

New developments on Biscay-AGL Observatory. From derived products to sensor networks.

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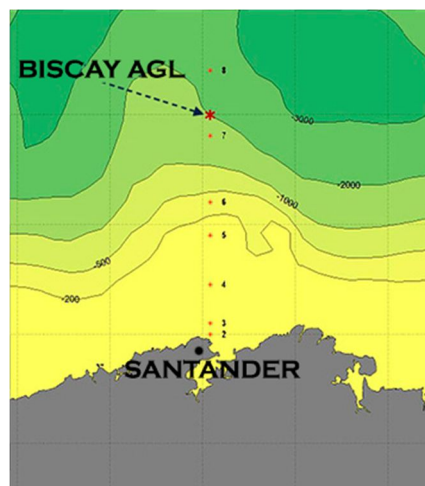
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Biscay-AGL Observatory.

Since 1991, shelf and slope waters of the Southern Bay of Biscay are regularly sampled in a monthly hydrographical section north of Santander to a maximum depth of 2500m, as part of the IEO Radiales program. On June 2007, an ocean-meteorological buoy (AGL) was moored at the end of Santander standard section, 22nm north at 2850m depth, to complete the ocean information with the ocean-atmosphere interaction. All of them are part of IEO Observing System (1). The integrated system of AGL and its nearest hydrographic station (2600m depth) is named Biscay-AGL observatory. It is also one station for the EU FixO3 project. Joint resources and systematic analysis lead to a powerful tool, which is much more than the combination of the AGL buoy and the hydrographical samplings.



Data Access.

All AGL buoy collected data are added to the local database sited at IEO-Santander in real-time and, after rutinary automatized quality controls, they are immediately available through its dedicated webpage (www.boya_agl.st.ieo.es).

Monthly CTDO2 data from the hydrographic section are lab-calibrated in order to obtain acurated values of salinity, dissolved oxygen and density, and added to the long-term time series.

Biscay-AGL data are quality controlled, flagged and formatted according internationally agreed standards (2, 3) and routinely sent to the IEO Datacenter. This added-value controlled data are incorporated to the IEO permanent archive and made freely available through the SeaDataNet infrastructure for data access and discovery.

Derived products.

Data acquired by Biscay-AGL may be displayed as timeseries as usual, but end-users are benefited by derived products which provide direct information. A recently developed software tool produces not only timeseries of several parameters at different time resolutions but also derived products, both real and delayed time. The real time products are generated without human intervention and with every

new data arrived at the reception station. Derived products from this buoy include, but not only, annual cycles as well as anomalous values, air-sea heat fluxes, salinity and water temperature anomalies, subinertial currents series, chlorophyll surface series, estimations of the mixed layer depth and wind and currents roses.

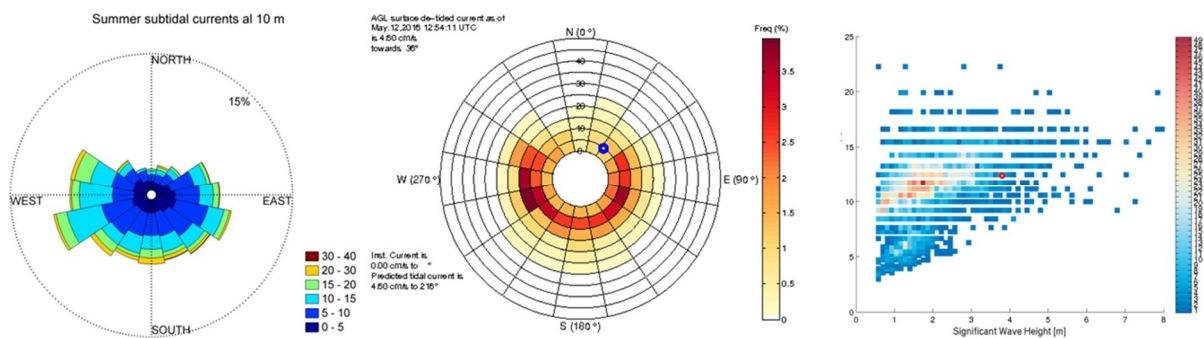


Figure 1: Examples of new derived products developed: subtidal currents, instantaneous current and significant wave height.

Sensor Web Enablement (SWE).

Sensor Web infrastructures are setup to access real-time data observed by sensors. This system has been implemented in AGL buoy sensors in order to simplify the retrieved events and alerts triggered through sensors. All those functionalities of the Sensor Web are provided in an interoperable way, following the standards established by the Open Geospatial Consortium (OGC). By defining standardized service interfaces, these services hides the heterogeneity of the sensor network, its communication details, enabling the access to archived sensor data that can be discovered and accessed using open and standard protocols and application programming interfaces.

Acknowledges.

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