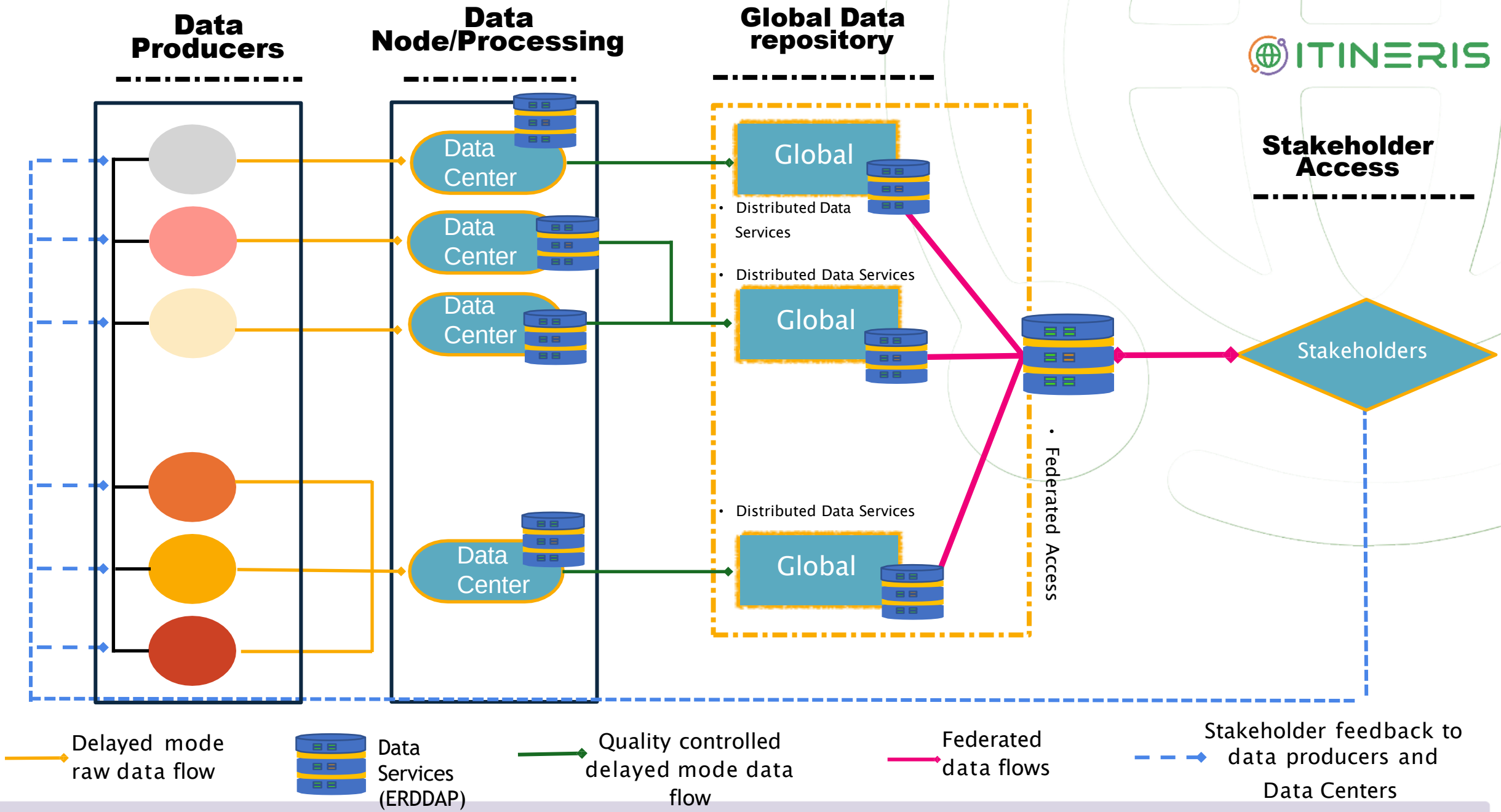
ERDDAP provides:

- A RESTful URL specifies an entire request
  - Enables easy sharing and reuse of data queries.
  - Supports programmatic access to datasets via simple HTTP requests.
- Access to a wide variety of data formats
  - Allows downloads in formats like CSV, JSON, NetCDF, and more.
- Flexible data subsetting capabilities
  - Query datasets based on specific variables, spatial extents, and time ranges.
- Data visualization tools
  - Generate graphs, maps, and other visualizations dynamically.
- Interoperability
  - Compatible with programming languages like Python, R, and MATLAB.
- Metadata-rich responses
  - Provides detailed dataset information, enhancing usability and discoverability.

ERDDAP provides:

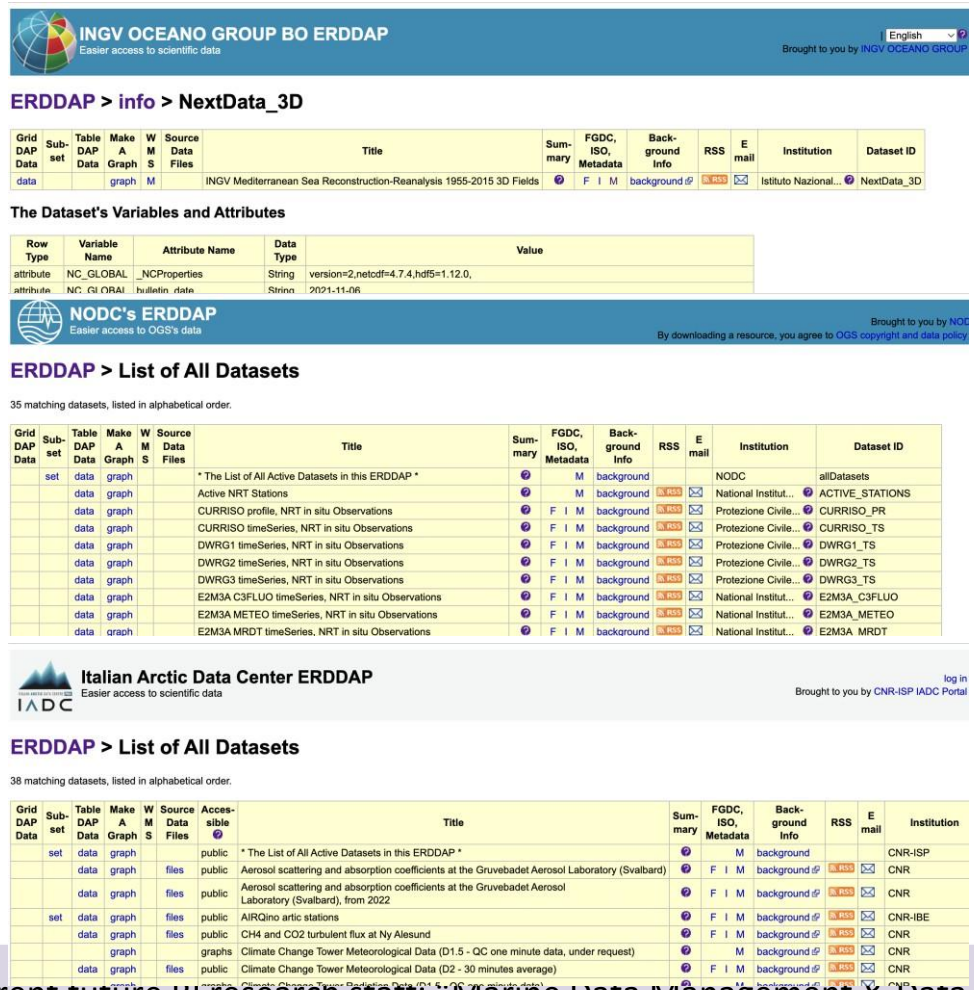
- ERDDAP is reusable, free, and open-source software.
  Spending a day to install ERDDAP saves you months or years of effort compared to making your own system (which won't be as good). What a deal!

- ERDDAP lets you offer additional features to users:
  - Catalog search services (full text and faceted search)
  - OPeNDAP and WMS web services
  - Users can download subsets of datasets in many common file formats (generated on-the-fly).
    Don't make users waste their time converting files from one format to another!
  - Users don't need plugins or libraries.
  - Users can generate customizable maps and graphs (generated on-the-fly).
  - ERDDAP handles gridded data and tabular/*in-situ* data.


Data Producers
Data Node/Processing
Global Data repository
Stakeholder Access
Data Center
Data Center
Data Center
Data Center
Global
Distributed Data Services
Distributed Data Services
Global
Distributed Data Services
Global
Federated Access
Stakeholders
Delayed mode raw data flow
Data Services (ERDDAP)
Quality controlled delayed mode data flow
Federated data flows
Stakeholder feedback to data producers and Data Centers

ERDDAP.org

more than 100 organizations in at least 17 countries



INGV OCEANO GROUP BO ERDDAP
Easier access to scientific data

ERDDAP > info > NextData_3D

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
data			graph	M		INGV Mediterranean Sea Reconstruction-Reanalysis 1955-2015 3D Fields		F I M	background			Istituto Nazional...	NextData_3D

The Dataset's Variables and Attributes

Row Type	Variable Name	Attribute Name	Data Type	Value
attribute	NC_GLOBAL	_NCProperties	String	version=2,netcdf=4.7.4,hdf5=1.12.0,
attribute	NC_GLOBAL	bulletin_date	String	2021-11-06

NODC's ERDDAP
Easier access to OGS's data

ERDDAP > List of All Datasets

35 matching datasets, listed in alphabetical order.

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph			* The List of All Active Datasets in this ERDDAP *		M	background			NODC	allDatasets
		data	graph			Active NRT Stations		M	background			National Institut...	ACTIVE_STATIONS
		data	graph			CURRISO profile, NRT in situ Observations		F I M	background			Protezione Civile...	CURRISO_PR
		data	graph			CURRISO timeSeries, NRT in situ Observations		F I M	background			Protezione Civile...	CURRISO_TS
		data	graph			DWRG1 timeSeries, NRT in situ Observations		F I M	background			Protezione Civile...	DWRG1_TS
		data	graph			DWRG2 timeSeries, NRT in situ Observations		F I M	background			Protezione Civile...	DWRG2_TS
		data	graph			DWRG3 timeSeries, NRT in situ Observations		F I M	background			Protezione Civile...	DWRG3_TS
		data	graph			E2M3A C3FLUO timeSeries, NRT in situ Observations		F I M	background			National Institut...	E2M3A_C3FLUO
		data	graph			E2M3A METEO timeSeries, NRT in situ Observations		F I M	background			National Institut...	E2M3A_METEO
		data	graph			E2M3A MRDT timeSeries, NRT in situ Observations		F I M	background			National Institut...	E2M3A_MRDT

Italian Arctic Data Center ERDDAP
Easier access to scientific data

ERDDAP > List of All Datasets

38 matching datasets, listed in alphabetical order.

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Acces-sible	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution
	set	data	graph			public	* The List of All Active Datasets in this ERDDAP *		M	background			CNR-ISP
		data	graph		files	public	Aerosol scattering and absorption coefficients at the Gruvebadet Aerosol Laboratory (Svalbard)		F I M	background			CNR
		data	graph		files	public	Aerosol scattering and absorption coefficients at the Gruvebadet Aerosol Laboratory (Svalbard), from 2022		F I M	background			CNR
	set	data	graph		files	public	AIRQino artic stations		F I M	background			CNR-IBE
		data	graph		files	public	CH4 and CO2 turbulent flux at Ny Alesund		F I M	background			CNR
			graph			graphs	Climate Change Tower Meteorological Data (D1.5 - QC one minute data, under request)		M	background			CNR
		data	graph		files	public	Climate Change Tower Meteorological Data (D2 - 30 minutes average)		F I M	background			CNR

- APDRC (Asia-Pacific Data-Research Center, International Pacific Research Center) at the University of Hawaii (UH)
- BCO-DMO at WHOI (Biological and Chemical Oceanography Data Management Office at Woods Hole Oceanographic Institution)
- CanWIN ERDDAP™ (Canadian Watershed Information Network) at the Centre for Earth Observation Science (CEOS), University of Manitoba
- CDIP (Coastal Data Information Program at UCSD)
- CNR-ISP (National Research Council of Italy, Institute of Polar Sciences)
- CSIRO and IMOS (Australia's Commonwealth Scientific and Industrial Research Organisation and the Integrated Marine Observing System)
- DIVER (NOAA ORR) (NOAA Office of Response and Restoration)
- EMODnet Physics (The European Marine Observation and Data Network -- Physics)
- GoMRI (Gulf of Mexico Research Initiative)
- Hakai Institute (The Hakai Institute on the Central Coast of British Columbia, Canada)
- High School Technology Services, which offers coding and technology training for students and adults
- ICHEC (Irish Centre for High-End Computing)
- INCOIS (Indian National Centre for Ocean Information Services)
- IRD (Institut de Recherche pour le Développement, France)
  CNRS (Centre National de la Recherche Scientifique, France)
  UPMC (Université Pierre et Marie CURIE, Paris, France)
  UCAD (Université Cheikh Anta Diop de Dakar, Sénégal)
  UGB (Université Gaston Berger -- Saint-Louis du Sénégal)
  UFHB (Université Félix HOUPHOUËT-BOIGNY, Abidjan, Côte d'Ivoire)
  IPSL (Institut Pierre Simon Laplace des sciences de l'environnement, Paris, France)
  LMI ECLAIRS (Laboratoire Mixte International «Etude du Climat en Afrique de l'Ouest et de ses Interactions avec l'Environnement Régional, et appui aux services climatiques»)
- JRC (European Commission - Joint Research Centre, European Union)
- The Marine Institute (Ireland)
- Marine Instruments S.A. (Spain)
- NCI (Australia's National Computational Infrastructure)
- NOAA CoastWatch (central)
- NOAA CoastWatch CGOM (Caribbean/Gulf of Mexico Node)
- NOAA CoastWatch GLERL (Great Lakes Node)
- NOAA CoastWatch West Coast which is co-located with and works with NOAA ERD (Environmental Research Division of SWFSC of NMFS)
- NOAA IOOS Sensors (Integrated Ocean Observing System)
- NOAA IOOS CeNCOOS (Central and Northern California Ocean Observing System, run by Axiom Data Science)
- NOAA IOOS GCOOS Atmospheric and Oceanographic Data: Observing System
  NOAA IOOS GCOOS Atmospheric and Oceanographic Data: Historical Collections
  NOAA IOOS GCOOS Biological and Socioeconomics (Gulf Coast Ocean Observing System)
- NOAA IOOS NERACOOS (Northeastern Regional Association of Coastal and Ocean Observing Systems)
- NOAA IOOS NGDAC (National Glider Data Assembly Center)
- NOAA IOOS NANOOS (Northwest Association of Networked Ocean Observing Systems)
- NOAA IOOS PacIOOS (Pacific Islands Ocean Observing System) at the University of Hawaii (UH)
- NOAA IOOS SCCOOS (Southern California Coastal Ocean Observing System)
- NOAA IOOS SECOORA (Southeast Coastal Ocean Observing Regional Association)
- NOAA NCEI (National Centers for Environmental Information)
- NOAA NGDC STP (National Geophysical Data Center, Solar -- Terrestrial Physics)
- NOAA NMFS NEFSC (Northeast Fisheries Science Center)
- NOAA NOS CO-OPS (Center for Operational Oceanographic Products and Services)
- NOAA OSMC (Observing System Monitoring Center)
- NOAA PIFSC (Pacific Islands Fisheries Science Center)
- NOAA PMEL
- NOAA PolarWatch
- NOAA UAF (Unified Access Framework)
- Ocean Networks Canada
- Ocean Tracking Network
- OOI / All Data (Ocean Observatories Initiative)
  OOI / Uncabled Data
- Princeton, Hydrometeorology Research Group
- R.Tech Engineering, France
- Rutgers University, Department of Marine and Coastal Sciences
- San Francisco Estuary Institute
- Scripps Institution of Oceanography, Spray Underwater Gliders
- Smart Atlantic Memorial University of Newfoundland
- South African Environmental Observation Network
- Spyglass Technologies
- Stanford University, Hopkins Marine Station
- UNESCO IODE (International Oceanographic and Information Data Exchange)
- University of British Columbia, Earth, Ocean & Atmospheric Sciences Department
- University of California at Davis, Bodega Marine Laboratory
- University of Delaware, Satellite Receiving Station
- University of Washington, Applied Physics Laboratory
- USGS CMGP (Coastal and Marine Geology Program)
- VOTO (Voice Of The Ocean, Sweden)

How it looks like

Brought to you by EMODnet

ERDDAP

ERDDAP is a data server that gives you a simple, consistent way to download subsets of scientific datasets in common file formats and make graphs and maps. This particular ERDDAP installation has oceanographic data (for example, data from satellites and buoys).

Easier Access to Scientific Data

Our focus is on making it easier for you to get scientific data.

Different scientific communities have developed different types of data servers.

For example, OPeNDAP, WCS, SOS, OBIS, and countless custom web pages with forms. Each is great on its own. But without ERDDAP, it is difficult to get data from different types of servers:

- Different data servers make you format your data request in different ways.
- Different data servers return data in different formats, usually not the common file format that you want.
- Different datasets use different formats for time data, so the results are hard to compare.

ERDDAP unifies the different types of data servers so you have a consistent way to get the data you want, in the format you want.

- ERDDAP acts as a middleman between you and various remote data servers. When you request data from ERDDAP, ERDDAP reformats the request into the format required by the remote server, sends the request to the remote server, gets the data, reformats the data into the format that you requested, and sends the data to you. You no longer have to go to

Start Using ERDDAP: Search for Interesting Datasets

- **Do a Full Text Search for Datasets**

  Search

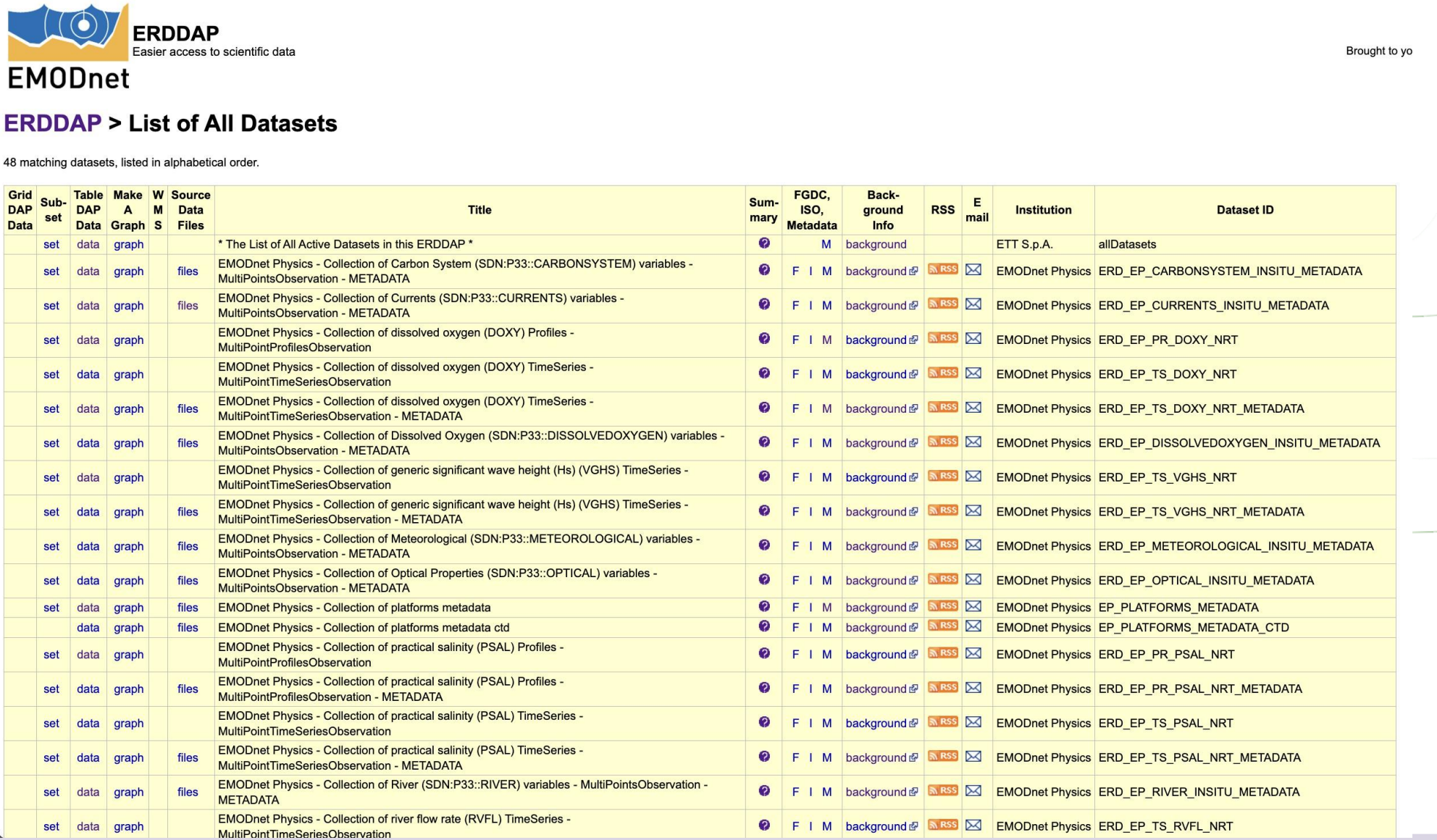
- **View a List of All 48 Datasets**
- **Search for Datasets by Category**

  Datasets can be categorized in different ways by the values of various metadata attributes. Click on an attribute (cdm_data_type, institution, ioos_category, keywords, long_name, standard_name, variableName) to see a list of categories (values) for that attribute. Then, you can click on a category to see a list of relevant datasets.

- **Search for Datasets with Advanced Search**
- **Search for Datasets by Protocol**

  Protocols are the standards which specify how to

How it looks like



ERDDAP
Easier access to scientific data

EMODnet

Brought to yo

ERDDAP > List of All Datasets

48 matching datasets, listed in alphabetical order.

