



ALFRED-WEGENER-INSTITUT
HELMHOLTZ-ZENTRUM FÜR POLAR-
UND MEERESFORSCHUNG

HELMHOLTZ

RESEARCH FOR GRAND CHALLENGES



EGU23-9952 Abstract



THE EARTH DATA PORTAL

for Finding and Exploring Research Content

April 28, 2023 | EGU General Assembly 2023

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i Clickable areas are highlighted as blue rectangles.

 Introduction

 Project Context

 Integration

 Interactive Tour

 Data Visualization

 Related Portal

 Technology

 References

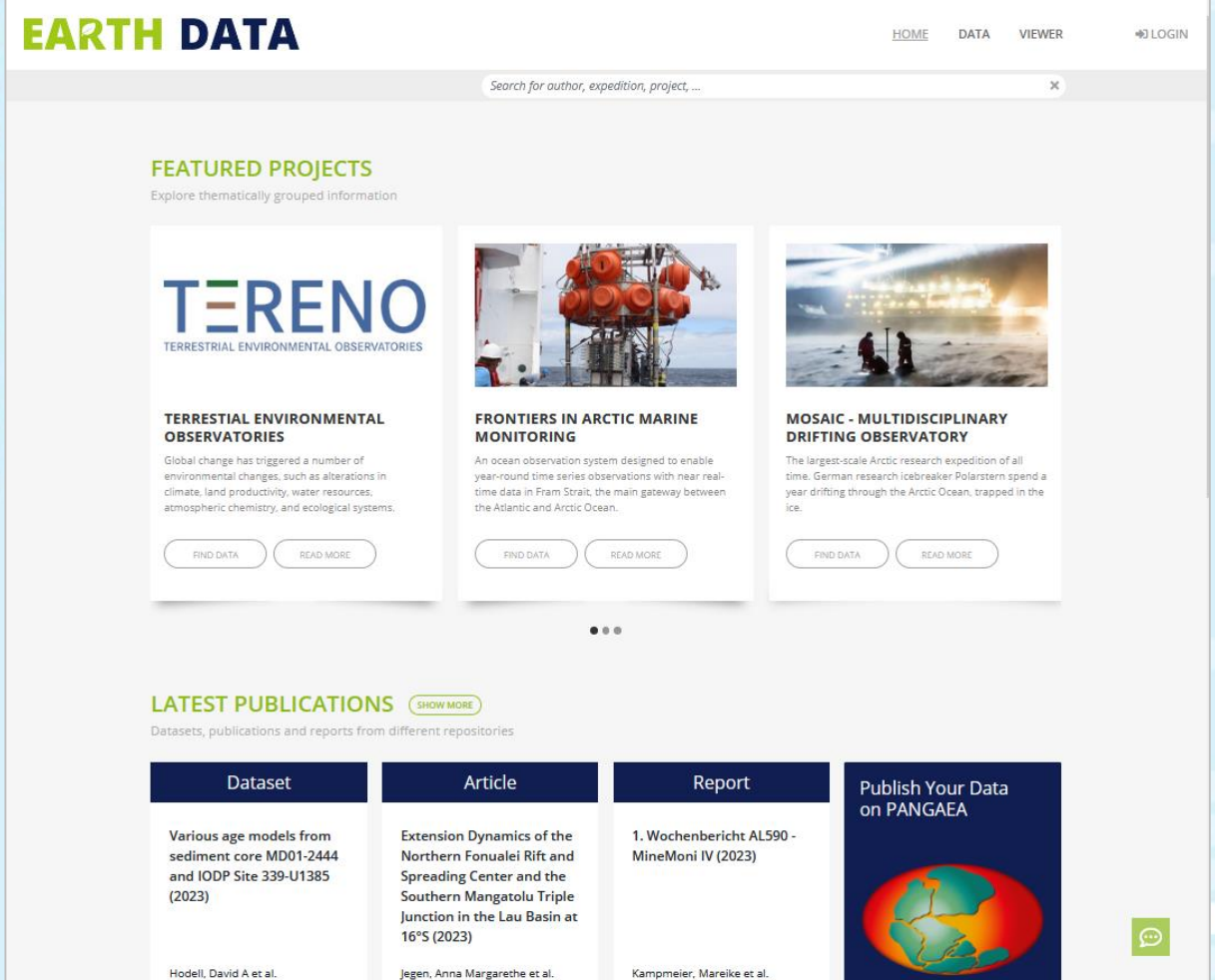


Earth Data is a cross-institute portal for finding, visualizing and downloading earth and environment research data.

The portal aims to enable scientists to work effectively by giving access to re-usable data.

 Centralized entry point

 Decentralized (meta)data






The screenshot shows the Earth Data portal homepage. At the top, there's a navigation bar with 'HOME', 'DATA', 'VIEWER', and a 'LOGIN' button. Below the navigation bar is a search bar with the placeholder text 'Search for author, expedition, project, ...'. The main content area is divided into two sections: 'FEATURED PROJECTS' and 'LATEST PUBLICATIONS'. The 'FEATURED PROJECTS' section contains three project cards: 'TERENO TERRESTRIAL ENVIRONMENTAL OBSERVATORIES', 'FRONTIERS IN ARCTIC MARINE MONITORING', and 'MOOSAIC - MULTIDISCIPLINARY DRIFTING OBSERVATORY'. Each card has a title, a brief description, and buttons for 'FIND DATA' and 'READ MORE'. The 'LATEST PUBLICATIONS' section has a 'SHOW MORE' button and a table with four columns: 'Dataset', 'Article', 'Report', and 'Publish Your Data on PANGAEA'. The 'Dataset' column lists 'Various age models from sediment core MD01-2444 and IODP Site 339-U1385 (2023)' by Hodel, David A et al. The 'Article' column lists 'Extension Dynamics of the Northern Fonualei Rift and Spreading Center and the Southern Mangatolu Triple Junction in the Lau Basin at 16°S (2023)' by Jegen, Anna Margarethe et al. The 'Report' column lists '1. Wochenbericht AL590 - MineMoni IV (2023)' by Kampmeier, Mareike et al. The 'Publish Your Data on PANGAEA' column features a globe icon. At the bottom right, there's a small chat icon.

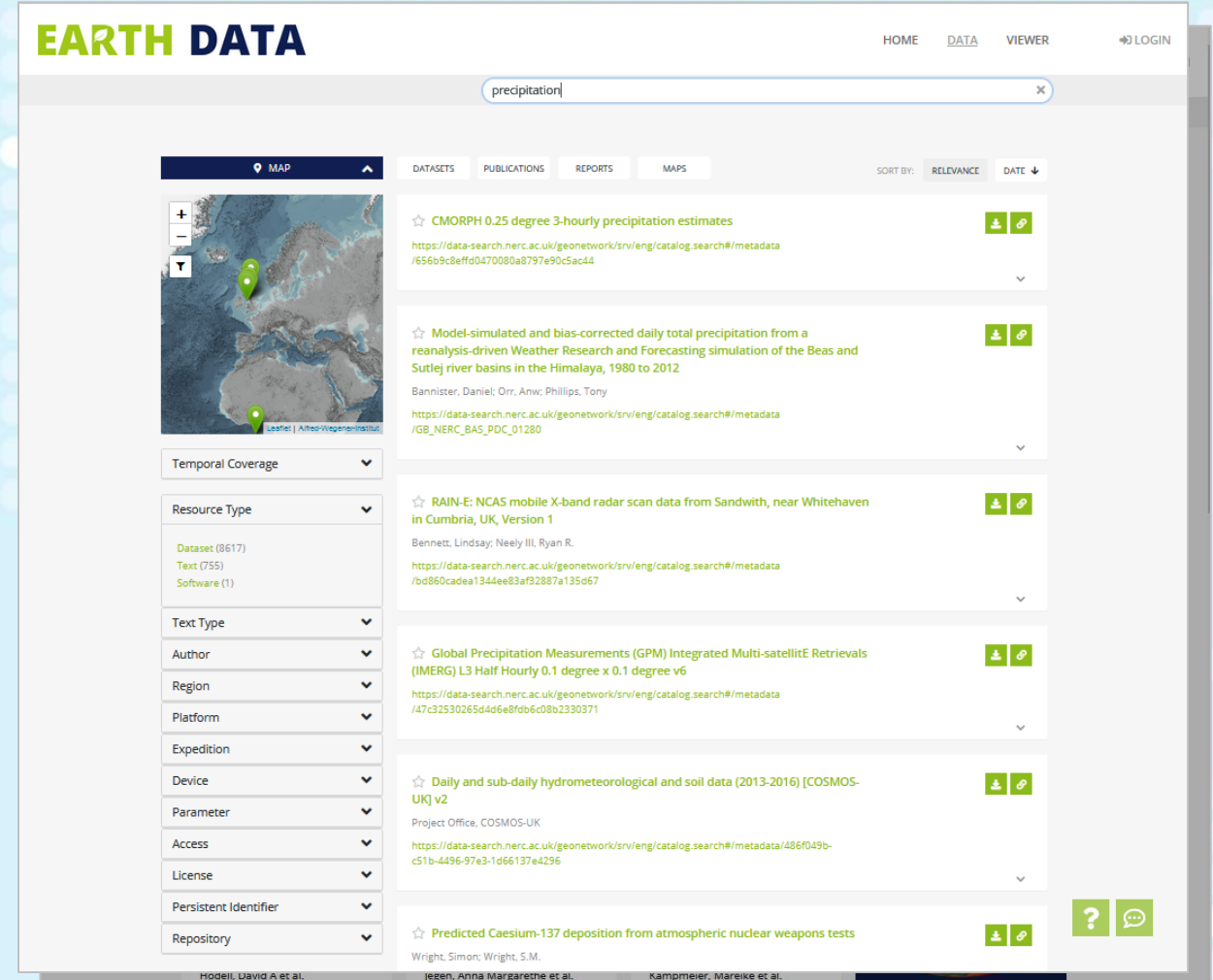
<https://earth-data.de>

INTRODUCTION

Earth Data is a cross-institute portal for finding, visualizing and downloading earth and environment research data.

The portal aims to enable scientists to work effectively by giving access to re-usable data.

-  Centralized entry point
-  Decentralized (meta)data
-  Free-text search engine







The screenshot shows the Earth Data portal interface. At the top, there's a navigation bar with 'HOME', 'DATA', 'VIEWER', and a 'LOGIN' button. A search bar contains the text 'precipitation'. Below the search bar, there's a 'MAP' button and a list of datasets. The datasets are sorted by 'RELEVANCE' and 'DATE'. The first dataset is 'CMORPH 0.25 degree 3-hourly precipitation estimates' with a URL. The second dataset is 'Model-simulated and bias-corrected daily total precipitation from a reanalysis-driven Weather Research and Forecasting simulation of the Beas and Sutlej river basins in the Himalaya, 1980 to 2012' by Bannister, Daniel; Orr, Anw; Phillips, Tony. The third dataset is 'RAIN-E: NCAS mobile X-band radar scan data from Sandwith, near Whitehaven in Cumbria, UK, Version 1' by Bennett, Lindsay; Neely III, Ryan R. The fourth dataset is 'Global Precipitation Measurements (GPM) Integrated Multi-satellitE Retrievals (IMERG) L3 Half Hourly 0.1 degree x 0.1 degree v6' with a URL. The fifth dataset is 'Daily and sub-daily hydrometeorological and soil data (2013-2016) [COSMOS-UK] v2' by Project Office, COSMOS-UK. The sixth dataset is 'Predicted Caesium-137 deposition from atmospheric nuclear weapons tests' by Wright, Simon; Wright, S.M. At the bottom, there's a footer with 'Hodel, David A et al.', 'Jegen, Anna Margarethe et al.', and 'Kampmeier, Mareike et al.'.

