eosc | Blue-Cloud2026

Virtual Labs

Coastal Currents from Observations

This Virtual Lab provides a service to generate integrate ocean surface current maps from direct and indirect current measurements derived from different sources, High Frequency (HF) radar.

Partners Involved

SOCIB Balearic Islands Coastal Observing and Forecasting System

LIÈGE université

cmcc Centro Euro-Mediterraneo sui Cambiamenti Climatici

Data Sources

CMEMS, GEBCO, EMODnet Bathymetry, NOAA, Open Street Map, ECMWF.

Main Target Users

Scientifics aiming to better understand the surface circulation, Model users (forecasting and validation purposes), and Oceanography students.

UN SDGs addressed

13 CLIMATE ACTION

14 LIFE BELOW WATER

Blue-Cloud Added Value

The main output of this VLab is a service in the form of easily customizable Jupyter notebooks that allow users to generate surface currents maps for a user-chosen coastal region (when data is available and in particular the availability of HF radar data which extents depending on the configuration about 50 km – 200 km offshore). The user would also be able to make Lagrangian simulations based on these currents maps to visualize the movements of artificial drifters released at a user-chosen location (assuming suitable data coverage).

Abel Dechenne

ULiège

The code will be openly available as open-source. The DIVAnd method is coded in the Julia programming language. Its package manager helps the user to create its environment in a reproducible way effortlessly. We are also aiming to make this service intuitive and easily understandable for the user by using a JavaScript library leaflet-velocity which creates an interactive output for the user.

Learn More Here!