

What can Blue-Cloud 2026 offer to the EU Mission?

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**EUROPEAN OPEN
SCIENCE CLOUD**

Blue-Cloud2026

A federated European FAIR and Open Research Ecosystem
for oceans, seas, coastal and inland waters

The EOSC enables a step change across scientific communities and research infrastructures towards:

- Seamless access
- FAIR (Findability, Accessibility, Interoperability and Reusability) management
- Reliable reuse of research data produced along the research life cycle (e.g. methods, software and publications)
- A federated European FAIR and Open Research Ecosystem for oceans, seas, coastal and inland waters that:
 - Develops a thematic marine extension to EOSC for open web-based science, serving the needs of the EU Blue Economy and the Marine Knowledge agendas
 - Providing federated access to leading European Marine Data Infrastructures and a Virtual Research Environment with data, models and reusable methodologies that tackle multidisciplinary marine environments

All in all, Blue-Cloud 2026 will expand the federated approach of the previous Blue-Cloud, involving more aquatic data stakeholders, and interacting with EOSC developments, in support of the EU Green Deal, UN SDG, EU Destination Earth, and the EU Missions, ultimately to provide a core data service for the Digital Twin of the Ocean



 EUROPEAN UNION



EU MISSIONS

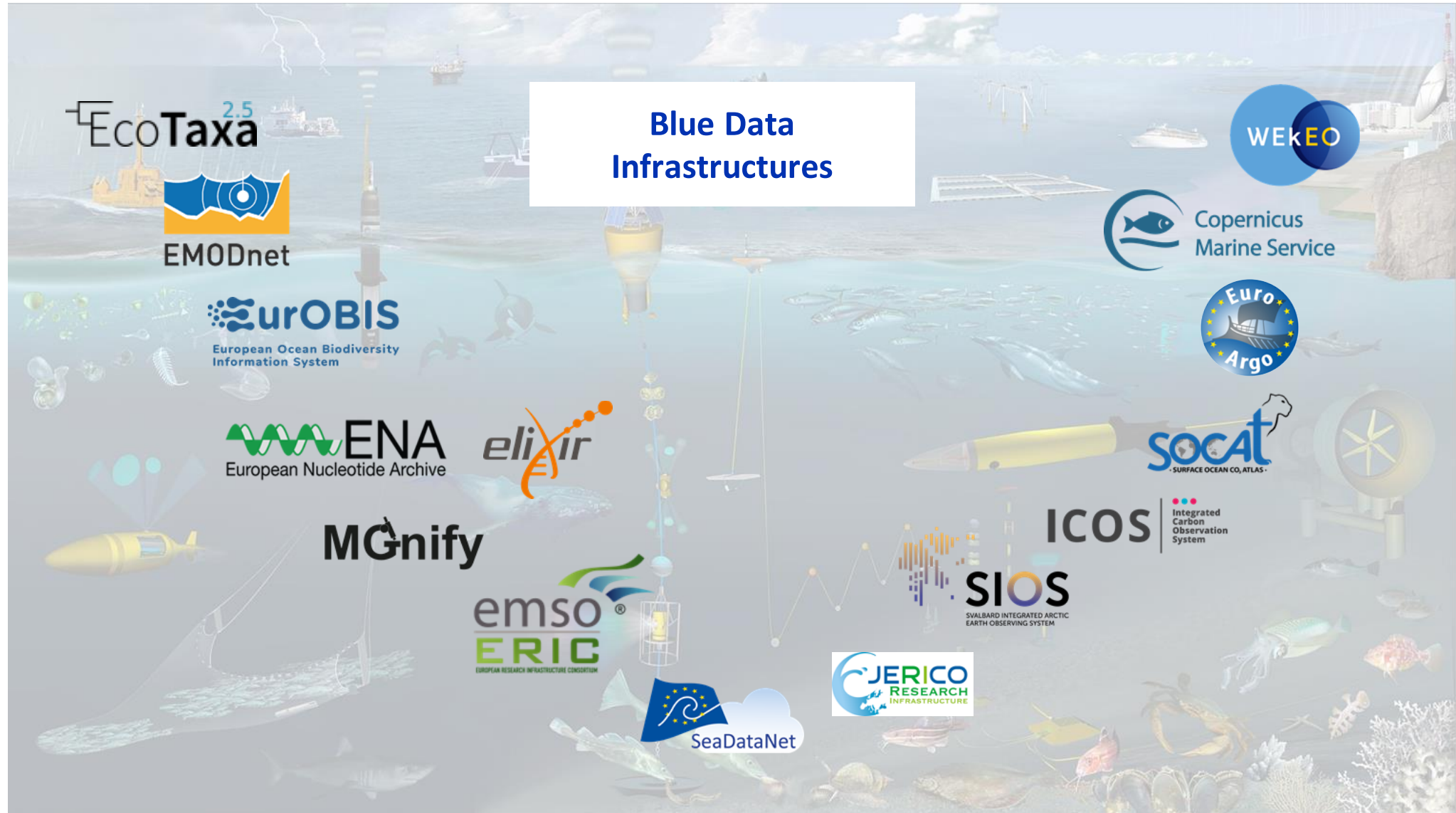
RESTORE OUR OCEAN AND WATERS

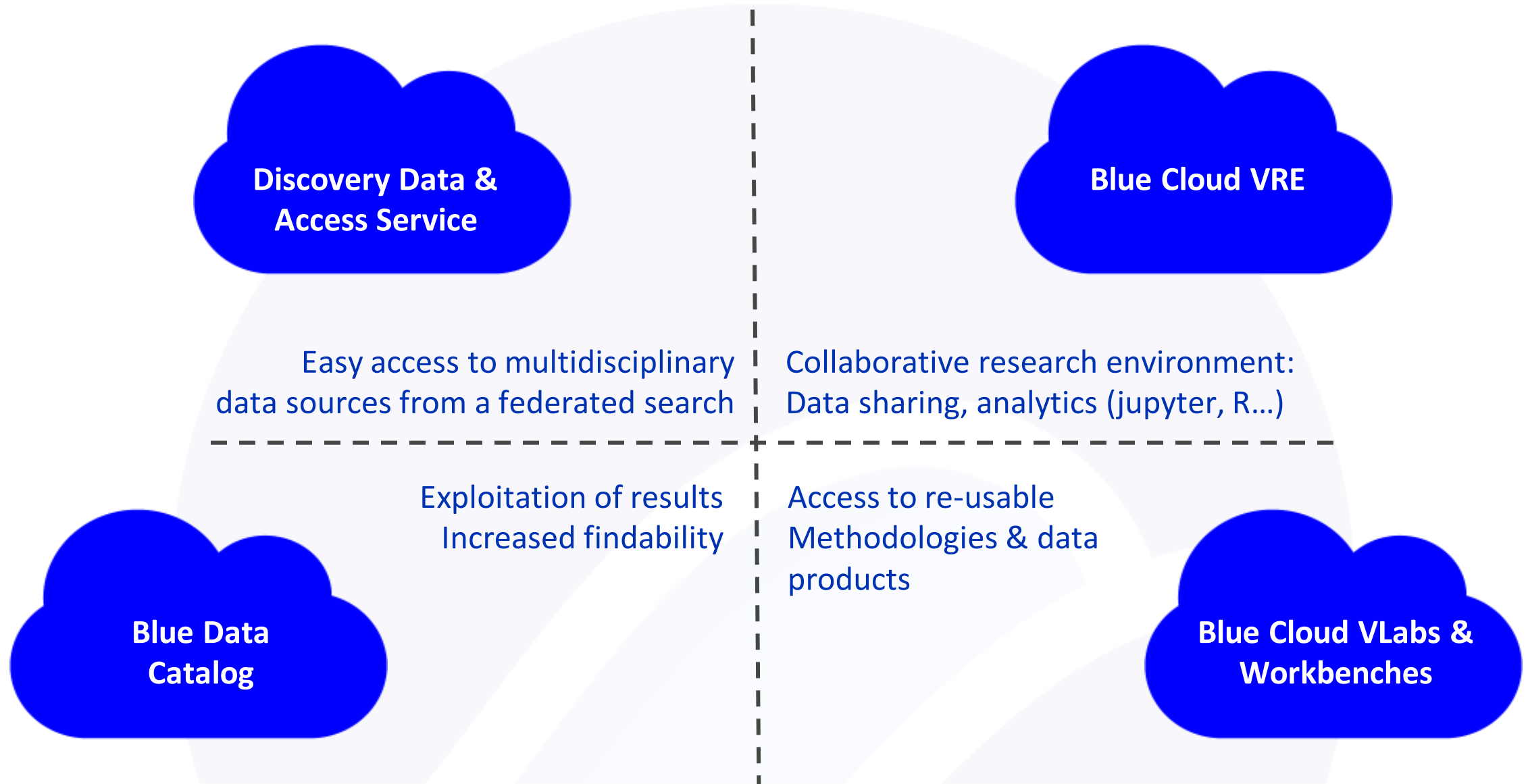
29 September 2021

ACTIONS

- 
 The Horizon Europe programme, the European Maritime Fisheries and Aquaculture Fund, Invest EU and other EU programmes will provide around **€500 million** in seed funding during the period 2021-23;
- 
 Create a **network of lighthouses at sea and river basin scale** to implement the mission and expand the networks of marine protected areas;
- 
 Establish an **EU-wide 'Blue Parks' initiative** to provide new restoration and conservation opportunities;
- 
 Support **effective water management** through a digital knowledge system with a Digital Twin Ocean and improved environmental monitoring of ocean health.







Facilitates users:

- Federated search for discovering interesting data sets (currently more than 10 million) in a two step approach
- Federated retrieval of identified data sets using a shopping basket mechanism
- Download of data sets or push to Blue-Cloud VRE

Facilitates managers of Blue Data Infrastructures:

- Wider outreach to potential users
- Stay informed about data requests & users for their repository
- Periodic reporting of downloads from their repository

The screenshot displays the Blue-Cloud Data Discovery & Access Service interface. On the left, there is a 'Filter search' panel with input fields for 'Free search', 'Date search' (From and To), and 'Geographic search' (North, West, East, South). Below these are 'SEARCH' and 'RESET' buttons. The main area on the right shows a table of data infrastructures with columns for 'Blue Data infrastructures', 'Level 2 Search', 'Level 1 Results (20488)', and 'Level 1 Total'. Each row includes a logo, the infrastructure name, a 'Level 2 Search' button, and the corresponding result counts.