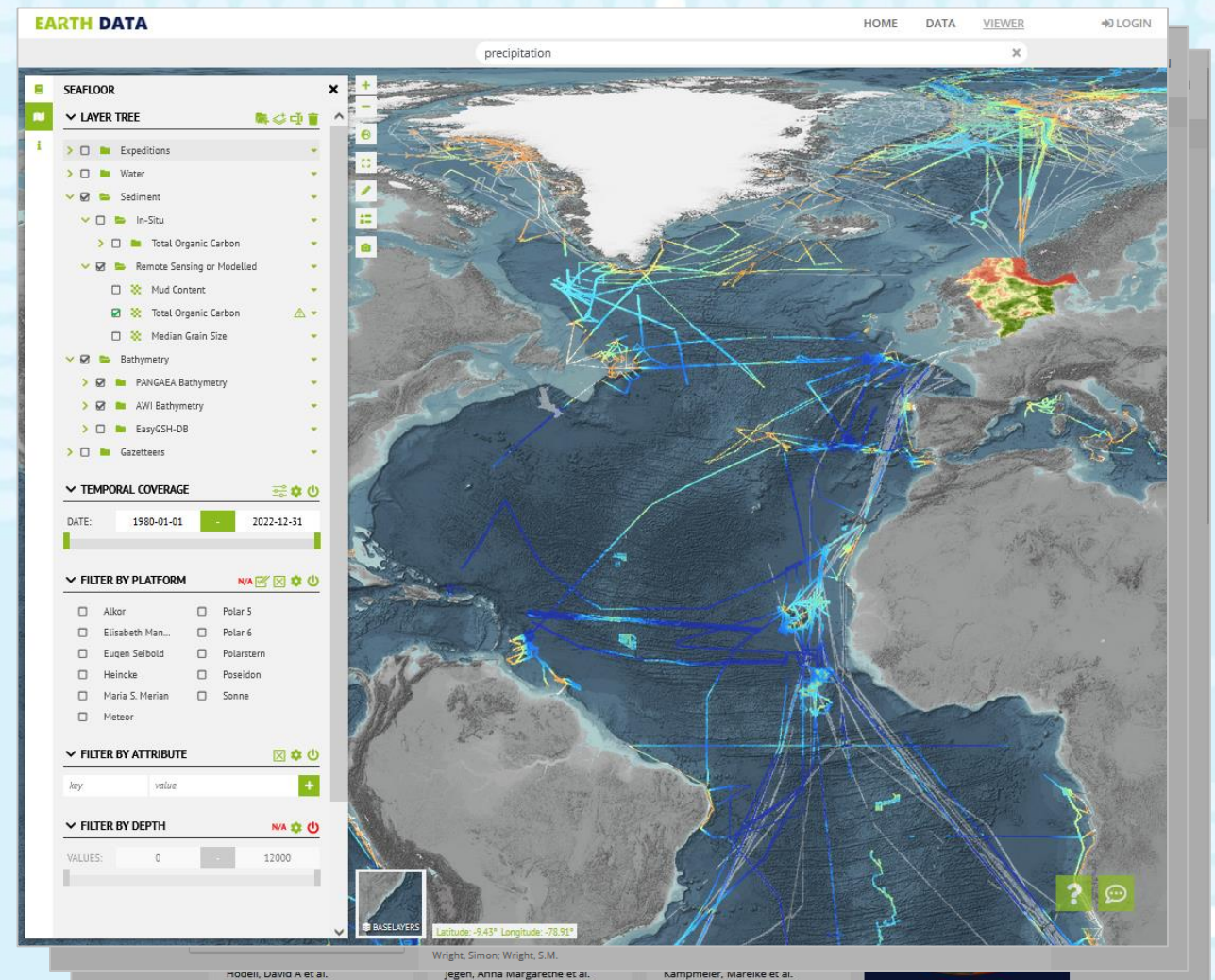
<https://earth-data.de/?site=data>

INTRODUCTION

Earth Data is a cross-institute portal for finding, visualizing and downloading earth and environment research data.

The portal aims to enable scientists to work effectively by giving access to re-usable data.

-  Centralized entry point
 -  Decentralized (meta)data
 -  Free-text search engine
 -  Thematic map viewers
- FAIR:** Findable, Accessible
Interoperable, Reusable






<https://earth-data.de/?site=viewer>

Earth Data is being actively developed

On a technical level, the portal is in a mature status

Some of the challenges are:

-  **Coordination** with our partners to make their data more visible
-  **Harmonization** of incoming metadata for a common presentation
-  **Showcasing** selected data collections to encourage exploration



PROJECT CONTEXT

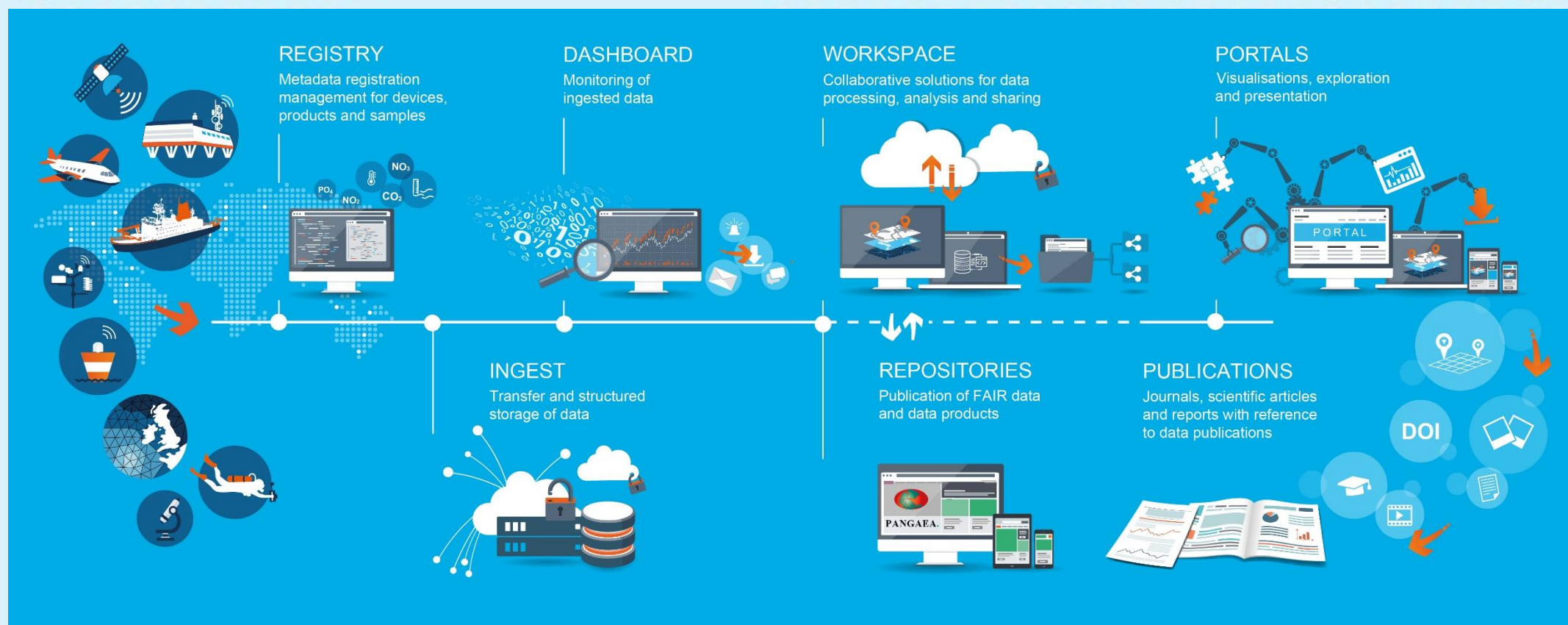
As part of the **German Marine Research Alliance (DAM)** and the **Helmholtz-funded DataHub project**, leading German research centers are working on joint data management concepts, including the **Earth Data** portal.

Development and operation are executed in the computing and data center of the **Alfred Wegener Institute** in collaboration with the partner institutes.

We are also in contact with **NFDI4Earth** for future collaboration and exchange in research data management and portal development.



The portal is interconnected with other applications and infrastructures as a part of
O2A: Data flow from Observations to Analysis & Archives



<https://o2a-data.de>



▶ INTERACTIVE TOUR

EARTH DATA

[HOME](#)[DATA](#)[VIEWER](#)[LOGIN](#)

FEATURED PROJECTS

Explore thematically grouped information



Modular Observation Solutions for Earth Systems

MODULAR OBSERVATION SOLUTIONS FOR EARTH SYSTEMS

MOSES comprises highly flexible and mobile observation modules which are designed to investigate the interactions of short-term events and long-term trends across Earth compartments.

[FIND DATA](#)[READ MORE](#)

FRONTIERS IN ARCTIC MARINE MONITORING

An ocean observation system designed to enable year-round time series observations with near real-time data in Fram Strait, the main gateway between the Atlantic and Arctic Ocean.

[FIND DATA](#)[READ MORE](#)

FOCUS ON MARINE LITTER

Large amounts of litter have accumulated across all parts of our oceans in less than fifty years. Litter has thus become a serious threat to the marine environment, aquatic life and humankind.

[FIND DATA](#)[READ MORE](#)

LATEST PUBLICATIONS [SHOW MORE](#)

Datasets, publications and reports from different repositories

[Dataset](#)[Article](#)[Report](#)[Publish Your Data](#)

Welcome!

This is a nonlinear tour of the portal UI



<https://earth-data.de>

Featured Projects

is an overview that allows you to explore data from selected showcase projects.



▶ INTERACTIVE TOUR

EARTH DATA

[HOME](#)[DATA](#)[VIEWER](#)[LOGIN](#)

LATEST PUBLICATIONS [SHOW MORE](#)

Datasets, publications and reports from different repositories

Dataset

Various age models from sediment core MD01-2444 and IODP Site 339-U1385 (2023)

Hodell, David A et al.

<https://doi.org/10.1594/PANGAEA.957587>

Article

Extension Dynamics of the Northern Fonualei Rift and Spreading Center and the Southern Mangatolu Triple Junction in the Lau Basin at 16°S (2023)

Jegen, Anna Margarethe et al.

[oai:ocearep.geomar.de:58368](https://oceanrep.geomar.de/58368)

Report

1. Wochenbericht AL590 - MineMoni IV (2023)

Kampmeier, Mareike et al.

[oai:ocearep.geomar.de:58365](https://oceanrep.geomar.de/58365)

Publish Your Data on PANGAEA



Latest Publications showcases search results with the most recent publication date.

4,726
EXPEDITIONS

2,682
PLATFORMS

515,668
DATASETS

471,640
PUBLICATIONS

19,274
REPORTS

54
MAPS



▶ INTERACTIVE TOUR

EARTH DATA

HOME DATA VIEWER LOGIN

Search for author, expedition, project, ...

EXPEDITIONS PLATFORMS DATASETS PUBLICATIONS REPORTS MAPS

ABOUT US

SHOW MORE





Foto: K. Bergmann

The Data Portal is developed by scientists for scientists in order to facilitate FAIR research data management to publish, visualize, browse and access research data from interdisciplinary research collaborations as well as individual research initiatives.



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+49 (0)471 4831-1149

EARTH DATA PORTAL

About Us | Contact | How to contribute



TERMS OF USE PRIVACY POLICY IMPRINT

Release Notes: 2.1.0 e95ed81

About Us
contains some
information about
the portal and an
overview of
participating
partner institutes.



▶ INTERACTIVE TOUR

EARTH DATA

[HOME](#)[DATA](#)[VIEWER](#)[LOGIN](#)

MAP

DATASETS

PUBLICATIONS

REPORTS

MAPS

SORT BY:

RELEVANCE

DATE ↓

SELECTED FILTERS:

MOSES ×

☆ Topsoil temperature data with iButton sensor T_57 at Trail Valley Creek, Canada, 2016-10-04 to 2017-09-03 (2020)

Grünberg, Inge; Anders, Katharina; Marx, Sabrina; Lange, Stephan; Boike, Julia

<https://doi.org/10.1594/PANGAEA.918771>



☆ MOSES Sternfahrt 4 – Main Devices (2020)

Brix, H.; Fischer, P.; Bussmann, I.; Flöser, G.; Rust, H. Friedrich

https://moses-data.gfz-potsdam.de/onestop/#/collections/details/AXQLhv2SLXoVQ5aSZO_2



☆ Cosmic-Ray Neutron Rover campaigns

<https://moses-data.gfz-potsdam.de/onestop/#/collections/details/AXQLhxA0LXoVQ5aSZPAX>



☆ Picarro_GreenHouseGases (2020)

<https://moses-data.gfz-potsdam.de/onestop/#/collections/details/AYDSlrSHghV118uYKsE5>



☆ Macroinvertebrates (2020)

https://moses-data.gfz-potsdam.de/onestop/#/collections/details/AXQLhveLXoVQ5aSZO_Q



Temporal Coverage

Author

Region

Platform

Expedition

Device

Parameter

Access




License

Repository

The Data Page

is a core feature of the portal and allows you to find data from a variety of sources using free-text search with filters.

Icons in the search results link to related resources or deliver more information about a dataset.

 OPEN ACCESS
 CITABILITY
 LICENSE



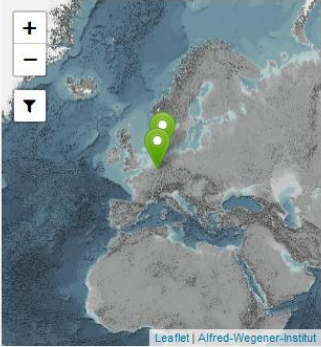
▶ INTERACTIVE TOUR

EARTH DATA

HOME DATA VIEWER LOGIN

Search for author, expedition, project, ...

