Blue-Cloud VRE

The platform for developing & operating VLabs

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Blue-Cloud Open Conference

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Blue-Cloud VRE

One place to discover and access

One place to store, share, and preserve

One place to execute analysis and processes

Blue-Cloud VRE

System of Systems

Blue-Cloud VRE is built with dedicated services leveraging on existing e-infrastructures and marine infrastructures, EOSC resources and services

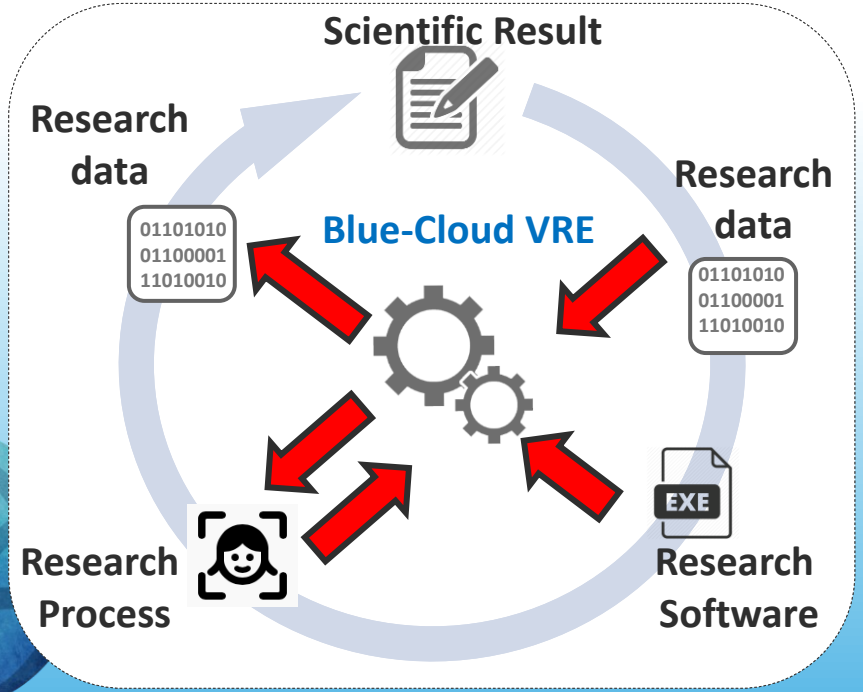
Extensible

Blue-Cloud VRE integrates services and resources resulting from existing marine initiatives

Open

Blue-Cloud VRE promotes open science and practices

Blue-Cloud VRE
A SoS to support and promote Open Science



Enable

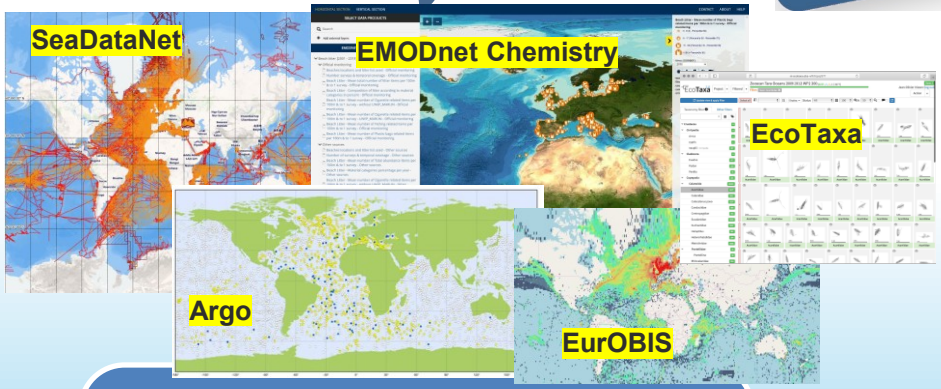
- Repeat, Reproduce, Reuse, Evaluate
- Active collaboration
- Effective sharing
- Provenance and attribution

Adopt

- As-a-service approach
- Standards
- Economy-of-scale to reduce operational costs