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph			* The List of All Active Datasets in this ERDDAP *		M	background			ETT S.p.A.	allDatasets
	set	data	graph		files	EMODnet Physics - Collection of Carbon System (SDN:P33::CARBONSYSTEM) variables - MultiPointsObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_CARBONSYSTEM_INSITU_METADATA
	set	data	graph		files	EMODnet Physics - Collection of Currents (SDN:P33::CURRENTS) variables - MultiPointsObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_CURRENTS_INSITU_METADATA
	set	data	graph			EMODnet Physics - Collection of dissolved oxygen (DOXY) Profiles - MultiPointProfilesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_DOXY_NRT
	set	data	graph			EMODnet Physics - Collection of dissolved oxygen (DOXY) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_DOXY_NRT
	set	data	graph		files	EMODnet Physics - Collection of dissolved oxygen (DOXY) TimeSeries - MultiPointTimeSeriesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_DOXY_NRT_METADATA
	set	data	graph		files	EMODnet Physics - Collection of Dissolved Oxygen (SDN:P33::DISSOLVEDOXYGEN) variables - MultiPointsObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_DISSOLVEDOXYGEN_INSITU_METADATA
	set	data	graph			EMODnet Physics - Collection of generic significant wave height (Hs) (VGHS) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_VGHS_NRT
	set	data	graph		files	EMODnet Physics - Collection of generic significant wave height (Hs) (VGHS) TimeSeries - MultiPointTimeSeriesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_VGHS_NRT_METADATA
	set	data	graph		files	EMODnet Physics - Collection of Meteorological (SDN:P33::METEOROLOGICAL) variables - MultiPointsObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_METEOROLOGICAL_INSITU_METADATA
	set	data	graph		files	EMODnet Physics - Collection of Optical Properties (SDN:P33::OPTICAL) variables - MultiPointsObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_OPTICAL_INSITU_METADATA
	set	data	graph		files	EMODnet Physics - Collection of platforms metadata		F I M	background	RSS		EMODnet Physics	EP_PLATFORMS_METADATA
		data	graph		files	EMODnet Physics - Collection of platforms metadata ctd		F I M	background	RSS		EMODnet Physics	EP_PLATFORMS_METADATA_CTD
	set	data	graph			EMODnet Physics - Collection of practical salinity (PSAL) Profiles - MultiPointProfilesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_PSAL_NRT
	set	data	graph		files	EMODnet Physics - Collection of practical salinity (PSAL) Profiles - MultiPointProfilesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_PSAL_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of practical salinity (PSAL) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_PSAL_NRT
	set	data	graph		files	EMODnet Physics - Collection of practical salinity (PSAL) TimeSeries - MultiPointTimeSeriesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_PSAL_NRT_METADATA
	set	data	graph		files	EMODnet Physics - Collection of River (SDN:P33::RIVER) variables - MultiPointsObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_RIVER_INSITU_METADATA
	set	data	graph			EMODnet Physics - Collection of river flow rate (RVFL) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_RVFL_NRT

what you can do on ERDDAP (M)

ERDDAP
Easier access to scientific data
EMODnet

ERDDAP > info > ERD_EP_CARBONSYSTEM_INSITU_METADATA

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph		files	EMODnet Physics - Collection of Carbon System (SDN:P33::CARBONSYSTEM) variables - MultiPointsObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_CARBONSYSTEM_INSITU_METADATA

The Dataset's Variables and Attributes

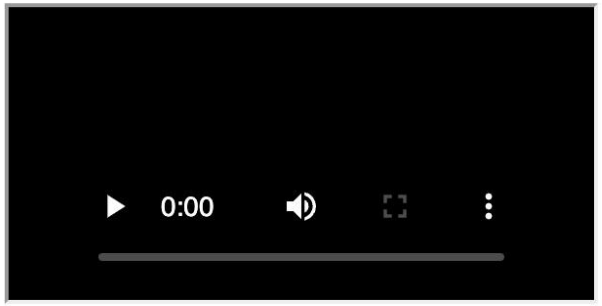
Row Type	Variable Name	Attribute Name	Data Type	Value
attribute	NC_GLOBAL	cdm_data_type	String	Other
attribute	NC_GLOBAL	Conventions	String	COARDS, CF-1.10, ACDD-1.3, NCCSV-1.2
attribute	NC_GLOBAL	Easternmost_Easting	double	179.75
attribute	NC_GLOBAL	geospatial_lat_max	double	88.86
attribute	NC_GLOBAL	geospatial_lat_min	double	-78.07231833333333
attribute	NC_GLOBAL	geospatial_lat_units	String	degrees_north
attribute	NC_GLOBAL	geospatial_lon_max	double	179.75
attribute	NC_GLOBAL	geospatial_lon_min	double	-179.7976
attribute	NC_GLOBAL	geospatial_lon_units	String	degrees_east
attribute	NC_GLOBAL	infoUrl	String	https://emodnet.ec.europa.eu/en/physics
attribute	NC_GLOBAL	institution	String	EMODnet Physics
attribute	NC_GLOBAL	license	String	CC-BY
attribute	NC_GLOBAL	Northernmost_Northing	double	88.86
attribute	NC_GLOBAL	sourceUrl	String	(local files)
attribute	NC_GLOBAL	Southernmost_Northing	double	-78.07231833333333
attribute	NC_GLOBAL	standard_name_vocabulary	String	CF Standard Name Table v70
attribute	NC_GLOBAL	subsetVariables	String	PLATFORMCODE
attribute	NC_GLOBAL	summary	String	EMODnet Physics - Collection of Carbon System (SDN:P33::CARBONSYSTEM) variables - MultiPointsObservation - METADATA
attribute	NC_GLOBAL	title	String	EMODnet Physics - Collection of Carbon System (SDN:P33::CARBONSYSTEM) variables - MultiPointsObservation - METADATA
attribute	NC_GLOBAL	Westernmost_Easting	double	-179.7976
variable	PLATFORMCODE		String	
attribute	PLATFORMCODE	long_name	String	EMODnet Platform Code
variable	call_name		String	
attribute	call_name	long_name	String	Platform Call Name

Applicable standards

Metadata	Use known controlled vocabularies	Time: ISO 8061 CF standard names Parameters: SDN::P01:P02; Units: P06 Organizations: EDMO/ROR Projects: EDMERP/CORDIS
Data Format	The netCDF CF (v1.6 or greater) format is preferred as it is commonly used by the marine community and by the data integrators for in situ data as well as for satellite and modelling ones. csv, txt, griib, HD5 are ok	Data model is important
Access protocol	standardised communication protocols	○ ftp, for direct download of data ○ https, for implementation of ERDDAP server that allows access to discrete data (as in situ ones)
Licence	When possible, to give open and free access to the data. "As open as possible, restricted if necessary"	"Creative Commons" (CC): CC0/CC-BY should be preferred.
Principal Investigators	actors associated to the data	Persistent digital identifier or ORCID code https://orcid.org/
Dataset	The datasets should be identified by a DOI, persistent identifier for object and ISO standard.	DOI publishers (OGS, INGV, SEANOE, ZENODO – controlled communities, PANGAEA…)

How much time does it take to install?

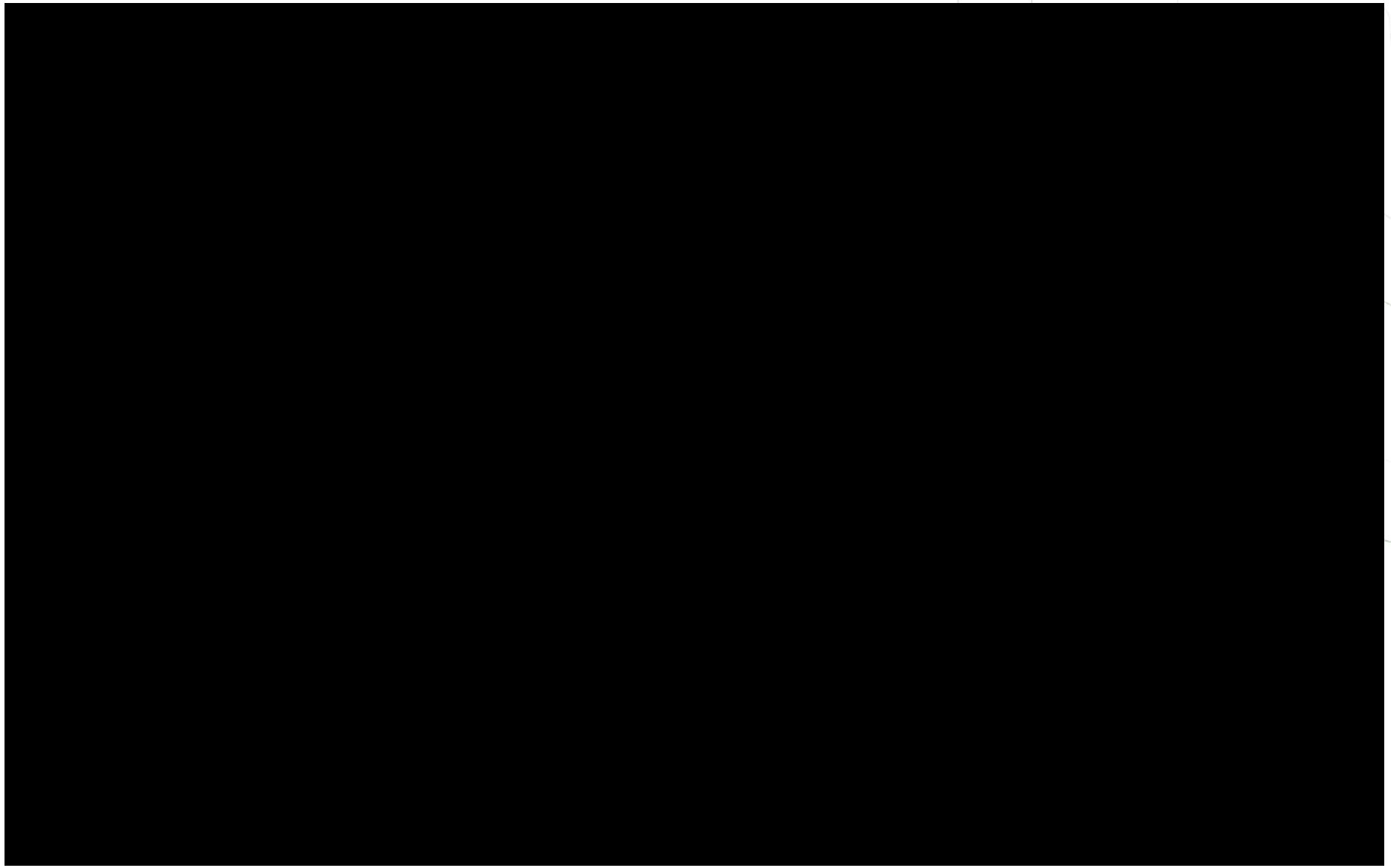
I made a 15 minute video demonstrating setting up an ERDDAP server and adding a new dataset using the axiom docker image. From the many methods I tried, this was the easiest way to get started with ERDDAP.



https://callumrollo.com/files/docker-erddap.mp4

Github repository:
https://github.com/EMODnet-Physics/docker-erddap-install
two options:

1. install only the latest ERDDAP docker version and configure it
2. install the latest ERDDAP docker version and use the available Linux script



How to install

1. Go to Github: https://github.com/EMODnet-Physics/docker-erddap-install
2. download the "Dockerfile"
3. download the folders "ERDDAP" and "TOMCAT"
4. Copy the "Dockerfile" file and the two folders in the same directory (i.e. /opt/erddapdocker/)
5. open the terminal, go to that directory
6. run: docker build -t erddaptest .
   (replace erddaptest with the name you want to assign to the docker image)
7. run: docker run -d -p 8080:8080 erddaptest

refer to the documentation on https://github.com/axiom-data-science/docker-erddap replacing «axiom/docker-erddap» with the name you assigned to the image (i.e. erddaptest) for more options

Linux package to deploy ERDDAP on Docker to automatize the initial configuration of ERDDAP and Apache (optional) and have an that contains:

- ERDDAP container - Exposed o the variable MYDOCKER_HOST_ERDDAP_PO it's set to 12081.
- data directory - This directory o could have data that will be acc the ERDDAP container.
- ERDDAP Data directory - This is on the host where are ERDDAP (cache, logs, etc...).
- ERDDAP Content directory - Thi directory on the host where ar Content files (datasets.xml and
- Apache default website - In this the proxy that forward request container from the location /erddap.

Requisites

- Host OS – Linux distribution
- the user defined in

To execute GenerateDatasetsXml

The GenerateDatasetsXml utility can be used with the following command on the host machine:

docker exec -it erddap-docker_erddap_1 bash -c "cd webapps/erddap/WEB-INF/ CC bash GenerateDatasetsXml.sh -verbose"

In the docker image the {MYDOCKER_DATA_DIR} is mounted in the "/Data/" path

Example:
MYDOCKER_DATA_DIR is /opt/mydata/
Data are stored on /opt/mydata/netcdf/
In the GenerateDatasetsXml tool you must specify /Data/netcdf/ as data directory

- (OPTIONAL) Apache installed with proxy, proxy_http, rewrite, ssl and headers modules enabled.

How to install:

- Login as root user.
- Copy al the content from the repository in any folder of the host. For

r-EnvCreationVariable.sh file

cker-EnvCreationVariable.sh file (the

are:

cess the MYDOCKER_DATA_DIR

ement directories will be created.

ccessible by ERDDAP

out http/https, i.e:

AP send daily status reports and all

- ERDDAP_admin*
  put in these fileds all the needed infromation. NOTE: Use the @ only in the email fields.
- ERDDAP_flagKeyKey
  Do no use the @ char
- Give the permissions Execute (chmod +x) to docker-EnvCreation.sh file.
- Run docker-EnvCreation.sh and follow instruction on terminal.

Datsets XML configuration file

Every ERDDAP server has a datasets.xml file. This file contains metadata information and variables definitions of each dataset.
The file is in XML language divided by datasets, each dataset has the same structure:

```
<dataset type="EDDTableFromAsciiFiles" datasetID="Dataset_exemple_1" active="false">
    <reloadEveryNMinutes>10080</reloadEveryNMinutes>
    <fileDir>/Data/ExempleData/</fileDir>
    <fileNameRegex>.*\.csv</fileNameRegex>
    <recursive>true</recursive>
    <pathRegex>.*</pathRegex>
    <metadataFrom>last</metadataFrom>
    <standardizeWhat>0</standardizeWhat>
    <charset>UTF-8</charset>
    <columnSeparator>,</columnSeparator>
    <columnNamesRow>1</columnNamesRow>
    <firstDataRow>2</firstDataRow>
    <sortedColumnSourceName></sortedColumnSourceName>
    <sortFilesBySourceNames></sortFilesBySourceNames>
    <fileTableInMemory>false</fileTableInMemory>

    <addAttributes>
        <att name="cdm_data_type">Point</att>
        <att name="Conventions">COARDS, CF-1.6, ACDD-1.3</att>
        <att name="creator_email">crator@email.com</att>
        <att name="creator_name">Creator Name</att>
        <att name="creator_url">https://www.creatorUrl.com</att>
        <att name="infoUrl">https://www.infoUrl.com</att>
        <att name="institution">Institution name </att>
        <att name="keywords">keyword1, keyword2, keyword3, ...</att>
        <att name="license">Specific license</att>
        <att name="sourceUrl">(local files)</att>
        <att name="standard_name_vocabulary">CF Standard Name Table v70</att>
        <att name="summary">Verbous Summary...</att>
        <att name="title">Dataset Title</att>
        <att name="subsetVariables">variable1, variable2, ...</att>
    </addAttributes>
    <dataVariable>
        <sourceName>***fileName,weather_boat_[0-9][0-9]_(.*)_[0-9]*\.csv,1</sourceName>
        <destinationName>boat_name</destinationName>
        <dataType>String</dataType>
        <!-- sourceAttributes>
        </sourceAttributes -->
        <addAttributes>
            <att name="long_name">boat_name</att>
        </addAttributes>
    </dataVariable>
```

Data source definition and dataset settings

Metadata and dataset information

Variables definition

GenerateDatasetsXml.sh

To generate a dataset, ERDDAP provides scripts that automatically read data and generate the XML.

```
The EDDType options are:
EDDGridAggregateExistingDimension   EDDTableFromEML
EDDGridFromAudioFiles               EDDTableFromEMLBatch
EDDGridFromDap                      EDDTableFromErddap
EDDGridFromEDDTable                 EDDTableFromFileNames
EDDGridFromErddap                   EDDTableFromHttpGet
EDDGridFromMergeIRFiles             EDDTableFromInPort
EDDGridFromNcFiles                  EDDTableFromIoosSOS
EDDGridFromNcFilesUnpacked          EDDTableFromJsonlCSVFiles
EDDGridFromThreddsCatalog           EDDTableFromMultidimNcFiles
EDDGridLonPM180FromErddapCatalog    EDDTableFromNcFiles
EDDGridLon0360FromErddapCatalog     EDDTableFromNcCFFiles
EDDTableFromAsciiFiles              EDDTableFromNccsvFiles
EDDTableFromAudioFiles              EDDTableFromOBIS
EDDTableFromAwsXmlFiles             EDDTableFromSOS
EDDTableFromBCODMO                  EDDTableFromThreddsFiles
EDDTableFromCassandra               EDDTableFromWFSFiles
EDDTableFromColumnarAsciiFiles      EDDsFromFiles
EDDTableFromDapSequence             addFillValueAttributes
EDDTableFromDatabase                findDuplicateTime
EDDTableFromEDDGrid                 ncdump

Which EDDType (default="EDDGridFromDap")
?
```

Once lanced, the script allows to generate a dataset starting from many type of files. The user just have to answer the script questions to obtain the dataset XML.

Generate a dataset from CSV file – Set up Your CSV file

```
EXPOCODE;CRUISE;STATION;CAST;BOTTLE;BOTTLE_FLAG_W;DATE;LATITUDE;LONGITUDE;BOTTOM DEPTH;CTD PRESSURE;
33RO20110926;A10 (2011);1;2;11706;2;20110928;-28.5128;14.9492;174;4.7;14.456;34.9876;2;254.9;2;-999;
33RO20110926;A10 (2011);1;2;11033;2;20110928;-28.5128;14.9492;174;14.6;14.4506;34.9873;2;255.3;2;-99
33RO20110926;A10 (2011);1;2;11705;2;20110928;-28.5128;14.9492;174;25.1;14.4501;34.9872;2;255.7;2;-99
33RO20110926;A10 (2011);1;2;11029;2;20110928;-28.5128;14.9492;174;51.5;14.3265;35.0131;2;251.2;2;-99
33RO20110926;A10 (2011);1;2;11704;2;20110928;-28.5128;14.9492;174;75.9;12.4322;34.9889;2;204.4;2;-99
33RO20110926;A10 (2011);1;2;11030;2;20110928;-28.5128;14.9492;174;99;10.8527;34.884;2;200.7;2;-999;9
33RO20110926;A10 (2011);1;2;11703;2;20110928;-28.5128;14.9492;174;125;10.4679;34.842;2;196.7;2;-999;
33RO20110926;A10 (2011);1;2;11702;2;20110928;-28.5128;14.9492;174;152.3;9.9705;34.792;2;153.7;2;-999
33RO20110926;A10 (2011);1;2;11701;2;20110928;-28.5128;14.9492;174;169.2;9.93;34.7869;2;153.6;2;-999;
33RO20110926;A10 (2011);2;1;11027;2;20110928;-28.7159;14.4665;263;4.1;14.8869;35.035;2;253.6;2;-999;
33RO20110926;A10 (2011);2;1;11031;2;20110928;-28.7159;14.4665;263;4;14.883;35.0351;2;253.6;2;-999;9;
33RO20110926;A10 (2011);2;1;11707;2;20110928;-28.7159;14.4665;263;34.2;14.7622;35.0616;2;253;2;-999;
33RO20110926;A10 (2011);2;1;11003;2;20110928;-28.7159;14.4665;263;50.3;14.63;35.1283;2;247.2;2;-999;
33RO20110926;A10 (2011);2;1;11706;2;20110928;-28.7159;14.4665;263;64.5;14.2413;35.1604;2;235.6;2;-99
33RO20110926;A10 (2011);2;1;11033;2;20110928;-28.7159;14.4665;263;64.2;14.2213;35.1578;2;235.1;2;-99
33RO20110926;A10 (2011);2;1;11705;2;20110928;-28.7159;14.4665;263;88.3;12.8365;35.0778;2;211.9;2;-99
33RO20110926;A10 (2011);2;1;11029;2;20110928;-28.7159;14.4665;263;116.3;11.7316;34.9712;2;201.5;2;-9
33RO20110926;A10 (2011);2;1;11704;2;20110928;-28.7159;14.4665;263;140.1;10.7114;34.87;2;191;2;-999;9
33RO20110926;A10 (2011);2;1;11030;2;20110928;-28.7159;14.4665;263;165.4;10.1195;34.8107;2;167.7;2;-9
33RO20110926;A10 (2011);2;1;11703;2;20110928;-28.7159;14.4665;263;194.6;9.5389;34.7547;2;149.8;2;-99
33RO20110926;A10 (2011);2;1;11702;2;20110928;-28.7159;14.4665;263;218.8;8.907;34.7018;2;138;2;-999;9
```

ERDDAP works in columns, so it is necessary to set up the csv file in the correct way. First we suggest to have a header with well defined and coherent columns titles. Than check data format and avoid special characters.

HINT: If you are generating a csv from excel, be sure that the csv format is UTF-8.
excel csv export normally exports with a UTF-8-BOM, this format holds a hidden header that makes your ERDDAP crazy

Generate a dataset from CSV file - GenerateDatasetsXml.sh

```
Which EDDType (default="EDDGridFromDap")
? EDDTableFromAsciiFiles
```

```
Starting directory (default="")
? Data/
```

```
File name regex (e.g., ".*\.asc") (default="")
? .*\.csv
```

```
Full file name of one file (or leave empty to use first matching fileName) (default="")
? full_name.csv
```

```
Charset (e.g., ISO-8859-1 (default) or UTF-8) (default="")
? UTF-8
```

```
Column names row (e.g., 1) (default="")
? 1
First data row (e.g., 2) (default="")
? 2
Column separator (e.g., ',') (default="")
? ;
```

Start by answering the first question about the type of dataset. In this case we just copied the name from the list *EDDTableFromAsciiFiles*.

Define the directory were you stored your csv file or files

Define the regular expression on file name, in this example we asked the script to get all file ending with .csv

give a full file name as an example, this step is not mandatory

Define the charset or character format, in this case UTF-8

Define the column name row and the first row that contains data. Than define the column separator in this case ;

Generate a dataset from CSV file - GenerateDatasetsXml.sh

```
ReloadEveryNMinutes (e.g., 10080) (default="")
? 60
```

```
PreExtractRegex (default="")
?
PostExtractRegex (default="")
?
ExtractRegex (default="")
?
Column name for extract (default="")
?
```

```
infoUrl (default="")
? www.yoururl.eu
institution (default="")
? Your Istitution
summary (default="")
? Summary of your dataset
title (default="")
? Dataset Title
```

Define how often you would like the dataset to be reloaded in minutes,
→ e.g. 60 minutes

these functions allow to extract a String from each filename and use it such a pseudo data variable.

