

BOOS Annual Meeting 2015

Member report

Institution	Finnish Meteorological Institute
Country	Finland
Observations Status and new initiatives	<ul style="list-style-type: none"> - Sea level at 13 mareographs working continuously and sending data with 1 minute intervals. One hour data is publicly available in FMI's open data. - FMI has four wave buoys in the Baltic Sea that measure waves in the open sea season. These wave buoys are located in the Northern Baltic Proper, off Helsinki, in the Bothnian Sea and in the Bay of Bothnia. - Routine monitoring with R/V Aranda done three cruises per year - FMI has four permanent stations with T and S profiles measured in principle every 10 days during the open sea season - Some of the coastal meteorological station measure also SST - Ice data is collected with several methods in FMI ice service - Utö Marine Research Station (ICOS, Integrated Carbon Observation System) under development. A mooring with real time T and S from 7 depths has suffered technical problems - Argo floats have been in use in the Bothnian Sea and Baltic Sea Proper since 2012 during ice-free seasons. Data is available in Argo web pages. Finland is a member of Euro-Argo. - Daily ice concentration and thickness grid (MyOcean2 product) - Ice thickness charts based on SAR-satellite images (MyOcean2 product) - Ice movement charts based on consecutive SAR images (MyOcean2) - Coastal radars are used to measure ice movement - A tender for a glider was launched in early 2015 and we expect to get one in December 2015. First experiments are planned for April 2016. - Investment money has been allocated for a moored TS-station, the purchase will be done in 2016.
Modelling Status and new initiatives	<ul style="list-style-type: none"> - FMI marine models use FMI HIRLAM as forcing for 54 h forecasts and ECMWF forcing for longer forecasts. - Surface wave model WAM is running operationally. - HBM circulation model has been run operationally since 2012. Operational version upgrade is planned for 2015. - Sea level is forecasted operationally with several models (Wetehinen, OAAS) for making ensemble forecasts (also other BOOS members' model results are used) - HELMI dynamic ice model in operational use - HIGHTSI 1D thermodynamic snow ice model in operative use - NEMO model is under development. Climatic runs have been done for period 1966-2007. Several other runs (e.g. 2007, 2008, 2013) have been performed for validation and process studies. An alpha version of a preoperational NEMO forecast has been running since late 2013. Development work in Arctic seas (ice model) and in the Baltic Sea (wave-ocean interaction) ongoing - Validation of HBM model results continuously done - Validation of NEMO results continuously done - FMI is member of STW consortium
Dissemination	<ul style="list-style-type: none"> - FMI has open data service since June 2013 including notable

Status and new initiatives	<p>amount of marine observations and model data (see https://en.ilmatieteenlaitos.fi/open-data). Private sector has taken advantage of this data and this is expected to continue</p> <ul style="list-style-type: none"> - Data for BOOS community is still on FMI ftp-server. - Some data is shown on BOOS Internet-pages - Data and products are shown on FMI Internet pages (http://en.ilmatieteenlaitos.fi/ and http://www.fmi.fi) - Monitoring cruise data is available via SeaDataNet and Baltic Nest Institute - Ice service produces daily ice charts and regular charts are published in FMI pages - FMI produces several ice related products that are still available via PolarView pages (http://www.polarview.org/services/rsif.htm and http://www.polarview.org/services/sitc.htm), these include charts of ice motion, concentration, thickness, ridged ice thickness etc. - HBM data is provided to BSH for multi model ensemble forecast
Relevant national projects	<ul style="list-style-type: none"> - StormWind
Relevant International projects	<ul style="list-style-type: none"> - SeaDataNet2 (ending) <ul style="list-style-type: none"> o Ship data and permanent station data (still to be included) - EMODNet Chemistry2 - GROOM (Gliders for Research, Ocean Observation and Management) has ended but leads to glider usage in Finland, too. - ANISTIAMO (Addressing New challenges in Satellite Based Maritime Surveillance and Arctic Monitoring) - MyOcean2 <ul style="list-style-type: none"> o Testing the suitability of NEMO/LIM3 for operational use o Ice related products (see data section of this table) o Data assimilation to HBM in the Baltic Sea forecasting centre
Additional information	<ul style="list-style-type: none"> - Many BOOS related development activities are collected into Operational Oceanography group in FMI, which has enhanced FMI's involvement in operational oceanographic activities.