

Germany

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Summary of Operational and Planned Oceanographic Observation Programs

Moorings

BSH operates 11 current meters (RCMs) in the German Bight (also 6 thermistor chains and 10 SeaCats). MARNET consists of 10 automatic oceanographic stations in the North and Baltic Seas. Ocean temperature, salinity and oxygen are measured as well as atmospheric parameters. These sites report temperature information in BATHY code, thus are reported in XBT summaries. 3 stations operational 19 January (Kiel, Fehmarn Belt and Oder Bank)

http://www.bsh.de/en/Marine_data/Observations/MARNET_monitoring_network/aktuell.jsp

XCTD/XBT/TSG

AX3 completed 186 times 1988-2012. Latest section 8-11 January 2012. AX11 completed 160 times during 1990–2011 period. Latest Section completed December 2011. Full history of these high and low density lines can be seen at:

http://www.bsh.de/en/Marine_data/Observations/Observation_systems_and_programmes/SOOP/index.jsphttp://www.meds-sdmm.dfo-mpo.gc.ca/meds/Databases/OCEAN/Realtime_e.htm

Baltic cruises and SOOP SST/SSS (with ship hull mounted thermometers)

Sea Level

1 GLOSS MSL and FAST station – Cuxhaven. December 2011 data posted at the Hawaii FAST center. <http://ilikai.soest.hawaii.edu/uhs/c/woce.html>

9 MSL stations posted at PSMSL 2010 <http://www.psmsl.org/data/obtaining/>

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

There are many tide gauges along the German North Sea and Baltic Sea coasts. They are primarily used by the BSH for water level and storm surge predictions but are not operated by the BSH.

6 GPS positioned stations <http://www.sonel.org/spip.php?page=cgps>

ESEAS – Participant includes Tsunami stations at Kiel and Warnemunde 2. See other components at <http://www.e seas.org/>

Surface Drifters

DWD: 2 Met per year, FGGY type, no winds. Expected to continue without change.

One active Mid-October, Arctic Zone

Waves

Waverider –Buoys. German Bight and North Sea. See also WaMos

<http://www.oceanwaves.de>

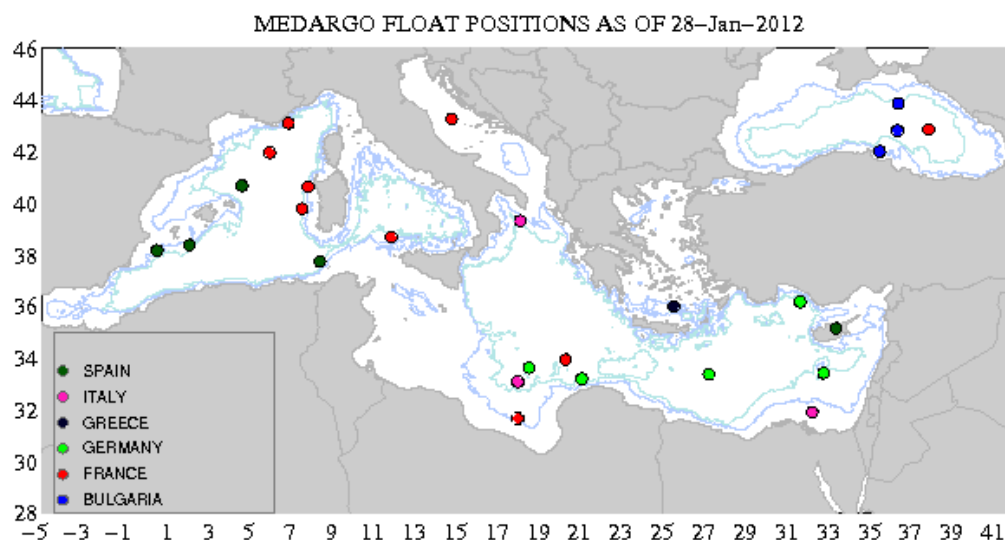
ARGO

183 active 28 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. 5 German Med Argo floats alive 28 January 2012.

<http://nettuno.ogs.trieste.it/sire/medargo/trajectories.php>



Time Series

AX3 Hydrography (see XCTD/XBT/TSG above)

5 German Bight/Western Baltic yearly cruises – CTD ADCP, Chem, Bio, Towfish

North Sea and Baltic – See Coastal below

July 2010 the ESTOC surface buoy was catastrophically damaged. It is planned to test and deploy a mooring that will be similar to design used in 2010.

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

GoodHope project to monitor the line from Cape Town to German Antarctic Base Neumayer. With South Africa, France, Spain, Russia and USA.

OceanSITES see <http://www.oceansites.org/network/index.html> for details of the following: TENATSO Cape Verde; Weddell Sea Proper and WS/Greenwich Meridian; Labrador Sea Export; Azores Front/Madeira Abyssal Plain; and Vema Channel

Latest and next Repeat Hydrographic sections (standard WOCE sampling).
A1W/AR7W, 2009 and 2011; A2, 2007 (full); 2009 (west), 2010 and 13; A12, 2008 and 2011
with Netherlands; SR4, Antarctic Peninsula to Kapp Norvegia and edge of Weddell Gyre 2011
with Netherlands. http://www.go-ship.org/RefSecs/Table&Meas_May2010b.pdf

Bio/Chemistry

Heligoland – Zooplankton, Sylt (Wadden Sea) 2 stations,
Buesum Mole (FTZ) – phytoplankton and nutrient dynamics (Wadden Sea)

FerryBox project measurements: Oxygen, ph, chlorophyll, fluorescence, ammonium,
nitrate/nitrite, phosphate, silicate and main algal classes. Cuxhaven to Harwich route.

Marnet stations obtain oxygen, radioactivity and nutrients

North Sea International Bottom Trawl Survey participant 1966-2011 and Baltic International
Trawl Survey participant, 1991-2011.

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

Sea Ice

Ice observers along the German coast, not part of MARNET.

VOS

192 VOS ships including 30 VOSClm operating 19 January.

<http://osmc.noaa.gov/Monitor/OSMC/OSMC.html>

<http://www.ncdc.noaa.gov/oa/climate/vosclim/vosclim.html>

Coastal

Manual and Automated network of coastal stations, lighthouses, lightships etc. SST, SSS,
currents, Oxygen, SL, Met, nutrients and radiology. BLMP is a German contribution to the
GOOS coastal program.