MAP



Leaflet | Alfred-Wegener-Institut

DATASETS PUBLICATIONS REPORTS MAPS

SORT BY: RELEVANCE DATE

SELECTED FILTERS: MOSES

Temporal Coverage

Author

Region

Platform

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Parameter

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Repository

☆ Topsoil temperature data with iButton sensor T_57 at Trail Valley Creek, Canada, 2016-10-04 to 2017-09-03 (2020)

Grünberg, Inge; Anders, Katharina; Marx, Sabrina; Lange, Stephan; Boike, Julia

<https://doi.org/10.1594/PANGAEA.918771>

Platforms: AWI Arctic Land Expedition

Expeditions: CA-Land_2018_TrailValleyCreek

Projects: AWI_Perma, MOSES, geo.X

Parameters: date/time, depth, soil [m], temperature, soil [°C]

Links

- Topsoil temperature data with iButton sensor T_57 at Trail Valley Creek, Canada, 2016-10-04 to 2017-09-03

Downloads

- TrailValleyCreek-iButton057_topsoil-temperature_2016-2017

Relations

- Metadata for the iButton temperature loggers
- Topsoil temperature data below different vegetation types at Trail Valley Creek, Canada, 2016-2018: metadata overview

☆ MOSES Sternfahrt 4 -- Main Devices (2020)

Brix, H.; Fischer, P.; Bussmann, I.; Flöser, G.; Rust, H. Friedrich

<https://www.awi.de/data-repository/details/4X01b3FLXVDS570-3>

Search results can be opened to view more information.




▶ INTERACTIVE TOUR

EARTH DATA

HOME DATA VIEWER LOGIN

Search for author, expedition, project, ...

MAP



Leaflet | Alfred-Wegener-Institut

DATASETS PUBLICATIONS REPORTS MAPS

SORT BY: RELEVANCE DATE

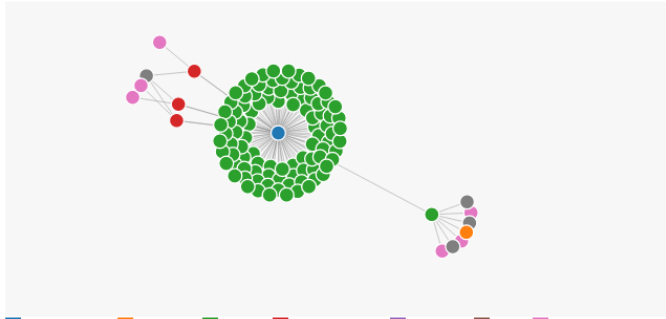
SELECTED FILTERS: MOSES

Topsoil temperature data with iButton sensor T_57 at Trail Valley Creek, Canada, 2016-10-04 to 2017-09-03 (2020)

Grünberg, Inge; Anders, Katharina; Marx, Sabrina; Lange, Stephan; Boike, Julia

<https://doi.org/10.1594/PANGAEA.918771>

Explore relations based on this item.



expedition

device

data

publication

report

gis

reference

project

MOSES Sternfahrt 4 – Main Devices (2020)

Brix, H.; Fischer, P.; Bussmann, I.; Flöser, G.; Rust, H. Friedrich

https://moses-data.gfz-potsdam.de/onestop/#/collections/details/AXQLhv2SLXoVQ5aSZO_2

Temporal Coverage

Author

Region

Platform

Expedition

Device

Parameter

Access

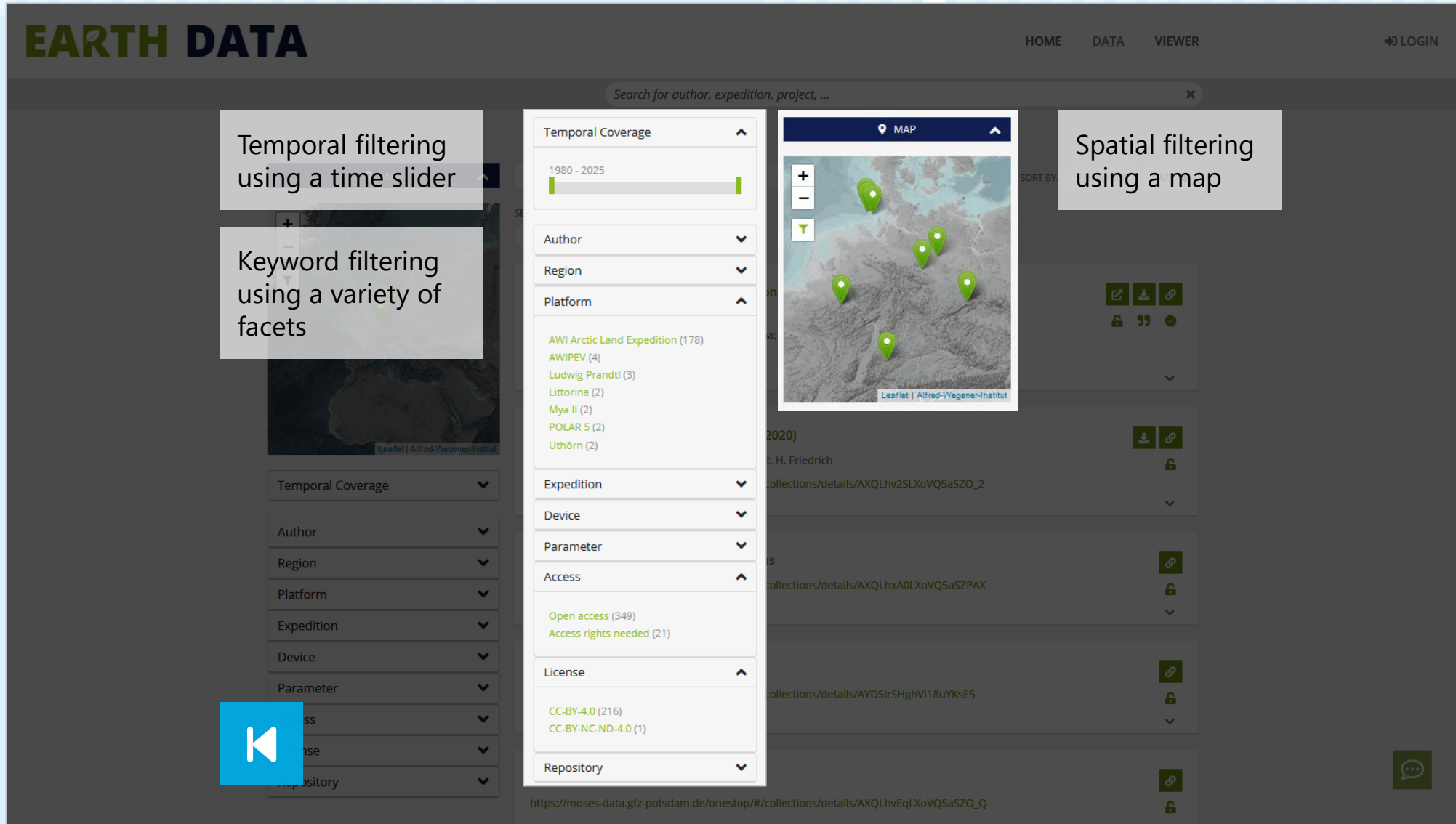
License

Repository

Related items can be explored in a graph visualization.



► INTERACTIVE TOUR



EARTH DATA

HOME DATA VIEWER LOGIN

Search for author, expedition, project, ...

Temporal filtering using a time slider

Keyword filtering using a variety of facets

Spatial filtering using a map

Temporal Coverage: 1980 - 2025

Author: AWI Arctic Land Expedition (178), AWIPEV (4), Ludwig Prandtl (3), Littorina (2), Mya II (2), POLAR 5 (2), Uthörn (2)

Expedition: Open access (349), Access rights needed (21)

License: CC-BY-4.0 (216), CC-BY-NC-ND-4.0 (1)

Repository

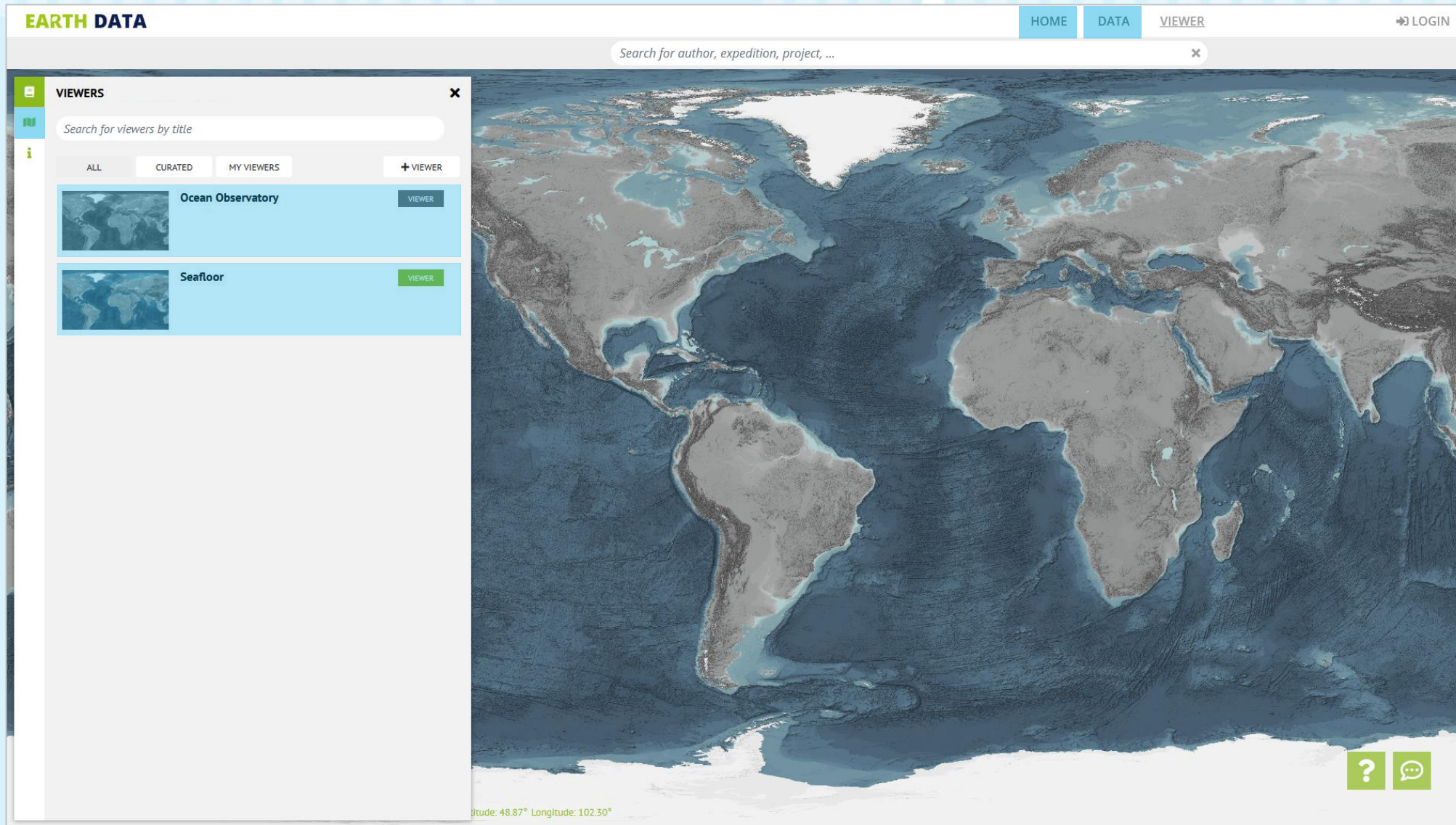
MAP

Leaflet | Alfred-Wegener-Institut

https://moses-data.gfz-potsdam.de/onestop/#/collections/details/AXQLhvEqLXoVQ5aSZO_Q



▶ INTERACTIVE TOUR



The screenshot displays the 'EARTH DATA' web application. At the top, there is a navigation bar with 'HOME', 'DATA', and 'VIEWER' tabs, along with a 'LOGIN' button. Below the navigation bar is a search bar with the placeholder text 'Search for author, expedition, project, ...'. The main content area features a large world map showing bathymetry and topography. On the left side, there is a 'VIEWERS' sidebar. This sidebar includes a search bar for viewers by title, tabs for 'ALL', 'CURATED', and 'MY VIEWERS', and a '+ VIEWER' button. Two viewer cards are visible: 'Ocean Observatory' and 'Seafloor', each with a 'VIEWER' button. At the bottom of the map, there are coordinates: 'Latitude: 48.87° Longitude: 102.30°'. In the bottom right corner of the map area, there are two green icons: a question mark and a speech bubble.

Thematic Viewers
allow exploration
and visualization
of spatial data on
a map.