Those feature are deprecated as a new one have been introduced ***_fileName sourceNames_ and can be use directly in the datasets.xml

Here it is possible to add basic metadata

GenerateDatasetsXml.sh

```
*** generateDatasetsXml finished successfully.


<!-- NOTE! Since the source files don't have any metadata, you must add metadata
  below, notably 'units' for each of the dataVariables. -->
<dataset type="EDDTableFromAsciiFiles" datasetID="Data_72e2_e29f_556b" active="true">
    <reloadEveryNMinutes>60</reloadEveryNMinutes>
    <updateEveryNMillis>10000</updateEveryNMillis>
    <fileDir>/Data/</fileDir>
    <fileNameRegex>noise_fixed_platformsv2.1.csv</fileNameRegex>
    <recursive>true</recursive>
    <pathRegex>.*</pathRegex>
    <metadataFrom>last</metadataFrom>
    <standardizeWhat>0</standardizeWhat>
    <charset>UTF-8</charset>
    <columnSeparator>;</columnSeparator>
    <columnNamesRow>1</columnNamesRow>
    <firstDataRow>2</firstDataRow>
    <sortedColumnSourceName></sortedColumnSourceName>
    <sortFilesBySourceNames></sortFilesBySourceNames>
    <fileTableInMemory>false</fileTableInMemory>
    <!-- sourceAttributes>
    </sourceAttributes -->
    <!-- Please specify the actual cdm_data_type (TimeSeries?) and related info below, for
        <att name="cdm_timeseries_variables">station_id, longitude, latitude</att>
        <att name="subsetVariables">station_id, longitude, latitude</att>
    -->
    <addAttributes>
        <att name="cdm_data_type">Other</att>
        <att name="Conventions">COARDS, CF-1.6, ACDD-1.3</att>
        <att name="infoUrl">???</att>
        <att name="institution">???</att>
        <att name="keywords">code, country, data, data_source, edmo, EDMO_code, institution
        <att name="license">[standard]</att>
        <att name="sourceUrl">(local files)</att>
        <att name="standard_name_vocabulary">CF Standard Name Table v70</att>
        <att name="summary">Data from a local source.</att>
        <att name="title">Data from a local source.</att>
    </addAttributes>
    <dataVariable>
        <sourceName>country</sourceName>
        <destinationName>country</destinationName>
        <dataType>String</dataType>
        <!-- sourceAttributes>
        </sourceAttributes -->
        <addAttributes>
            <att name="long_name">Country</att>
        </addAttributes>
    </dataVariable>
    <dataVariable>
        <sourceName>institution</sourceName>
        <destinationName>institution</destinationName>
        <dataType>String</dataType>
        <!-- sourceAttributes>
        </sourceAttributes -->
        <addAttributes>
            <att name="long_name">Institution</att>
        </addAttributes>
    </dataVariable>
    <dataVariable>
```

at the end of the process the dataset xml is generated.

Just copy the text from the terminal to a text file paying attention to include the closing dataset row *</dataset>*

Generate a dataset from NetCDF file - GenerateDatasetsXml.sh

similar to csv file dataset generation, need the NetCDF files well formatted.
you can use panoply as NetCDF files viewer

```
Which EDDType (default="EDDGridFromDap")
? EDDGridFromNcFiles
```

```
Parent directory (default="")
? /Data/
File name regex (e.g., ".*\.nc") (default="")
? .*\.nc
Full file name of one file (or leave empty to use first matching fileName) (default="")
? full file name.nc
```

```
Group (without trailing slash) (or "" for all/any or "[root]" for just the root group) (
?
DimensionsCSV (or "" for default) (default="")
?
```

Copy the name from the list *EDDGridFromNcFiles*

Just remember to enter all the information

note that these two are deprecated,

further information are at disposal at https://coastwatch.pfeg.noaa.gov/erddap/download/setupDatasetsXml.html

metadata: they come from the NetCDF file

Complete Datasets.xml

```
<dataset type="EDDTableFromAsciiFiles" datasetID="Dataset_exemple_1" active="false">
    <reloadEveryNMinutes>10080</reloadEveryNMinutes>
    <fileDir>/Data/ExempleData/</fileDir>
    <fileNameRegex>.*\.csv</fileNameRegex>
    <recursive>true</recursive>
    <pathRegex>.*</pathRegex>
    <metadataFrom>last</metadataFrom>
    <standardizeWhat>0</standardizeWhat>
    <charset>UTF-8</charset>
    <columnSeparator>,</columnSeparator>
    <columnNamesRow>1</columnNamesRow>
    <firstDataRow>2</firstDataRow>
    <sortedColumnSourceName></sortedColumnSourceName>
    <sortFilesBySourceNames></sortFilesBySourceNames>
    <fileTableInMemory>false</fileTableInMemory>

    <addAttributes>
        <att name="cdm_data_type">Point</att>
        <att name="Conventions">COARDS, CF-1.6, ACDD-1.3</att>
        <att name="creator_email">crator@email.com</att>
        <att name="creator_name">Creator Name</att>
        <att name="creator_url">https://www.creatorUrl.com</att>
        <att name="infoUrl">https://www.infoUrl.com</att>
        <att name="institution">Institution name </att>
        <att name="keywords">keyword1, keyword2, keyword3, ...</att>
        <att name="license">Specific license</att>
        <att name="sourceUrl">(local files)</att>
        <att name="standard_name_vocabulary">CF Standard Name Table v70</att>
        <att name="summary">Verbous Summary...</att>
        <att name="title">Dataset Title</att>
        <att name="subsetVariables">variable1, variable2, ...</att>
    </addAttributes>
```

ERDDAP automatically fill metadata and dataset definition and settings.

Settings can be modified anytime as well as metadata.

ERDDAP is set to show base/standard metadata (others may be commented)

You can play with the attributes by adding or modifying them, once modified, attributes gain “priority” on automatic ones

wild chars are not allowed, incorrect or ambiguous attribute name make ERDDAP to switch off the dataset (info in logs)

Complete Datasets.xml

Some variables such as Time, Latitude and Longitude are automatically mapped, and the user can define the time precision and the unit or date and time format.

the others are mapped as “datatype” and “long_name”, and is up to the user to define the

always refer to guidelines: https://coastwatch.pfeg.noaa.gov/erddap/download/setupDatasetsXml.html

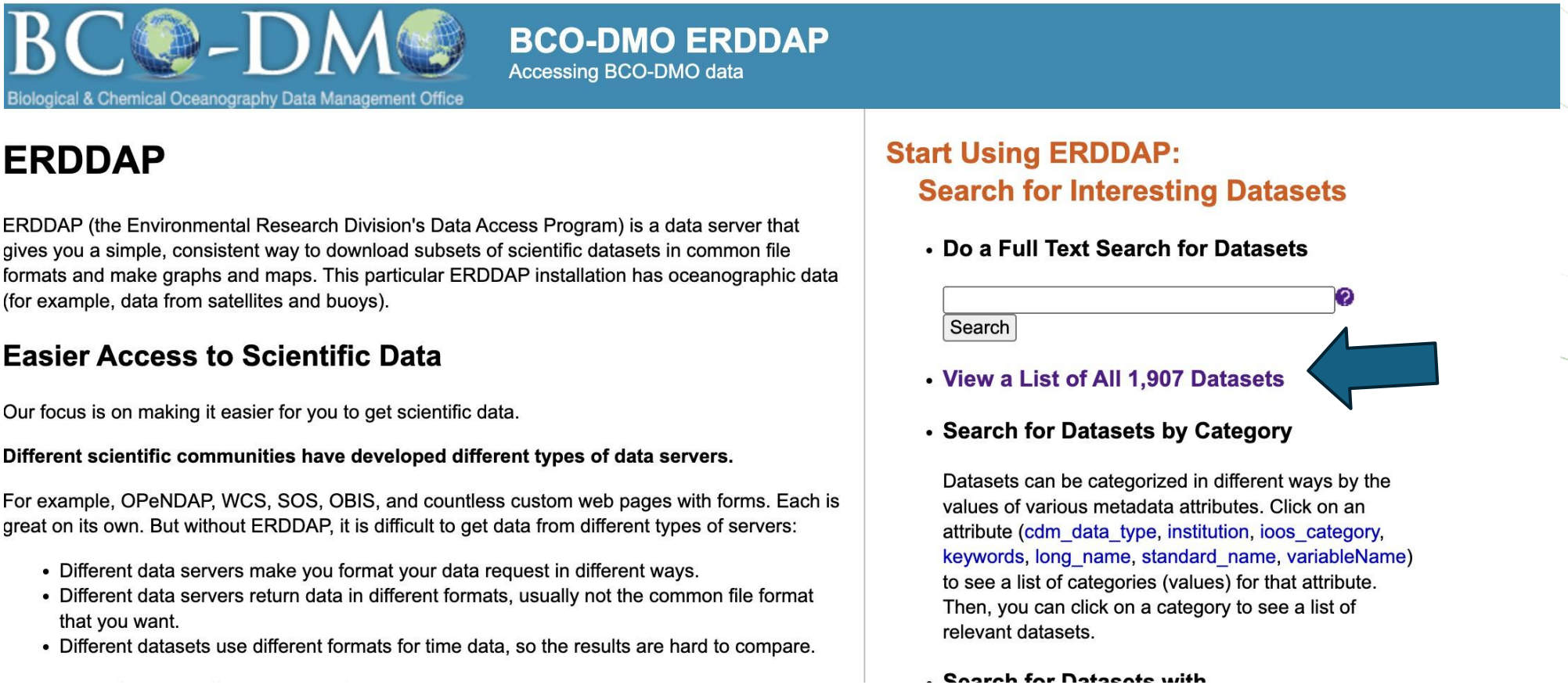
```
<dataVariable>
    <sourceName>time</sourceName>
    <destinationName>time</destinationName>
    <dataType>String</dataType>
    <!-- sourceAttributes>
    </sourceAttributes -->
    <addAttributes>
        <att name="long_name">Time</att>
        <att name="standard_name">time</att>
        <att name="time_precision">1970-01-01T00:00:00.000Z</att>
        <att name="units">yyyy-MM-dd HH:mm:ss.SSS000</att>
    </addAttributes>
</dataVariable>
```

```
<dataVariable>
    <sourceName>url</sourceName>
    <destinationName>url</destinationName>
    <dataType>String</dataType>
    <!-- sourceAttributes>
    </sourceAttributes -->
    <addAttributes>
        <att name="long_name">Url</att>
    </addAttributes>
</dataVariable>
```

Hands on!

Find the data

https://erddap.bco-dmo.org/erddap/index.html



Find the data

BCO-DMO ERDDAP
Accessing BCO-DMO data
Biological & Chemical Oceanography Data Management Office
Brought to you

ERDDAP > List of All Datasets

1907 matching datasets, listed in alphabetical order. View page: 1 (current) 2 .

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Acces-sible	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph			public	* The List of All Active Datasets in this ERDDAP *		M	background			BCO-DMO	allDatasets
		data	graph		files	public	[13C incubation cell counts] - Counts of Prochlorococcus from on-deck incubations with 13C-bicarbonate as part of DNA-SIP experiments conducted on Hawaii Ocean Time-series (HOT) cruises, HOT283 and HOT288 in 2016 (Microbial ecology of coexisting ecotypes: Are all Prochlorococcus equal?)		I M	background	RSS		BCO-DMO	bcodmo_dataset_700773
	set	data	graph		files	public	[14C 32Si Experimental - from RR1813] - 32Si and 14C production data (experimental) from EXPORTS cruise RR1813 on R/V Roger Revelle in the Subarctic North Pacific near Station PAPA from August to September 2018 (Collaborative Research: Diatoms, Food Webs and Carbon Export - Leveraging NASA EXPORTS to Test the Role of Diatom Physiology in the Biological Carbon Pump)		F I M	background	RSS		BCO-DMO	bcodmo_dataset_786013
		data	graph		files	public	[16S rRNA gene from DNA] - 16S rRNA gene (from DNA) from samples collected on cruise Chikyu-331 in the Okinawa Trough, Japan from September to October 2010 (An In-Depth analysis of the subvent biosphere within Okinawa Backarc Basin (IODP 331, Iheya North Hydrothermal Field) sediments)		F I M	background	RSS		BCO-DMO	bcodmo_dataset_780926
	set	data	graph		files	public	[16S rRNA gene from RNA] - 16S rRNA gene (from RNA) from samples collected on cruise Chikyu-331 in the Okinawa Trough, Japan from September to October 2010 (An In-Depth analysis of the subvent biosphere within Okinawa Backarc Basin (IODP 331, Iheya North Hydrothermal Field) sediments)		F I M	background	RSS		BCO-DMO	bcodmo_dataset_781114
	set	data	graph		files	public	[18S rRNA gene tag sequences from DNA and RNA] - NCBI accession metadata for 18S rRNA gene tag sequences from DNA and RNA from samples collected in coastal California in 2013 and 2014 (Protistan, prokaryotic, and viral processes at the San Pedro Ocean Time-series)		F I M	background	RSS		BCO-DMO	bcodmo_dataset_745527
		data	graph		files	public	[2018 Ross Sea Crystal Krill Grazing] - Grazing rates of Euphausia crystallorophias from RVIB Nathaniel B. Palmer NBP1801 in the Ross Sea, Jan.-Feb. 2018 (Using Bio-acoustics on an Autonomous Surveying Platform for the Examination of Phytoplankton-zooplankton and Fish Interactions in the Western Ross Sea)		I M	background	RSS		BCO-DMO	bcodmo_dataset_792478
							[2018 Ross Sea Zooplankton Abundance: IKMT] - Zooplankton abundance from Isaacs-Kid Midwater Trawl (IKMT) hauls from RVIB Nathaniel B. Palmer NBP1801 in the Ross Sea, Jan.-Feb.							

Dataset information

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Acces-sible	Title	Sum-mary	ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph		files	public	Hydrographic data collected by CTD during RVIB Nathaniel B. Palmer cruise in the Ross Sea, Southern Ocean from 2017-2018		I M	background	RSS		BCO-DMO	bcodmo_dataset_783911

The listing (pictured above) gives access to a lot of information about the dataset. In a browser, try the following:

- Mouse over the question mark `?` under **Summary** to get an overview of the dataset.
- Click **"Background info"** to get more complete information from the data provider about the dataset. Now go back to the search results page.
- Click the `"M"` under **"ISO,Metadata"** to see all of the dataset metadata. A lot of information is displayed. Some important fields are:
  - Global attributes (general metadata) vs variable attributes (variable names & units)
  - `"geospatial_lat_min"`, `"geospatial_lat_max"`, `"geospatial_lon_min"`, and `"geospatial_lon_max"` for the spatial coverage
  - `"references"` for citing the dataset in publications
  - `"license"` for restrictions on using the data
  - `"acknowledgement"` often used to describe how to acknowledge use of the dataset
  - time: ERDDAP standardizes the dates+times in the results. Data from other data servers is hard to compare because the dates+times often are expressed in different formats (for example, "Jan 2, 2018", 02-JAN-2018, 1/2/18, 2/1/18, 2018-01-02, "days since Jan 1, 1900"). For string times, ERDDAP always uses the ISO 8601:2004(E) standard format, for example, 2018-01-02T00:00:00Z. For numeric times, ERDDAP always uses "seconds since 1970-01-01T00:00:00Z". ERDDAP always uses the Zulu (UTC, GMT) time zone to remove the difficulties of working with different time zones and standard time versus daylight saving time.

These standardised variables are important for the dataset to be able to be "read" by other end-users and machines.

Dataset information

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Acces-sible	Title	Sum-mary	ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph		files	public	Hydrographic data collected by CTD during RVIB Nathaniel B. Palmer cruise in the Ross Sea, Southern Ocean from 2017-2018		I M	background	RSS		BCO-DMO	bcodmo_dataset_783911

BCO-DMO ERDDAP
Accessing BCO-DMO data
Biological & Chemical Oceanography Data Management Office

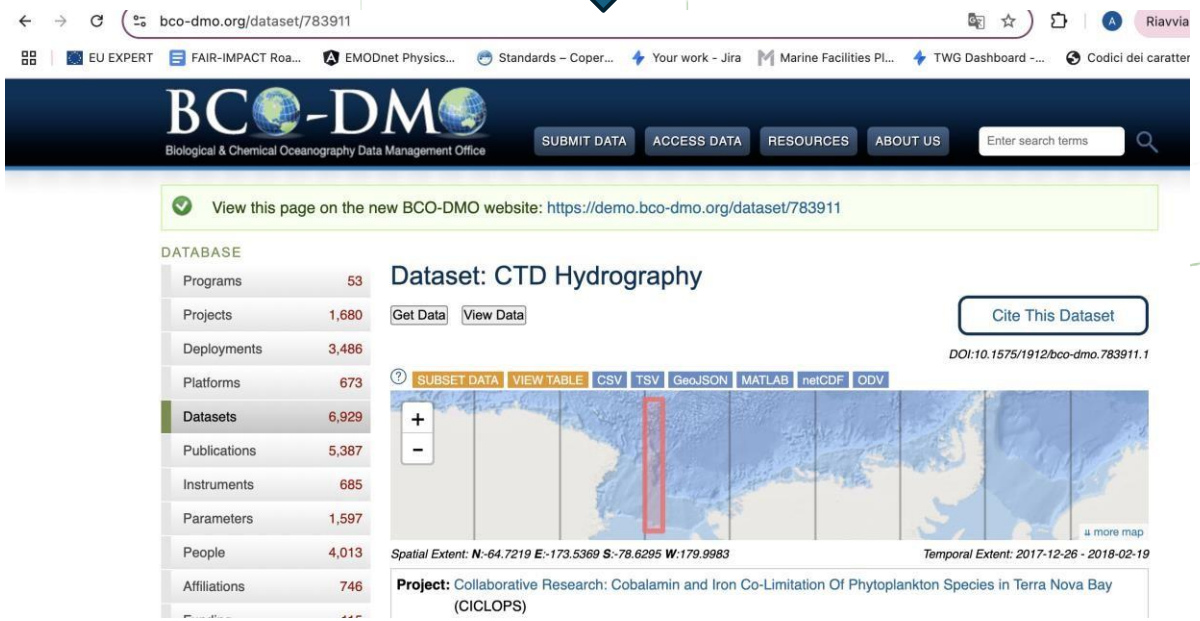
ERDDAP > Files > bcodmo_dataset_783911

ERDDAP's "files" system lets you browse a virtual file system and download source data files.
WARNING! The dataset's metadata and variable names in these source files may be different than elsewhere in ERDDAP! You might prefer using the dataset's Data Access Form instead.
("files" documentation, including "How can I work with these files?")

Dataset Title: **[CTD Hydrography] - Hydrographic data collected by CTD during RVIB Nathaniel B. Palmer cruise in the Ross Sea, Southern Ocean from 2017-2018 (Collaborative Research: Cobalamin and Iron Co-Limitation Of Phytoplankton Species in Terra Nova Bay)**
Institution: BCO-DMO (Dataset ID: bcodmo_dataset_783911)
Information: Summary | License | FGDC | ISO 19115 | Metadata | Background | Subset | Data Access Form | Make a graph

Name	Last modified	Size	Description
Parent Directory		-	
783911_v1_CTD_Hydrography.tsv	22-Jun-2023 17:04	11983624	

1 directory, 1 file



Dataset information

Go to : https://data-erddap.emodnet-physics.eu/erddap

Search for TEMP

Dataset information

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ERDDAP > Search

Do a Full Text Search for Datasets:

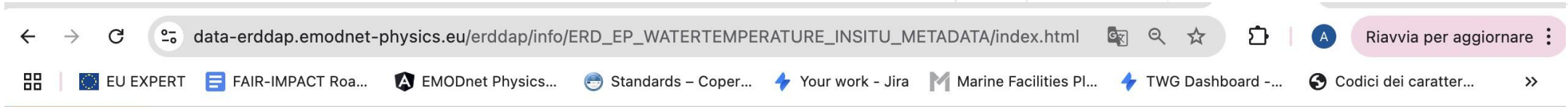
temp Search

13 matching datasets, with the most relevant ones listed first.
(Or, refine this search with Advanced Search)

Click the «M»

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Title	Sum-mary	FGDC Meta	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph		files	EMODnet Physics - Collection of Water Temperature (SDN:P33::WATERTEMPERATURE) variables - MultiPointsObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_WATERTEMPERATURE_INSITU_METAD
	set	data	graph			EMODnet Physics - Collection of sea temperature (TEMP) Profiles - MultiPointProfilesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature (TEMP) Profiles - MultiPointProfilesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_TEMP_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature (TEMP) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature (TEMP) TimeSeries - MultiPointTimeSeriesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature from oxygen sensor (TEMP_DOXY) Profiles - MultiPointProfilesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_TEMP_DOXY_NRT
	set	data	graph			EMODnet Physics - Collection of sea temperature from oxygen sensor (TEMP_DOXY) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_DOXY_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature from oxygen sensor (TEMP_DOXY) TimeSeries - MultiPointTimeSeriesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_DOXY_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) Profiles - MultiPointProfilesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_PSAL_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) Profiles - MultiPointProfilesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_PSAL_TEMP_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_PSAL_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) TimeSeries -		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_PSAL_TEMP_NRT_METADATA

Dataset information



EMODnet

ERDDAP > info > ERD_EP_WATERTEMPERATURE_INSITU_METADATA

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph		files	EMODnet Physics - Collection of Water Temperature (SDN:P33::WATERTEMPERATURE) variables - MultiPointsObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_WATERTEMPERATURE_INSITU_METADATA

The Dataset's Variables and Attributes

Row Type	Variable Name	Attribute Name	Data Type	Value
attribute	NC_GLOBAL	cdm_data_type	String	Other
attribute	NC_GLOBAL	Conventions	String	COARDS, CF-1.10, ACDD-1.3, NCCSV-1.2
attribute	NC_GLOBAL	Easternmost_Easting	double	180.0
attribute	NC_GLOBAL	geospatial_lat_max	double	90.0
attribute	NC_GLOBAL	geospatial_lat_min	double	-90.0
attribute	NC_GLOBAL	geospatial_lat_units	String	degrees_north
attribute	NC_GLOBAL	geospatial_lon_max	double	180.0
attribute	NC_GLOBAL	geospatial_lon_min	double	-180.0
attribute	NC_GLOBAL	geospatial_lon_units	String	degrees_east
attribute	NC_GLOBAL	infoUrl	String	https://emodnet.ec.europa.eu/en/physics
attribute	NC_GLOBAL	institution	String	EMODnet Physics
attribute	NC_GLOBAL	license	String	CC-BY
attribute	NC_GLOBAL	Northernmost_Northing	double	90.0
attribute	NC_GLOBAL	sourceUrl	String	(local files)
attribute	NC_GLOBAL	Southernmost_Northing	double	-90.0
attribute	NC_GLOBAL	standard_name_vocabulary	String	CF Standard Name Table v70
attribute	NC_GLOBAL	subsetVariables	String	PLATFORMCODE
attribute	NC_GLOBAL	summary	String	EMODnet Physics - Collection of Water Temperature (SDN:P33::WATERTEMPERATURE) variables - MultiPointsObservation - METADATA
attribute	NC_GLOBAL	title	String	EMODnet Physics - Collection of Water Temperature (SDN:P33::WATERTEMPERATURE) variables - MultiPointsObservation - METADATA
attribute	NC_GLOBAL	Westernmost_Easting	double	-180.0
variable	PLATFORMCODE		String	
attribute	PLATFORMCODE	long_name	String	EMODnet Platform Code

the dataset attributes as set in the xml

Dataset information

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ERDDAP > Search

Do a Full Text Search for Datasets:
temp Search

13 matching datasets, with the most relevant ones listed first.
(Or, refine this search with Advanced Search)

