

## BOOS Annual Meeting 2019

### Member report

Institution	SMHI
Country	Sweden
Observations	<ul style="list-style-type: none"> <li>• 24 permanent tide gauges</li> <li>• 5 of the tide gauges also measures SST</li> <li>• 3 mobile tide gauges around the Swedish coastline</li> <li>• 3 wave buoys running (also giving SST), Finngrundet WR, Brofjorden WR and Väderöarna WR.</li> <li>• 2 sea buoys – close to Huvudskär and Knollsgrund.</li> <li>• 7 coastal buoys have been in operation for different periods the last years around the Swedish coast: Askö, Öland Ost, Havstensfjord, Kristineberg, Koster, Tångesund and Norrbyn. The coastal buoy project is done in cooperation with several Swedish Marine Centers, which are responsible for maintenance of the buoys. SMHI owns and operate two buoys and will be responsible to acquire, quality control and present data from all buoys. All data from the platforms and systems are presented here: <a href="http://www.smhi.se/en/weather/sweden-weather/sea-observations">http://www.smhi.se/en/weather/sweden-weather/sea-observations</a></li> <li>• Ferry-boxes running:             <ul style="list-style-type: none"> <li>○ Transpaper (the vessel doesn't go to Gothenburg anymore)</li> <li>○ 23 Stena ferry boxes measuring surface temperature</li> </ul> </li> <li>• Data available from ice-breakers: Ale, Atle, Frej, Oden and Ymer. Water temperature, (salinity), biogeochemical and meteorological data.</li> <li>• Monitoring program in spring/summer 2019 will be carried out with the vessel Aranda, owned by SYKE in autumn/winter with the vessel SVEA, Sweden's new research vessel.</li> <li>• Historical oceanographic data at SMHI freely available through an interactive web service (GUI) since June 2013, according to the INSPIRE directive.</li> <li>• Coastal HF Radar: The system on the Swedish west coast is dismantled. The system provided current data from the area over the period November 2014 until December 2015. The system was rented from CODAR.</li> </ul>
Modelling	<ul style="list-style-type: none"> <li>• NEMO-Nordic NS01: operational 60 hour forecast run with data assimilation four times per day for the Baltic, Kattegat, Skagerrak and North Sea. Resolution 1 nmi.</li> <li>• NEMO-Nordic NS02: operational 240 hour forecast run with data assimilation two times per day for the Baltic, Kattegat, Skagerrak and North Sea. Resolution 1 nmi.</li> <li>• NEMO-Vänern (commercial set-up for STW): operational 60h forecast for lake Vänern four times a day with SST dataassimilation. Resolution ~360m.</li> <li>• NEMO-Brofjorden (comercial set-up for STW): operational 48h hour forecast one time a day for Brofjorden at the Swedish west coast. Resolution ~60m</li> <li>• NEMO-Kuwait (comercial set-up for STW): operational 60h forecast one time a day for the persian gulf. Resolution 1 nmi.</li> </ul>

