

Spain

January 2012

Summary of Operational and Planned Oceanographic Observation Programs

Moorings

36 Sea level, 14 currents, 17 salinity, 34 water temperature and 39 wave programs exist at Coastal and near shore stations as of mid January 2012. To see present status go to: http://www.puertos.es/en/oceanografia_y_meteorologia/redes_de_medida/index.html

Deep sea Network: 13 Seawatch (currents, T(w), Sal and Met) and 3 WaveScan

ESTOC (With IFM Kiel) *An aerial photograph has confirmed that the ESTOC surface buoy is on station but has been catastrophically damaged, and is no longer able to send messages. It is planned to test and re-deploy once again.*

<http://www.eurosites.info/estoc/data.php>

VULCAN (Climate Variability in the North Atlantic), Two moorings at 43,48N–3,47W (3500m) and 43N-11W (3000m) with Aanderaa current meters.

2 current meter moorings at 29°N between Canary Is. and African coast operating since 1997. Instituto Espanol de Oceanografia http://www.ieo.es/version_eng/indexingles.htm

XCTD/XBT/TSG

ESTOC XBT lines operated by Instituto Carnario de Ciencias Marinas (ICCM).

Finished as a systematic activity, now relies on sporadic ships of opportunity. See above

Sea Level

3 GLOSS MSL stations (Ceuta, La Coruna, Las Palmas de G.C.), 1 MedGLOSS station (Palma de Mallorca, Baleares) <http://indamar.ieo.es/> Latest data posted by GLOSS–2010 as of this date. <http://www.psmsl.org/data/obtaining/>

http://www.puertos.es/en/oceanografia_y_meteorologia/redes_de_medida/index.html

See also <http://www.ioc-sealevelmonitoring.org/index.php> for near real-time data

Ceuta, Las Palmas and La Coruna are also FAST delivery stations. December 2012 data posted at the Hawaii FAST Center. <http://ilikai.soest.hawaii.edu/uhs/c/woce.html>

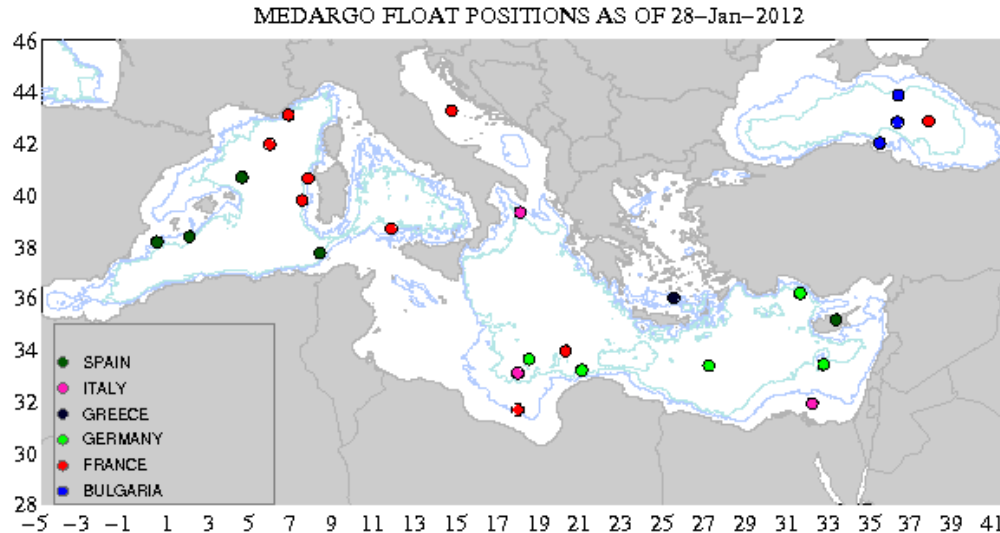
REDMAR harbor tide gauge network composed of 6 SONOR acoustic sensors, 3 Aanderaa pressure sensors and 33 MIROS radar sensors. Some data are sent daily to GLOSS and MedGLOSS www.puertos.es Networks are designed to obtain, in real time, detailed information about the physical features (waves, tides, temperature, wind, etc) of the Spanish territorial waters. There are four networks with different objectives: deep waters, coasts, current meters and tide gauges.

16 GPS positioned stations, 3 are GLOSS- Ceuta, Coruna and Porto De La Luz.

<http://www.sonel.org/spip.php?page=cgps>

ARGO

31 active floats 25 January 2012. To see latest status of floats go to: <http://wo.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/default> and select Monitoring and countries.



TS Hydrography

RADIALES PROFUNDOS (IEO). Time series cruise every 6 months in N and NW Spain in blue waters. Reaches some 100nm from the coast. Started Spring 2003. Includes Bio/Chem measurements. <http://www.vaclan-ieo.es/proyecto04.html>

RAPROCAN (deep hydrograph section 29N Lanzarote Canal to west of La Palma) twice yearly in the WOCE mode. www.oceanografia.es/raprocan

Latest and next Repeat Hydrographic sections (standard WOCE sampling).

A5, 24N – RAPID program 2010 with UK. OVIDE (A25) Iberian Peninsula-Greenland 2008 and with France 2010. FICRAM, Ushuaia-Cartagena WOCE A17, 2006 and 2013.

<http://cdiac.ornl.gov/oceans/RepeatSections/> and.

http://www.go-ship.org/RefSecs/Table&Meas_May2010b.pdf

Bio/Chem

IEO operates 8 transects along Spanish shelf (RADIALES) (physical, chemical and biological measurements) <http://www.seriestemporales-ieo.net/en/index.htm>.

Spanish North Coast Bottom Trawl Survey, 2001-2011

http://datras.ices.dk/Data_products/Submission_Status.aspx

Carbon

Carbon and repeat hydrography underway measurements:

Cartajena-Las Palmas 2/yr, 2005-

Quima VOS line, UK – Cape Town, monthly. 2005-

Coastal zone Gulf of Cadiz – 4/yr, 2006-2007

Canary Is.- Italy, 2007-

OVIDA Greenland -Lisbon (with France), every 2 years, 2002-2010

ICCABA 2007, Canary Isl-Italy

FICARAM (Spain/Argentina) 2001-2003

Time Series Stations:

MINAS 2005 onward, CARIOCA buoy with CO₂, O₂, S and T

GIFT 2005 onward, Strait of Gibraltar, seasonal