

THE DATA LIFECYCLE AT SOCIB: Responding to Scientific and Societal needs

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1.1 Multi-platform observing and Forecasting System

The Balearic Islands Coastal Ocean Observing and Forecasting System (SOCIB) is a multi-platform Marine Research Infrastructure that provides free, open, standardized and quality-controlled data from near-shore to the open sea. In order to properly capture oceanographic processes taking place at different spatial and temporal scales, a multi-platform approach is necessary. In our case, this involves a coastal research vessel, a high-frequency (HF) radar system, weather stations, tide gauges, moorings, drifting buoys, ARGO profilers, and gliders (autonomous underwater vehicles). Recently the system has begun incorporating oceanographic sensors attached to sea turtles, providing trajectories given by the animals. High-resolution numerical models provide forecast for hydrodynamics (ROMS) and waves (SAPO).

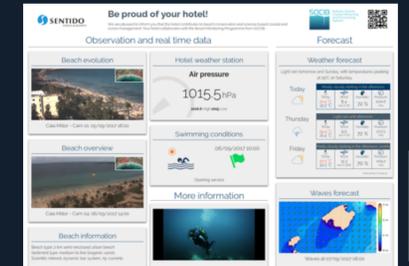


Tintoré et al. 2013



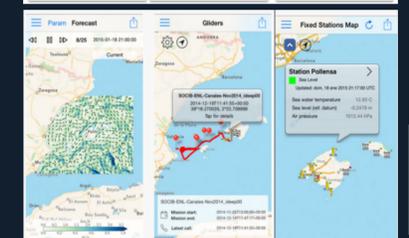
5.1 Seaboards

Seaboards are single 'dashboard' visualizations of the real time and forecast ocean data currently provided by SOCIB, from different coastal and ocean monitoring locations around the Balearic Islands and oriented to different types of users. <http://seaboard.socib.es/>



5.2 Smartphone Apps

Smartphone apps to provide direct and easy access to near real time observations and forecasts from the Balearic Sea area. It also provides an overview of the work that is being done at SOCIB. <http://apps.socib.es/>



5.3 MEDCLIC

This program encompasses a research project and a scientific dissemination project, both of which are related to the scientific, technological and dissemination approaches of SOCIB, aimed at research excellence and the development of technology which enables progress toward the sustainable management of coastal and marine environments, providing solutions to meet the needs of society.



SOCIB organizational and conceptual structure as a facility of facilities is a good example of Marine Information System within the framework of new Ocean Observatories and/or Marine Research Infrastructures, a system that, through FAIR opendata principles, generates added value to both cover the scientific community demands and respond to the general societal needs.

01 ACQUISITION

02 ASSEMBLY

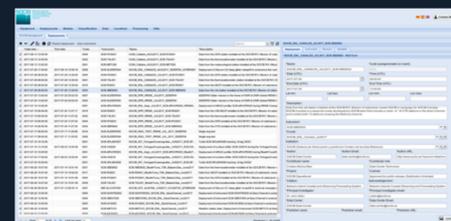
03 PROCESSING

04 ARCHIVING

05 DISTRIBUTION

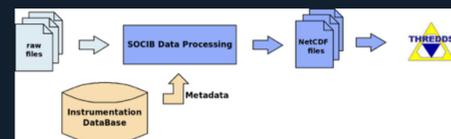
2.1 Instrumentation web app

A web application that uses a database that contains the inventory of materials, the activities performed with them and the processing applied on the collected datasets. <http://apps.socib.es/Instrumentation>



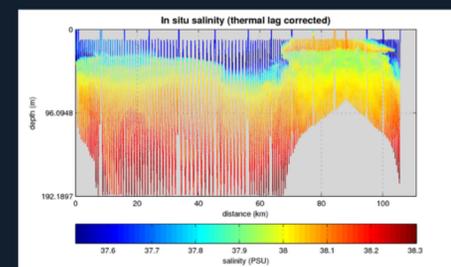
3.1 Processing application

A JAVA application designed to extract meta-data of the deployed equipment from Instrumentation and to perform the data ingestion, processing, quality control, standardization and final storage in a Thredds server.



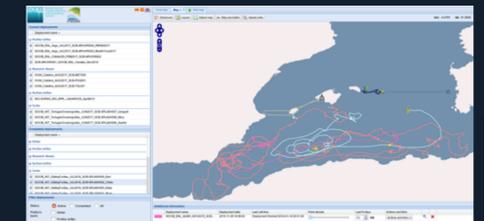
3.2 Glider Toolbox

A complete set of MATLAB/Octave scripts that automates glider data processing function, including thermal lag correction, quality control and graphical outputs. https://github.com/socib/glider_toolbox



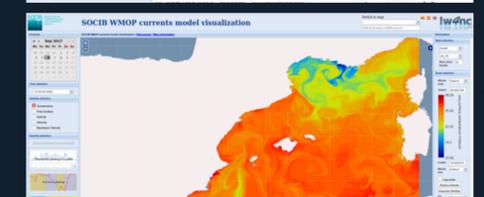
5.4 Deployments Application (DAPP)

A web application for real-time monitoring of mobile platforms. <http://apps.socib.es/dapp>



5.5 Lightweight for NetCDF (LW4NC2)

The Lightweight for NetCDF viewer (LW4NC2) allows the user to browse through gridded fields by variable or date, through requests to data stored in SOCIB THREDDS catalog. It also allows the user to extract time series at chosen locations, change styles, animate layers, and perform other visualization tasks. <http://thredds.socib.es/lw4nc2>



5.6 Data Product Catalog

SOCIB has a wide catalog of data products that comprises data from every campaign or project in which SOCIB is involved, as well as those obtained from its network of mooring platforms, fixed status and HF-Radar. This web application let us not only to discover them but to access, download and plotting the data. <http://apps.socib.es/data-catalog>

