

NOOS annual report 2016

Member report - BSH

October 2016

Country	Germany
Institution	Bundesamt für Seeschifffahrt und Hydrographie
Observations Status and new initiatives	<p>Status:</p> <ul style="list-style-type: none"> • MARNET (<i>Marine Environmental Monitoring Network in the North Sea and Baltic Sea</i>) running with 12 platform stations (thereof 6 in the North Sea including FINO-platforms) Real time measurements, e.g. temperature, salinity, current, water level, air temperature, wind, air pressure, radioactivity, oxygen, pH • 10 stations for waves (thereof 5 in the North Sea) • several monitoring cruises per year to collect physical, chemical, and biological data • remote sensing data (e.g. SST, ice, water colour) • Due to general maintenance Fehmarn-Belt-buoy is out of work. Restart on its position planned for January 2017 • Northseabuoy-3 (NSB3) has stopped operation due to maintenance work until Mai 2017 <p>New Initiatives:</p> <ul style="list-style-type: none"> • A second evaluation of hydrophones with respect to the tasks of an approval authority of Wind parks in the German North Sea is planned for the first half 2017
Modelling Status and new initiatives	<p>Status: operational (version 4):</p> <ul style="list-style-type: none"> • baroclinic 3dim. circulation model (BSHcmod) using 3 nested grids (6 nm, 3 nm, 0.5 nm), Northeast-Atlantic, North Sea and Baltic, 3 day forecasts, 2 x daily • baroclinic 3dim. circulation model (HBM), Elbe estuary, 90m resolution, 60h-forecast, 2 x daily • barotropic 2dim. storm surge model (BSHsmod) using 2 nested grids (6 nm, 3 nm), Northeast-Atlantic, North Sea and Baltic, 4 x daily, 7 day forecasts • baroclinic 3dim. Circulation model (HBM) Version CMEMS V1 including biogeochemical model ERGOM, Baltic Sea, 1nm resolution, 60 h-forecast, 2 x daily • multi- model-ensemble for temperature, salinity, transport, currents and sea level developed in CMEMS, data available from BSH ftp site <p>Eulerian and Lagrangian dispersion models (BSHdmod & SeatrackWeb) for different substances</p> <p>New initiatives : pre-operational:</p> <ul style="list-style-type: none"> • new version of baroclinic 3dim. circulation model HBM (HIROMB-BOOS-Model) using 3 nested grids (6 nm, 3 nm, 0.5 nm), Northeast-Atlantic, North Sea and Baltic, 3 day forecasts, 2 x daily • biogeochemical model ERGOM for North Sea and Baltic with 2 nested grids (twice a day) • local model for river Elbe based on Untrim-code using an unstructured grid with variable resolution (48h-forecast, twice a day) <p>under development:</p> <ul style="list-style-type: none"> • new model for simplified ice dynamics and fast ice (part of HBM version CMEMS V2) • data assimilation of both satellite SST and Chl-a data and profile T and S data
Dissemination Status and new initiatives	<p>Status: available at internet (www.bsh.de) Real Time Observations and forecasts:</p> <ul style="list-style-type: none"> • Tides

	<ul style="list-style-type: none"> • Water levels, storm surges • Currents • Sea state • Water temperatures (weekly SST), heat content • Salinity • Oxygen • Ice • Remote sensing • 'Baden & Meer' • Prediction models (Drift forecasts) • Radioactivity • Climate <p>Additionally:</p> <ul style="list-style-type: none"> • Marine physical data <ul style="list-style-type: none"> • measured water levels and wave data on ftp server (<i>for NOOS members</i>) • computed water levels and wave data on ftp server(<i>for NOOS members</i>) • computed transports in North Sea and North Sea/Baltic transition area on ftp server • Marine chemical data • DOD (German Oceanographic Data Centre) – see www.bsh.de/Marine_data/DOD • MARNET monitoring network <ul style="list-style-type: none"> • Data base for RT- and NRT-oceanographic data (national and international) • data on ftp server (<i>for NOOS members, and EU-wide</i>) • SOOP: Sections AX3 and AX11 (Atlantic Ocean) now published in Internet http://www.bsh.de/en/Marine_data/Observations/Observation_systems_and_programmes/SOOP/index.jsp • Multi-model-ensemble for sea surface temperature, salinity and currents and sea bottom temperature and salinity: ftp://ftp.bsh.de/outgoing/opmodel/my_ocean/MME/ • MURSYS reporting system • NOOS homepage (hosted by BSH using the WordPress content management system) <ul style="list-style-type: none"> • Computed transport forecasts for the North Sea on NOOS-homepage (results of Version 4 of the BSH-circulation model) • Computed forecasts of currents in the North Sea on NOOS-homepage • Multi-Model-ensemble results for temperature, salinity (including a monthly validation), transport and currents on NOOS and BOOS homepage <p>NWS-Data Portal including RT- and NRT-data from the NWS http://nwsportal.bsh.de/nwsportal (graphics and figures free, download pw-protected) new: some historical data; composite north sea cruises (1998-2012) ftp box for netcdf data files: ftp://ftp.bsh.de/outgoing/rcnws/</p>
<p>Relevant national projects</p>	<ul style="list-style-type: none"> • FINO: Research platforms North Sea and Baltic Sea (research to determining the effects of wind farms on the marine flora and fauna). Data base access for Meteorology and Oceanography via: fino.bsh.de • NKS MCS: National project in order to support Copernicus Services • RAVE: Research Activities at “Alpha-Ventus” (accompanying/secondary research for off-shore wind park “Alpha Ventus”) • MeRaMo: National project in frame of Copernicus to support the Marine Strategy Framework Directive by ecosystem modelling and remote sensing data • UFOPLAN: National project to investigate the impact of scrubber technologies in ship exhaust gas treatment to the marine environment. Dispersion modelling will simulate scenarios in the German Bight • MDI-DE(Marine data infrastructure) National marine data infrastructure to combine all national environmental data as a basis for the MSD

<p>Relevant International projects</p>	<p>CMEMS (Copernicus Marine Environment Monitoring Service – NOT a project but an operational service), Involvement in</p> <ul style="list-style-type: none"> • Insitu TAC: Production and distribution unit for in-situ data of the North-West Shelf • NWS MFC (NOWMAPS) mainly Validation and Quality Assurance for North West Shelf MFC • Baltic MFC (Back-up) Production/Validation/Quality Assurance for Baltic Sea MFC <p>SIDERI/EuroARGO: European contribution to a global ocean observatory Working groups in IOC – IODE (Committee on International Oceanographic Data Exchange)</p> <p>SeaDataNet 2: An Integrated Infrastructure Initiative of the EU Sixth Framework (main BSH topic: Cruise summary reports)</p> <p>Geo-Seas: EU-FP7 project: Pan-European infrastructure for management of marine and ocean geological and geophysical data</p> <p>Involvement in EMODNET(European Marine Observation and Data Network):</p> <ul style="list-style-type: none"> • EMODNET-chemistry • EMODNET-hydrography • EMODNET-physical • EMODNET-geology
<p>Additional information</p>	<p><i>the BSH-Spatial Data Infrastructure; incl. oceanographic, naut. hydrographic, shipping, environmental data.</i></p> <p>New version of portal: see: http://www.geoseaportal.de</p>