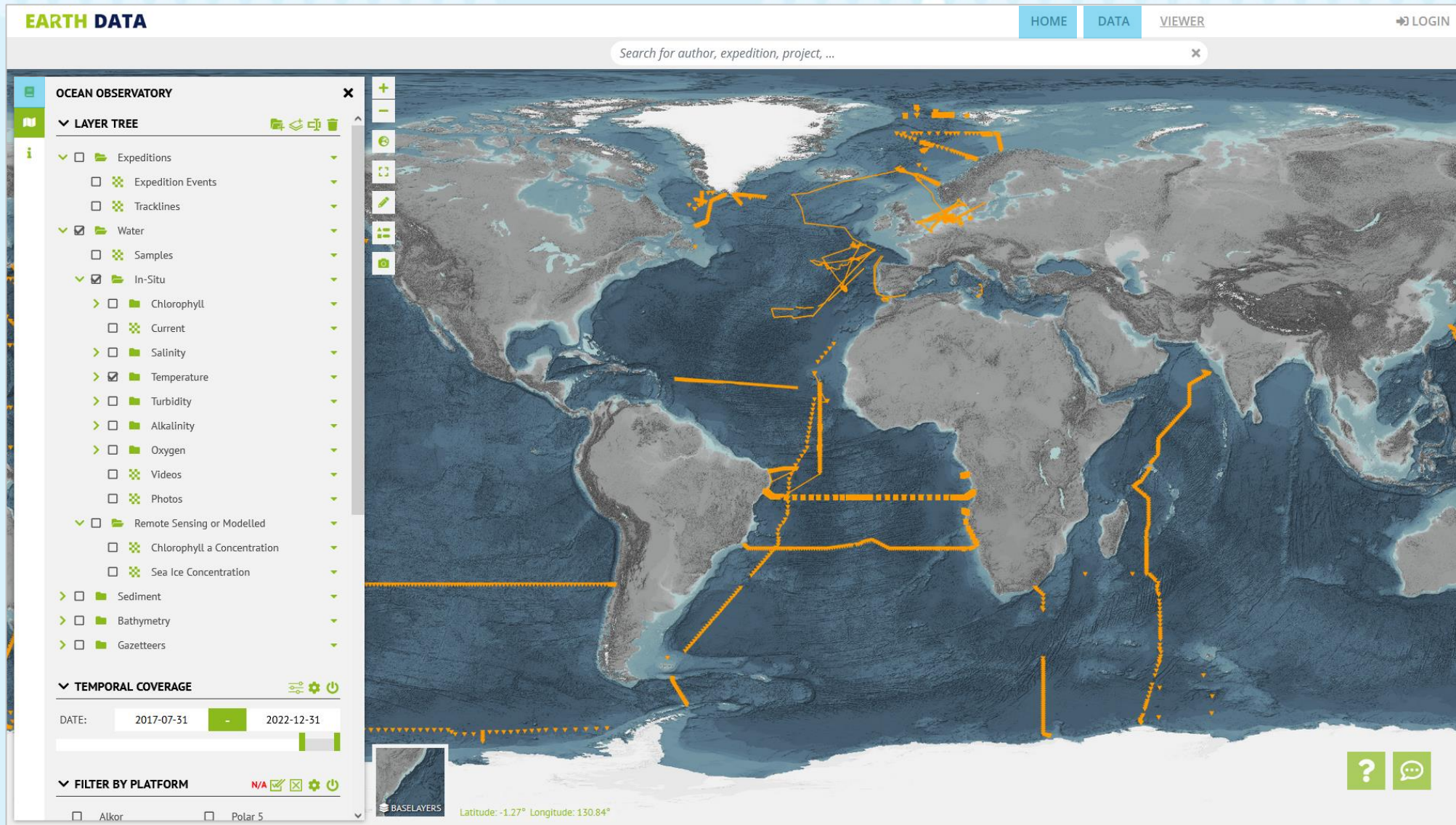
A list of pre-
configured viewers
can be explored in
the future. Currently
two viewers with
marine research
data are available.

Click here to find
out more about
data products and
their visualization:

 **Data Visualization**



▶ INTERACTIVE TOUR



Ocean Observatory

This viewer focuses on oceanographic data and primarily visualizes measurements taken in the water column

Click here to find out more about data products and their visualization:

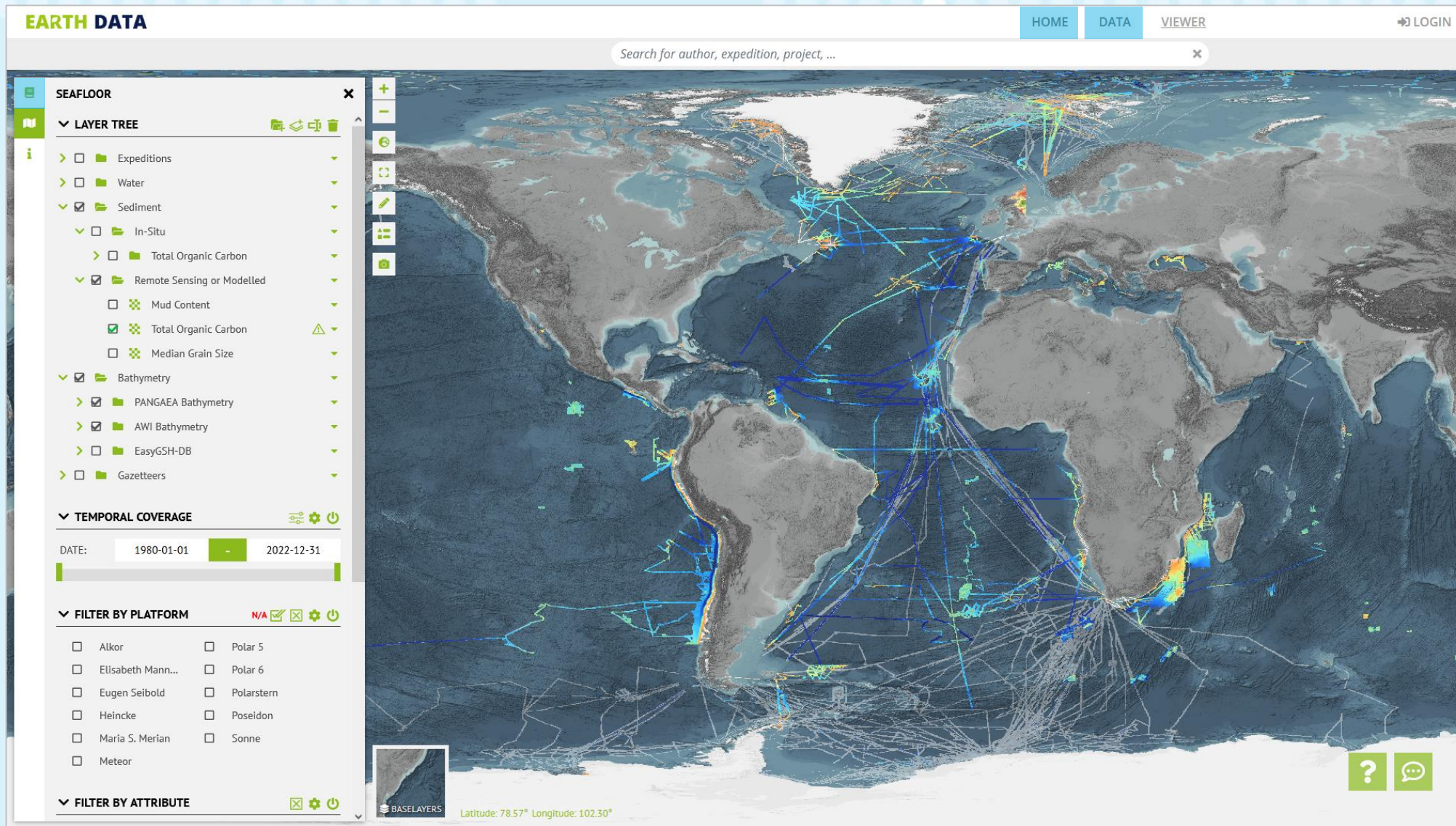
[Data Visualization](#)

Click here to find out more about the related Marine Data portal:

[Related Portal](#)



▶ INTERACTIVE TOUR



Seafloor

This viewer focuses on sediment and bathymetric data

Click here to find out more about data products and their visualization:

[Data Visualization](#)

Click here to find out more about the related Marine Data portal

[Related Portal](#)



▶ INTERACTIVE TOUR

EARTH DATA

[HOME](#)[DATA](#)[VIEWER](#)[LOGIN](#)

ABOUT US

The **Data Portal** is developed by scientists for scientists in order to facilitate FAIR research data management to publish, visualize, browse and access research data from interdisciplinary research collaborations as well as individual research initiatives.

The Data Portal with its thematic data views and underlying collaborative data workflows is constantly evolving and jointly supported by

- the BMBF-Initiative „Information and infrastructure for marine and integrated earth system research“ (DataHUB) via the **Helmholtz Association's (HGF) research programme “Earth and Environment”** and
- the **German Marine Research Alliance** (Deutsche Allianz Meeresforschung (DAM))

Overview

Within our earth system, seas, oceans and the Polar Regions play a central role in global climate processes. They are among the most important eco-systems and influence the lives of millions of people. There is a great need for knowledge on how to protect the oceans and make their use by humans more sustainable.

In 2019, the German marine research community, together with the federal government and the northern German states of Bremen, Hamburg, Mecklenburg-Western Pomerania, Lower Saxony and Schleswig-Holstein, founded the German Marine Research Alliance (Deutsche Allianz Meeresforschung, DAM) and is jointly supported by the Helmholtz Association's “Earth and Environment” research programme.

Members

We link leading German marine research institutions in order to contribute to a sustainable use of the oceans and seas. The following university and non-university marine research institutions are currently involved:



About Us

contains some information about the portal and an overview of participating partner institutes.

Click here to find out more about the projects context:

 **Project Context**



▶ INTERACTIVE TOUR

EARTH DATA

[HOME](#)[DATA](#)[VIEWER](#)[LOGIN](#)

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AWI Alfred Wegener Institute Helmholtz
Centre for Polar and Marine Research



BSH Bundesamt für
Seeschifffahrt und
Hydrographie



BGR Federal Institute for Geosciences and
Natural Resources



CEN Center for Earth System Research and
Sustainability, Universität Hamburg



DMM German Oceanographic Museum,
Stralsund



DSM German Maritime Museum – Leibniz
Institute for Maritime History



FZJ Forschungszentrum Jülich



FZK Coastal Research Center of Leibniz
University Hannover and Technische
Universität Braunschweig



GEOMAR Helmholtz Centre for Ocean
Research Kiel



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▶ INTERACTIVE TOUR

EARTH DATA

[HOME](#)[DATA](#)[VIEWER](#)[LOGIN](#)

GFZ Helmholtz Centre Potsdam for
Geosciences



HEREON Helmholtz-Zentrum Hereon,
Geesthacht



ICBM Institute for Chemistry and Biology
of the Marine Environment, Carl von
Ossietzky Universität Oldenburg



IOW Leibniz Institute for Baltic Sea
Research Warnemünde



KIT Karlsruhe Institute of Technology



KMS Kiel Marine Science, Kiel University



MARUM Center for Marine Environmental
Sciences at the University of Bremen



MPI-MM Max Planck Institute for Marine
Microbiology



MPI-M Max Planck Institute for
Meteorology

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out more about the
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 **Project Context**



▶ INTERACTIVE TOUR

EARTH DATA

HOME DATA VIEWER

→ LOGIN

Search for author, expedition, project, ...