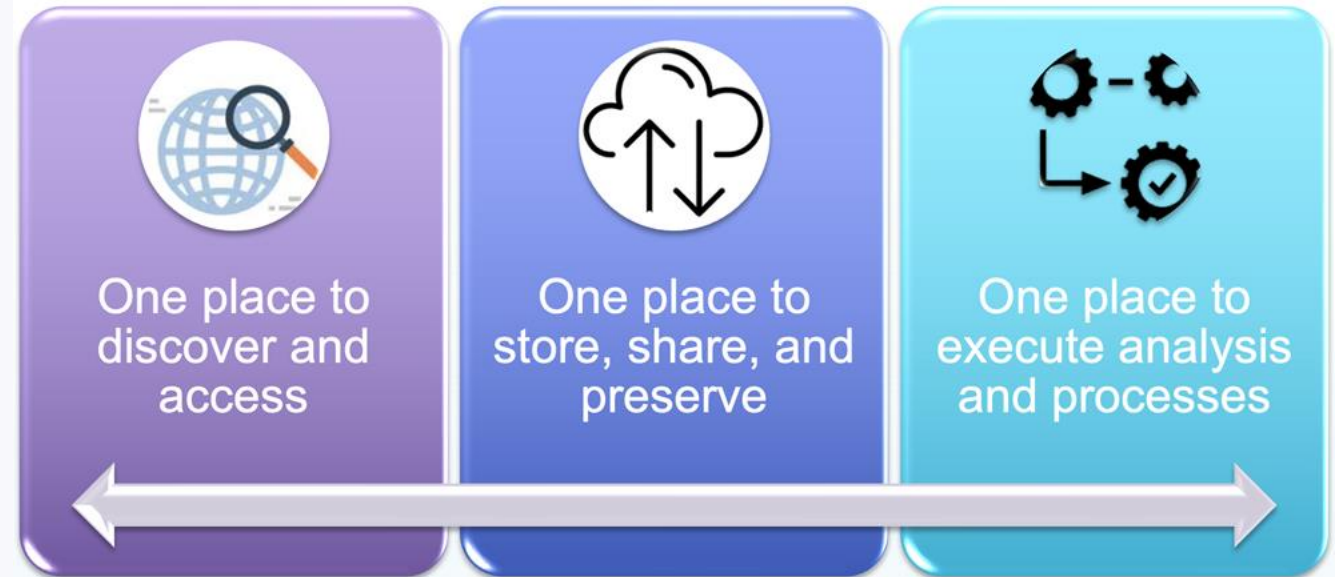
Blue Data infrastructures	Level 2 Search	Level 1 Results (20488)	Level 1 Total
EcoTaxa	Level 2 Search	10	10
ELIXIR-ENA	Level 2 Search	32	32
EMODnet Chemistry	Level 2 Search	0	0
EuroArgo - Argo	Level 2 Search	11434	11434
EurOBIS - EMODnet Biology	Level 2 Search	1302	1302
ICOS data portal	Level 2 Search	268	268
SeaDataNet	Level 2 Search	922	922
SeaDataNet-products	Level 2 Search	49	49
Socat	Level 2 Search	6471	6471

Blue Cloud Community

- Discovery & Access
- Storage
- Analytics
- Communication & Collaboration
- Catalogue

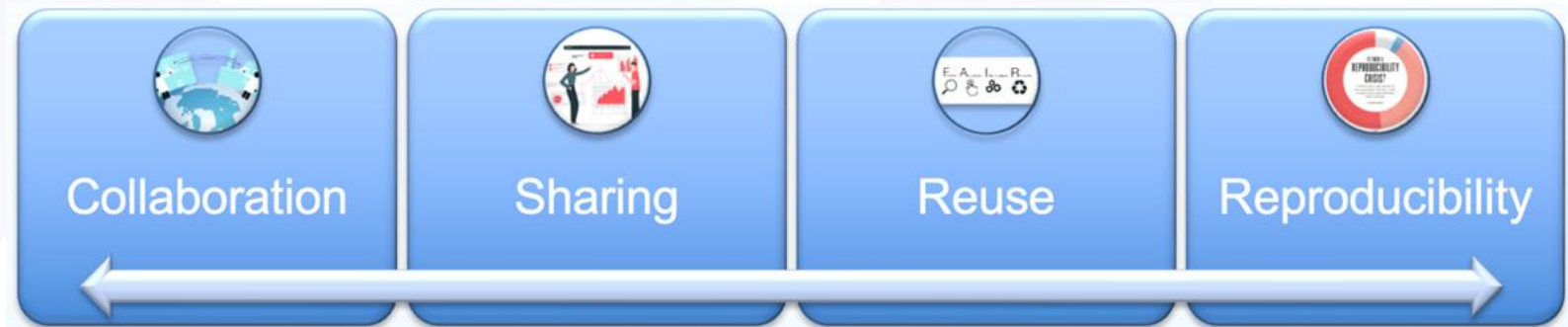
Blue Cloud Core

- Workbenches & V Labs
- Other projects
- Hackathons & Workshop

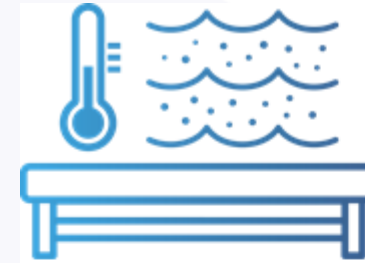


EOSC Core

- Identity Federation
- Monitoring + Alerting
- Marketplace



- The objective is to obtain **highly qualified datasets** for some chosen Essential Ocean Variables (EOVs) combining different and various sources as inputs.
- **Workbenches** or pipelines will be built to obtain the highly qualified datasets that can use other data sources or be adjusted depending on expert needs
- The challenge is to deal with large in situ datasets. Blue Cloud 2026 will allow this thanks to the high level performance D4Science VRE based on cloud computing associated with big data technology, a large datasets repository (Data lake) and an expert data management.



