



Coastal Currents from observations Virtual Laboratory



An integrated **multi-source approach** to interpolate and analyse **surface currents of the Mediterranean Sea**. This Virtual Laboratory interpolates **sea surface currents** by merging complementary observations; **drifters, satellite altimetry and High Frequency radars**.

Thanks to the various observations, this Virtual Lab delivers **high quality and validated sea surface currents maps**. The validation is performed with:

- A subset of independent drifters (**cross-validation**);
- A parametrisation performed to fit the best the error evaluated on the independent dataset.

The results are in accordance with the independent drifters and **match closely the surface temperature measured by satellites**. These results are expected to **contribute to the Mediterranean Sea modelisation** as it could be used for data assimilation or for validation. In this context, it corrects surface currents of the Mediterranean Sea reanalysis model to perform **oil spill simulations**, using the WITOIL for Blue-Cloud 2026 application within D4Science.

Users can choose any location within the time and area of sea surface currents, to perform real or hypothetical oil spill simulations. The Virtual Lab only work for Mediterranean Sea, but the method can be tuned for other regions.