Dataset ID is used for indexing the item

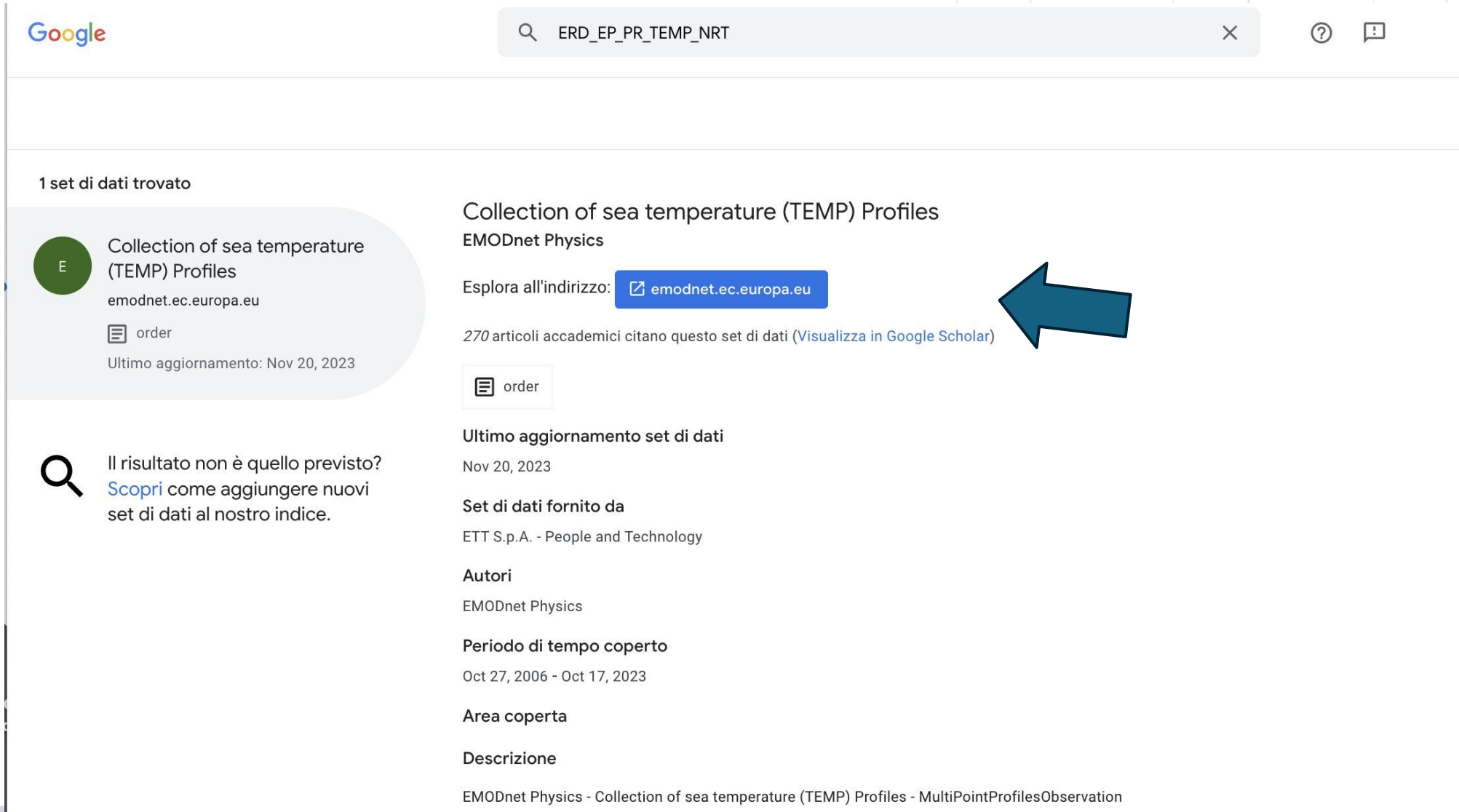
Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph		files	EMODnet Physics - Collection of Water Temperature (SDN:P33::WATERTEMPERATURE) variables - MultiPointsObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_[illegible]ERTEMPERATURE_INSITU_METAD
	set	data	graph			EMODnet Physics - Collection of sea temperature (TEMP) Profiles - MultiPointProfilesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature (TEMP) Profiles - MultiPointProfilesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_TEMP_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature (TEMP) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature (TEMP) TimeSeries - MultiPointTimeSeriesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature from oxygen sensor (TEMP_DOXY) Profiles - MultiPointProfilesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_TEMP_DOXY_NRT
	set	data	graph			EMODnet Physics - Collection of sea temperature from oxygen sensor (TEMP_DOXY) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_DOXY_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature from oxygen sensor (TEMP_DOXY) TimeSeries - MultiPointTimeSeriesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_DOXY_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) Profiles - MultiPointProfilesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_PSAL_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) Profiles - MultiPointProfilesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_PSAL_TEMP_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_PSAL_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) TimeSeries -		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_PSAL_TEMP_NRT_METADATA

Dataset information

Go to: https://datasetsearch.research.google.com/

Search for: ERD_EP_PR_TEMP_NRT

Dataset Information



Searching for data

https://erddap.bco-dmo.org/erddap/index.html

CTD data in the Ross Sea from 2017

BCO-DMO
Biological & Chemical Oceanography Data Management Office

BCO-DMO ERDDAP
Accessing BCO-DMO data

ERDDAP

ERDDAP (the Environmental Research Division's Data Access Program) is a data server that gives you a simple, consistent way to download subsets of scientific datasets in common file formats and make graphs and maps. This particular ERDDAP installation has oceanographic data (for example, data from satellites and buoys).

Easier Access to Scientific Data

Our focus is on making it easier for you to get scientific data.

Different scientific communities have developed different types of data servers.

For example, OPeNDAP, WCS, SOS, OBIS, and countless custom web pages with forms. Each is great on its own. But without ERDDAP, it is difficult to get data from different types of servers:

- Different data servers make you format your data request in different ways.
- Different data servers return data in different formats, usually not the common file format that you want.
- Different datasets use different formats for time data, so the results are hard to compare.

Start Using ERDDAP: Search for Interesting Datasets

- **Do a Full Text Search for Datasets**

  Search

- **View a List of All 1,907 Datasets**
- **Search for Datasets by Category**

  Datasets can be categorized in different ways by the values of various metadata attributes. Click on an attribute (cdm_data_type, institution, ioos_category, keywords, long_name, standard_name, variableName) to see a list of categories (values) for that attribute. Then, you can click on a category to see a list of relevant datasets.

- **Search for Datasets with**

type: ctd «Ross Sea» 2017

it's a full text search «» group words

Searching for data

BCO-DMO ERDDAP
Accessing BCO-DMO data
Biological & Chemical Oceanography Data Management Office

ERDDAP > search

Do a Full Text Search for Datasets:

ctd "ross sea" 2017 Search

10 matching datasets, with the most relevant ones listed first.
(Or, refine this search with Advanced Search)

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Acces-sible	Title	Sum-mary	ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph		files	public	Hydrographic data collected by CTD during RVIB Nathaniel B. Palmer cruise in the Ross Sea, Southern Ocean from 2017-2018		I M	background	RSS		BCO-DMO	bcodmo_dataset_783911
		data	graph		files	public	Biogenic silica concentrations collected from CTD casts during RVIB Nathaniel B. Palmer cruise in the Ross Sea, Southern Ocean from 2017-2018		I M	background	RSS		BCO-DMO	bcodmo_dataset_780191
		data	graph		files	public	Chlorophyll data from McMurdo Sound, Antarctica from 2012 to 2015 (McMurdo Predator Prey project)		I M	background	RSS		BCO-DMO	bcodmo_dataset_679685
		data			files	public	Culture-independent identification of bacteria present in the pressure-retaining seawater (PRS) sampler deployed during Leggo drop 1 from R/V Falkor cruise FK141215 in the Challenger Deep, Mariana Trench in December 2014		I M	background	RSS		BCO-DMO	bcodmo_dataset_684362
		data	graph		files	public	General nutrient data (averages) from Leggo drop 1 seawater collected by Niskin bottle on R/V Falkor cruise FK141215 in the Challenger Deep, Mariana Trench in December 2014		I M	background	RSS		BCO-DMO	bcodmo_dataset_684340
		data	graph		files	public	Viable cell counts on the bacteria in the seawater collected in the Niskin bottles during Leggo drops 1 and 3 on R/V Falkor cruise FK141215 in the Challenger Deep, Mariana Trench in December 2014		I M	background	RSS		BCO-DMO	bcodmo_dataset_684233
		data	graph		files	public	Depth profiles of seawater dissolved 232Th, 230Th, and 231Pa from RVIB Nathaniel B. Palmer cruise NBP1702 from January to March 2017		I M	background	RSS		BCO-DMO	bcodmo_dataset_813379
	set	data	graph		files	public	Direct counts (flow cytometry) on microbes obtained by Niskin bottle and pressure-retaining sampler from the Leggo Lander on R/V Falkor cruise FK141215 in the Challenger Deep, Mariana Trench in December 2014		I M	background	RSS		BCO-DMO	bcodmo_dataset_684323
		data	graph		files	public	Grazing rates of Euphausia crystallorophias from RVIB Nathaniel B. Palmer NBP1801 in the Ross Sea, Jan.-Feb. 2018		I M	background	RSS		BCO-DMO	bcodmo_dataset_792478
		data	graph		files	public	Dilution batch-culture bioassay (remineralization) experiments from SBDOM11 project cruise from R/V Point Sur PS1103 in the Santa Barbara Channel, May 2011 (SBDOM project, SBC LTER project)		I M	background	RSS		BCO-DMO	bcodmo_dataset_718117

Accessing and subsetting the data

BCO-DMO
Biological & Chemical Oceanography Data Management Office

BCO-DMO ERDDAP
Accessing BCO-DMO data

Broug

ERDDAP > Search

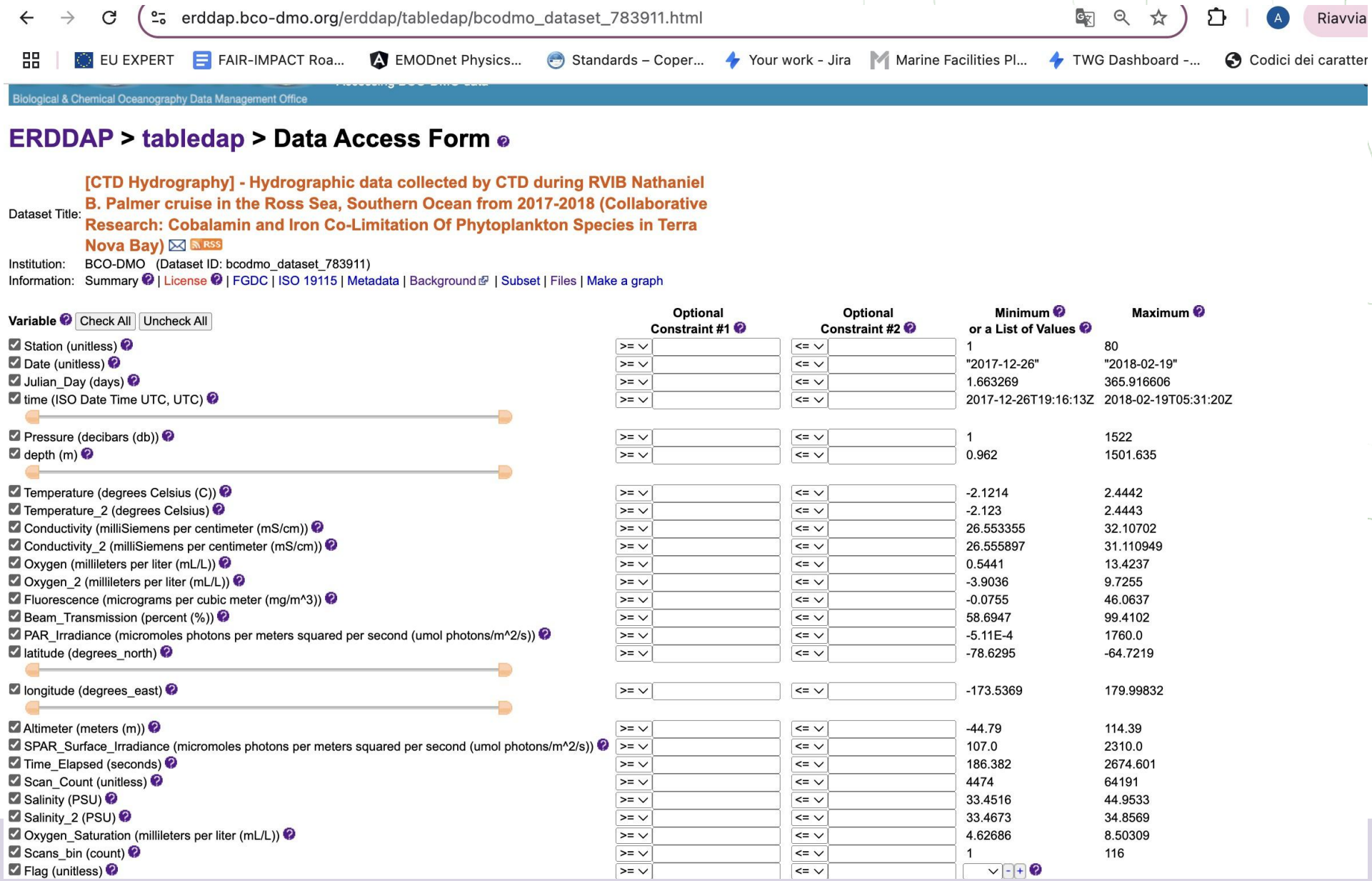
Do a Full Text Search for Datasets:

Ctd "Ross Sea" 2017 Search

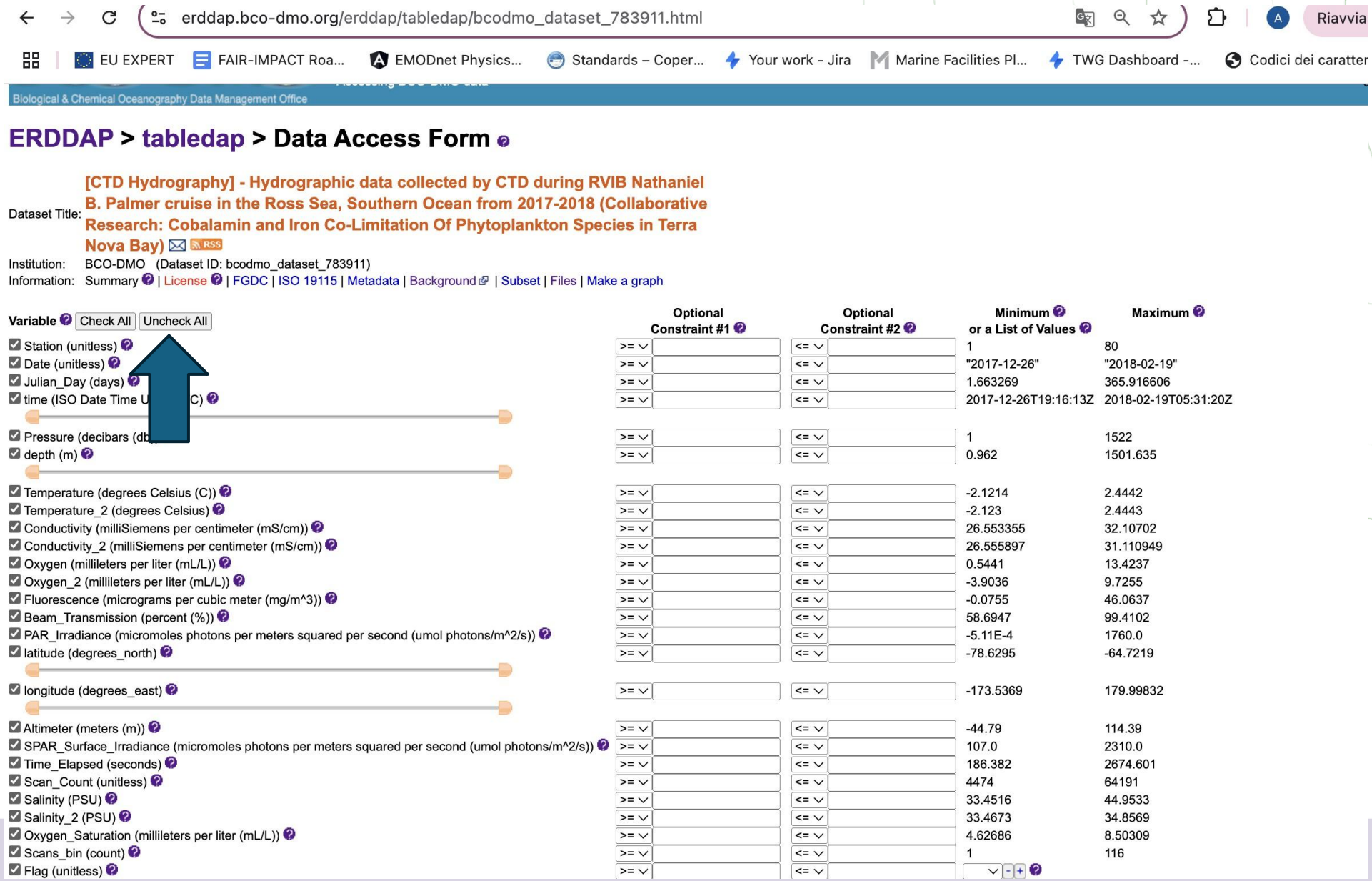
14 matching datasets, with the most relevant ones listed first.
(Or, refine this search with Advanced Search)

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Acces-sible	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph		files	public	[CTD Hydrography] - Hydrographic data collected by CTD during RVIB Nathaniel B. Palmer cruise in the Ross Sea, Southern Ocean from 2017-2018 (Collaborative Research: Cobalamin and Iron Co-Limitation Of Phytoplankton Species in Terra Nova Bay)		F I M	background	RSS		BCO-DMO	bcodmo_dataset_783911
			graph		files	public	[CTD Biogenic Silica] - Biogenic silica concentrations collected from CTD casts during RVIB Nathaniel B. Palmer cruise in the Ross Sea, Southern Ocean from 2017-2018 (Collaborative Research: Cobalamin and Iron Co-Limitation Of Phytoplankton Species in Terra Nova Bay)		F I M	background	RSS		BCO-DMO	bcodmo_dataset_780191
			graph		files	public	[IVARS Marine Snow profiles] - Abundance and size distribution of marine snow aggregates from profiles conducted during R/V Polar Star cruises in the Ross Sea, Antarctica between 2001 and 2005. (Interannual Variability in the Antarctic-Ross Sea (IVARS): Nutrients and Seasonal Production)		F I M	background	RSS		BCO-DMO	bcodmo_dataset_719478
							[McMurdo Sound chlorophyll] - Chlorophyll data from McMurdo Sound, Antarctica from 2012 to							

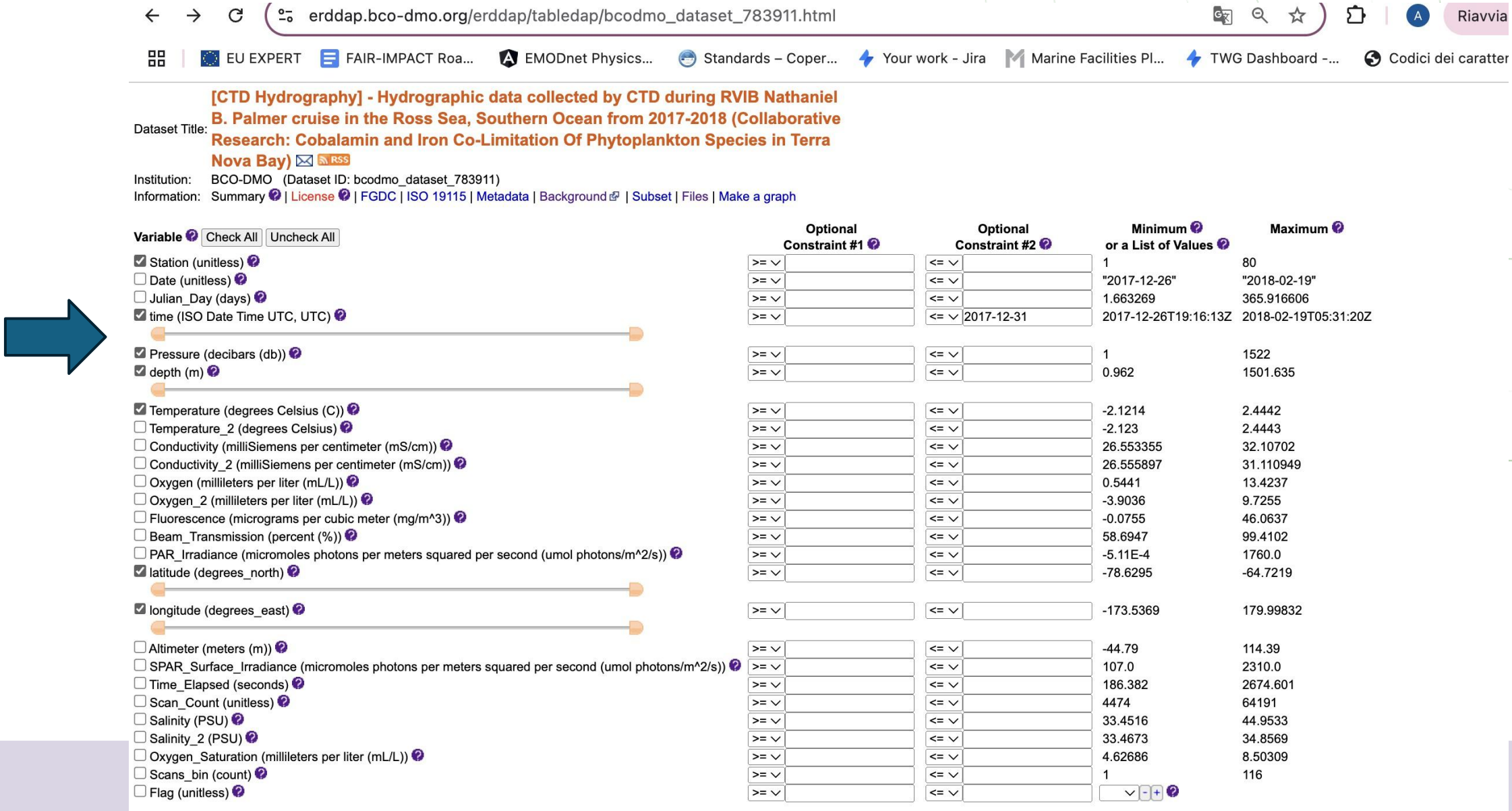
Accessing and subsetting the data



Accessing and subsetting the data



Accessing and subsetting the data



Accessing and subsetting the data

File type: (more information)

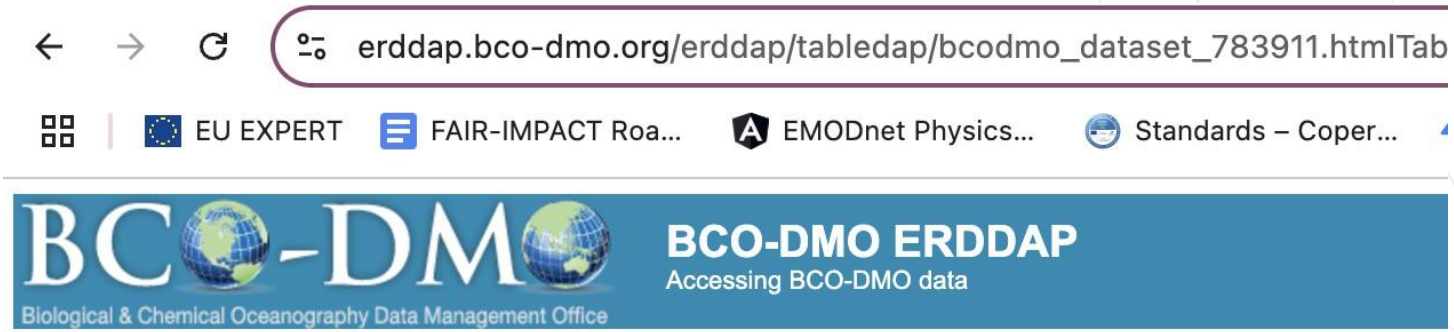
.htmlTable - View a UTF-8 .html web page with the data in a table. Times are ISO 8601 strings.