MTS Department Maritime Systems,
Universität Rostock

SENCKENBERG
world of biodiversity

SAM Senckenberg am Meer, Senckenberg
Society for Nature Research

UFZ HELMHOLTZ
Zentrum für Umweltforschung

UFZ Helmholtz Centre for Environmental
Research

UNIVERSITÄT GREIFSWALD
Wissen lockt. Seit 1456



UG University of Greifswald

ZMT
LEIBNIZ CENTRE
for Tropical Marine Research

ZMT Leibniz Centre for Tropical Marine
Research

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 **Project Context**



Water Column

Bathymetry

Remote Sensing

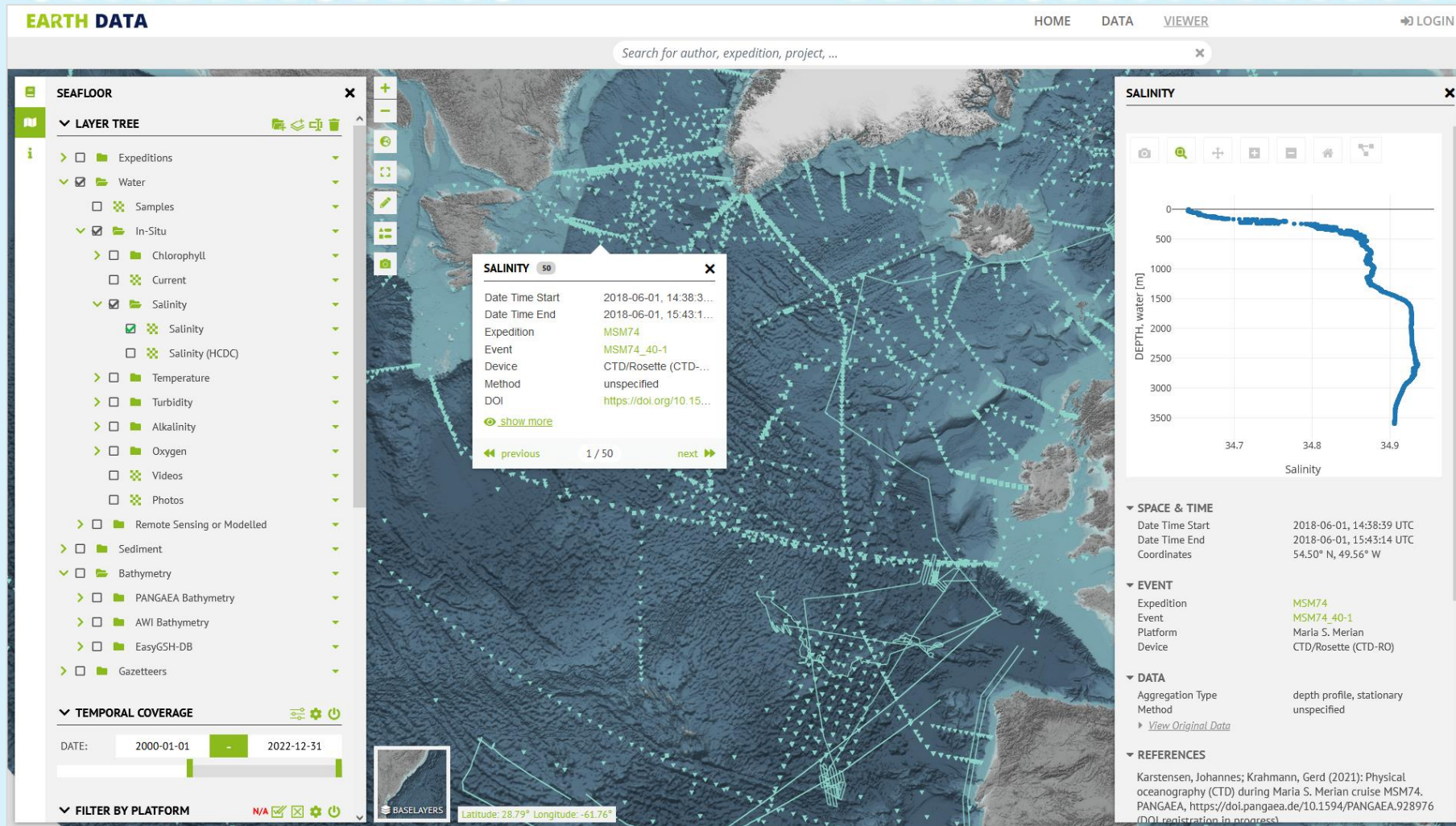
Videos & Images

Information

Here you can explore an excerpt of the data products provided in the projects context.

Measurements from various parameters in the water column can be explored in the viewer and visualized in a graph.

Extensive metadata including a reference to the source is linked in every point.



Water Column

Bathymetry

Remote Sensing

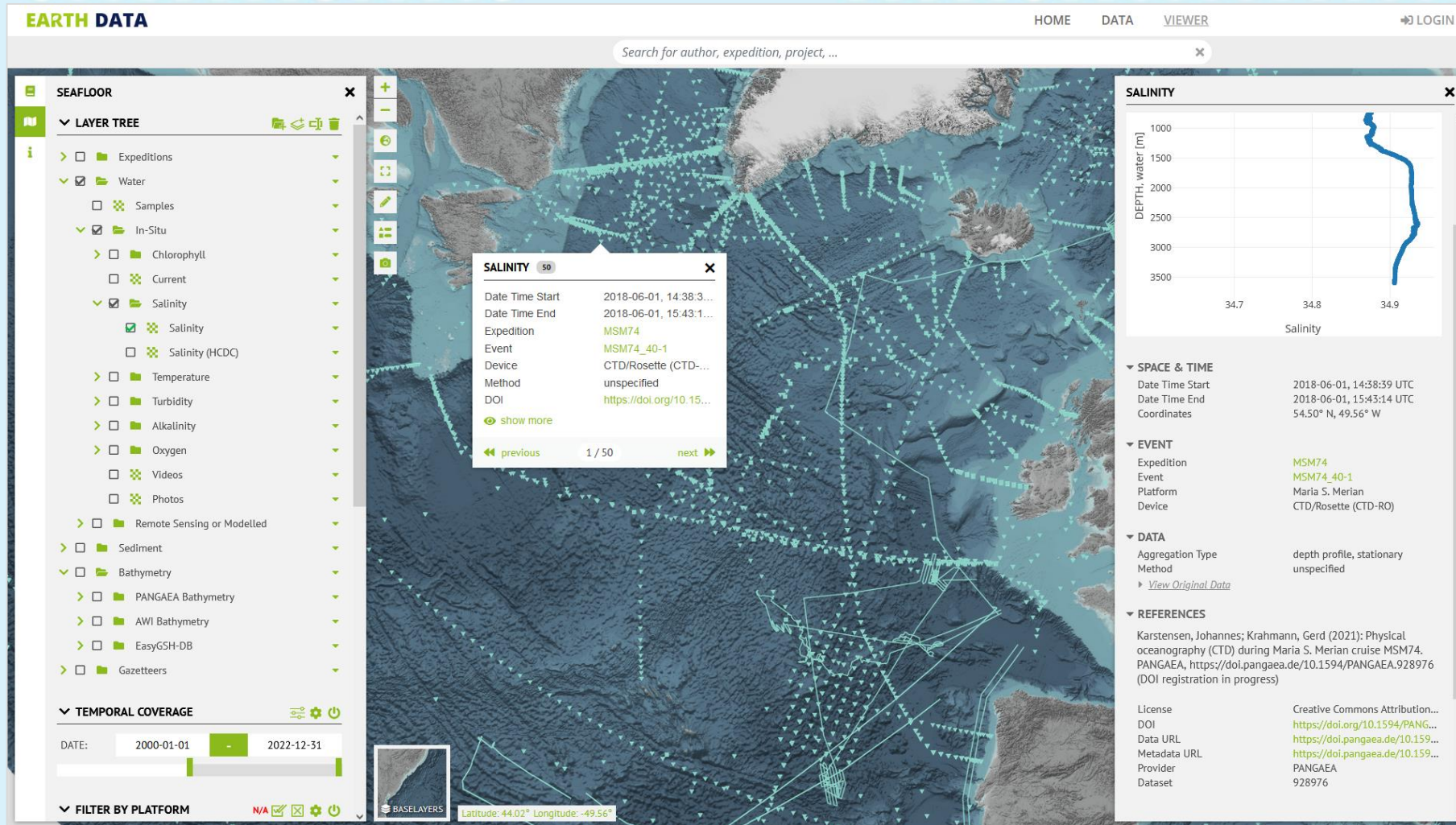
Videos & Images

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DATA VISUALIZATION

Water Column

Bathymetry

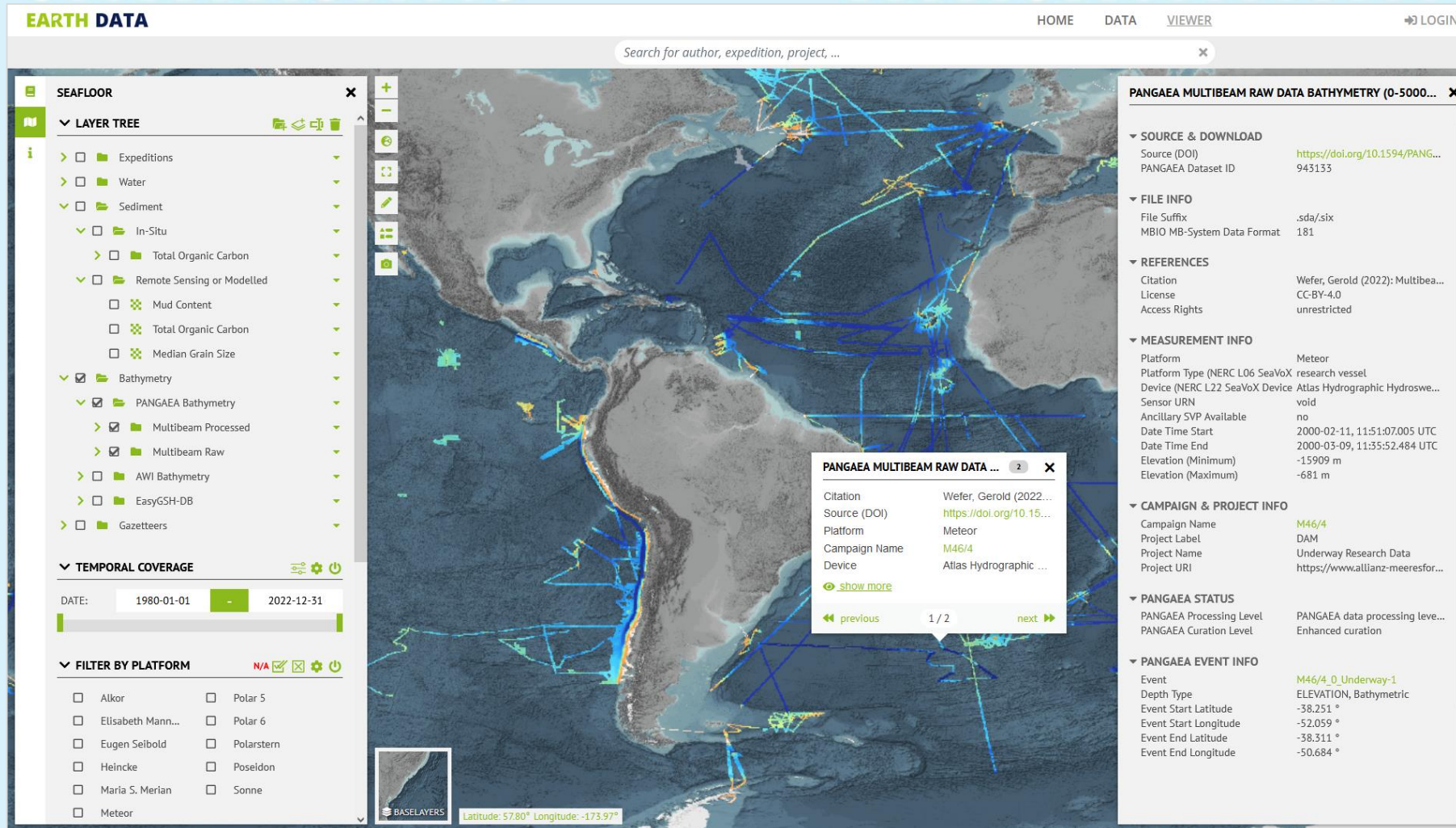
Remote Sensing

Videos & Images

Information

Here you can explore an excerpt of the data products provided in the projects context.

Bathymetric measurements with extensive metadata can be visualized as a colored raster on the map.



DATA VISUALIZATION

Water Column

Bathymetry

Remote Sensing

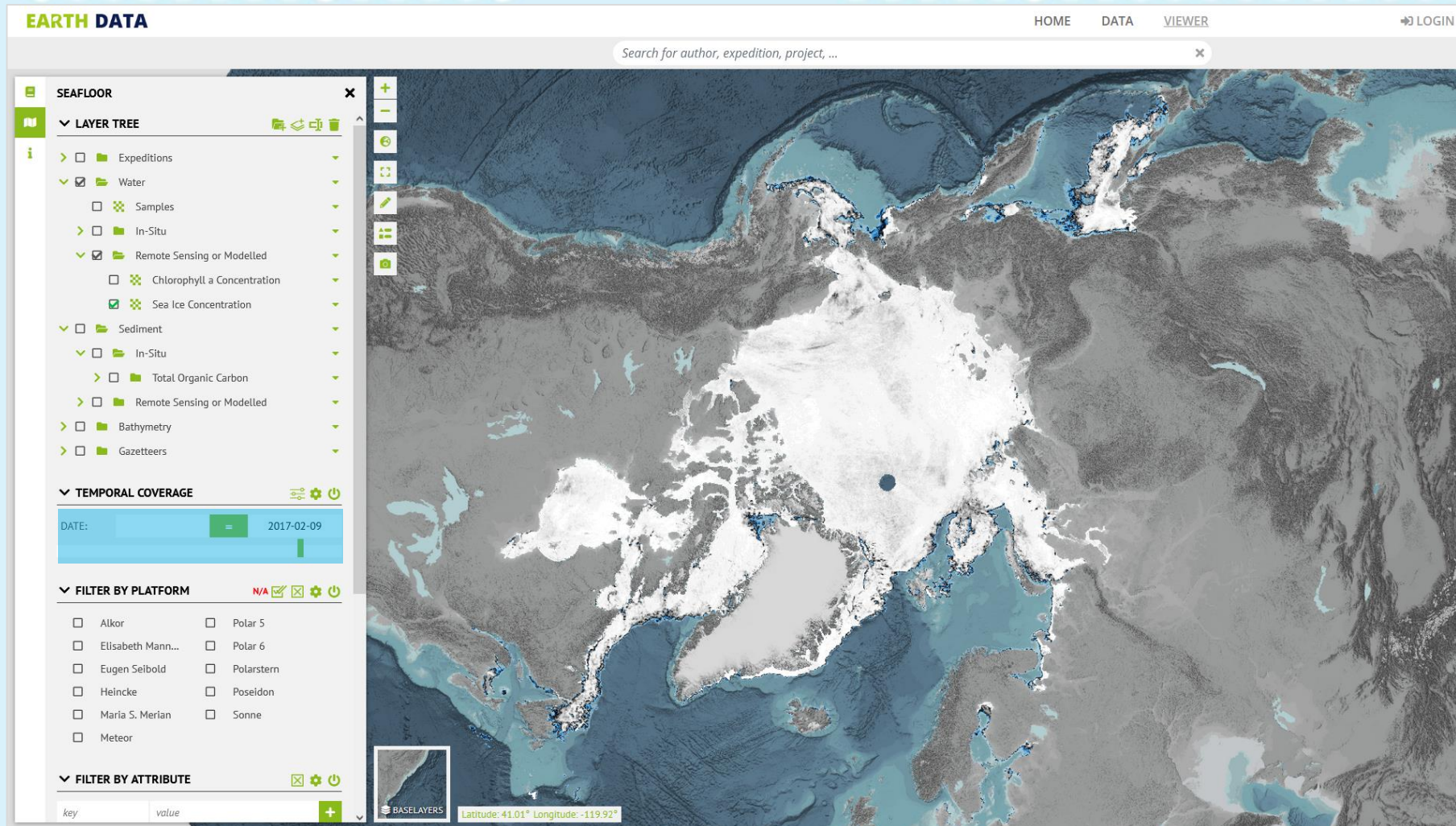
Videos & Images

Information

Here you can explore an excerpt of the data products provided in the projects context.

