

## Subsurface Water Sampling Network of the Instituto Español de Oceanografía: from data acquisition to final users

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The Instituto Español de Oceanografía (IEO) has implemented a subsurface water sampling network on its fleet like part of its observing system: IEOOS (1). This ship-based network was formed by two local vessels (B/O Navaz, B/O Lura), three regional ones (B/O Ramon Margalef, B/O Angeles Alvariño, B/O Francisco de Paula Navarro) and an oceanic one (B/O Miguel Oliver). Each of them was instrumented with a SeaBird 21 thermosalinograph (TSG) and a Turner 10 Fluorometer. The vessels work all around the Spanish seaways: the Iberian Peninsula, Balearic and Canary Islands. The TSG data are daily sent to a processing centre. An automatic data processing system was developed to manage all the information generated in quasi-real time by this subsurface sampling network.

The daily quality control is performed in order to detect geopositioning errors, spikes, etc. This quality control includes the assignment of quality flags based on international criteria established in the frame of SeaDataNet European projects (2) and adds information about the data reliability.

Daily controlled data are stored in a Thematic Realtime Environmental Distributed Data Services server (THREDDS, <http://centolo.co.ieo.es:8080/thredds/>) for operational oceanography purposes. This infrastructure facilitates the data access by scientific community and its visualization by means of Open Geospatial Consortium (OGC) standard services. Nowadays an automatic data storage system based on Postgres/PostGIS database is being developed in order to make easier the implementation of a user-friendly web service to visualize them. The metadata generation is carried out following INSPIRE (2007/2/EC) directive, allowing the interoperability of the database and making easier the development of end-user services based on it.

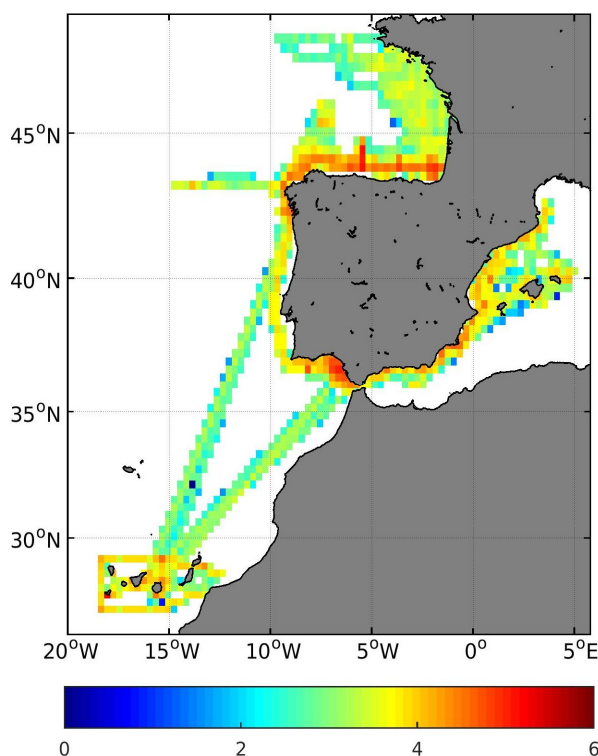


Figure 1: Logarithm of the number of data obtained during 2015

Delayed mode quality control and permanent data archive at IEO data centre, includes a monthly validation and their incorporation to the SeaDataNet infrastructure, from where they are also accessible under the agreed data policy.

This effort in TSG data gathering and their efficient distribution is helping to use these TSG data for the evaluation of the ocean models that routinely run in the Atlantic area. As examples of the scientific interest of these routinely acquired data, the system is already giving information on the exchange of water between the Galician Rias Baixas (seawater inlets on the NW Spain) and the shelf, the variability in the position of river plume fronts or the spatial variability of chlorophyll concentration.

### **Acknowledgement**

The thermosalinometers data program of IEOOS is supported by the IEO. The IEO data centre has been partially funded by SeaDataNet II (FP7/2007-2013/283607).

### **Bibliography.**

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(2) Seadatanet Quality Control Procedures v2.0 [http://www.seadatanet.org/content/download/18414/119624/file/SeaDataNet\\_QC\\_procedures\\_V2\\_%28May\\_2010%29.pdf](http://www.seadatanet.org/content/download/18414/119624/file/SeaDataNet_QC_procedures_V2_%28May_2010%29.pdf)