Just generate the URL: https://erddap.bco-dmo.org/erddap/tabledap/bcodmo_dataset_783911.

(Documentation / Bypass this form)

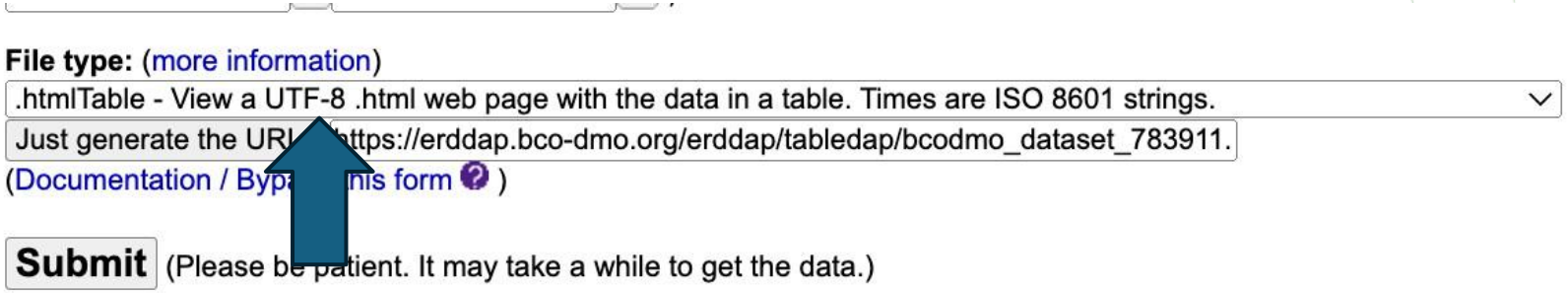
Submit (Please be patient. It may take a while to get the data.)

Accessing and subsetting the data



Station	time	Pressure	depth	Temperature	latitude	longitude
unitless	UTC	decibars (db)	m	degrees Celsius (C)	degrees_north	degrees_east
1	2017-12-26T19:16:13Z	1	0.987	1.2502	-64.72202	-87.27946
1	2017-12-26T19:16:17Z	2	1.979	1.2482	-64.72202	-87.27946
1	2017-12-26T19:16:19Z	3	2.973	1.2462	-64.72202	-87.27946
1	2017-12-26T19:16:22Z	4	3.957	1.2537	-64.72202	-87.27946
1	2017-12-26T19:16:25Z	5	4.954	1.2594	-64.72202	-87.27946
1	2017-12-26T19:16:28Z	6	5.939	1.2572	-64.72202	-87.27946
1	2017-12-26T19:16:31Z	7	6.935	1.2536	-64.72202	-87.27946
1	2017-12-26T19:16:35Z	8	7.919	1.238	-64.72202	-87.27946
1	2017-12-26T19:16:37Z	9	8.913	1.2345	-64.72202	-87.27946
1	2017-12-26T19:16:41Z	10	9.901	1.2326	-64.72202	-87.27946
1	2017-12-26T19:16:45Z	11	10.891	1.232	-64.72202	-87.27946
1	2017-12-26T19:16:47Z	12	11.886	1.2326	-64.72202	-87.27946
1	2017-12-26T19:16:51Z	13	12.872	1.2322	-64.72202	-87.27946
1	2017-12-26T19:16:54Z	14	13.863	1.2334	-64.72202	-87.27946
1	2017-12-26T19:16:58Z	15	14.85	1.234	-64.72202	-87.27946
1	2017-12-26T19:17:00Z	16	15.845	1.2352	-64.72202	-87.27945
1	2017-12-26T19:17:04Z	17	16.831	1.2359	-64.72202	-87.27946
1	2017-12-26T19:17:07Z	18	17.824	1.2351	-64.72202	-87.27946

Accessing and subsetting the data



Supported data formats

Data fileTypes	Description
.asc	View OPeNDAP-style ISO-8859-1 comma-separated text.
.csv	Download a ISO-8859-1 comma-separated text table (line 1: names; line 2: units; ISO 8601 times).
.csvp	Download a ISO-8859-1 .csv file with line 1: name (units). Times are ISO 8601 strings.
.csv0	Download a ISO-8859-1 .csv file without column names or units. Times are ISO 8601 strings.
.dataTable	A JSON file formatted for use with the Google Visualization client library (Google Charts).
.das	View the dataset's metadata via an ISO-8859-1 OPeNDAP Dataset Attribute Structure (DAS).
.dds	View the dataset's structure via an ISO-8859-1 OPeNDAP Dataset Descriptor Structure (DDS).
.dods	OPeNDAP clients use this to download the data in the DODS binary format.
.esriCsv	Download a ISO_8859_1 .csv file for ESRI's ArcGIS 9.x and below (separate date and time columns).
.fgdc	View the dataset's UTF-8 FGDC .xml metadata.
.geoJson	Download longitude,latitude,otherColumns data as a UTF-8 GeoJSON .json file.
.graph	View a Make A Graph web page.
.help	View a web page with a description of tabledap.
.html	View an OPeNDAP-style HTML Data Access Form.
.htmlTable	View a UTF-8 .html web page with the data in a table. Times are ISO 8601 strings.
.iso19115	View the dataset's ISO 19115-2/19139 UTF-8 .xml metadata.
.json	View a table-like UTF-8 JSON file (missing value = 'null'; times are ISO 8601 strings).
.jsonlCSV1	View a UTF-8 JSON Lines CSV file with column names on line 1 (mv = 'null'; times are ISO 8601 strings).
.jsonlCSV	View a UTF-8 JSON Lines CSV file without column names (mv = 'null'; times are ISO 8601 strings).
.jsonlKVP	View a UTF-8 JSON Lines file with Key:Value pairs (missing value = 'null'; times are ISO 8601 strings).
.mat	Download a MATLAB binary file.
.nc	Download a flat, table-like, NetCDF-3 binary file with COARDS/CF/ACDD metadata.
.ncHeader	View the UTF-8 header (the metadata) for the NetCDF-3 .nc file.
.ncCF	Download a NetCDF-3 CF Discrete Sampling Geometries file (Contiguous Ragged Array).
.ncCFHeader	View the UTF-8 header (the metadata) for the .ncCF file.
.ncCFMA	Download a NetCDF-3 CF Discrete Sampling Geometries file (Multidimensional Array).
.ncCFMAHeader	View the UTF-8 header (the metadata) for the .ncCFMA file.
.nccsv	Download a NetCDF-3-like 7-bit ASCII NCCSV .csv file with COARDS/CF/ACDD metadata.
.nccsvMetadata	View the dataset's metadata as the top half of a 7-bit ASCII NCCSV .csv file.
.ncoJson	Download a UTF-8 NCO lvl=2 JSON file with COARDS/CF/ACDD metadata.
.odvTxt	Download longitude,latitude,time,otherColumns as an ISO-8859-1 ODV Generic Spreadsheet File (.txt).
.subset	View an HTML form which uses faceted search to simplify picking subsets of the data.
.tsv	Download a ISO-8859-1 tab-separated text table (line 1: names; line 2: units; ISO 8601 times).
.tsvp	Download a ISO-8859-1 .tsv file with line 1: name (units). Times are ISO 8601 strings.
.tsv0	Download a ISO-8859-1 .tsv file without column names or units. Times are ISO 8601 strings.
.wav	Download a .wav audio file. All columns must be numeric and of the same type.
.xhtml	View a UTF-8 XHTML (XML) file with the data in a table. Times are ISO 8601 strings.

hands on Physics

Go to : https://data-erddap.emodnet-physics.eu/erddap

Search for TEMP

Accessing and subsetting the data

ERDDAP
Easier access to scientific data
EMODnet

Brought to you by EMODnet

ERDDAP > Search

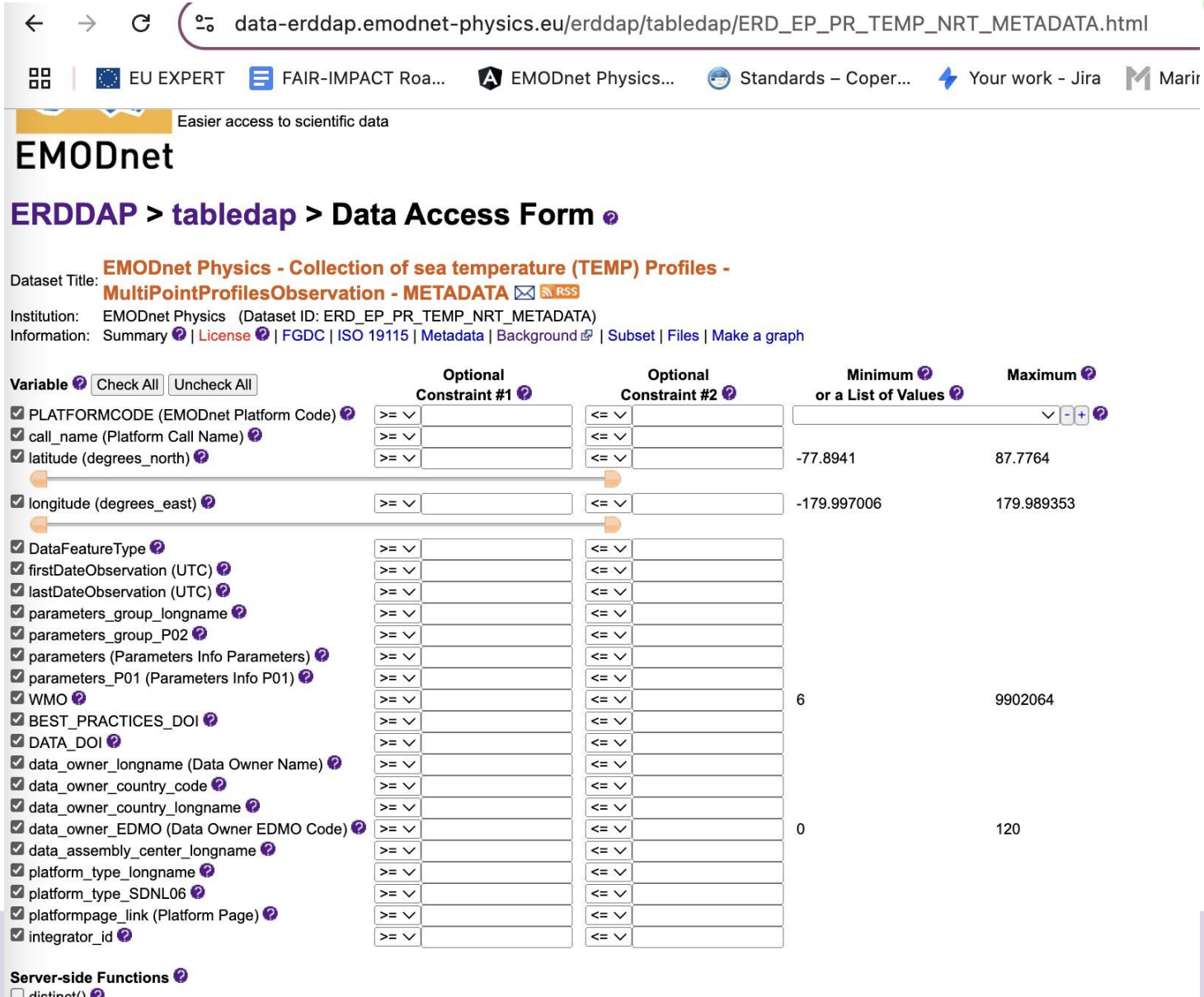
Do a Full Text Search for Datasets:
temp Search

13 matching datasets, with the most relevant ones listed first.
(Or, refine this search with Advanced Search)

select «data» in ERD_EP_TS_TEMP_NRT_METADATA

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph		files	EMODnet Physics - Collection of Water Temperature (SDN:P33::WATERTEMPERATURE) variables - MultiPointsObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_WATERTEMPERATURE_INSITU_METAD
	set	data	graph			EMODnet Physics - Collection of sea temperature (TEMP) Profiles - MultiPointProfilesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature (TEMP) Profiles - MultiPointProfilesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_TEMP_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature (TEMP) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature (TEMP) TimeSeries - MultiPointTimeSeriesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature from oxygen sensor (TEMP_DOXY) Profiles - MultiPointProfilesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_TEMP_DOXY_NRT
	set	data	graph			EMODnet Physics - Collection of sea temperature from oxygen sensor (TEMP_DOXY) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_DOXY_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature from oxygen sensor (TEMP_DOXY) TimeSeries - MultiPointTimeSeriesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_TEMP_DOXY_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) Profiles - MultiPointProfilesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_PSAL_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) Profiles - MultiPointProfilesObservation - METADATA		F I M	background	RSS		EMODnet Physics	ERD_EP_PR_PSAL_TEMP_NRT_METADATA
	set	data	graph			EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) TimeSeries - MultiPointTimeSeriesObservation		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_PSAL_TEMP_NRT
	set	data	graph		files	EMODnet Physics - Collection of sea temperature, practical salinity (PSAL_TEMP) TimeSeries -		F I M	background	RSS		EMODnet Physics	ERD_EP_TS_PSAL_TEMP_NRT_METADATA

Accessing and subsetting the data



Submit

Accessing and subsetting the data

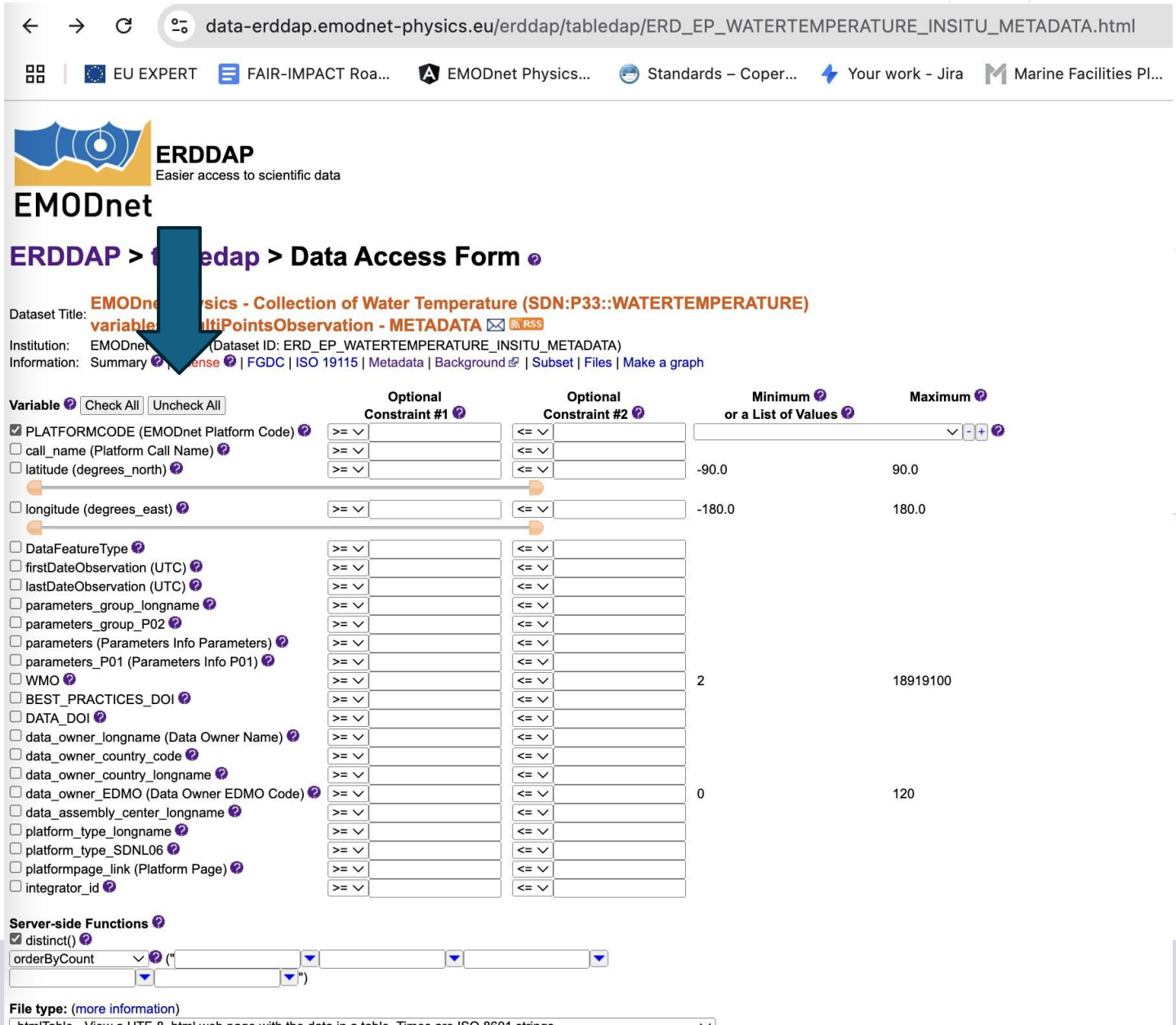
EMODnet Physics ERDDAP
Easier access to scientific data

PLATFORMCODE	call_name	latitude	longitude	DataFeatureType	firstDateObservation	lastDateObservation	platform_type_longname	p
		degrees_north	degrees_east		UTC	UTC		
10936866_29_09_2024	10936866_29_09_2024	28.1653	-15.681	profile	2024-09-29T11:21:00Z	2024-09-29T11:21:00Z	Diving Logger	
10936876_29_09_2024	10936876_29_09_2024	28.163	-15.6796	profile	2024-09-29T13:11:00Z	2024-09-29T13:11:00Z	Diving Logger	
20240101_134443	20240101_134443	-43.49739	174.521051	profile	2024-01-01T04:32:11Z	2024-01-01T12:44:43Z	Fishing Vessels	
20240101_134645	20240101_134645	-40.00369	178.110941	profile	2024-01-01T11:56:47Z	2024-01-01T12:46:45Z	Fishing Vessels	
20240101_144124	20240101_144124	-39.967335	178.137071	profile	2024-01-01T12:51:43Z	2024-01-01T13:41:24Z	Fishing Vessels	
20240101_150617	20240101_150617	-43.9743	176.834413	profile	2024-01-01T06:48:23Z	2024-01-01T14:06:17Z	Fishing Vessels	
20240101_181649	20240101_181649	-41.091811	174.241745	profile	2024-01-01T17:16:02Z	2024-01-01T17:16:49Z	Fishing Vessels	
20240101_230017	20240101_230017	-37.074293	175.9882215	profile	2024-01-01T21:25:07Z	2024-01-01T22:00:17Z	Fishing Vessels	
20240102_183709	20240102_183709	-41.635586	175.648685	profile	2024-01-02T16:48:26Z	2024-01-02T17:37:09Z	Fishing Vessels	
20240102_201537	20240102_201537	-41.3526425	174.473208	profile	2024-01-02T17:24:01Z	2024-01-02T19:15:37Z	Fishing Vessels	
20240102_202528	20240102_202528	-37.101644	176.0314245	profile	2024-01-02T18:53:03Z	2024-01-02T19:25:28Z	Fishing Vessels	
20240102_222726	20240102_222726	-37.110420500000004	176.0025445	profile	2024-01-02T20:57:15Z	2024-01-02T21:27:26Z	Fishing Vessels	
20240102_223833	20240102_223833	-44.356761	171.528308	profile	2024-01-02T20:49:36Z	2024-01-02T21:38:33Z	Fishing Vessels	
20240102_235658	20240102_235658	-41.410790500000004	174.352108	profile	2024-01-02T21:33:48Z	2024-01-02T22:56:58Z	Fishing Vessels	
20240103_005219	20240103_005219	-41.64416	175.61905	profile	2024-01-02T22:57:01Z	2024-01-02T23:52:19Z	Fishing Vessels	
20240103_014534	20240103_014534	-36.461166	174.9251665	profile	2024-01-02T23:23:13Z	2024-01-03T00:45:34Z	Fishing Vessels	
20240103_031159	20240103_031159	-41.157573	171.695988	profile	2024-01-02T21:03:48Z	2024-01-03T02:11:59Z	Fishing Vessels	
20240103_033431	20240103_033431	-44.408653	171.48415	profile	2024-01-02T23:49:32Z	2024-01-03T02:34:31Z	Fishing Vessels	
20240103_060802	20240103_060802	-47.1381585	168.03692999999998	profile	2024-01-03T03:24:47Z	2024-01-03T05:08:02Z	Fishing Vessels	
20240103_100955	20240103_100955	-44.107105	174.858495	profile	2024-01-03T03:07:15Z	2024-01-03T09:09:55Z	Fishing Vessels	
20240103_152234	20240103_152234	-44.173108	175.63118	profile	2024-01-03T08:27:23Z	2024-01-03T14:22:34Z	Fishing Vessels	
20240103_175931	20240103_175931	-47.1376805	168.0383455	profile	2024-01-03T05:08:52Z	2024-01-03T16:59:31Z	Fishing Vessels	
20240103_195414	20240103_195414	-47.1653055	167.98240950000002	profile	2024-01-03T17:29:22Z	2024-01-03T18:54:14Z	Fishing Vessels	
20240103_200934	20240103_200934	-41.645075	175.59004	profile	2024-01-03T18:20:11Z	2024-01-03T19:09:34Z	Fishing Vessels	
20240103_205106	20240103_205106	-46.539965	169.74281	profile	2024-01-03T16:40:50Z	2024-01-03T19:51:06Z	Fishing Vessels	
20240103_205221	20240103_205221	-43.509403	174.497703	profile	2024-01-03T15:15:09Z	2024-01-03T19:52:21Z	Fishing Vessels	
20240103_210310	20240103_210310	-41.668886	175.642023	profile	2024-01-03T19:12:55Z	2024-01-03T20:03:10Z	Fishing Vessels	

List of the availble resources in that dataset

How many PLATFORMCODE?