One place for discovery

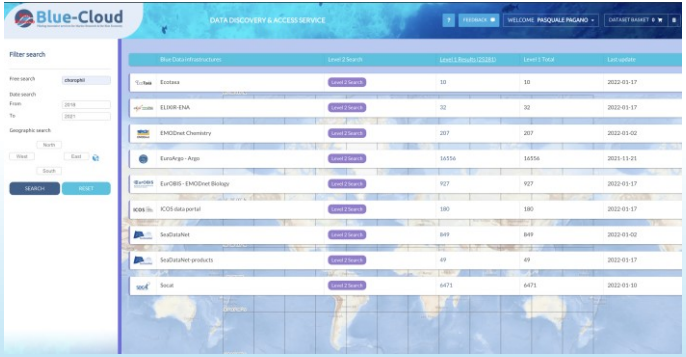
Blue Data Infrastructure	Types of data sets	Logo and link
SeaDataNet CDI service	Marine physics, bathymetry, chemistry, geology, geophysics, and biology observation data sets	
EMODnet Chemistry data products	Marine chemistry data collections and interpolated map products	
EurOBIS - EMODnet Biology	Marine biogeographic data collections with taxonomy and distribution	
Euro-Argo and Argo GDAC	Ocean physics and marine biogeochemistry observation data from Argo floats	
ELIXIR- European Nucleotide Archive (ENA)	Nucleotide sequencing data and information on marine species	
EcoTaxa	Taxonomic annotation data of images on planktonic biodiversity	
SeaDataNet data products	Aggregated marine data collections and climatologies, such as for Temperature & Salinity	
ICOS-Marine	Long-term oceanic observations of carbon uptake and fluxes for understanding the global carbon cycle	
SOCAT - Surface Ocean CO2 Atlas	SOCAT version 2020 with quality-controlled surface ocean fCO2 measurements from 1957 to 2020	
EMODnet Bathymetry	EMODnet Bathymetry World Base Layer is used as base map in the interface	

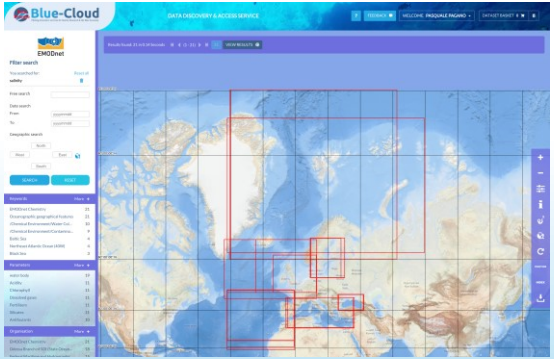


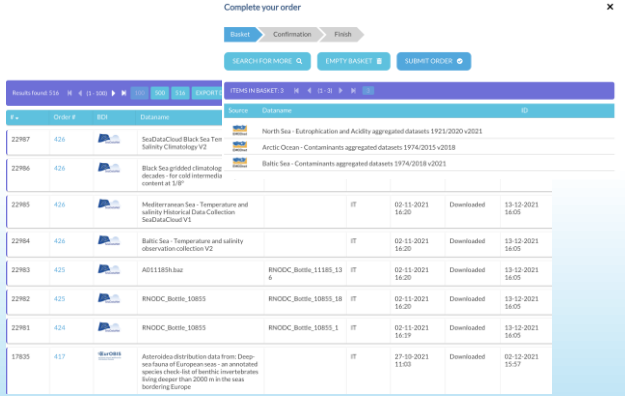
The first step enables users to identify interesting data collections, with free search, geographic and temporal criteria

The second step enables users to drill down per interesting BDI to get more specific data sets at granule level, using again free search, geographic and temporal criteria

One place for access







Compose and submit shopping request at the granule level

Retrieve the datasets by downloading from the Dashboard

Push datasets to the Blue-Cloud VRE Data Pool

One place for storing, sharing, and preserving datasets

- Common **workspace** and **dataspace** to easily exploit technologies and services not designed to work together

Storage Layer

Persistent Storage

Workspace

Pros	Cons
Fault-tolerant	High Latency
Replicated Distributed	Slower
Compressed	

Dataspace

Pros	Cons
Large Volume (1TB)	Single Site
Faster	Linked only to JupyterHub
Low Latency	

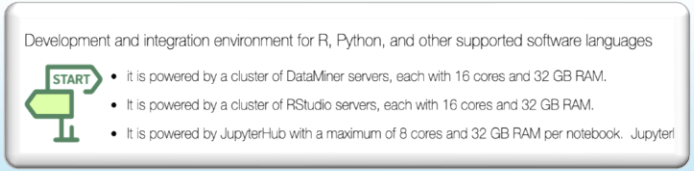
Volatile Storage

Volatile

Pros	Cons
Faster	Deleted after 24 hours
Single Site	Accessible only via URIs
Low Latency	

One place for executing analysis and processes

- interactive notebooks via JupyterHub and community-specific applications delivered as a Docker container extend the Analytics framework



One place to access tailored services

Biodiversity

Zoo and Phytoplankton EOV products

Genomics

Plankton Genomics

Environment

Marine Environmental Indicators

Fisheries

Global Record of Stocks and Fisheries

Aquaculture

Aquaculture Monitor

JERICO Core VLab

Joint Framework for Ocean Noise in the Atlantic Seas

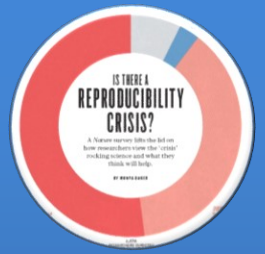
JONAS VLab

One common place

Collaboration

Sharing

Reuse



Reproducibility

Blue Cloud VRE promotes Open Science

2022

Unlocking Open Science in support of the EU Green Deal

Blue-Cloud

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Final Conference