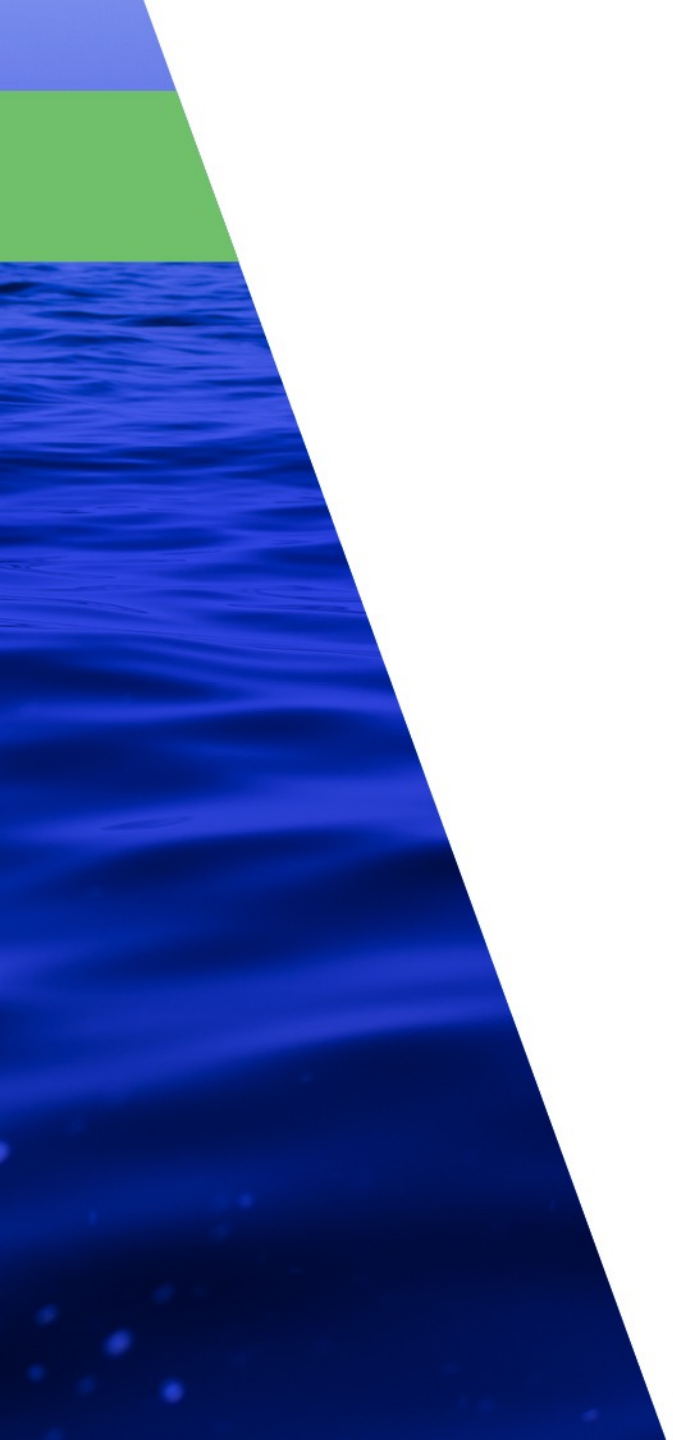

MARINE DATA STORE

Laia Romero, Lobelia Earth

Copernicus Marine General Assembly, 4 June 2024

Marine Data Store Services

MARINE DATA PRODUCERS

TAC Thematic Data Assembly Centers

ICE TAC | WIND TAC | SL TAC | INS TAC
OC TAC | SST TAC | WAVE TAC | MULTI OBS TAC

MFC Monitoring and Forecasting Centers

GLO MFC | ARC MFC | BAL MFC | NWS MFC
IBI MFC | MED MFC | BS MFC

NATIVE FILES
Files in the producers' original format for direct download

ARCO DATACUBES
Optimized for subsetting, in time and space

WMTS
Viewable layers

PERFORMANT FULL DATA ACCESS AND DATA EXPLORATION, WITHOUT QUOTAS, WITHOUT QUEUES, SERVING ALL USER TYPES

EXPLORE!
DOWNLOAD!
SUBSET!
VISUALIZE!

Marine Data Store Services

DOWNLOAD NATIVE FILES ANY TIME

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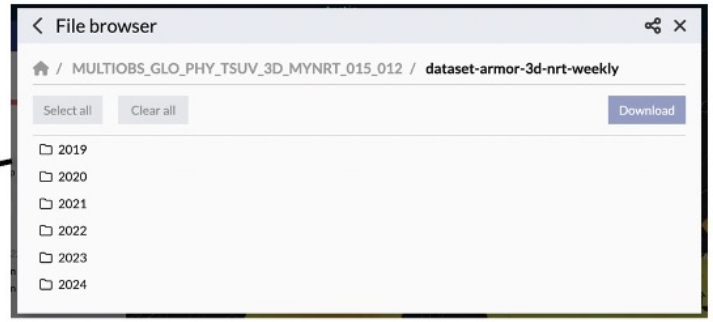
NATIVE FILES
Producers' original format for direct download

