NOOS annual report 2015

Member report - BSH

September 2015

Country	Germany
Institution	Bundesamt für Seeschifffahrt und Hydrographie
Observations **Status and new initiatives**	*Status:* • MARNET*(Marine Environmental Monitoring Network in the North Sea and Baltic Sea)* 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, radioaktivity, 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 until summer 2014 *New Initiatives:* • BSH is testing a Windsentinel-Buoy near FINO1 in close co-operation with the manufacturer AXYS. Tests are running until Mai 2016 • Evaluation of hydrophones with respect to the tasks of an approval authority of Wind parks in the German North Sea • Start of a hydroaccoustic monitoring station in the NATURA-2000 areal I in the north-eastern Part of the German Bight
Modelling **Status and new initiatives**	*Status:* operational (version 4): • baroclinic 3dim. circulation model (BSHcmod) using 3 nested grids (6 nm, 3 nm, 0.5 nm), 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), 4 x daily, 7 day forecasts Eulerian and Lagrangian dispersion models (BSHdmod & SeatrackWeb) for different substances *New initiatives :* pre-operational: • new version V5 (V6, resp. Copernicus V2 in 04/2016) of circulation model HBM (HIROMB-BOOS-Model) developed in CMEMS (Copernicus Marine Environment Monitoring Service), resp. in the EU-funded projects MyOcean & MyOcean-2 (60h-forecast, twice a day) • biogeochemical model 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) • multi-model-ensemble for temperature, salinity, transport, currents and sea level developed in CMEMS, resp. MyOcean-2, data available from BSH ftp site under development: • new model for simplified ice dynamics (probably part of HBM V6) • data assimilation of both satellite SST and Chl-a data and profile T and S data • high resolution coupled circulation and wave model (with German Weather Service, DWD)

Dissemination
Status and new initiatives
	Status:
	available at internet (www.bsh.de)
	Real Time Observations and forecasts:
	• Tides
	• 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
	
	Additionally:
	• Marine physical data
	    • measured water levels and wave data on ftp server *(for NOOS members)*
	    • computed water levels and wave data on ftp server*(for NOOS members)*
	    • computed transports in North Sea and North Sea/Baltic transition area on ftp server *(for NOOS members)*
	    • results of the BOOS/NOOS-RC-data centre (*still pw-protected*):
	      compilation of all available S and T data
	      ftp://ftp.bsh.de/outgoing/rcbono/
	      ftp://ftp.bsh.de/outgoing/rcnws/
	• Marine chemical data
	• DOD (German Oceanographic Data Centre) – *see www.bsh.de/Marine_data/DOD*
	• MARNET monitoring network
	    • Data base for RT- and NRT-oceanographic data (national and international)
	    • data on ftp server *(for NOOS members, and EU-wide)*
	
	• 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 (using the TYPO3 content management system – hostet by DMI)
	    • 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, transport and currents on NOOS-homepage
	
	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)

Relevant national projects	• 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") • MDI-DE(Marine data infrastructure) National marine data infrastructure to combine all

	national environmental data as a basis for the MSD
Relevant International projects	CMEMS (Copernicus Marine Environment Monitoring Service), Involvement in • 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 SIDERI/EuroARGO: European contribution to a global ocean observatory Working groups in IOC – IODE (Committee on International Oceanographic Data Exchange) SeaDataNet 2: An Integrated Infrastructure Initiative of the EU Sixth Framework (main BSH topic: Cruise summary reports) Geo-Seas: EU-FP7 project: Pan-European infrastructure for management of marine and ocean geological and geophysical data Involvement in EMODNET(European Marine Observation and Data Network): • EMODNET-chemistry • EMODNET-hydrography • EMODNET-physical • EMODNET-geology
Additional information	*the BSH-Spatial Data Infrastructure*; incl. oceanographic, naut. hydrographic, shipping, environmental data. see: http://www.geoseaportal.de