

# Germany

December 2009

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## Summary of operational and planned GOOS participation

### Observations

### Comments

Surface Drifters

One active and on GTS December 2009.

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

Waves

Waverider –Buoys. German Bight and North Sea  
See also WaMos <http://www.oceanwaves.de>

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. 7 operational December 2009.

[http://www.bsh.de/en/Marine\\_data/Observations/MARNET\\_monitoring\\_network/aktuell.jsp](http://www.bsh.de/en/Marine_data/Observations/MARNET_monitoring_network/aktuell.jsp)

*For sensor equipment go to above site*

FINO-1 is a Research Platform. <http://www.fino-offshore.de/>

Weddell Sea: see <http://www.oceansites.org/network/index.html>

XCTD/XBT/TSG

AX3 High Density XBT Line completed 30 times 2000-2008.  
AX11 (low density) completed 144 times during 2000 – 2009 period.  
Completed Jan, Mar, Apr, July, August, September and November  
in 2009. 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.jsp](http://www.bsh.de/en/Marine_data/Observations/Observation_systems_and_programmes/SOOP/index.jsp)

[http://www.meds-sdmm.dfo-mpo.gc.ca/meds/Databases/OCEAN/Realtime\\_e.htm](http://www.meds-sdmm.dfo-mpo.gc.ca/meds/Databases/OCEAN/Realtime_e.htm)

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

ARGO

179 active December 2009.

Sea Level	<p>1 GLOSS MSL and FAST station – Cuxhaven. December 2009 data posted at the Hawaii FAST center. 2006 MSL data posted at PSMSL</p> <p>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.</p> <p>7 GPS positioned stations including Cuxhaven  <a href="http://www.sonel.org/stations/cgps/survey/survey.cgps.html">http://www.sonel.org/stations/cgps/survey/survey.cgps.html</a></p> <p>ESEAS – Participant, 6 stations <a href="http://www.e seas.org/">http://www.e seas.org/</a></p>
Time Series	<p>AX3 Hydrography (see XCTD/XBT/TSG above)</p> <p>5 German Bight/Western Baltic yearly cruises – CTD ADCP, Chem, Bio, Towfish</p> <p>North Sea and Baltic – See Coastal below</p> <p>ESTOC(with Spain) redeployed November 2007 but removed April 2008. CIS redeployed July 2007 but moved off site October 2007 as did PAP in August after deployment June 2007. See updates at: <a href="http://www.soc.soton.ac.uk/animate">www.soc.soton.ac.uk/animate</a></p> <p>GoodHope project to monitor the line from Cape Town to German Antarctic Base Neumayer. With South Africa, France, Spain, Russia and USA.</p> <p>OceanSITES see <a href="http://www.oceansites.org/network/index.html">http://www.oceansites.org/network/index.html</a> for details of the following:  TENATSO Cape Verde  Weddell Sea Proper and WS/Greenwich Meridian  Labrador Sea Export  Azores Front/Madeira Abyssal Plain  Vema Channel</p>
Bio/Chemistry	<p>Heligoland – Zooplankton, Sylt (Wadden Sea) 2 stations,</p> <p>Buesum Mole (FTZ) – phytoplankton and nutrient dynamics (Wadden Sea)</p> <p>FerryBox project measurements: Oxygen, ph, chlorophyll, fluorescence, ammonium, nitrate/nitrite, phosphate, silicate and main algal classes. Cuxhaven to Harwich route.</p>

Marnet stations obtain oxygen, radioactivity and nutrients

North Sea Bottom Trawl Survey participant since 1965. 71 surveys completed through 2008. 60 Baltic International Trawl Surveys completed through 2008.

<http://www.ices.dk/datacentre/accessions/index.asp>

#### Carbon

A2, Completed 2000 and 2003, Koltermann

A12, Completed 1998, 2003 and 2005, Fahrbach

Leubeck-Helsinki, 150/yr; Liverpool-Halifax, 2 per 5 weeks;

Las Palmas-Las Palmas, 1/year – 2007/ 2008 RV Poseiden/ Merion.

Polar Oceans and Atlantic transects to Antarctica (with Netherlands).

Porcupine Abyssal Plain (PAP) 2003-, continuous

K1, near Bravo 56N-52W, continuous

Central Irminger Sea, 2003-

RV Islandia/CV 17.5N-24.3W, 2007- monthly

S. Africa/S.America via Weddell Sea 2008 and 2010, Polarstern

<http://www.ioccp.org/>

[http://www.clivar.org/carbon\\_hydro/hydro\\_table.php](http://www.clivar.org/carbon_hydro/hydro_table.php)

#### Sea Ice

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

#### VOS

503 active ships December 2009, potential 2074 ships.

VOSCLIM participation: 37 ships November 2009

<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 (see 2002 German National report to I-GOOS for details)