

NOOS Annual meeting 2016

Member report

Country	Sweden
Institution(s)	SMHI
Observations Status and new initiatives	<ul style="list-style-type: none"> ▪ 24 permanent tide gauges operates as planned (21 RT), including the new mareograph at Onsala Space Laboratory, installed in September 2015. ▪ 7 of the tide gauges also measures SST. ▪ Continued tests of three mobile tide gauges around the Swedish coastline, installed in Haparanda, Arkö and Uddevalla. ▪ 3 wave buoys running (also giving SST), Finngrundet WR, Knolls grund and Väderöarna WR. The buoy at Finngrundet have been re-deployed again after a short break in the measurements, due to a trawling incident. ▪ 2 sea buoys – close to Huvudskär and Väderöarna. The buoy at Huvudskär was in operation between 14 april and 1 October. The buoy will be maintained and re-deployed as soon as possible. The buoy at Väderöarna will hopefully soon be in operation. ▪ 5 coastal buoys have been in operation for different periods the last years around the Swedish coast: Askö, Öland Ost, Havstensfjord, Kristineberg and Koster. Kristineberg and Koster have been in redeployed in April and May. The buoy at Havstensfjord have been moved to a new position to the south, at Tångesund, deployed in April. In September one more coastal buoy was deployed outside Umeå, at Norrbyn. Koster will be redeployed later this autumn. The coastal buoy outside of Askö will not be redeployed this year, due to lack of human resources at Askö. The coastal buoy project is done in cooperation with several Swedish Marine Centres, which are responsible for maintenance of the buoys. SMHI owns and operate two buoys and will be responsible to aquire, quality control and present data from all buoys. All data from the platforms and systems are presented here: http://www.smhi.se/en/weather/sweden-weather/sea-observations ▪ Coastal HF Radar: The system on the Swedish westcoast are now dismantled. The system provided current data from the area over the period November 2014 until December 2015. The system was rented from CODAR. ▪ Ferry-boxes running: Transpaper, in coopertaion with SYKE. Some problems occur during the autumn when the vessel made major upgrades of internal software. Now the system has stopped transmitting position and weather. Since last year, the vessel do not go to Gothenburg anymore. SMHI will now assist SYKE in Finland and try to solve the problems with the system. ▪ Data available from ice-breakers during the winter season: Ale, Atle, Frej, Oden and Ymer. Water temperature, (salinity), biogeochemical and meteorological data are available in the BOOS Data Portal. ▪ Test with bottom mounted oxygen device measuring water temperature, salinity and currents – three systems have been tested since autumn 2014; Ölands södra, Hanöbukten and Laholmsbukten (L9). ▪ A bottom mounted device is planned to be installed in the Öresund next year. ▪ Monitoring programme 2016 have been carried out with the ship Aranda, owned by SYKE. Sweden will have a new research vessel in a few years. ▪ SMHI plan to acquire data in NRT from the ferrybox onboard Aranda (water temperature, salinity, chl-fluorescence). A JERICO-NEXT action. ▪ Historical oceanographic data at SMHI freely available through an interactive web service (GUI) since June 2013, according to the INSPIRE directive.
Modelling Status and new initiatives	<ul style="list-style-type: none"> ▪ NEMO-Nordic operational (2016-05-10) 60 hour forecast run with data assimilation four times per day for the Baltic, Kattegat, Skagerrak and North Sea. Resolution 1 nmi. ▪ Semi-operational NEMO-Nordic long 240 hour forecast run with data assimilation two times per day for the Baltic, Kattegat, Skagerrak and North Sea. Resolution 2

	<p>nmi.</p> <ul style="list-style-type: none"> ▪ HIROMB 60-hour forecast running four times a day for the Baltic, Kattegat, Skagerrak and North Sea. Resolution 1 and 3 nmi. ▪ HIROMB longer forecasts running twice a day (00Z 10-days, 12Z 5-days) for the Baltic, Kattegat, Skagerrak and North Sea. Resolution 3 nmi. ▪ Semi-operational HIROMB 60 hour forecast once a day for the Atlantic sector of the Arctic. Resolution 6 nmi. ▪ High-resolution HIROMB 48-hour forecasts once a day for lake Vänern and for Brofjorden on the Swedish west-coast. ▪ SWAN 60-hour forecast four times a day for the Baltic, Kattegat, Skagerrak and North Sea. Resolution 22 km (North Sea) and 11 km (the rest) ▪ New Seatrack web core, Padm2 in development ▪ Replacement of HBV river-run off with HYPE. ▪ HIROMB development stalled. HIROMB will be phased out 2017-01-25 ▪ RCO-SCOBI, NEMO-SCOBI in research mode.
Relevant national projects	<ul style="list-style-type: none"> ▪ Long-term biogeochemical reanalysis (Havsmesan) for the Baltic Sea and Kattegatt for the period 1970-2000. Done as part of MyOcean. ▪ Cooperation with the Swedish Maritime Administration on a common reference datum for sealevel and for a new Swedish Sea Level network. ▪ Review of Oceanographic observational systems/platforms. ▪ Development of different user cases and quality improvements in Seatrack Web in a project financed by the Swedish Contingency Agency during 2015-2016. ▪ NEMO-Nordic development in-house. ▪ Sea level rise – governmental assignment. ▪ Data assimilation development work (development of 4D EnVar; sea level assimilation)
Relevant International projects	<ul style="list-style-type: none"> ▪ EMODnet physics – SMHI has the lead role in the Baltic and have integrated approx. 90 additional platforms to the EMODnet Physics portal: http://www.emodnet-physics.eu ▪ Copernicus INSTAC – SMHI run the marine service and disseminates in-situ data coming from the Baltic Sea. ▪ Copernicus BAL MFC – SMHI, BSH, DMI, MSI and FMI run the services in the Baltic. ▪ Jmp CS/NS. ▪ Balsam. ▪ Polar Ice - SMHI developed a setup of NEMO for Northwest Greenland. The Swedish Polar Research Secretariat tested the system summer 2015. The Polar Ice project will end spring 2016. ▪ Geoilwatch – pilot for using new observational sources as input to Seatrack Web. Test with e.g. oil sensors on ferryboxes and new satellite algorithms. Project ended 30 April 2016. ▪ Storm winds – SMHI will improve Seatrack Web regarding ice conditions and perform climate scenario analysis of ice parameters using NEMO-Nordic 2nm. ▪ JERICO NEXT – SMHI is a partner in Jerico Next. The project started 1 September 2015. ▪ SeaDataNet2, a new project, SeaDataCloud will soon start.
Additional information	<ul style="list-style-type: none"> ▪ SMHI monitors the surface accumulations of cyanobacteria in the Baltic Sea during the summer period: http://www.smhi.se/en/weather/sweden-weather/1.11631 ▪ Reports from SMHIs offshore sampling programme, which describe the algal situation in marine waters surrounding Sweden: http://www.smhi.se/en/publications/algal-situation-reports-2-1056