Remote sensing data like sea ice concentration can be visualized as a raster on the map. The viewer allows switching to polar projections to properly display data in the polar regions.

This dataset can also be filtered by time using a slider



Water Column

Bathymetry

Remote Sensing

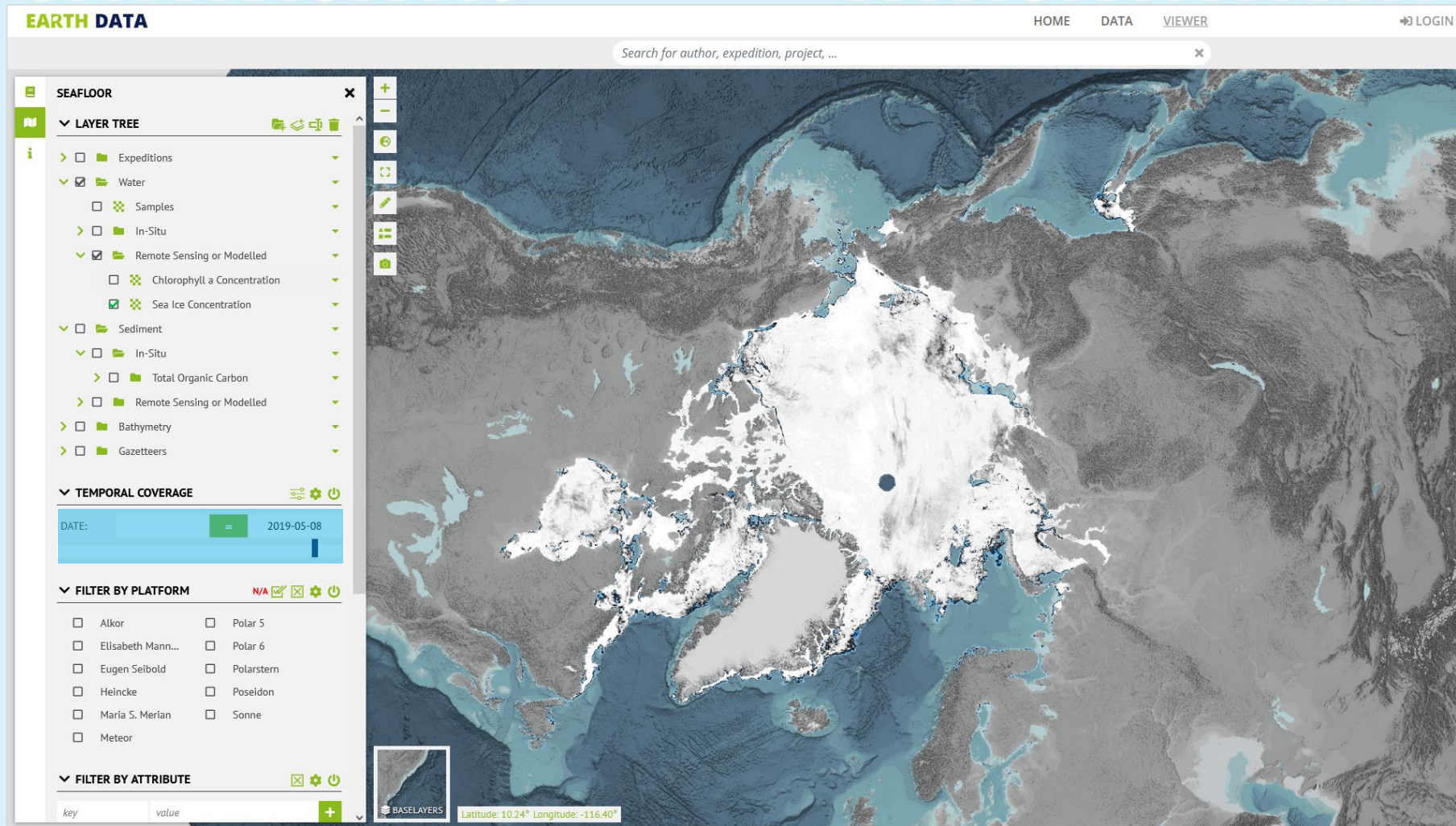
Videos & Images

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DATA VISUALIZATION

Water Column

Bathymetry

Remote Sensing

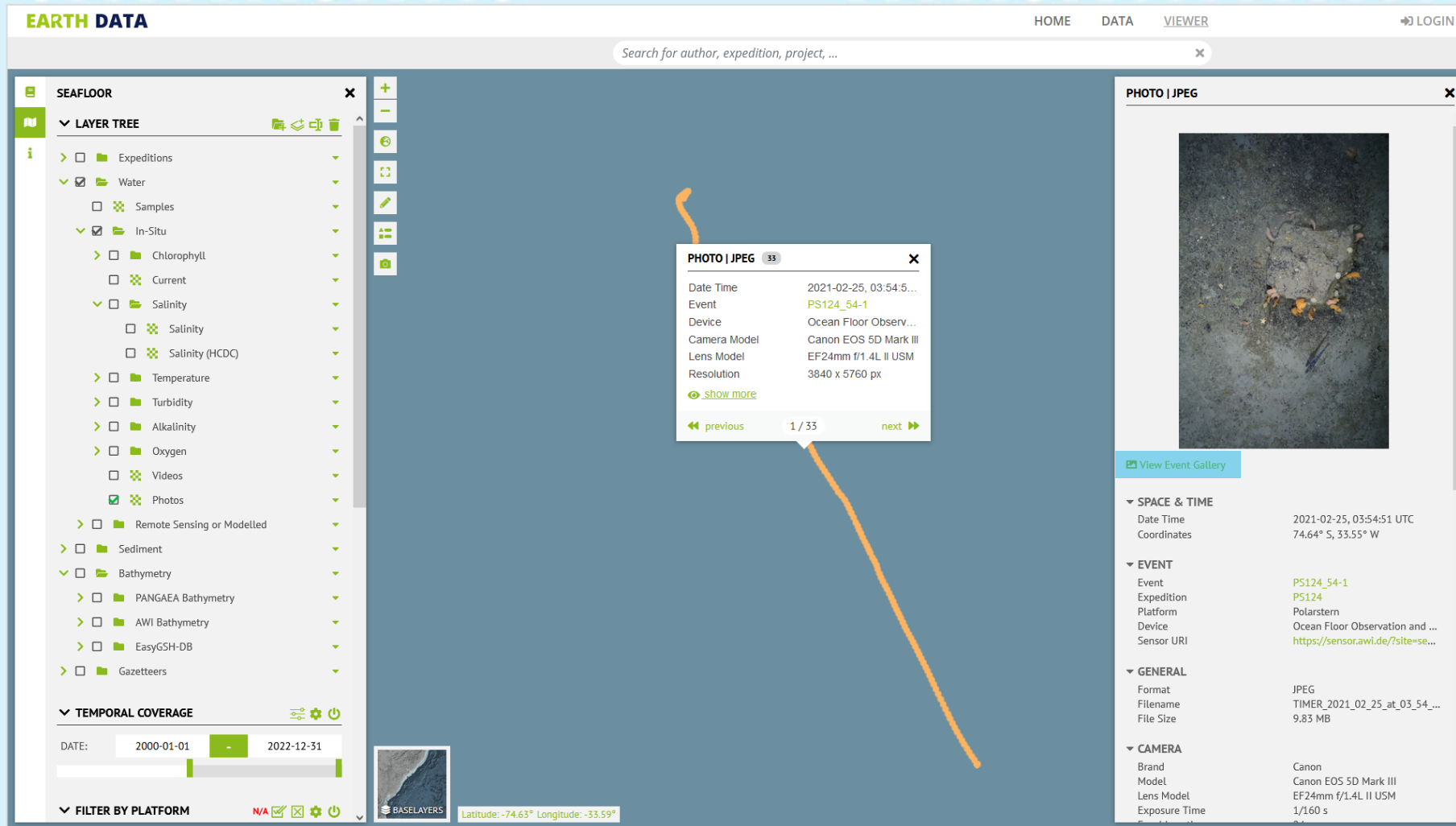
Videos & Images

Information

Here you can explore an excerpt of the data products provided in the projects context.

Videos & images from the seafloor are visualized as points on the map. When clicking on a point you can view the image or video with extensive metadata.

Media datasets can also be viewed as a gallery.



EARTH DATA HOME DATA VIEWER LOGIN

Search for author, expedition, project, ...

SEAFLOOR

LAYER TREE

- Expeditions
- ☒ Water
 - ☒ Samples
 - ☒ In-Situ
 - Chlorophyll
 - Current
 - ☒ Salinity
 - Salinity
 - Salinity (HCDQ)
 - Temperature
 - Turbidity
 - Alkalinity
 - Oxygen
 - ☒ Videos
 - ☒ Photos
 - Remote Sensing or Modelled
- Sediment
- ☒ Bathymetry
 - PANGAEA Bathymetry
 - AWI Bathymetry
 - EasyGSH-DB
- Gazetteers

TEMPORAL COVERAGE

DATE: 2000-01-01 - 2022-12-31

FILTER BY PLATFORM N/A

PHOTO | JPEG

1 / 33

PHOTO | JPEG

2021-02-25, 03:54:51 UTC
PS124_54-1
Ocean Floor Observ...
Canon EOS 5D Mark III
EF24mm f/1.4L II USM
3840 x 5760 px

[show more](#)

[previous](#) [next](#)

[View Event Gallery](#)

SPACE & TIME

Date Time: 2021-02-25, 03:54:51 UTC
Coordinates: 74.64° S, 33.55° W

EVENT

Event: PS124_54-1
Expedition: PS124
Platform: Polarstern
Device: Ocean Floor Observation and ...
Sensor URI: <https://sensor.awi.de/?site=se...>

GENERAL

Format: JPEG
Filename: TIMER_2021_02_25_at_03_54_...
File Size: 9.83 MB

CAMERA

Brand: Canon
Model: Canon EOS 5D Mark III
Lens Model: EF24mm f/1.4L II USM
Exposure Time: 1/160 s

