Zoo- & Phytoplankton Essential Ocean Variable products

This Virtual Lab provides a description of the current state of plankton communities and forecasts their evolution, representing valuable information for the modelling, assessment and management of the marine ecosystems.

Partners:

VLIZ   LOV   LIÈGE université

Data sources through Blue-Cloud:

EurOBIS, EMODnet Biology, LifeWatch, GEBCO, SeaDataNet, World Ocean Atlas, NOAA, Copernicus Marine Service, Argo GDAC, GlobColour

Main target users:

Plankton researchers, ocean modellers, data product developers and Blue Data infrastructures, for their data products catalogues and as use cases.

Services introduction:

The Vlab offers three independent services that consist of the combination of different data types (biological, physical and environmental data) to then apply models that generate an output. These are offered in a working space where data and scripts are accessible and reusable.

UN SDGs addressed

13 CLIMATE ACTION

14 LIFE BELOW WATER

SERVICES

Zooplankton Essential Ocean Variable

Zooplankton EOV generates zooplankton gridded maps of six zooplankton species in the North East Atlantic.The workflow uses the DIVAnd software tool (Data Interpolating Variational Analysis in n dimensions) that allows to interpolate sparse in situ measurements onto a regular grid in an optimal way.

Phytoplankton Essential Ocean Variable

Phytoplankton EOV generates global open ocean 3D gridded products of (1) chlorophyll a concentration (Chla), which is a proxy of the total phytoplankton biomass, and (2) Phytoplankton Functional Types (PFT), as a proxy for phytoplankton diversity, based on temperature and salinity in situ data matched up with ocean color satellite products.

Modelling phyto & zooplankton interactions

Modelling phyto and zooplankton interactions enables users to calculate the relative contribution that limits the growth of phytoplankton by the drivers: nutrients, phosphates, silicates, light and zooplankton grazing.

"Accessing data and methods in a collaborative working space with high computing resources helps us assess plankton communities and make data-driven informed decisions. For example, the "Wildlife Tracker for Oceans" tool developed by one of the winning teams at the Blue-Cloud Hackathon uses data from this VLab to perform real-time assessment of Marine Protected Areas.

PATRICIA CABRERA
Data manager at VLIZ

Test the VLab now!