Accessing and subsetting the data



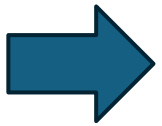
Accessing and subsetting the data

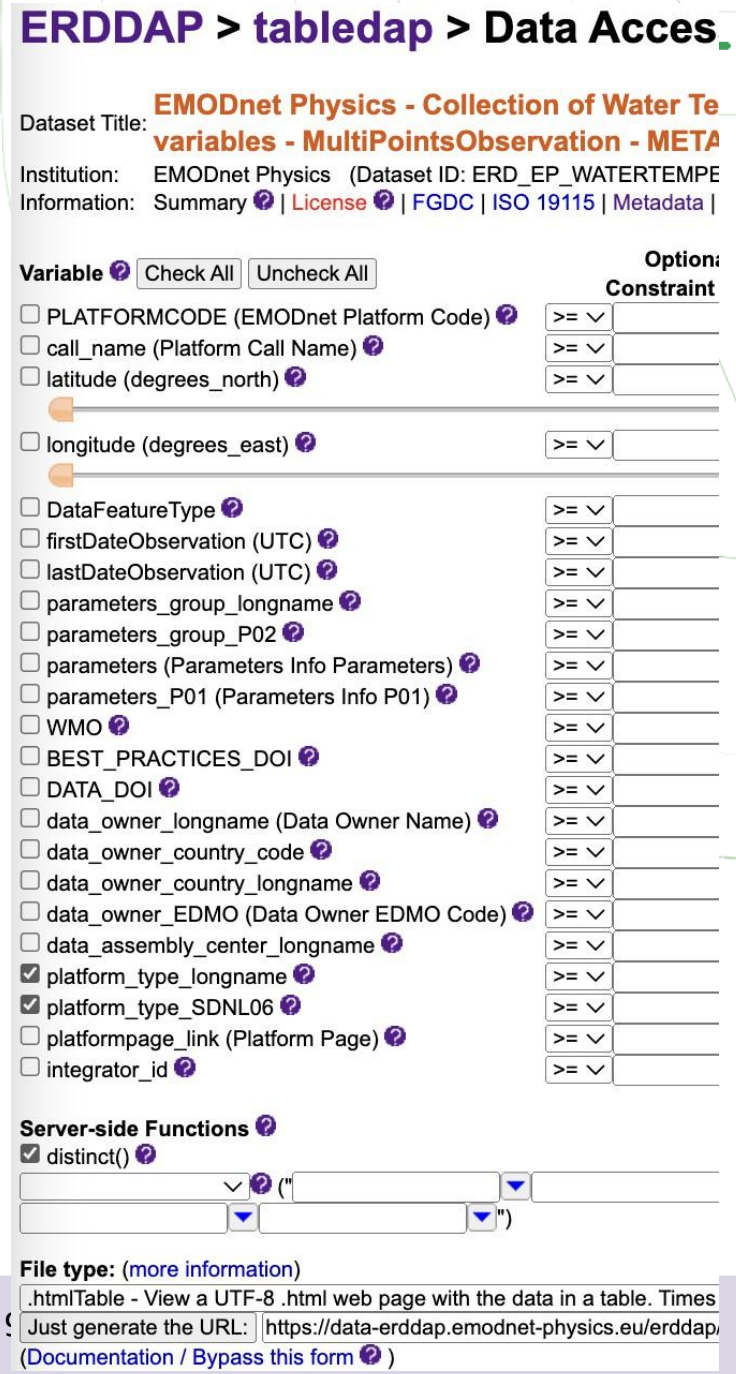
PLATFORMCODE
count
134816

Viewing the used dictionaries, vocs, ontologies…

Go back to:

https://data-erddap.emodnet-physics.eu/erddap/tabledap/EP_PLATFORMS_METADATA.html





Accessing and subsetting the data

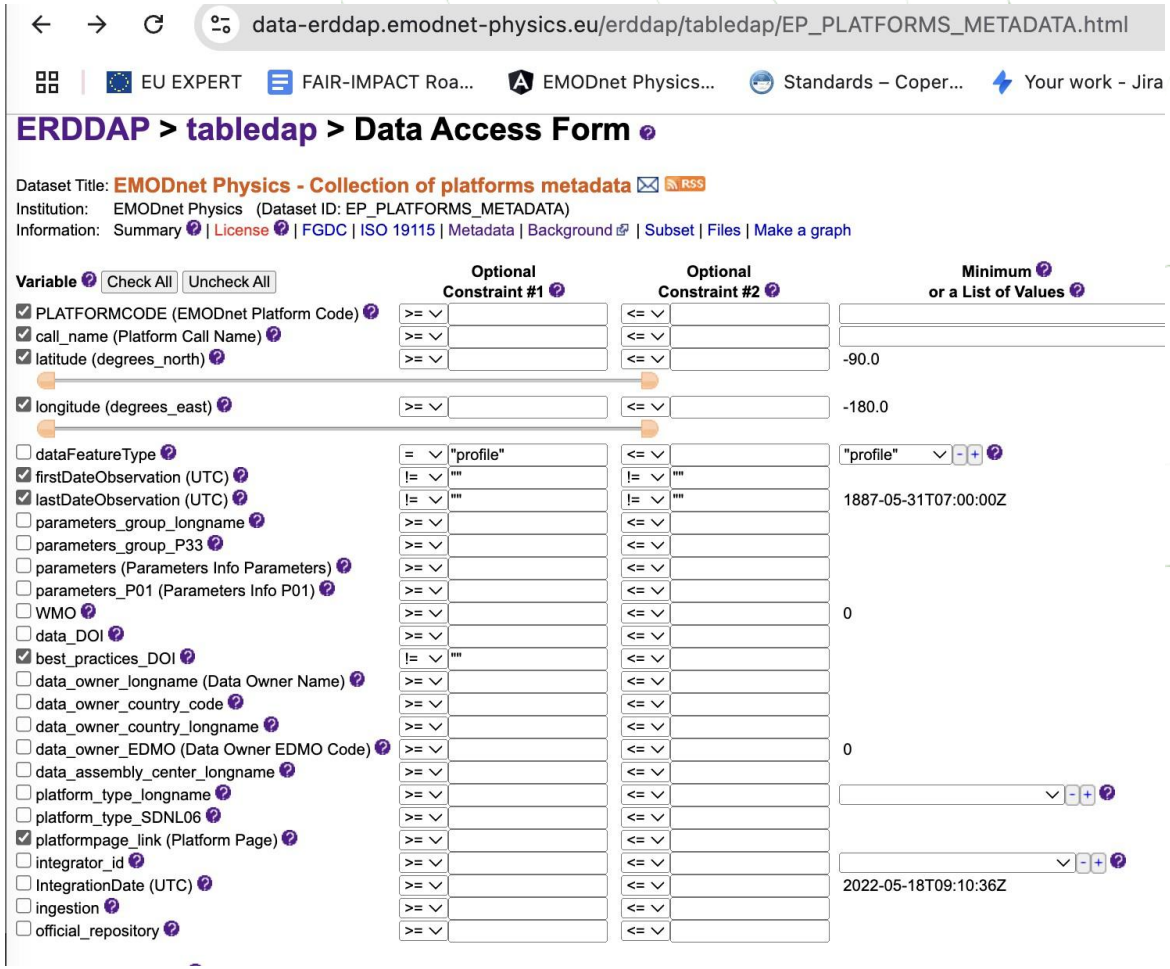
platform_type_longname	platform_type_SDNL06
Argo BGC	SDN:L06::32
Argo/Profiler	
Argo/Profiler	SDN:L06::32
Autonomous vehicles	
Botte Samples	
Bottle data	
CTD Profiles	SDN:L06::45
Diving Logger	
Drifting Buoys	SDN:L06::42
Ferrybox/Ship	
Ferrybox/Ship	SDN:L06::30
Fishing Vessels	
Fishing Vessels	SDN:L06::36
Gliders	SDN:L06::27
Mini Logger	
Mini Loggers	
Mooring	SDN:L06::48
Not yet identified	
River Station	SDN:L06::18
Saildrone	
Sea Mammals	SDN:L06::77
Thermistor Chain Data	
Thermistor chain data	
Thermosalinographers	
Tide Gauge	
Tide Gauge	SDN:L06::17
XBT or XCTD profiles	SDN:L06::45
XBT, XCTD or MBT profiles	

Accessing and subsetting the data

https://data-erddap.emodnet-physics.eu/erddap/tabledap/EP_PLATFORMS_METADATA.html

links to “best practices”: the ARGO use case

1. dataFeatureType = “profiles”
2. remove “empty” information (first/lastDateObs)
3. select field…
4. submit



Accessing and subsetting the data

PLATFORMCODE	call_name	latitude	longitude	firstDateObservation	lastDateObservation	best_practices_DOI	platformpage_link
		degrees_north	degrees_east	UTC	UTC		
5902328	5902328	-1.307	-45.042	1997-08-03T19:23:13Z	1998-05-04T08:35:46Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649c30cac2c3bf001e0425d7
31856	31856	3.542	-50.657	1997-08-03T03:01:01Z	1998-12-22T05:31:23Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fca11c2c3bf001e043cd8
13858	13858	4.975	-9.612	1997-07-28T20:26:20Z	1998-12-27T20:00:25Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fd3b1c2c3bf001e043d33
31858	31858	1.874	-50.474	1997-08-04T06:10:56Z	1999-01-03T22:29:04Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fc9cfc2c3bf001e043cd5
15855	15855	-3.447	-5.263	1997-08-20T12:33:55Z	1999-06-11T14:39:50Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fca32c2c3bf001e043cd9
5903872	5903872	9.314	-90.97	2012-03-08T09:51:28Z	2019-01-21T05:50:10Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=64898e548ed3f0001d3ac682
2902561	2902561	-0.021	75.055	2013-08-20T22:34:45Z	2019-01-22T00:18:03Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=648a98478ed3f0001d3bbdfc
1901622	1901622	-37.66293	-21.71648	2012-10-31T16:50:03Z	2019-01-22T02:53:44Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=6489a5c68ed3f0001d3ac71f
5904667	5904667	24.334	-57.386	2015-12-28T11:06:03Z	2019-01-22T05:09:36Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=648aa3af8ed3f0001d3bbe59
4900859	4900859	26.415	-122.658	2008-11-12T15:11:38Z	2019-01-22T07:33:57Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=65887c12d1479f001d1eb418
6902826	6902826	35.972586666666665	15.485095	2017-05-23T11:34:00Z	2019-01-22T10:35:00Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=6587317fd1479f001d1eae13
5903421	5903421	-15.589	-172.564	2011-10-18T12:24:38Z	2019-01-23T02:26:47Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=648b0a758ed3f0001d3d6767

Accessing and subsetting the data

PLATFORMCODE	call_name	latitude	longitude	firstDateObservation	lastDateObservation	best_practices_DOI	platformpage_link
		degrees_north	degrees_east	UTC	UTC		
5902328	5902328	-1.307	-45.042	1997-08-03T19:23:13Z	1998-05-04T08:35:46Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649c30cac2c3bf001e0425d7
31856	31856	3.542	-50.657	1997-08-03T03:01:01Z	1998-12-22T05:31:23Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fca11c2c3bf001e043cd8
13858	13858	4.975	-9.612	1997-07-28T20:26:20Z	1998-12-27T20:00:25Z	https://doi.org/[illegible]5607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fd3b1c2c3bf001e043d33
31858	31858	1.874	-50.474	1997-08-04T06:10:56Z	1999-01-03T22:29:04Z	https://doi.or[illegible]/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fc9cfc2c3bf001e043cd5
15855	15855	-3.447	-5.263	1997-08-20T12:33:55Z	1999-06-11T14:39:50Z	https://doi.org/[illegible]07/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fca32c2c3bf001e043cd9
5903872	5903872	9.314	-90.97	2012-03-08T09:51:28Z	2019-01-21T05:50:10Z	https://doi.org/[illegible]7/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=64898e548ed3f0001d3ac682
2902561	2902561	-0.021	75.055	2013-08-20T22:34:45Z	2019-01-22T00:18:03Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=648a98478ed3f0001d3bbdfc
1901622	1901622	-37.66293	-21.71648	2012-10-31T16:50:03Z	2019-01-22T02:53:44Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=6489a5c68ed3f0001d3ac71f
5904667	5904667	24.334	-57.386	2015-12-28T11:06:03Z	2019-01-22T05:09:36Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=648aa3af8ed3f0001d3bbe59
4900859	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]platformid=65887c12d1479f001d1eb418
3902826	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	platformid=6587317fd1479f001d1eae13
5903421	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	platformid=648b0a758ed3f0001d3d6767

repository.oceanbestpractices.org/handle/11329/2387

EU EXPERT | FAIR-IMPACT Roa... | EMODnet Physics... | Standards – Coper... | Your work - Jira | Marine Facilities Pl... | TWG Dashboard -... | Codici dei caratter...

Ocean best practices

Repository of community practices in Ocean Research, Applications and Data/Information Management

About FAQs Login

DSpace Home / ⇒ ARGO: an international programme using autonomous floats ... / Argo Community Practices / Mostra Item

Best practices for Core Argo floats: Getting started, physical handling, metadata, and data considerations. Version 1. [GOOS ENDORSED PRACTICE]

Argo floats have been deployed in the global ocean for over 20 years. The Core mission of the Argo program (Core Argo) has contributed well over 2 million profiles of salinity and temperature of the upper 2000 m for a variety of operational and scientific applications. Core Argo floats have evolved such that the program currently consists of

Ricerca

Cerca in DSpace

Questa Collezione

What results are displayed?

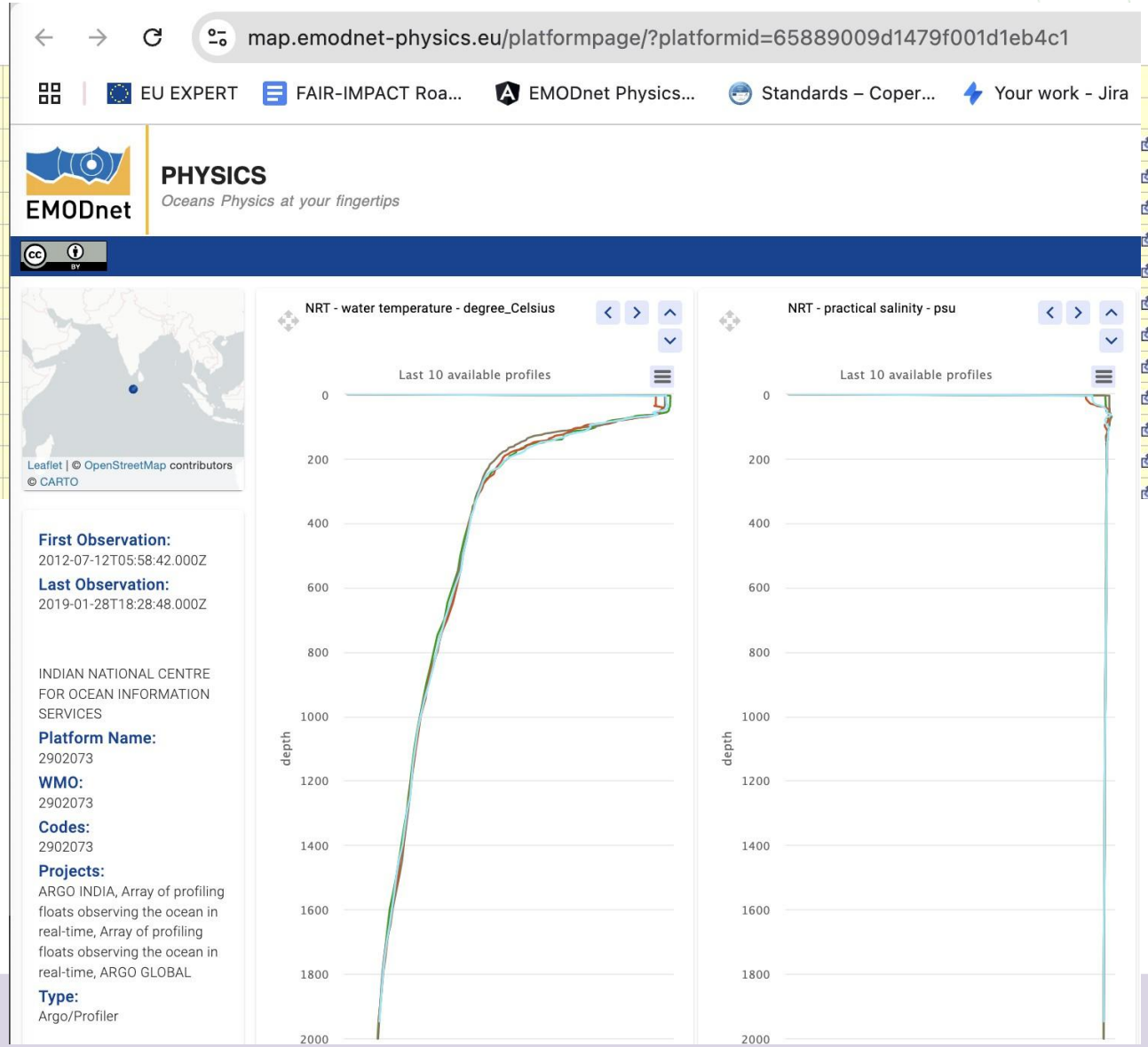
Perform Semantic Advanced Search.

Accessing and subsetting the data

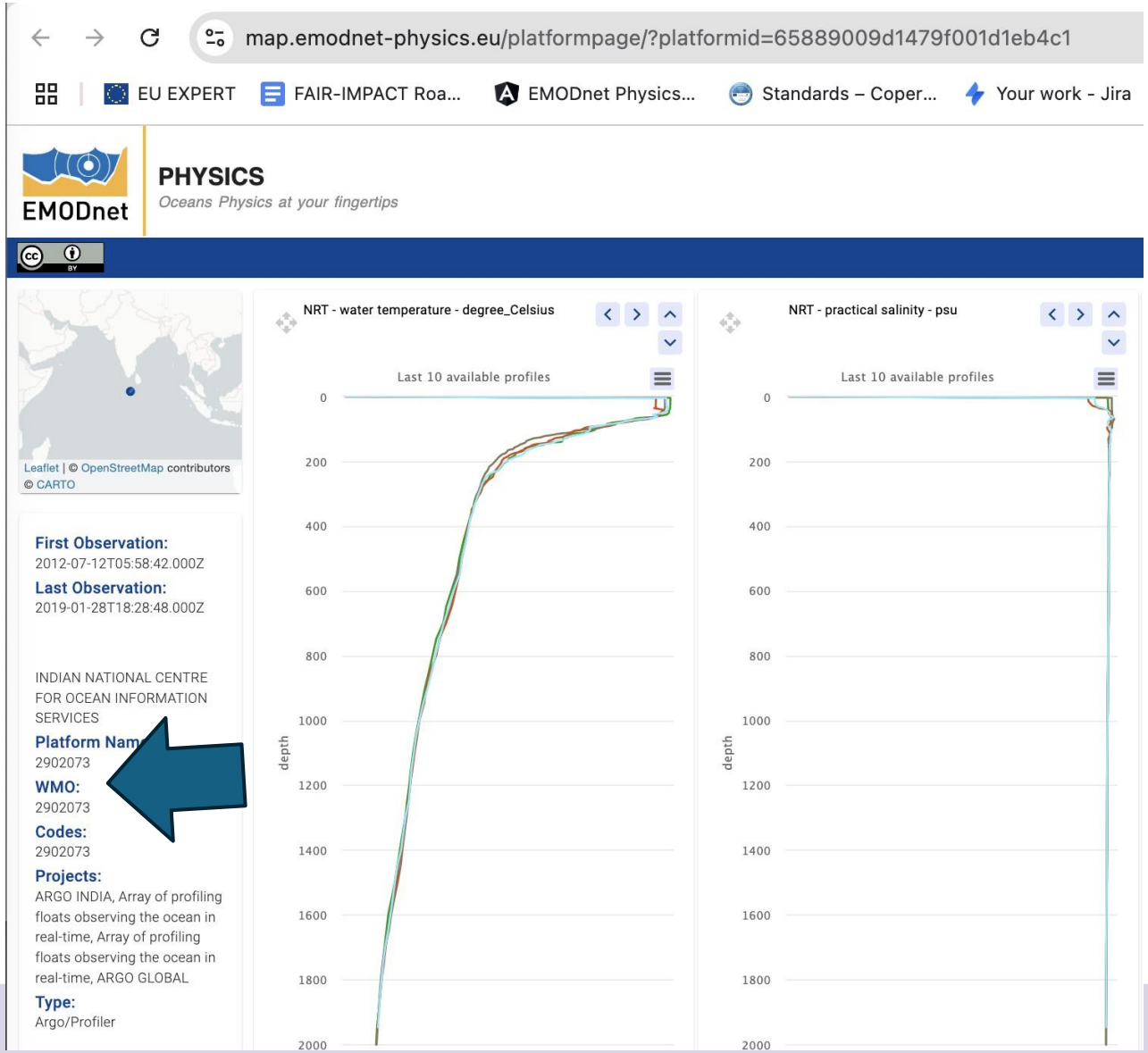
PLATFORMCODE	call_name	latitude	longitude	firstDateObservation	lastDateObservation	best_practices_DOI	platformpage_link
		degrees_north	degrees_east	UTC	UTC		
5902328	5902328	-1.307	-45.042	1997-08-03T19:23:13Z	1998-05-04T08:35:46Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649c30cac2c3bf001e0425d7
31856	31856	3.542	-50.657	1997-08-03T03:01:01Z	1998-12-22T05:31:23Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fca11c2c3bf001e043cd8
13858	13858	4.975	-9.612	1997-07-28T20:26:20Z	1998-12-27T20:00:25Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fd3b1c2c3bf001e043d33
31858	31858	1.874	-50.474	1997-08-04T06:10:56Z	1999-01-03T22:29:04Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fc9cfc2c3bf001e043cd5
15855	15855	-3.447	-5.263	1997-08-20T12:33:55Z	1999-06-11T14:39:50Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=649fca32c2c3bf001e043cd9
5903872	5903872	9.314	-90.97	2012-03-08T09:51:28Z	2019-01-21T05:50:10Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=64898e548ed3f0001d3ac682
2902561	2902561	-0.021	75.055	2013-08-20T22:34:45Z	2019-01-22T00:18:03Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=648a98478ed3f0001d3bbdfc
1901622	1901622	-37.66293	-21.71648	2012-10-31T16:50:03Z	2019-01-22T02:53:44Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=6489a5c68ed3f0001d3ac71f
5904667	5904667	24.334	-57.386	2015-12-28T11:06:03Z	2019-01-22T05:09:36Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=648aa3af8ed3f0001d3bbe59
4900859	4900859	26.415	-122.658	2008-11-12T15:11:38Z	2019-01-22T07:33:57Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=65887c12d1479f001d1eb418
6902826	6902826	35.972586666666665	15.485095	2017-05-23T11:34:00Z	2019-01-22T10:35:00Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=6587317fd1479f001d1eae13
5903421	5903421	-15.589	-172.564	2011-10-18T12:24:38Z	2019-01-23T02:26:47Z	https://doi.org/10.25607/OBP-1967	https://map.emodnet-physics.eu/platformpage/?platformid=648b0a758ed3f0001d3d6767

