BOOS Annual Meeting 2019

Member report

Institution	**BSH – federal maritime and hydrographic agency**
Country	**Germany**
Observations	***Status:*** • Temperature, salinity, current, oxygen content (from various oxygen optodes), radioactivity and meteorological data by the MARNET(Marine Environmental Monitoring Network in the North Sea and Baltic Sea) running with 5 platform stations and 3 observation sites for sea state in the Baltic Sea • Several annual monitoring cruises in the western Baltic Sea with chemical focus • Sea level data provided by Water and Shipment Agencies (WSAs) • SST and ice coverage from NOAA-AVHRR and MetOp remote sensing data • Chlorophyll-a (Chl-a) from MODIS remote sensing data • The BSH monitoring network is supplemented by research-platforms for wind plants called FINO. FINO2 is located in the Baltic Sea and working since 2008. The access to FINO data was restricted, but since 2018 it is freely available. • Wave measurements at all three FINO platforms are operational. • Sea level data measured with a radar gauge (RADAC) at all three FINO platforms are operational. Levelling is done via GPS. • Oceanographic measurements at FINO2 are operational since 2014. These measurements are carried out by the IOW on behalf of the BSH and the BSH itself (waves and waterlevel). ***New initiatives:*** • Data transmission from NSB-2 and 3 via inmarsat is now in operation. Tests for other platforms, e.g. Fehmarn Belt platform are running. • A new type of buoy for the position Oder Bank is developed by the IOW on behalf of the BSH. A first trial was promising, a second trial is starting with both buoys running in parallel. Finally, the new spar buoy shall replace the old discus buoy.
Modelling	***Status:*** **operational on national level:** • Baroclinic 3dim. circulation model (BSHcmod) using 2 nested grids (3 nm for whole Baltic, 0.5 nm for Western Baltic), 3 day forecasts, 2 x daily • Baroclinic 3 dim. circulation model (HBM) including biogeo-chemical model (ERGOM) with 2 nested grids (3 nm for whole Baltic, 0.5 nm for Western Baltic), 3 day forecasts, 2 x daily • **on demand:** Eulerian and Lagrangian dispersion models (BSHdmod, HBMeulerian & SeatrackWeb) for different substances, i.e. SPM **operational on European level:** • Multi-model-ensemble of SST, SSS, SSC, SBT, SBS, transports, and water level for CMEMS Baltic MFC based on all available model results from BOOS partners (Golbeck et al., 2015) • Modelling/validation/quality assurance for Baltic MFC of CMEMS

	New initiatives: **pre-operational**: • Data assimilation for SST based on LSEIK filter on 3nm grid **under development:** • Data assimilation scheme for temperature/salinity profiles and ecosystem parameters
Data, product and service	***Status:*** **Publicly available via internet (www.bsh.de):** → **Observations:** • MARNET monitoring network in real-time: temperature, salinity, current, oxygen content, sea state, radioactivity, meteorological data • Remote sensing: SST (weekly map), ice and chl-a • Ice charts and reports • Circulation Calendar German Bight → **Forecasts:** • Sea level (accompanied with measurements from WSAs) • Storm surges • Currents • Briefing for beach visits → **Miscellaneous:** • Climatological time series • DOD Data Centre: general data requests • MDI-DE: Marine Data Infrastructure for Germany • MURSYS reporting system: environmental reports • GeoSeaPortal: interface to geo information data including observations **Contributions directly to BOOS:** • Processing of some products for BOOS homepage, see below • Some maintenance of the new BOOS homepage (Web WG lead) • Lead of BOOS cooperation on common cal/val tools **Data and products on BOOS homepage:** • MARNET data • MME currents and transport forecasts for the Baltic Sea and the North Sea/Baltic Sea transition area • Presentation of results from Multi-model-ensemble: uncertainty estimates, warning system, and validation • Sea level measurements provided by WSAs • Product quality information on the forecast products from CMEMS Baltic MFC **Data on ftp server with access for BOOS members:** • MARNET data (access also EU-wide) • Sea level measurements provided by WSAs • Full resolution ADCP current data from ARKONA and DARSS station • Simulated sea level data • Simulated sea state data (sea state measurements are part of MARNET data) • Simulated transports in the Baltic Sea and the North Sea/Baltic Sea transition area • Results from Multi-model-ensemble for the Baltic Sea

	New initiatives: • A database of all sea state data observed by BSH and others (where available) is built up. • Compilation of a Baltic Sea Climatology (ocean and atmosphere) on behalf the expert network of BMVI (Federal Ministry of Transport and Digital Infrastructure) • A new procedure for the comparison of simulations and in-situ data is part of the cal/val work
Projects including BOOS partners	• **FAMOS:** Finalising Surveys for the Baltic Motorways of the Sea BOOS partners involved: SMA www.famosproject.eu • **SeaDataCloud:** Project to advance the SeaDataNet Services and adopt cloud and High Performance Computing technology BOOS partners involved: SMHI, FMI, IMGW, MSI, IO PAN, SYKE www.seadatanet.org/About-us/SeaDataCloud • **Baltic LINes / PanBaltic Scope:** Coherent Linear Infrastructures in Baltic Maritime Spatial Plans BOOS partners involved: SYKE www.balticlines.eu www.nordregio.org/research/panbaltic-scope
Other relevant projects	• **SOUND:** Sound mapping, development of standards, tools, and visualisation no weblink known • **MoBo:** Development of a monitoring buoy www.iwes.fraunhofer.de/de/forschungsprojekte/aktuelle-projekte/mobo.html • **FINO:** Research platforms North Sea and Baltic Sea (research to determine the effects on the marine flora and fauna) www.fino2.de
Involvement in BOOS tasks	STG, BMP, BOP, MME WG, Web WG, Cal/Val WG
Invovlement in EuroGOOS WGs, TTs	Executive Directors Board, SAWG, DataMEQ WG, Euro-Argo
Suggestions to BOOS future activities	Investigation of possibilities to: • regularly monitor marine plastics in the Baltic Sea • exchange measurements of sound • produce common BOOS charts or other products from these observations
Additional information	• The second STG term of Jan Reißmann ends in 2019. • Thorger Brüning is nominated as BSH candidate for the BOOS STG and also as a candidate for the BMP Board.