

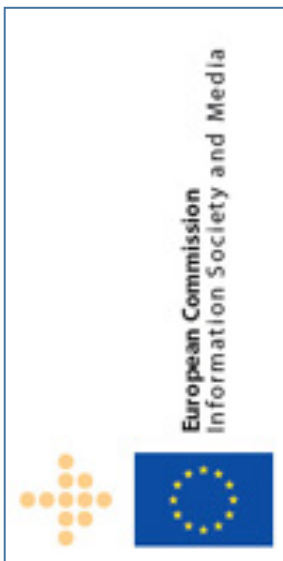


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DISCLAIMER



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The goal of BlueBRIDGE, *Building Research environments for fostering Innovation, Decision making, Governance and Education to support Blue growth*, is to support capacity building in interdisciplinary research communities actively involved in increasing the scientific knowledge of the marine environment, its living resources, and its economy with the aim of providing a better ground for informed advice to competent authorities and to enlarge the spectrum of growth opportunities as addressed by the Blue Growth societal challenge.

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DELIVERABLE SUMMARY

Deliverable D7.1, Blue Environment VRE Specification, is an on-line document that aims to present the requirements, the specifications and the design of the solution that assembles the Blue Environment VREs.

The Deliverable is available on project's wiki under the following location:

https://support.d4science.org/projects/bluebridge/wiki/D_7_1

It is expected to evolve under the principles of the agile methodology that BlueBRIDGE project is following.

The Deliverable is structured in two areas handling the two VREs of Blue Environment, corresponding to the activities performed in the tasks T7.1 and T7.2 respectively:

- *Aquaculture Atlas Generation VRE Specification* (Blue Environment VRE 1)
- *Protected Area Impact Maps VRE Specification* (Blue Environment VRE 2)

The description of each VRE consists in a specification document focused on the following aspects:

- Use cases, including a brief description of the expected activities
- Involved stakeholders
- Design of the VRE, including the involved resources, such as nodes, datasets and services provided by the infrastructure.

As mentioned above, the document will be continuously updated and expanded during the project. At the time of writing, four use cases are included, two for each VRE: other use cases may be identified in the future affecting the architecture which will have to evolve according.

The use cases related to VRE 1 refer to Aquaculture Mapping in different places, in particular in Greece and in Indonesia. Both the use cases mix data from satellites with data coming from other sources, in order to obtain analysis of aquaculture locations.

The general target of the use cases related to the second VRE is to analyze the impact of human activities on protected area and whether there are specific management measures needed. For this purpose, a deep analysis of *Marine Protected Areas* (MPAs) is required in order to map the biodiversity within them, along with statistics about regional fisheries, aquaculture productions and habitations. The proposed use cases will be located at first in Caribbean and subsequently in an EU country and in Indonesia.

Both the identified VREs will use as input data coming from satellites Sentinel 1 and Sentinel 2.

Starting from mentioned use cases and obtained requirements, the architectures of the two VREs were designed. The proposed architectures will leverage several services provided by D4Science infrastructure, such as Dataminer and Statistical Manager, or Geographical data storages, such as Geoserver. These services, integrated with VRE-specific modules, will process and store data coming from diverse data sources, such as FAO.

Components external to D4Science infrastructure, along with data, provide services and processing capabilities. Strict cooperation between infrastructure and external components is required in all the documented use cases. The possibility to use the workspace to share and process data in different VRE is required as well. All these requested features, on one hand give a clear idea about the importance of using D4Science infrastructure for these kinds of analysis, while on the other hand give the opportunity to evaluate the use cases supported by the services provided by D4Science infrastructure and to get directions for further extending and refining them.

REFERENCES

- [1] Deliverable URL https://support.d4science.org/projects/bluebridge/wiki/D_7_1
- [2] Deliverable ticket: <https://support.d4science.org/issues/669>