Accessing and subsetting the data

PLATFORMCODE	call_name	platformpage_link
5902328	5902328	https://map.emodnet-physics.eu/platformpage/?platformid=649c30cac2c3bf001e0425d7
31856	31856	https://map.emodnet-physics.eu/platformpage/?platformid=649fca11c2c3bf001e043cd8
13858	13858	https://map.emodnet-physics.eu/platformpage/?platformid=649fd3b1c2c3bf001e043d33
31858	31858	https://m…net-physics.eu/platformpage/?platformid=649fc9cfc2c3bf001e043cd5
15855	15855	https://…net-physics.eu/platformpage/?platformid=649fca32c2c3bf001e043cd9
5903872	5903872	https://ma…net-physics.eu/platformpage/?platformid=64898e548ed3f0001d3ac682
2902561	2902561	https://map…net-physics.eu/platformpage/?platformid=648a98478ed3f0001d3bbdfc
1901622	1901622	https://map.emodnet-physics.eu/platformpage/?platformid=6489a5c68ed3f0001d3ac71f
5904667	5904667	https://map.emodnet-physics.eu/platformpage/?platformid=648aa3af8ed3f0001d3bbe59
4900859	4900859	https://map.emodnet-physics.eu/platformpage/?platformid=65887c12d1479f001d1eb418
6902826	6902826	https://map.emodnet-physics.eu/platformpage/?platformid=6587317fd1479f001d1eae13
5903421	5903421	https://map.emodnet-physics.eu/platformpage/?platformid=648b0a758ed3f0001d3d6767

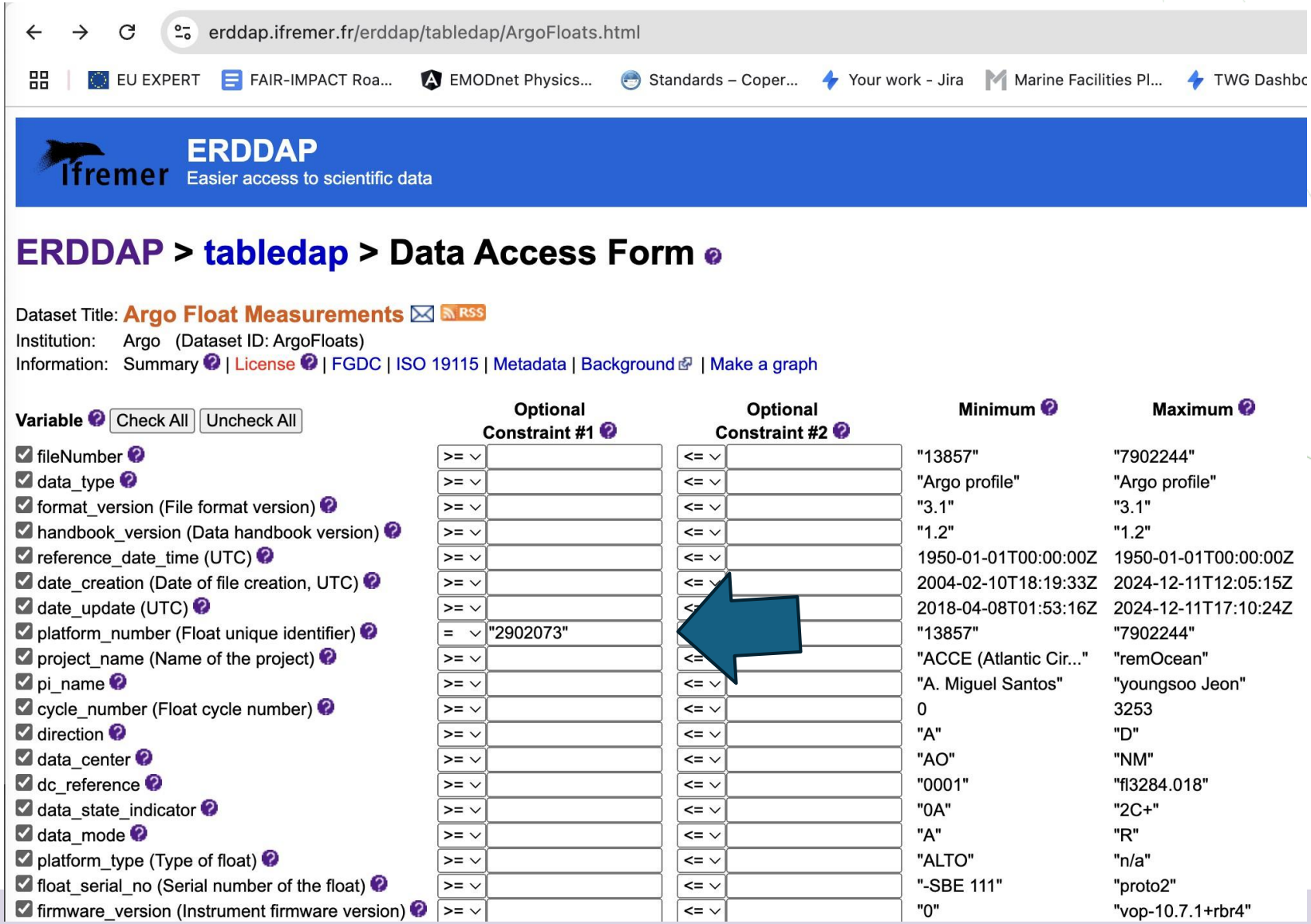


Accessing and subsetting the data

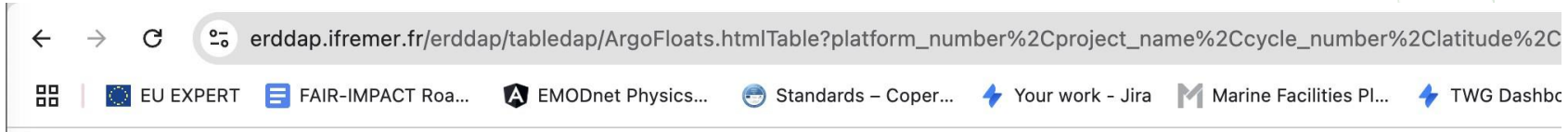


1. Copy the PLATFORM/WMO code
2. open the ARGO – ERDDAP:
   https://erddap.ifremer.fr/erddap
3. search for this platform (2902073)

Accessing and subsetting the data



Accessing and subsetting the data



ERDDAP
Easier access to scientific data

platform_number	project_name	cycle_number	latitude	longitude	temp	temp_qc	temp_adjusted	temp_adjusted_qc
			degrees_north	degrees_east	degree_Celsius		degree_Celsius	
2902073	Argo INDIA	1	0.112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	0.112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	0.112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	0.112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	0.112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	0.112	80.556	29.253	1	29.253	1
2902073	Argo INDIA	1	0.112	80.556	29.253	1	29.253	1
2902073	Argo INDIA	1	0.112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	0.112	80.556	29.257	1	29.257	1
2902073	Argo INDIA	1	0.112	80.556	29.262	1	29.262	1
2902073	Argo INDIA	1	0.112	80.556	29.273	1	29.273	1
2902073	Argo INDIA	1	0.112	80.556	29.281	1	29.281	1
2902073	Argo INDIA	1	0.112	80.556	29.281	1	29.281	1
2902073	Argo INDIA	1	0.112	80.556	29.274	1	29.274	1
2902073	Argo INDIA	1	0.112	80.556	29.254	1	29.254	1
2902073	Argo INDIA	1	0.112	80.556	29.239	1	29.239	1
2902073	Argo INDIA	1	0.112	80.556	29.225	1	29.225	1
2902073	Argo INDIA	1	0.112	80.556	29.203	1	29.203	1
2902073	Argo INDIA	1	0.112	80.556	29.174	1	29.174	1
2902073	Argo INDIA	1	0.112	80.556	29.125	1	29.125	1
2902073	Argo INDIA	1	0.112	80.556	29.081	1	29.081	1

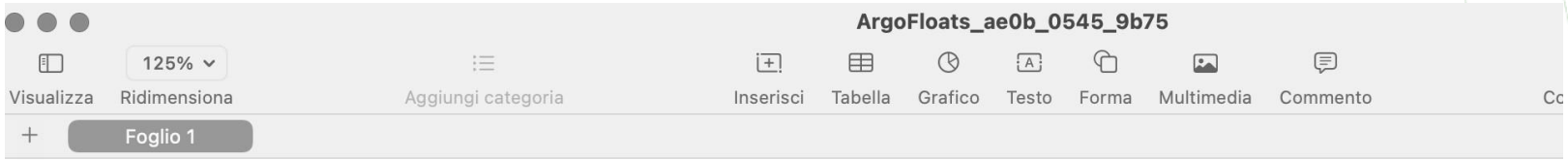
Accessing and subsetting the data

https://erddap.ifremer.fr/erddap/tabledap/ArgoFloats.htmlTable?platform_number%2Cproject_name%2Ccycle_number%2Clatitude%2Clongitude%2Ctemp%2Ctemp_qc%2Ctemp_adjusted%2Ctemp_adjusted_qc&platform_number=%222902073%22&time%3E=1997-07-28T20%3A26%3A20Z&time%3C=2026-12-27T14%3A48%3A20Z

https://erddap.ifremer.fr/erddap/tabledap/ArgoFloats.csv?platform_number%2Cproject_name%2Ccycle_number%2Clatitude%2Clongitude%2Ctemp%2Ctemp_qc%2Ctemp_adjusted%2Ctemp_adjusted_qc&platform_number=%222902073%22&time%3E=1997-07-28T20%3A26%3A20Z&time%3C=2026-12-27T14%3A48%3A20Z

*To get a .csv file with the header names in the first row the file type is .csvp.

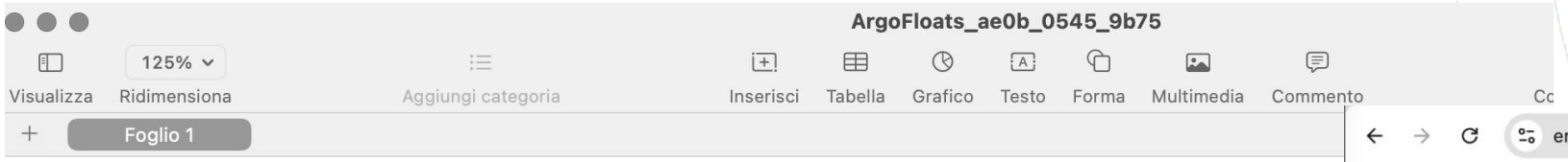
Accessing and subsetting the data



ArgoFloats_ae0b_0545_9b75

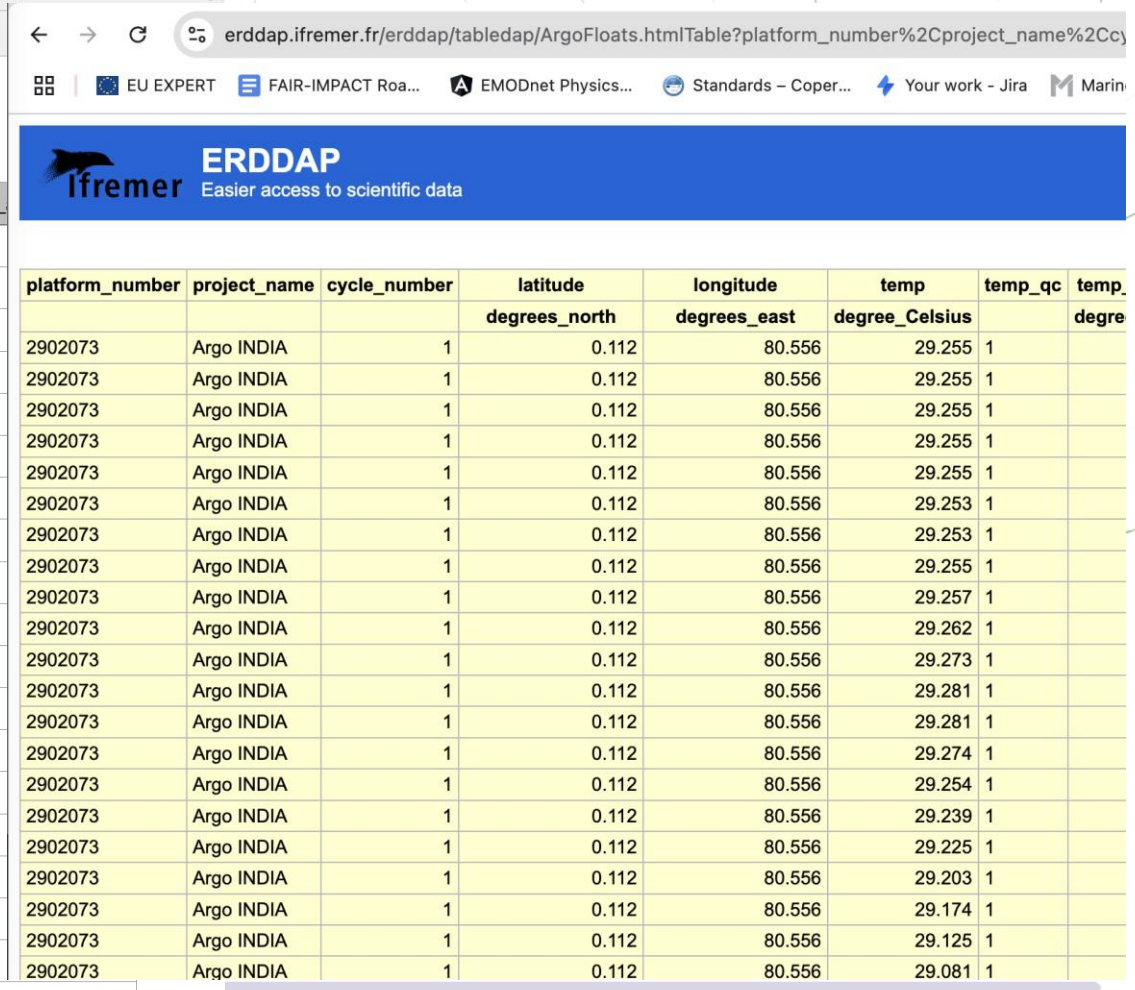
platform_number	project_name	cycle_number	latitude	longitude	temp	temp_qc	temp_adjusted	temp_adjusted_qc
			degrees_north	degrees_east	degree_Celsius		degree_Celsius	
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	112	80.556	29.253	1	29.253	1
2902073	Argo INDIA	1	112	80.556	29.253	1	29.253	1
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	1
2902073	Argo INDIA	1	112	80.556	29.257	1	29.257	1
2902073	Argo INDIA	1	112	80.556	29.262	1	29.262	1
2902073	Argo INDIA	1	112	80.556	29.273	1	29.273	1
2902073	Argo INDIA	1	112	80.556	29.281	1	29.281	1
2902073	Argo INDIA	1	112	80.556	29.281	1	29.281	1
2902073	Argo INDIA	1	112	80.556	29.274	1	29.274	1
2902073	Argo INDIA	1	112	80.556	29.254	1	29.254	1
2902073	Argo INDIA	1	112	80.556	29.239	1	29.239	1
2902073	Argo INDIA	1	112	80.556	29.225	1	29.225	1
2902073	Argo INDIA	1	112	80.556	29.203	1	29.203	1
2902073	Argo INDIA	1	112	80.556	29.174	1	29.174	1

Accessing and subsetting the data



ArgoFloats_ae0b_0545_9b75

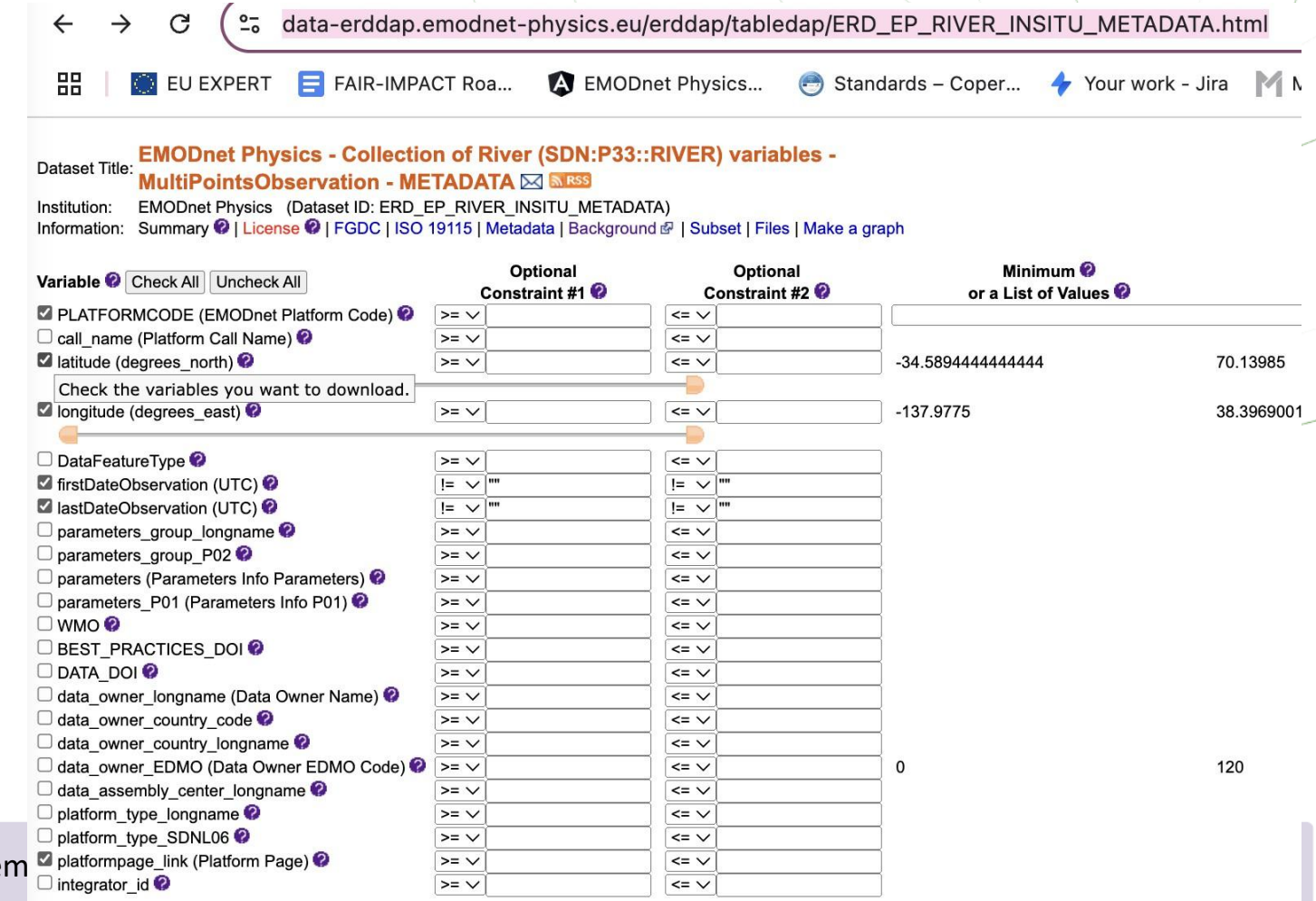
platform_number	project_name	cycle_number	latitude	longitude	temp	temp_qc	temp_adjusted	temp_
			degrees_north	degrees_east	degree_Celsius		degree_Celsius	
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	
2902073	Argo INDIA	1	112	80.556	29.253	1	29.253	
2902073	Argo INDIA	1	112	80.556	29.253	1	29.253	
2902073	Argo INDIA	1	112	80.556	29.255	1	29.255	
2902073	Argo INDIA	1	112	80.556	29.257	1	29.257	
2902073	Argo INDIA	1	112	80.556	29.262	1	29.262	
2902073	Argo INDIA	1	112	80.556	29.273	1	29.273	
2902073	Argo INDIA	1	112	80.556	29.281	1	29.281	
2902073	Argo INDIA	1	112	80.556	29.281	1	29.281	
2902073	Argo INDIA	1	112	80.556	29.274	1	29.274	
2902073	Argo INDIA	1	112	80.556	29.254	1	29.254	
2902073	Argo INDIA	1	112	80.556	29.239	1	29.239	
2902073	Argo INDIA	1	112	80.556	29.225	1	29.225	
2902073	Argo INDIA	1	112	80.556	29.203	1	29.203	1
2902073	Argo INDIA	1	112	80.556	29.174	1	29.174	1



