



Blue-Cloud Platform

marine-thematic EOSC services for Marine Research and the Blue Economy

Pasquale Pagano, Phd CNR - ISTI https://orcid.org/0000-0001-6611-3209



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The mission

Blu loud Blue-Cloud aims to **pilot** a cyber platform multidisciplinary data from bringing together and observations and providing access to models to support research to better understand 3. computing 2. analytical and manage the many facilities tools aspects of ocean sustainability

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The Leading Concepts



- Developing and deploying a cloud platform with a Virtual Research Environment (VRE) with an array of services for configuring Virtual Labs for specific analytical workflows, use cases and demonstrators
- Applying common standards and interoperability solutions for providing harmonized data and metadata
- Developing and deploying harmonised discovery and access to a series of established European marine data management and processing infrastructures, that are dealing with major marine and ocean data collections, related data centres, and their data providers

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The Technical Framework

a component to serve federated discovery and access

 Bridging blue data infrastructures and their multi-disciplinary data from observations, in-situ and remote sensing, data products and outputs of numerical models

a component to serve as Blue Cloud Virtual Research Environment (VRE)

 Federating computing platforms and analytical services; this will include Virtual Labs for each of the use case Demonstrators







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Blue-Cloud Virtual Research Environment

- Exploits Blue-Cloud data discovery and access service
- Federates computing platforms and algorithms
- Interacts with external systems
- Exposes all repositories, algorithms, and computing platforms as a common unified space of resources
- Serves diverse communities of researchers



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Blue-Cloud Framework satisfies Open Science Requirements

- Support collaborative research and experimentation
- Implement Reproducibility-Repeatability-Reusability of Science
- Allow sharing of data, processes and findings
- Grant open access to the produced scientific knowledge
- Tackle Big Data challenges
- Manage heterogeneous data/processes access policies
- Sustainability: low operational costs, low maintenance prices







Function of Demonstrators

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Demonstrate how the Services developed contribute to unlocking innovation potential

- to derive requirements and specifications for the Pilot Blue Cloud platform development
- to demonstrate the potential of cloud-based open science in the marine community
- to serve as a catalyst for wider community engagement, identifying longer term challenges, and planning future developments from pilot to a full-scale Blue-Cloud infrastructure.

Identify the scientific communities requirements

- Storage (repositories, warehouses, ...)
- Multidisciplinary data access and harmonisation
- Analytical processes
- Computing requirements



Piloting an EOSC "thematic cloud"



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Blue-Cloud project

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- Funding: H2020: The 'Future of Seas and Oceans Flagship Initiative' (BG-07-2019-2020) topic: [A] 2019 - Blue Cloud services
- Timing: 36 Months (start October 2019)
- Budget: 5.9 Million Euro
- Partnership: 20 partners





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ANY QUESTIONS?



https://blue-cloud.org