Latitude: -74.63° Longitude: -33.59°



DATA VISUALIZATION

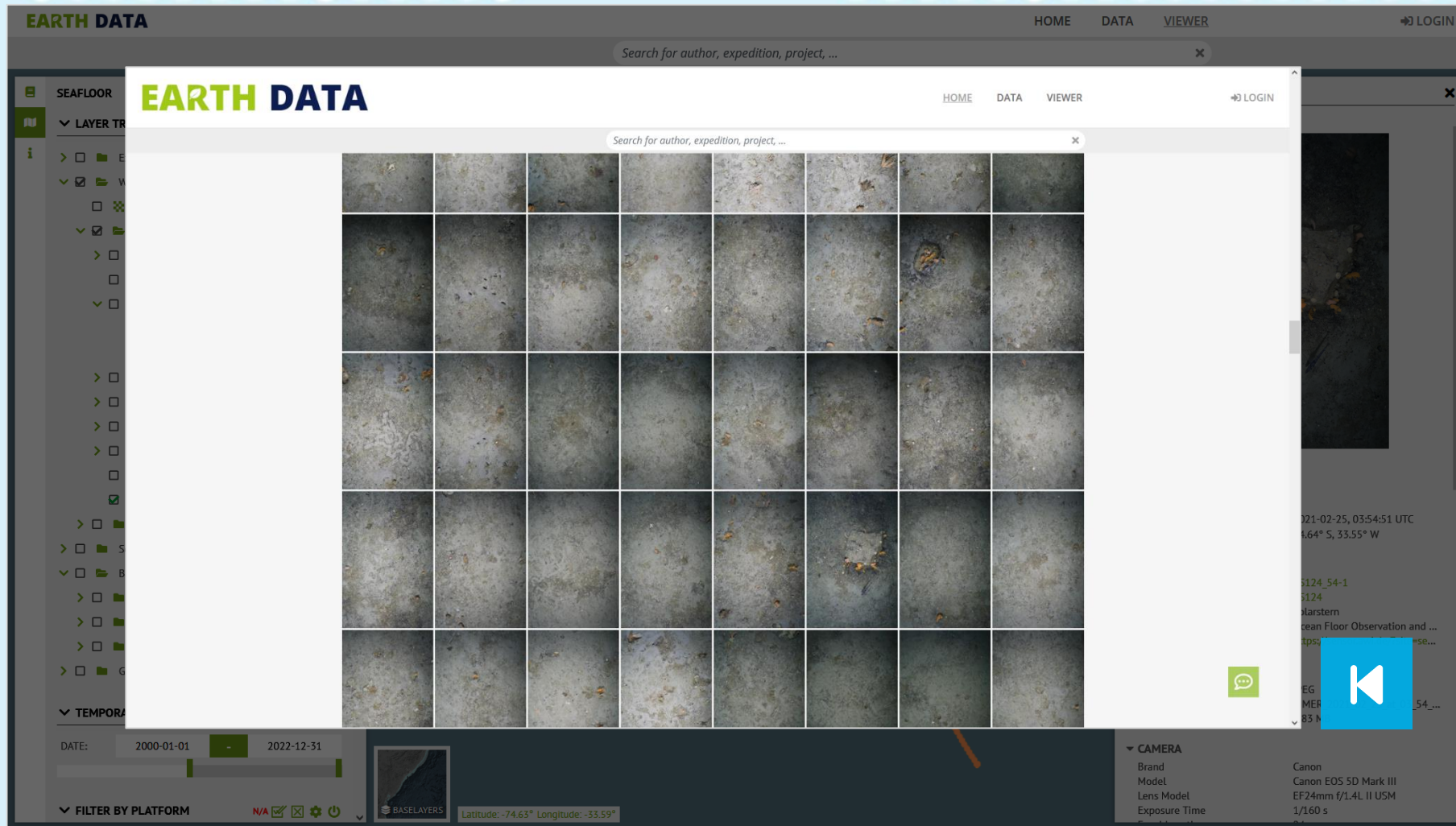
Water Column

Bathymetry

Remote Sensing

Videos & Images

Information



The screenshot displays the EARTH DATA web application. The interface includes a top navigation bar with 'HOME', 'DATA', and 'VIEWER' tabs, and a 'LOGIN' button. A search bar is located below the navigation bar. The main content area shows a grid of seabed images. On the left, there is a sidebar with a 'SEAFLOOR' section and a 'LAYER TR' section. At the bottom, there is a 'DATE' range selector (2000-01-01 to 2022-12-31), a 'FILTER BY PLATFORM' section, and a 'CAMERA' section with details like 'Brand', 'Model', 'Lens Model', and 'Exposure Time'. A large blue play button is visible in the bottom right corner of the image grid.

Here you can explore an excerpt of the data products provided in the projects context.

Videos & images from the seafloor are visualized as points on the map. When clicking on a point you can view the image or video with extensive metadata.

Media datasets can also be viewed as a gallery.



Water Column

Bathymetry

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Information

Visual Exploration Framework

The viewer uses an internally developed open source framework for visualization based on established open source libraries like leaflet for maps and plotly.js for diagrams.



Open Git Repository

Spatial Data Infrastructure

Data products are compiled from mixed sources and provided using OGC standard interfaces like WMS & WFS in collaboration with scientific working groups.



Poster Abstract

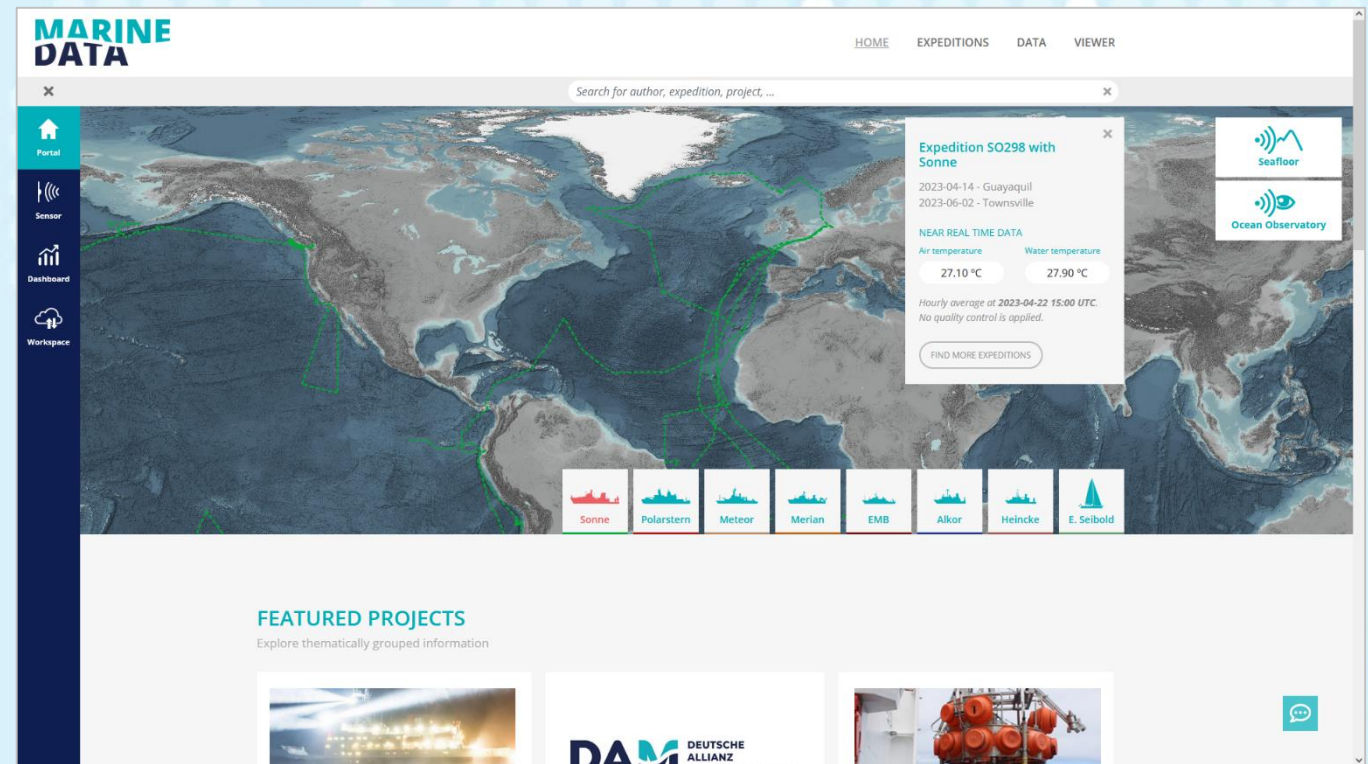
Related EGU Poster [EGU23-17052]:

A flexible yet sustainable Spatial Data Infrastructure for the Integration of Distributed Research Data



 **Earth Data** has a sibling portal with a focus on marine research

Marine Data uses the same technology stack but different content is being displayed.

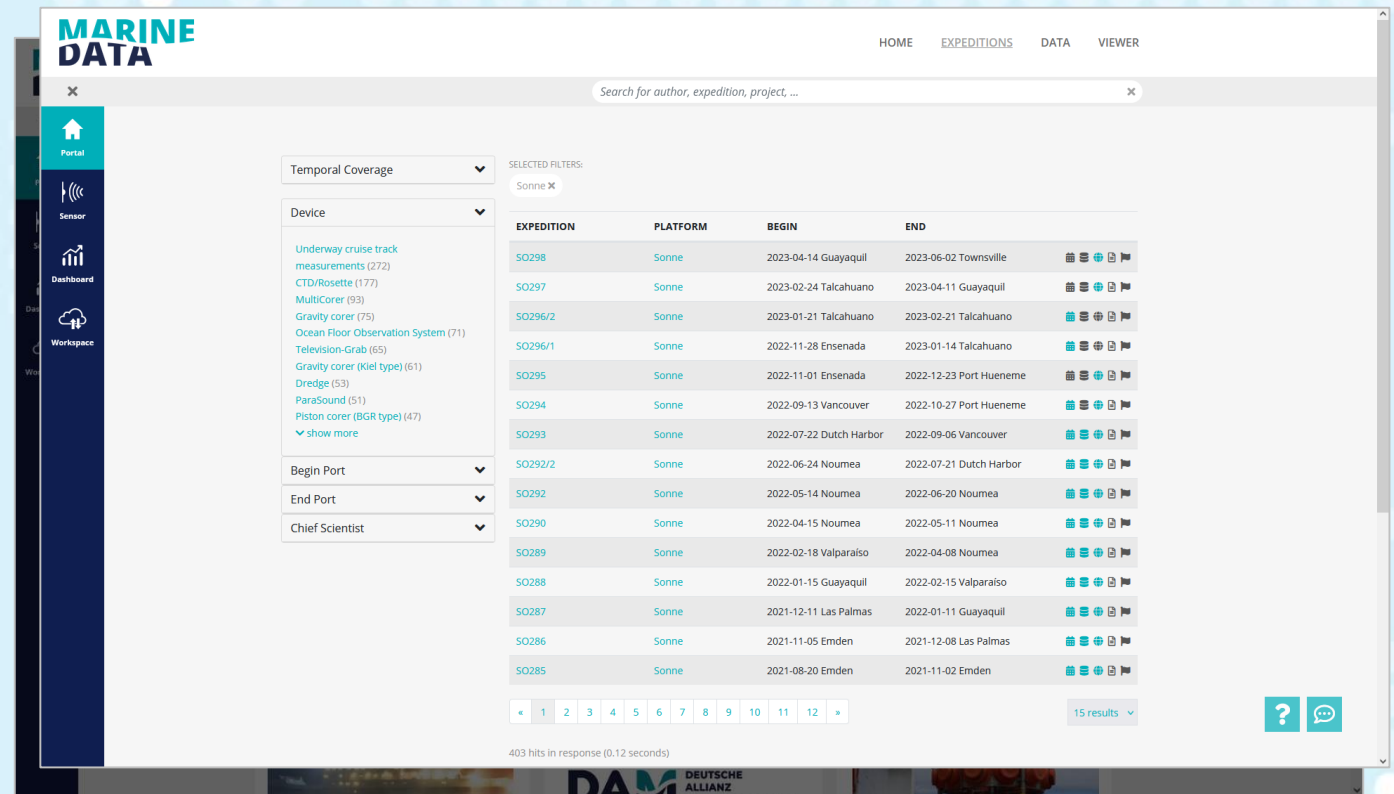


<https://marine-data.de>

 **Earth Data** has a sibling portal with a focus on marine research

Marine Data uses the same technology stack but different content is being displayed.

 Search for research expeditions



The screenshot displays the 'MARINE DATA' portal interface. On the left is a dark sidebar with navigation links: Portal, Sensor, Dashboard, and Workspace. The main content area features a search bar at the top with the placeholder 'Search for author, expedition, project, ...'. Below the search bar are filter dropdowns for 'Temporal Coverage', 'Device', 'Begin Port', 'End Port', and 'Chief Scientist'. The 'Device' dropdown is expanded, showing a list of sensors with their respective counts: Underway cruise track measurements (272), CTD/Rosette (177), MultiCorer (93), Gravity corer (75), Ocean Floor Observation System (71), Television-Grab (65), Gravity corer (Kiel type) (61), Dredge (53), ParaSound (51), and Piston corer (BGR type) (47). A 'show more' link is at the bottom of this list. To the right of the filters, a table lists expeditions with columns for EXPEDITION, PLATFORM, BEGIN, and END. The table contains 15 rows of data, each with a small icon set to the right. At the bottom of the table, there is a pagination bar showing '15 results' and a status message '403 hits in response (0.12 seconds)'.

