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Sensor Networks and derived products at Biscay AGL observatory. State of the art operational oceanography at IEO.

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Since 1991, shelf and slope waters of the Southern Bay of Biscay are regularly sampled in a monthly hydrographical section north of Santander, and on June 2007, an ocean meteorological buoy was moored at the end of Santander Section (www.boya_agl.st.ieo.es). Both are part of IEOOS (IEO Observing System). Biscay AGL is one observatory for the EU FixO3 project. Many sensor networks have been deployed to monitor marine environment, and more will follow in the future. Due to the large number of sensor technologies, integrating diverse sensors into observation systems is not straightforward. By defining standardized service interfaces (like those based on OGC standards) it is possible to enable access to sensor networks and archived sensor data that can be discovered and accessed using standard protocols and application programming interfaces, therefore complying with the requirements of the INSPIRE directive. Future developments include the deployment of a full sensor network as well as adding new devices to the Biscay AGL tool in order to achieve a deeper knowledge of the ocean. Biscay AGL is more than the combination of the AGL Buoy and the hydrographical samplings. This observatory produces not only time series of several parameters at different time resolutions but also derived products, both in real and in delayed time. Derived products from this buoy include annual cycles as well as anomalies of physical and biogeochemical magnitudes like air-sea heat fluxes, salinity and water temperatures, sub inertial currents, surface chlorophyll. Different products are derived from in-situ measurements at the AGL buoy like estimates of the mixed layer depth, wind and currents roses and wave intensity diagrams.