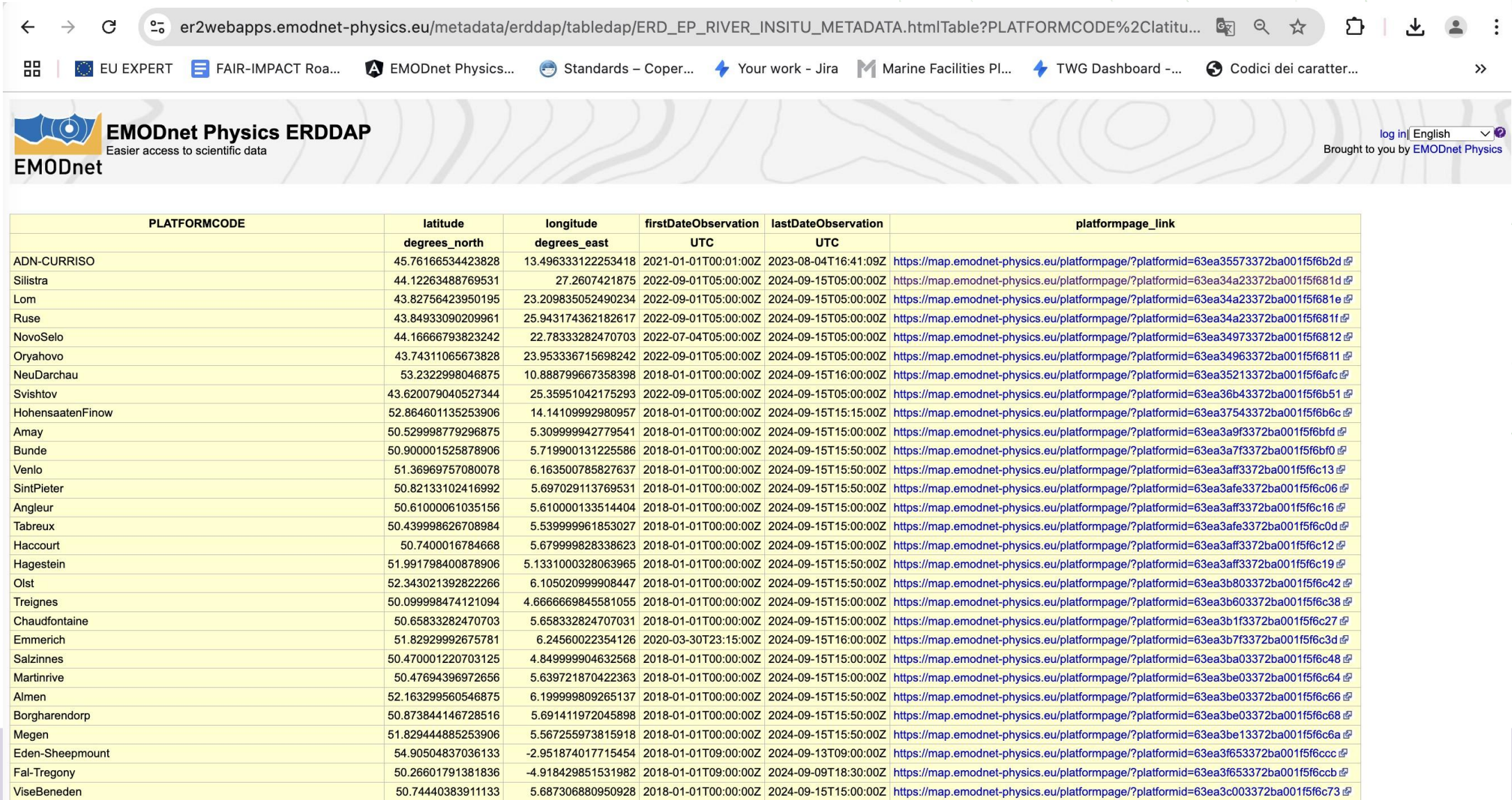
platform_number	project_name	cycle_number	latitude	longitude	temp	temp_qc	temp_
			degrees_north	degrees_east	degree_Celsius		degre
2902073	Argo INDIA	1	0.112	80.556	29.255	1	
2902073	Argo INDIA	1	0.112	80.556	29.255	1	
2902073	Argo INDIA	1	0.112	80.556	29.255	1	
2902073	Argo INDIA	1	0.112	80.556	29.255	1	
2902073	Argo INDIA	1	0.112	80.556	29.255	1	
2902073	Argo INDIA	1	0.112	80.556	29.253	1	
2902073	Argo INDIA	1	0.112	80.556	29.253	1	
2902073	Argo INDIA	1	0.112	80.556	29.255	1	
2902073	Argo INDIA	1	0.112	80.556	29.257	1	
2902073	Argo INDIA	1	0.112	80.556	29.262	1	
2902073	Argo INDIA	1	0.112	80.556	29.273	1	
2902073	Argo INDIA	1	0.112	80.556	29.281	1	
2902073	Argo INDIA	1	0.112	80.556	29.281	1	
2902073	Argo INDIA	1	0.112	80.556	29.274	1	
2902073	Argo INDIA	1	0.112	80.556	29.254	1	
2902073	Argo INDIA	1	0.112	80.556	29.239	1	
2902073	Argo INDIA	1	0.112	80.556	29.225	1	
2902073	Argo INDIA	1	0.112	80.556	29.203	1	
2902073	Argo INDIA	1	0.112	80.556	29.174	1	
2902073	Argo INDIA	1	0.112	80.556	29.125	1	
2902073	Argo INDIA	1	0.112	80.556	29.081	1	

Accessing and subsetting the data

1. go to
   https://data-erddap.emodnet-physics.eu/erddap/tabledap/ERD_EP_RIVER_INSITU_METADATA.html
2. select:
   PLATFORMCODE,
   latitude, longitude, link
3. submit



Accessing and subsetting the data

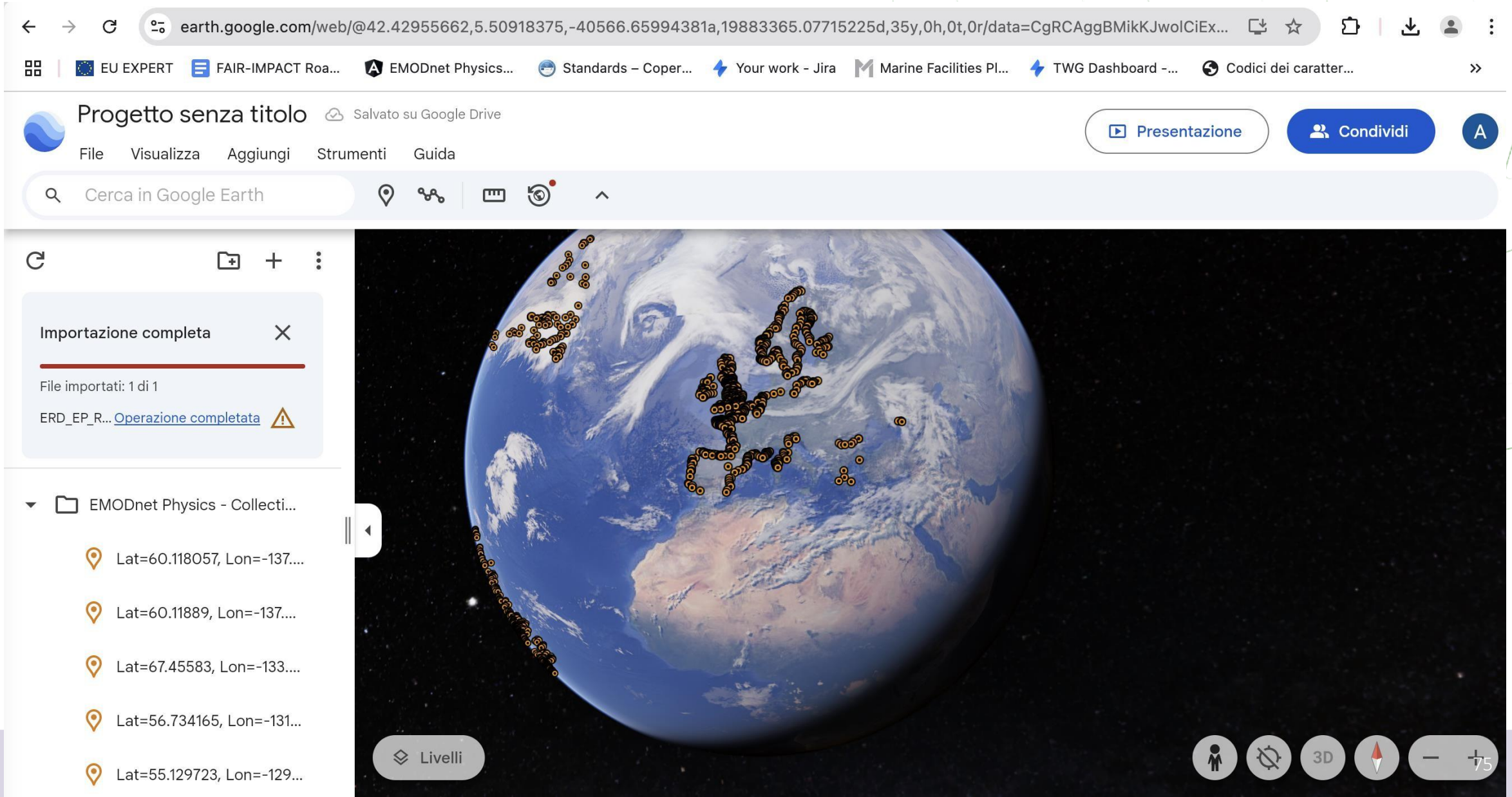


PLATFORMCODE	latitude	longitude	firstDateObservation	lastDateObservation	platformpage_link
	degrees_north	degrees_east	UTC	UTC	
ADN-CURRISO	45.76166534423828	13.496333122253418	2021-01-01T00:01:00Z	2023-08-04T16:41:09Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea35573372ba001f5f6b2d
Silistra	44.12263488769531	27.2607421875	2022-09-01T05:00:00Z	2024-09-15T05:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea34a23372ba001f5f681d
Lom	43.82756423950195	23.209835052490234	2022-09-01T05:00:00Z	2024-09-15T05:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea34a23372ba001f5f681e
Ruse	43.84933090209961	25.943174362182617	2022-09-01T05:00:00Z	2024-09-15T05:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea34a23372ba001f5f681f
NovoSelo	44.16666793823242	22.78333282470703	2022-07-04T05:00:00Z	2024-09-15T05:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea34973372ba001f5f6812
Oryahovo	43.74311065673828	23.953336715698242	2022-09-01T05:00:00Z	2024-09-15T05:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea34963372ba001f5f6811
NeuDarchau	53.2322998046875	10.888799667358398	2018-01-01T00:00:00Z	2024-09-15T16:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea35213372ba001f5f6afc
Svishtov	43.620079040527344	25.35951042175293	2022-09-01T05:00:00Z	2024-09-15T05:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea36b43372ba001f5f6b51
HohensaatenFinow	52.864601135253906	14.14109992980957	2018-01-01T00:00:00Z	2024-09-15T15:15:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea37543372ba001f5f6b6c
Amay	50.529998779296875	5.309999942779541	2018-01-01T00:00:00Z	2024-09-15T15:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3a9f3372ba001f5f6bfd
Bunde	50.900001525878906	5.719900131225586	2018-01-01T00:00:00Z	2024-09-15T15:50:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3a7f3372ba001f5f6bf0
Venlo	51.36969757080078	6.163500785827637	2018-01-01T00:00:00Z	2024-09-15T15:50:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3aff3372ba001f5f6c13
SintPieter	50.82133102416992	5.697029113769531	2018-01-01T00:00:00Z	2024-09-15T15:50:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3afe3372ba001f5f6c06
Angleur	50.61000061035156	5.610000133514404	2018-01-01T00:00:00Z	2024-09-15T15:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3aff3372ba001f5f6c16
Tabreux	50.439998626708984	5.539999961853027	2018-01-01T00:00:00Z	2024-09-15T15:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3afe3372ba001f5f6c0d
Haccourt	50.7400016784668	5.679999828338623	2018-01-01T00:00:00Z	2024-09-15T15:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3aff3372ba001f5f6c12
Hagestein	51.991798400878906	5.1331000328063965	2018-01-01T00:00:00Z	2024-09-15T15:50:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3aff3372ba001f5f6c19
Olst	52.343021392822266	6.105020999908447	2018-01-01T00:00:00Z	2024-09-15T15:50:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3b803372ba001f5f6c42
Treignes	50.099998474121094	4.6666669845581055	2018-01-01T00:00:00Z	2024-09-15T15:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3b603372ba001f5f6c38
Chaudfontaine	50.65833282470703	5.658332824707031	2018-01-01T00:00:00Z	2024-09-15T15:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3b1f3372ba001f5f6c27
Emmerich	51.82929992675781	6.24560022354126	2020-03-30T23:15:00Z	2024-09-15T16:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3b7f3372ba001f5f6c3d
Salzinnes	50.470001220703125	4.849999904632568	2018-01-01T00:00:00Z	2024-09-15T15:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3ba03372ba001f5f6c48
Martinrive	50.47694396972656	5.639721870422363	2018-01-01T00:00:00Z	2024-09-15T15:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3be03372ba001f5f6c64
Almen	52.163299560546875	6.199999809265137	2018-01-01T00:00:00Z	2024-09-15T15:50:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3be03372ba001f5f6c66
Borgharendorp	50.873844146728516	5.691411972045898	2018-01-01T00:00:00Z	2024-09-15T15:50:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3be03372ba001f5f6c68
Megen	51.829444885253906	5.567255973815918	2018-01-01T00:00:00Z	2024-09-15T15:50:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3be13372ba001f5f6c6a
Eden-Sheepmount	54.90504837036133	-2.951874017715454	2018-01-01T09:00:00Z	2024-09-13T09:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3f653372ba001f5f6ccc
Fal-Tregony	50.26601791381836	-4.918429851531982	2018-01-01T09:00:00Z	2024-09-09T18:30:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3f653372ba001f5f6ccb
ViseBeneden	50.74440383911133	5.687306880950928	2018-01-01T00:00:00Z	2024-09-15T15:00:00Z	https://map.emodnet-physics.eu/platformpage/?platformid=63ea3c003372ba001f5f6c73

Accessing and subsetting the data

1. go back
2. select “kml”
3. submit
4. open google earth
5. load the kml

Accessing and subsetting the data



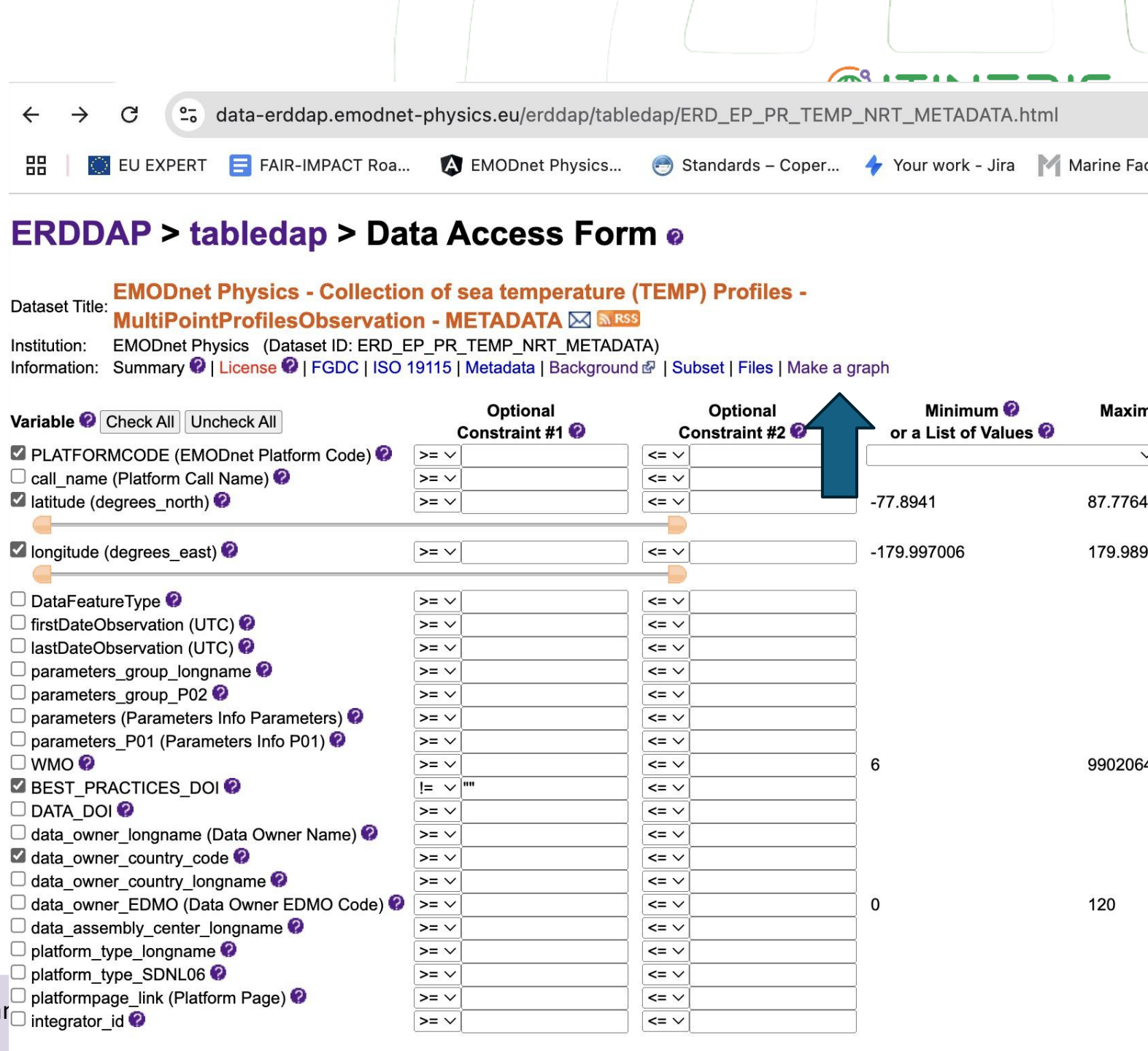
Make a Graph

go back to:

https://data-erddap.emodnet-physics.eu/erddap/tabledap/ERD_EP_PR_TEMP_NRT_METADATA.html

select ….

click ”Make a Graph”



Make a Graph

ERDDAP > tabledap > Make A Graph

Dataset Title: **EMODnet Physics - Collection of sea temperature (TEMP) Profiles - MultiPointProfilesObservation - METADATA**

Institution: EMODnet Physics (Dataset ID: ERD_EP_PR_TEMP_NRT_METADATA)
Range: longitude = -179.99701 to 179.98935°E, latitude = -77.8941 to 87.7764°N
Information: Summary | License | FGDC | ISO 19115 | Metadata | Background | Subset | Data Access Form | Files

Graph Type: markers
X Axis: longitude
Y Axis: latitude
Color: lastDateObservation

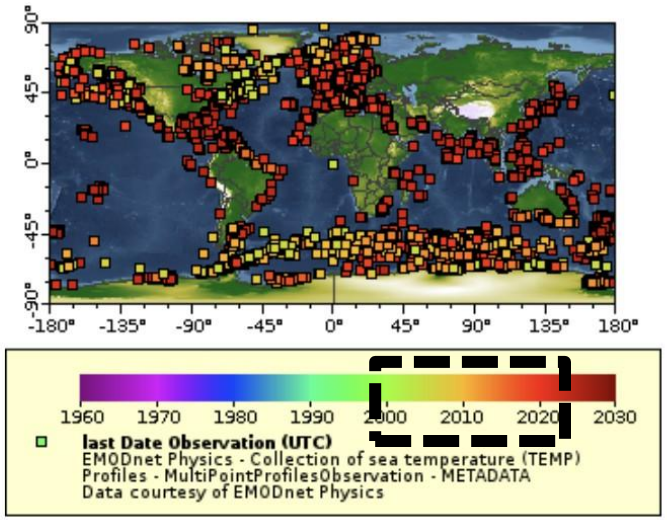
Constraints	Optional Constraint #1	Optional Constraint #2
	>=	<=
	>=	<=
	>=	<=
	>=	<=
	>=	<=

Server-side Functions
distinct()

Graph Settings
Marker Type: Filled Square Size: 5
Color:
Color Bar: Continuity: Scale:
Minimum: Maximum: 2025 N Sections:
Draw land mask:
Y Axis Minimum: Maximum: Ascending

Redraw the Graph (Please be patient. It may take a while to get the data.)

Click on the map to specify a new center point.
Zoom: Out 8x | Out 2x | Out | Data | In | In 2x | In 8x



ERDDAP request URLs

request URLs
server/protocol/datasetID.fileType{?query }

Protocols are the standards which specify how to request data.
Different protocols are appropriate for different types of data and for different client applications.

- **tabledap** lets you request a data subset, a graph, or a map from a tabular dataset (for example, buoy data), via a specially formed URL
- **griddap** lets you request a data subset, graph, or map from a gridded dataset (for example, sea surface temperature data from a satellite), via a specially formed URL

The data request in the URL starts with ?

ERDDAP request URLs

request URLs
server/protocol/datasetID.fileType{?query }

The query is a comma-separated list (%2C) of desired variable names, followed by a collection of constraints (e.g., *variable*<*value*), each preceded by '&' (which is interpreted as "AND").

Variables that can be added to URL are listed into the «index.html»
e.g. https://erddap.bco-dmo.org/erddap/info/bcodmo_dataset_783911/index.html

We want the following variables: Station, time, Temperature (between 0 and 2), latitude, longitude

https://erddap.bco-dmo.org/erddap/tabledap/bcodmo_dataset_783911.htmlTable?Station,time,Temperature,latitude,longitude&Temperature>=0&Temperature<=2

https://erddap.bco-dmo.org/erddap/tabledap/bcodmo_dataset_783911.htmlTable?Station%2Ctime%2CTemperature%2Clatitude%2Clongitude&Temperature%3E=0&Temperature%3C=2

ERDDAP & Python

https://s4oceanice.github.io/literacy.s4oceanice/intro.html

https://github.com/voto-ocean-knowledge/erddap_demo

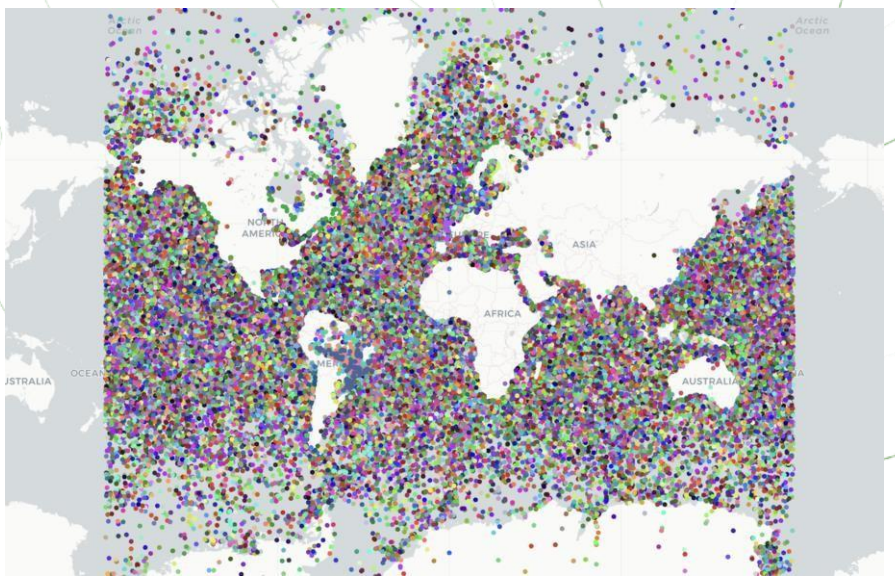
https://k-rns.github.io/workshop_data_reuse/

ERDDAP & Python

EMODnet
https://colab.research.google.com/drive/1RMRqB4yfFMXo1EpqLsdw2Vbd3szB9yc_#scrollTo=6rcHTYSsWYKW

EMODnet - River
https://colab.research.google.com/drive/1PUNJ4XWK-qCWQxiY1POCM_CWr1N-C1Zm#scrollTo=6Eg9GgXsX8Q4

SO-CHIC ARGO
https://colab.research.google.com/drive/1JNSGDhKyjZX8MFl3NeBT2gT6zBudl8yd



ERDDAPY

Erddapy is a package that takes advantage of ERDDAP's RESTful web services and creates the ERDDAP URL for any request, like searching for datasets, acquiring metadata, downloading the data, etc.

You can create virtually any request like, searching for datasets, acquiring metadata, downloading data, etc.

https://k-rns.github.io/workshop_data_reuse/04_dataset_directly_api/index.html

THANKS!

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