



SOCIB applications for oceanographic data management

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The Balearic Islands Coastal Ocean Observing and Forecasting System (SOCIB, <http://www.socib.es>), is a multi-platform Marine Research Infrastructure that provides free, open and quality-controlled data from near-shore to the open sea.

To collect the necessary data, the SOCIB system is made up of: a research vessel, a high-frequency (HF) radar system, weather stations, tide gauges, moorings, drifting buoys, ARGO profilers, and gliders (autonomous underwater vehicles). In addition, the system has recently begun incorporating oceanographic sensors attached to sea turtles. High-resolution numerical models provide forecast for hydrodynamics (ROMS) and waves (SAPO).

According to SOCIB principles, data have to be:

1. discoverable and accessible;
2. freely available;
3. interoperable, quality-controlled and standardized.

The Data Centre (DC) manages the different steps of data processing, including:

- acquisition using SOCIB platforms (gliders, drifters, HF radar, ...),
- numerical models (hydrodynamics, waves, ...) or information generated by other data sources,
- distribution through dedicated web and mobile applications dynamic visualisation.

The SOCIB DC constitutes an example of marine information systems within the framework of new coastal ocean observatories.

In this work we present some of the applications developed for specific type of users, as well as the technologies used for their implementation:

DAPP (Deployments application, <http://apps.socib.es/dapp/>), a web application to display information related to mobile platform trajectories.

LW4NC2 (<http://thredds.socib.es/lw4nc2>), a web application for multidimensional (grid) data from NetCDF files (numerical models, HF radar).

SACOSTA (<http://gis.socib.es/sacosta>), a viewer for cartographic data such as environmental sensitivity of the coastline.

SEABOARD (<http://seaboard.socib.es>), a tool to disseminate SOCIB real time data to different types of users.

Smart-phone apps to access data, platform trajectories and forecasts in real-time.

In keeping with the objective of bringing relevant data to all kinds of users in a free and easy way, our future plans include the redesign of the applications to improve the user experience, along with the creation of applications specific to different groups of users, including tourists, sailors, surfers, and others.