EXPEDITION	PLATFORM	BEGIN	END
SO298	Sonne	2023-04-14 Guayaquil	2023-06-02 Townsville
SO297	Sonne	2023-02-24 Talcahuano	2023-04-11 Guayaquil
SO296/2	Sonne	2023-01-21 Talcahuano	2023-02-21 Talcahuano
SO296/1	Sonne	2022-11-28 Ensenada	2023-01-14 Talcahuano
SO295	Sonne	2022-11-01 Ensenada	2022-12-23 Port Hueneme
SO294	Sonne	2022-09-13 Vancouver	2022-10-27 Port Hueneme
SO293	Sonne	2022-07-22 Dutch Harbor	2022-09-06 Vancouver
SO292/2	Sonne	2022-06-24 Noumea	2022-07-21 Dutch Harbor
SO292	Sonne	2022-05-14 Noumea	2022-06-20 Noumea
SO290	Sonne	2022-04-15 Noumea	2022-05-11 Noumea
SO289	Sonne	2022-02-18 Valparaiso	2022-04-08 Noumea
SO288	Sonne	2022-01-15 Guayaquil	2022-02-15 Valparaiso
SO287	Sonne	2021-12-11 Las Palmas	2022-01-11 Guayaquil
SO286	Sonne	2021-11-05 Emden	2021-12-08 Las Palmas
SO285	Sonne	2021-08-20 Emden	2021-11-02 Emden

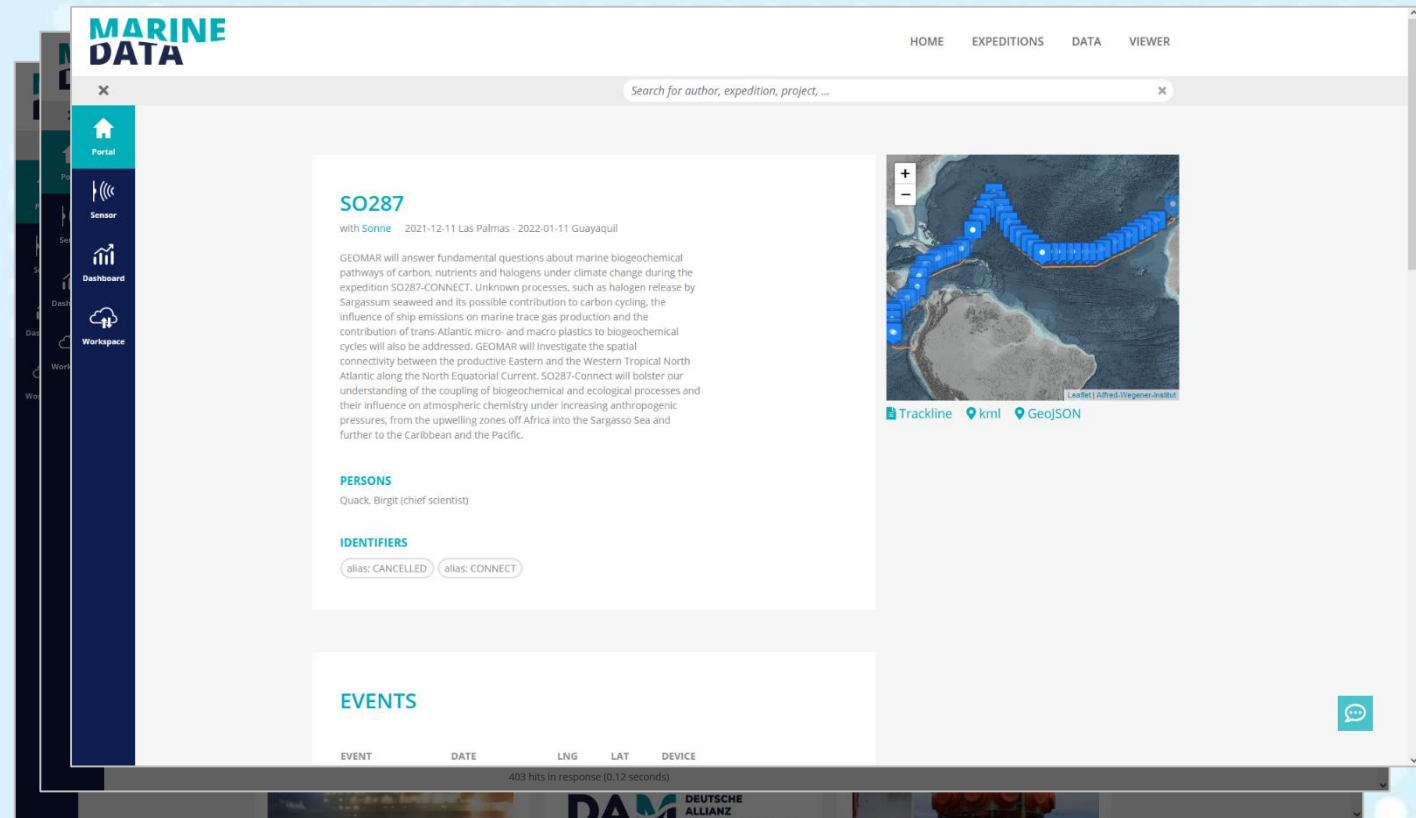
<https://marine-data.de/?site=expeditions>

Earth Data has a sibling portal with a focus on marine research

Marine Data uses the same technology stack but different content is being displayed.

 Search for research expeditions

 Read expedition metadata



<https://marine-data.de/?site=expedition&expedition=SO287>

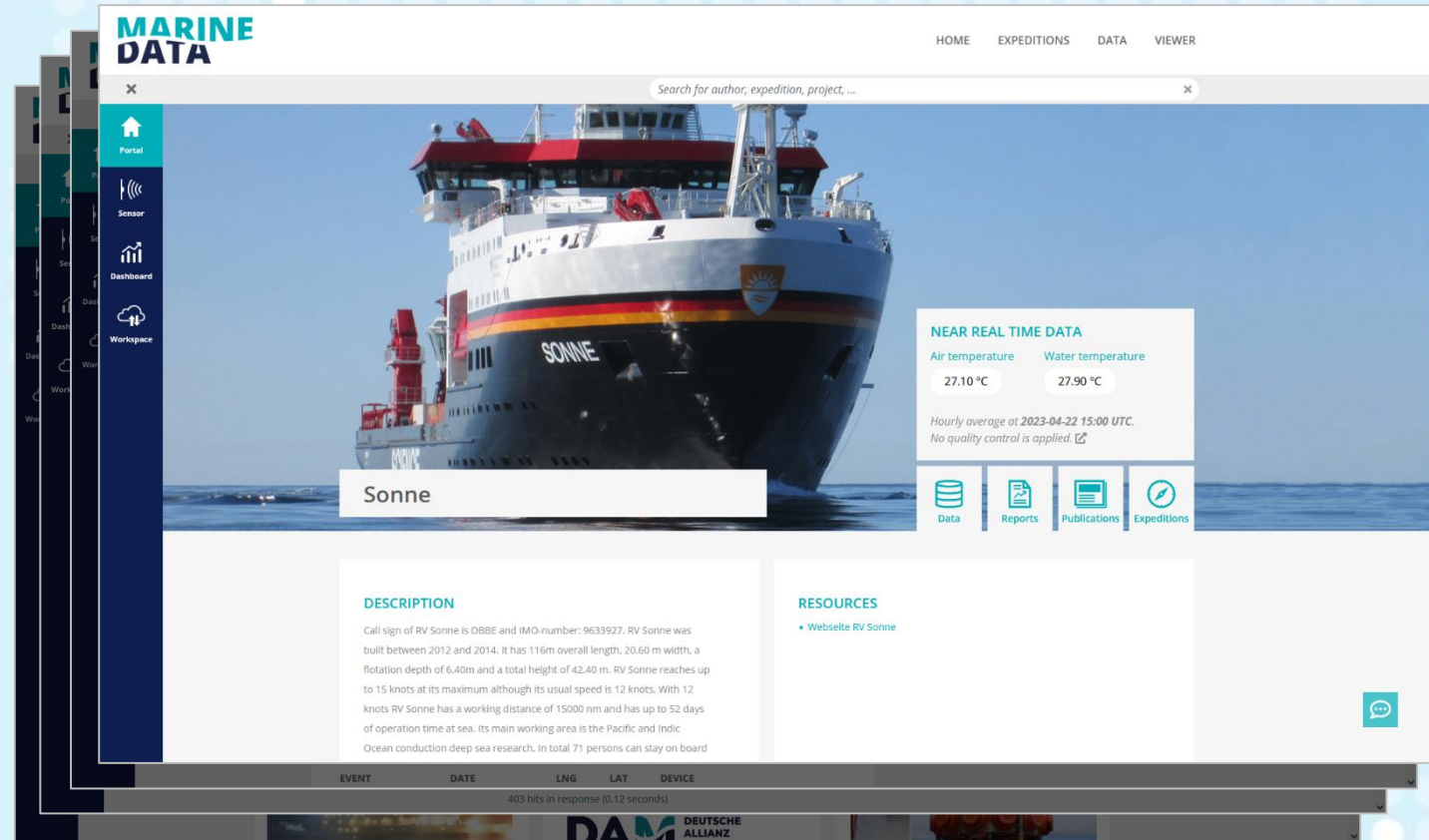
 **Earth Data** has a sibling portal with a focus on marine research

Marine Data uses the same technology stack but different content is being displayed.

 Search for research expeditions

 Read expedition metadata

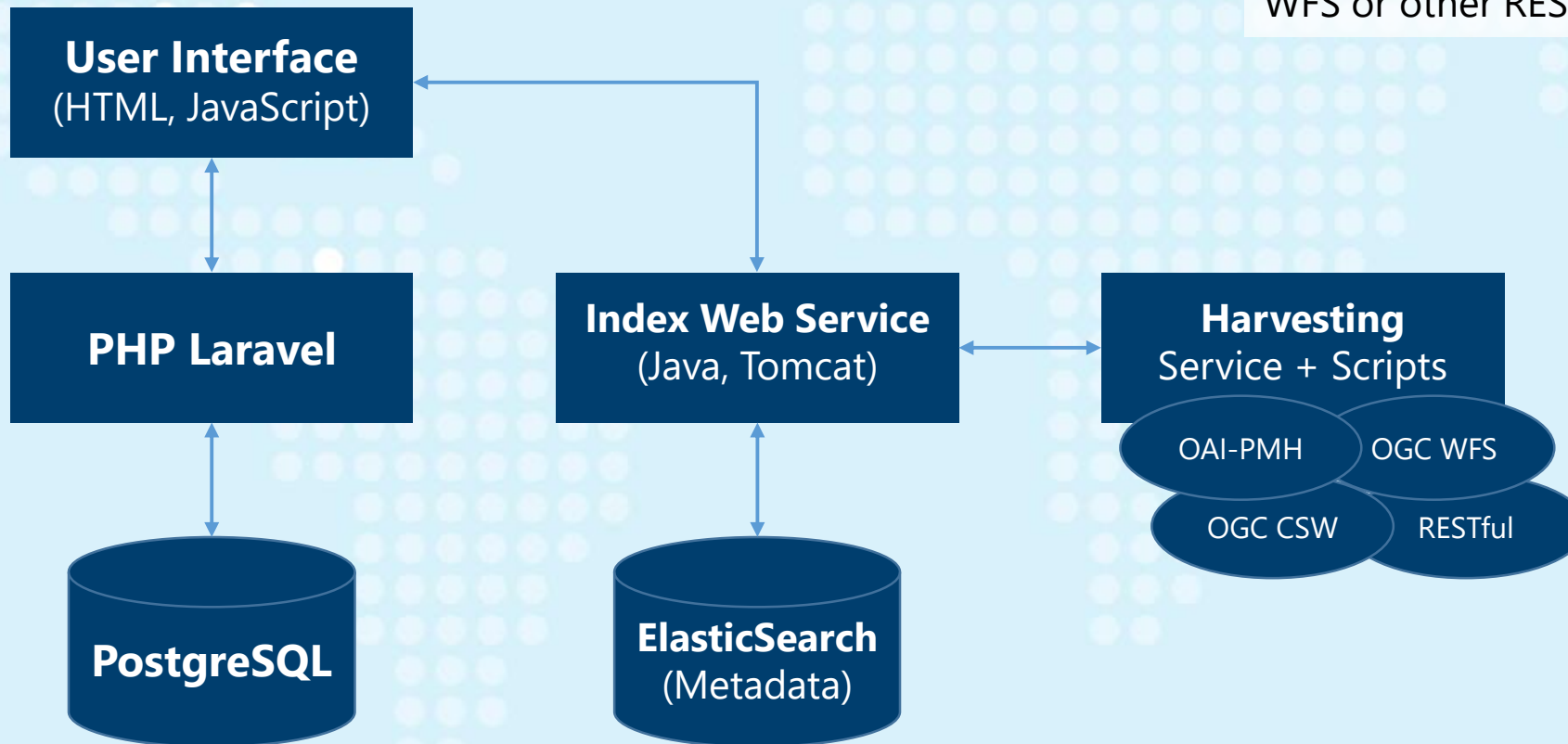
 Find out more about related research platforms



<https://marine-data.de/?site=platform&platform=Sonne>



The following diagram is an abstract representation of the portal architecture



Search Metadata Harvesting

Search results in the free-text search are harvested from mixed sources using standard interfaces like OAI-PMH, OGC CSW, OGC WFS or other RESTful APIs



Portals

- <https://earth-data.de>
- <https://marine-data.de>

Observations to Analysis & Archives

- <https://o2a-data.de>

Visual Exploration Framework

- <https://gitlab.awi.de/software-engineering/de.awi.visualexplorer>

Project Partners

- <https://www.allianz-meeresforschung.de>
- <https://www.helmholtz.de/en/research/research-fields/earth-and-environment/>
- <https://datahub.erde-und-umwelt.de/en/>
- <https://www.nfdi4earth.de>



PICO Abstract

The Earth Data Portal for
Finding and Exploring
Research Content



Related Poster

A flexible yet sustainable
Spatial Data Infrastructure
for the Integration of
Distributed Research Data