FILE BROWSER GUI: **Direct download of native files**



TOOLBOX PYTHON AND COMMAND LINE: **Direct download of native files**

😎 Simply run this command to get all files available in a dataset:

▸ **Command Line Interface (CLI)**
▾ **Python Library (API)**

```
import copernicusmarine
copernicusmarine.get(
    dataset_id = <datasetID>,
)
```

Marine Data Store Services

IMMEDIATE TEMPORAL AND SPATIAL SUBSET OF ALL DATA TYPES

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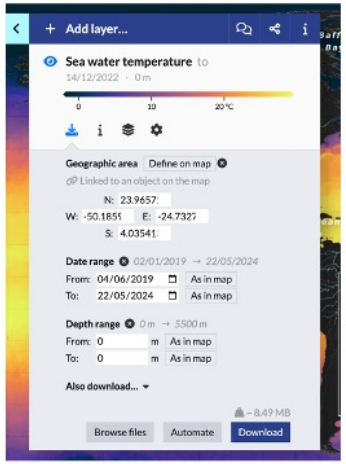
PORTAL SUBSETTER GUI: **Fast data subsetting**



TOOLBOX PYTHON AND COMMAND LINE: **Fast data subsetting**

You can use several parameters to subset a dataset with this command:

▸ **Command Line Interface (CLI)**
▾ **Python Library (API)**

```
import copernicusmarine
copernicusmarine.subset(
    dataset_id = <dataset_id>,
    [OPTION] = <value>,
)
```

where `[OPTION]` is a parameter to do the subset.

ARCO DATACUBES
Optimized for subsetting, in time and space

Marine Data Store Services

NEXT-LEVEL VISUALIZATION

MARINE DATA PRODUCERS

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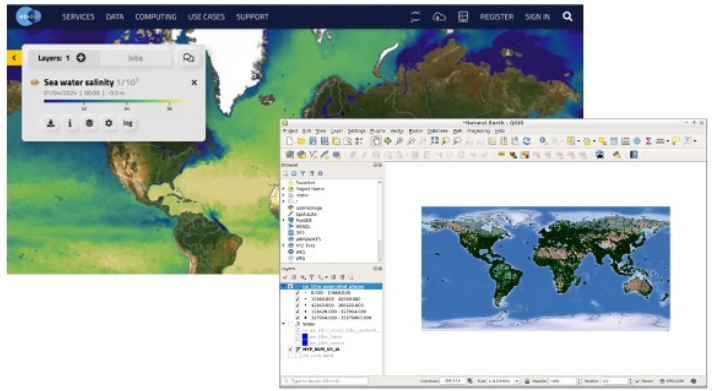
- BS MFC

PORTAL VIEWER: FAST DATA VISUALIZATION

GIS CLIENTS and VIEWING CLIENTS::
FAST DATA VISUALIZATION



ARCO DATACUBES
Optimized for subsetting, in time and space

WMTS
Viewable layers

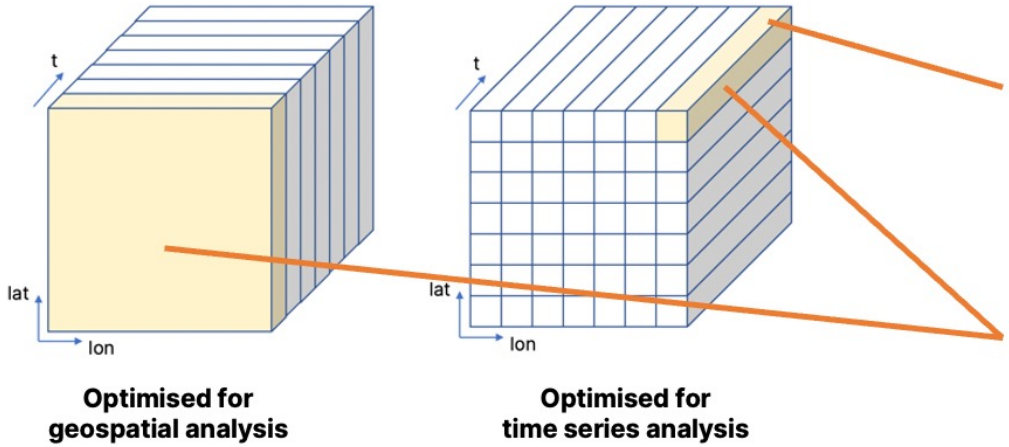
ARCO DATACUBES

Native (original) data also available

- ***Analysis-Ready**: some preprocessing steps to simplify data usage*
- ***Cloud-Optimised**:*
  - ***Datacubes** for both dense and sparse datasets*
  - ***Metadata**: fully in sync with the data*

Zarr

STAC



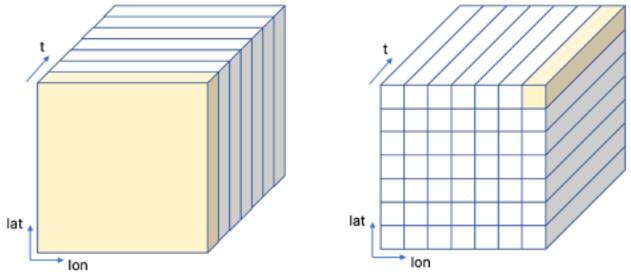
Optimised for geospatial analysis

Optimised for time series analysis

Time series datacubes (uncommon, and hard!)

