# Surface currents for search and rescue in the SE Bay of Biscay

Powered by SASEMAR (English: Spanish Maritime Safety and Rescue Society; Spanish: Salvamento Marítimo)















Extremes, Hazards & Safety



**Coastal Services** 

## **Overview**

SASEMAR (Spanish Maritime Safety and Rescue Agency) needs accurate and timely forecasts of surface currents after emergency calls at sea. These forecasts help track the movement of people, vessels and potential hazards. This newly developed service provides the information in a format easily used by the agency through its Environmental Data Server. This enables operators to



assess various drift scenarios in the Bay of Biscay, improving their ability to plan effective search strategies. Copernicus products (in this case surface currents) are therefore crucial for SASEMAR, as they are the starting point for any search and rescue activity at sea. This activity depends mostly on the modelling results obtained by SASEMAR with these products. The enhanced forecasts benefit users in the marine and coastal areas of the Basque Country, making the data deriving from this new data service valuable for everyone.

The EUSCOMvu (EUSkadi Coastal Operational Model validation & user-engagements) project helps predict oceanic and coastal conditions in the Basque Country waters. This operational forecasting

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system is based on the 'Coastal and Regional Ocean COmmunity model' to predicts hourly ocean conditions such as temperature, salinity, and currents (as well as drift of objects). The model uses as initial and boundary conditions the Iberia-Biscay-Ireland area data provided by the Copernicus Marine Environment Monitoring Service. The predictions cover a 4-day period with a detailed resolution in the SE Bay of Biscay. The system also incorporates river runoff observations to enhance accuracy of predictions. The first application of the project supports the SASEMAR in its activities.

The services deriving from EUSCOMvu are developed, maintained, and operationally run by AZTI and NOW Systems. AZTI oversees the development of the operational forecasting system for the SE Bay of Biscay, while NOW Systems is developing a new service component focused on the operational assessment of Product Quality

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## **Products used**

SASEMAR is now using the EUSCOMvu forecasts (in particular, surface currents), which are included in its Environmental Data Server (EDS). In this server, there are other regional and global Copernicus products, which can be used in modelling to estimate the drift of people, ships, dangerous objects, marine litter and pollutants.

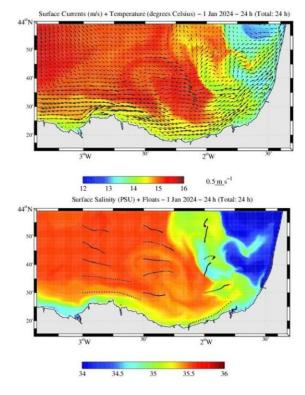
Atlantic-Iberian Biscay Irish- Ocean Physics Analysis and Forecast

Global Ocean Physics Analysis and Forecast

Global Ocean- in-situ Near real time observations of ocean currents

EuskOOS (Basque Operational Oceanography System) data:

Southeastern Bay of Biscay physics forecast



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# **Benefits for users**

For SASEMAR (specific user), the EUSCOMvu downstream service: (1) generates surface current forecasts with a high spatio-temporal resolution to be used in drift models; (2) provides a common data format to the rest of the data available in the EDS (Environmental Data Server) owned and maintained by SASEMAR; and (3) minimizes response time during an emergency at sea.

For any user of the marine environment and coastal area of the Basque Country, the service: (1) increases the chances of successful rescue of people at sea by SASEMAR; and (2) helps control drifting vessels, dangerous objects, marine litter and pollutants.

# **Useful links**

**SASEMAR** 

**NOW Systems** 

**AZTI** 

AZTI (operational oceanography)

AZTI (OceanPrediction Decade Collaborative Centre, virtual booth materials)

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