physical workbench for temperature, salinity



chemical workbench, linked to eutrophication: nutrients, chlorophyll, oxygen



ecosystem workbench for plankton biomass and diversity



Coastal Ocean observations along Europe



Global Fisheries Atlas



Coastal currents from observations



Carbon-Plankton Dynamics



Marine Environmental Indicators

Virtual Laboratories

Data sharing

- Workspace
- Dataspace
- Repositories

Data analytics

- High Throughput Computing
- Notebook
- RStudio

Social networking

- Messages
- Posts and replies
- User profiling

Research Object Publishing

- Catalogue
- Thredds
- GeoNetwork

- Blue-Cloud provides a Virtual Research Environment that **boost scientific collaboration and Big Data Analysis**.
- Integrating **multidisciplinary data** allows to create innovative data products that can respond complex research questions.
- Federating **Blue Data Infrastructures** builds the bridges needed to develop **Data Lakes**.
- Providing data, products & reusable methodologies feeds the **Digital Twin Ocean**.
- Blue-Cloud data, products and VRE enable our one main objective: **Ocean integration towards our One Ocean #UNDecade**



GEBCO compilation group (2022)



Upcoming Training events

• OPEN SCIENCE • FAIR •

WORKSHOP >>> 27 SEPTEMBER 2023

Navigating Data Lakes for Earth and Marine Science: Fair Data Management and Service Interoperability in Practice

11:30-13:30 CEST - SALA CIUDAD ÚBEDA

eosc | Blue-Cloud2026 | eosc | FAIR-EASE

Blue-Cloud Event | MADRID, SPAIN | FEDYT | OpenAIRE | U23 | #OSFAIR2023

25 September 2023 09:00 – 27 September 2023 13:30

Blue-Cloud at the Open Science FAIR 2023

Blue-Cloud Training Academy

Webinar 26 Sep 2023 | 16:00 CEST

FAIR Data Principles 1
Foundational components, best practices and standards

Register now

Blue-Cloud Event | OTG@ | eosc | Blue-Cloud2026

26 September 2023 16:00–17:00

FAIR Data Principles 1: Foundational components, best practices and standards

Useful materials for sharing & distribution

About Blue-Cloud 2026

- [Poster](#)
- [Rollup](#)
- [Blue-Cloud Virtual Labs in support of Sustainable Development Goals](#)
- [Flyer](#)

For dissemination & social media share

- [Twitter channel](#)
- [LinkedIn page](#)
- [Youtube account](#)
- [ZENODO account](#)

Blue-Cloud Services

- [In EOSC Marketplace](#)
- [Virtual Research Environment](#)
- [Data Discovery Access](#)
- [Data Catalogue](#)
- [Training Academy](#)

Blue-Cloud Readings

- [Strategic Roadmap](#)
- [Position Paper on EOSC](#)
- [Interfacing Blue Cloud Data Discovery and Access with EOSC](#)
- [Generic publications](#)
- [Newsletters](#)

Blue-Cloud Virtual Labs

- [Plankton Genomics](#)
- [Marine Environmental Indicators](#)
- [Zoo and Phytoplankton EOY products](#)
- [Fish, a matter of scales](#)
- [Aquaculture](#)
- [Carbon-Plankton Dynamics](#)
- [Global Fisheries Atlas](#)
- [Coastal currents from observations](#)
- [Integration of coastal ocean observations along Europe](#)

eOSC | Blue-Cloud2026



blue-cloud.org



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[blue-cloud org](https://www.linkedin.com/company/blue-cloud-org)



Funded by
the European Union