Small-ish chunks (less unwanted data for the user)

Current ARCO coverage



- *93% (246) products*
- ***90% (902)** datasets*
- ***Coverage of dense datasets**:*
  - *~100% datasets in BAL, BLK, GLO, IBI, MED, NWS, lower in other regions*
  - *~100% datasets in MOBS, SST, ~95% WAVE, lower in other themes*
  - *Increasing OC coverage*
- ***Coverage of sparse datasets**:*
  - *~100% along-track altimetry datasets (SEALEVEL and WAVE)*
  - *~75% of the ungridded in-situ products (at least partly)*
- ***300+ datasets updated every day***

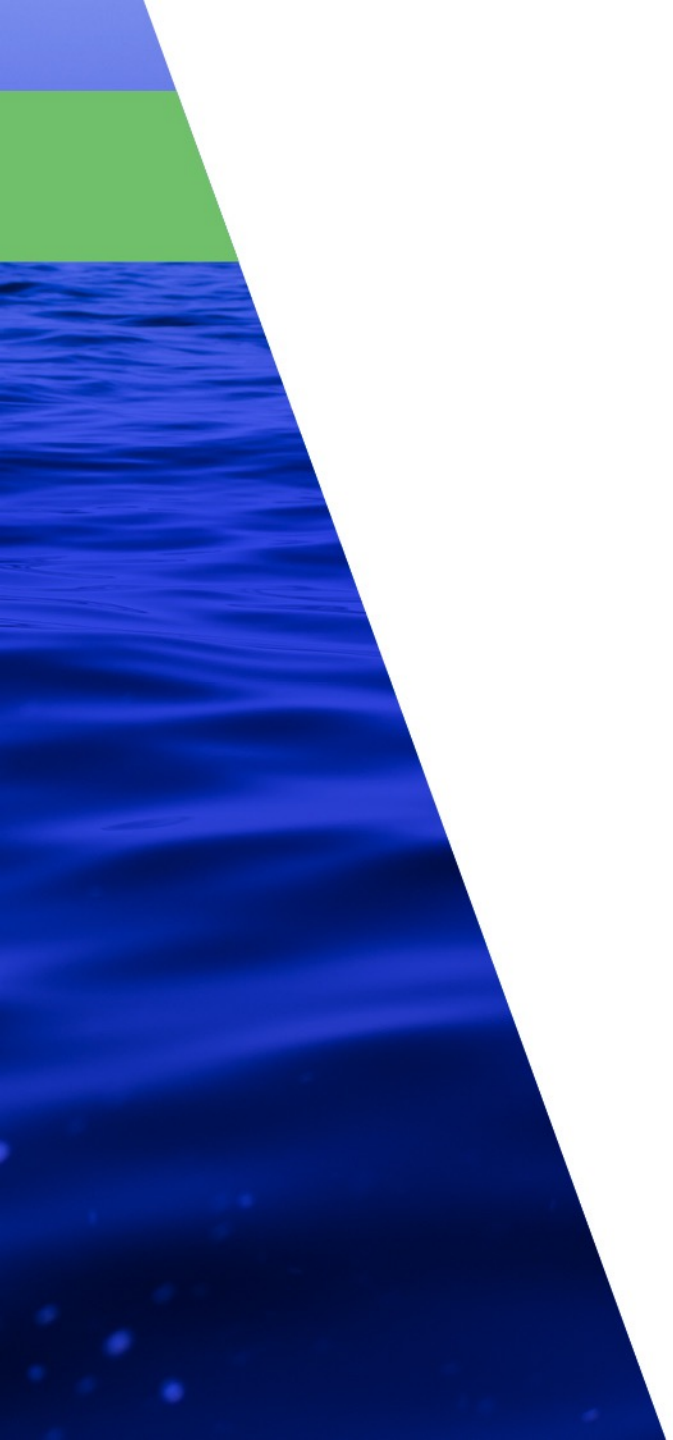
Copernicus Marine Service

MERCATOR OCEAN INTERNATIONAL

Continuous Improvement

Next Steps

- Advancement of the **Copernicus Marines Toolbox**
  - Functionalities, roadmap for main stable releases and updates
- Continue with the **ARCO integration**
  - in line with scientific *specifications*
  - *and use cases such as irregular-time datasets, particular projections,* GeoTIFF *inputs*
- *Experimental access to the beta* **Interactive Computing Layer**



Thank You!

–on behalf of the Marine Data Store development and operations team.

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