



# Aquaculture Monitor

Support to a workflow spanning Blue-Cloud and CLS infrastructures to produce maps based on Copernicus data. The VLab shows how Blue Cloud can integrate ISO-OGC products in a VLab.

**Partners:**



**Data sources through Blue-Cloud:**

The workflow uses Copernicus data services. It combines the output in a ISO/OGC compliant spatial data infrastructure that can be used to discover and access Blue-Cloud datasets.

**Main target users:**

Remote sensing data product developers and Blue Data product managers.

**Services introduction:**

The VLab offers two independent services; one for cage detection, the other for land-type classification. The first service is implemented as a Jupyter notebook in the Blue-Cloud infrastructure to analyse S1 data over an area of interest, while the second interoperates with a CLS proprietary service that applies AI to S2 images. The results are accessible through a Blue-Cloud VLab that provides a map viewer.

**UN SDGs addressed**



**SERVICES**

**Aquaculture Cage Detection**

The Jupyter notebook for aquaculture cage detection generates GEOPACKAGES over an ROI using Copernicus Sentinel 1 images. The first step is a tiling service to prepare the data for analysis, while in the second step the cages are detected. The output is ingested the Spatial data infrastructure that supports the VLab and is managed through D4Science, and shown in the ISO/OGC compliant Map viewer in the Aquaculture VLab.

**Aquaculture Ponds Detection**

The VLab ingests AI based land-types classifications as GEOPACKAGES over an ROI that provided the base for a validation based on in-situ data. The Blue-Cloud approach showed the technical feasibility to interoperate with external proprietary software and bring the results in a collaborative environment. The results can be mashed up with other Blue-Cloud products.

*"Accessing remote sensing data and methods in a collaborative working space enables to bridge the gap between geospatial data experts and local information managers that need spatial data products to better inform their management decisions. With Blue Cloud we have proven that Copernicus derived products can be brought into a VRE, can be brought into context with other spatial data, and can provide cost-effective and standardised views over aquaculture areas."*



ANTON ELLENBROEK,  
FAO of the UN,  
Information and  
knowledge  
management Team

**Test the VLab now!**

