IEOOS, the Spanish Institute of Oceanography integrated Ocean Observing System

**TIDE GAUGE NETWORK**

Working since 1943, it is the oldest Spanish tide gauge network. It has 12 stations and is completely linked to international programs as Permanent Service for Mean Sea Level (PSMSL) or Global Sea Level Observing System (GLOSS).

**DEEP MONITORING SECTIONS**

Deep hydrographic sections are sampled in the Canaries and N-NW Spain since 2003. Sections have been occupied semiannually or at least annually, though the ones in the Cantabrian Sea have been discontinued recently. Its information contributes to the knowledge of the oceanographic climatic variability and global change monitoring.

**IEO RESEARCH VESSELS UNDERWAY MONITORING**

Nowadays the IEO maintains continuously working 5 thermo-salinographs, 4 meteorological stations, 4 marine data management systems on board the R/V fleet. Collected data are routinely sent to the IEO datacenter for QA, dissemination and archive.

**HYDRODINAMIC MODELS**

The IEO runs high resolution models in the N-NW iberian peninsula to give response to the oceanographic water conditions, upwelling system variability and harmful algal bloom prediction, among others.

**COASTAL MONITORING SECTIONS**

Since 1990, 181 repeated stations build the longest multidisciplinary oceanographic data acquisition network in Spain. They attempt to characterize the ocean variability at different scales, seasonal, inter-seasonal and decadal, including the plankton behavior and the ecosystem responses.

**OCEAN-METEOROLOGICAL BUOY**

Deployed in 2007, 43º50’N 3º47’W, it is located 22 miles North of Cape Mayor, off Santander (southern Bay of Biscay). Water depth at the buoy is 2850m. The obtained information is of great importance for the scientific, meteorological, environmental, fishery, maritime and tourist activities which have a real-time marine information source.

**IEO CONTRIBUTION TO ARGO INTERNATIONAL PROGRAM**

The IEO supports the main Spanish contribution to the ARGO international program with 47 deployed profilers since 2003.