

Fixed and Drifting Buoys around the National Spanish Waters

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Improving the knowledge of the ocean and seas surrounding the Iberian Peninsula and Balearic and Canary islands is an objective of the Spanish oceanography. For that purpose, a number of fixed and drifting floats have been established in the last 25 years. Data buoys measure sea surface temperature and salinity, ocean current velocity, air temperature, humidity, wave characteristic and wind velocity across seas and ocean. The objective is increase the quantity, quality, coverage and timeliness of atmospheric and oceanographic data. These observations are used immediately to improve forecast and therefore increase marine safety.

The main group of fixed buoys is formed by the Puertos del Estado deep and shallow buoy networks, but a series of well instrumented new platforms has been established in later times. The RAIA Project (Xunta de Galicia), PLOCAN, SOCIB, IEO, Euskalmet-AZTI, ICM and UTM (CSIC) and University and Polytechnic of Barcelona have completed the Observing System. Most of the buoys are transmitting data by GTS for using in atmospheric and ocean prediction models.

Multidisciplinary sensors as Dissolved Oxygen, Fluorescence Chlorophyll or pCO₂ has been mounted in the buoys and calibration/validation procedures has been developed for improve data quality. Antifouling systems recently developed have also been included and quality of the optical sensors measurements has improved.

Drifting floats has increase its number and importance, from Argo floats to traditional deriving ones improving the Spanish contribution to IOC and WWO and JCOMM. Spain is member of EuroArgo ERIC. SOCIB and IEO are the main contributors. Also multidisciplinary work has been done associated to Argo buoys. BGQ ARGO incorporate O₂ sensor.

ICM, SMOS Barcelona Expert Center, and SOCIB are the main contributors to the drifting buoys group. Main objectives are improving Technological development as well as data management. Tropical and Southern Atlantic Ocean are the main studying areas.