	<ul style="list-style-type: none"> <li>• SWAN: Operational 60h forecast (waves) for the Baltic, Kattegat, Skagerrak and North Sea. Resolution 4 nmi.</li> <li>• Seatrack Web (STW) is operational for the Helcom-version, Brofjorden, Vänern and Persian gulf.</li> <li>• New GUI for STW during 2018 including a helptext and interactive guides.</li> <li>• Baltsar – driftforecast for Search and rescue is operational.</li> </ul> <p>Ongoing work:</p> <ul style="list-style-type: none"> <li>• Updated version of NEMO 3.6 including new bathymetry <ul style="list-style-type: none"> <li>◦ Still tuning and part of CMEMS BAL MFC</li> </ul> </li> <li>• NEMO-Nordic-SCOBi in preoperational mode</li> <li>• NEMO-Nordic-ERGOM testruns and validation (BAL MFC)</li> <li>• Compiled and tested NEMO 4. Goal to have NEMO 4 operational during 2020.</li> </ul>
Data, product and service	<p>SMHI open data: <a href="https://opendata.smhi.se/">https://opendata.smhi.se/</a></p> <p>New improved SMHI product on sea level and waves: <a href="https://www.smhi.se/vadret/hav-och-kust/vattenstand-och-vagor#ws=wpt-a.proxy=wpt-a.lang=sv.station=none">https://www.smhi.se/vadret/hav-och-kust/vattenstand-och-vagor#ws=wpt-a.proxy=wpt-a.lang=sv.station=none</a></p> <p>New improved algae product: <a href="https://www.smhi.se/vadret/hav-och-kust/algsituationen">https://www.smhi.se/vadret/hav-och-kust/algsituationen</a></p> <p>New SMHI product on coastal weather: <a href="https://www.smhi.se/vadret/hav-och-kust/hav-och-kustvader/q/Stockholm/2673730#ws=wpt-a.proxy=wpt-a.parameter=wind">https://www.smhi.se/vadret/hav-och-kust/hav-och-kustvader/q/Stockholm/2673730#ws=wpt-a.proxy=wpt-a.parameter=wind</a></p> <p>New SMHI product on climate scenarios: <a href="https://www.smhi.se/klimat/framtidens-klimat/klimatscenarioer-for-hav#scenario=rcp85.season=year.param=temperature">https://www.smhi.se/klimat/framtidens-klimat/klimatscenarioer-for-hav#scenario=rcp85.season=year.param=temperature</a></p>
Projects including BOOS partners	<p><b>Project title:</b> Integrated carbon and trace gas monitoring for the Baltic Sea, BONUS INTEGRAL,  <b>Partners:</b> Partners: Germany, Estonia, Finland, Poland, Sweden, United Kingdom  <b>Link:</b> <a href="https://www.bonusportal.org/projects/blue_baltic_2017-2020/integral">https://www.bonusportal.org/projects/blue_baltic_2017-2020/integral</a>  Link to useful product (to be included on the BOOS website?): <a href="https://www.smhi.se/k-data/oceanografi/The_BONUS_INTEGRAL_meta_data_map.html">https://www.smhi.se/k-data/oceanografi/The_BONUS_INTEGRAL_meta_data_map.html</a></p> <p><b>Project title:</b> Future marine assessment and monitoring of the Baltic, BONUS FUMARI  <b>Partners:</b> Finland, Germany, Sweden  <b>Link:</b> <a href="https://www.bonusportal.org/projects/synthesis_%282018-2020%29/fumari">https://www.bonusportal.org/projects/synthesis_%282018-2020%29/fumari</a></p> <p><b>Project title:</b> EMODnet Data Ingestion  <b>Partners:</b> Many BOOS partners  <b>Link:</b> <a href="https://www.emodnet-ingestion.eu">https://www.emodnet-ingestion.eu</a></p>

	<p><b>Project title:</b> EMODnet Physics  <b>Partner:</b> SMHI and other BOOS partners but not directly involved as partners  <b>Link:</b> <a href="http://www.emodnet-physics.eu">http://www.emodnet-physics.eu</a></p> <p><b>Project title:</b> EMODnet Biology  <b>Partner:</b> Many BOOS partners  <b>Link:</b> <a href="http://www.emodnet-biology.eu">http://www.emodnet-biology.eu</a></p> <p><b>Project title:</b> EMODnet Chemistry  <b>Partner:</b> Many BOOS partners  <b>Link:</b> <a href="http://www.emodnet-chemistry.eu/welcome">http://www.emodnet-chemistry.eu/welcome</a></p> <p><b>Project title:</b> JERICO_NEXT / JERICO S-3  <b>Partner:</b> SMHI, SYKE, FMI and others  <b>Link:</b> <a href="http://www.jerico-ri.eu/">http://www.jerico-ri.eu/</a></p> <p><b>Project title:</b> SeaDataCloud  <b>Partner:</b> SMHI and many other BOOS institutes  <b>Link:</b> <a href="https://www.seadatanet.org/About-us/SeaDataCloud">https://www.seadatanet.org/About-us/SeaDataCloud</a></p> <p><b>Project title:</b> Copernicus INSTAC  <b>Partner:</b> SMHI and SYKE run the marine service and produce data coming from the Baltic.  <b>Link:</b> <a href="http://marine.copernicus.eu/">http://marine.copernicus.eu/</a></p> <p><b>Project title:</b> Copernicus BalMFC  <b>Partner:</b> SMHI and other BOOS partners  <b>Link:</b> <a href="http://marine.copernicus.eu/">http://marine.copernicus.eu/</a></p>
Other relevant projects	<p>Finalization of the cooperation with the Swedish Maritime Administration (SMA) on the common reference system for sea level RH 2000/BSCD 2000 launched in 3 June 2019.</p> <ul style="list-style-type: none"> <li>o <a href="https://www.smhi.se/nyhetsarkiv/nytt-referenssystem-for-vattenstand-i-havet-1.148346">https://www.smhi.se/nyhetsarkiv/nytt-referenssystem-for-vattenstand-i-havet-1.148346</a></li> </ul> <p><a href="http://www.sjofartsverket.se/rh2000">http://www.sjofartsverket.se/rh2000</a></p> <p><b>Project title:</b> Integrated Carbon Observation System, ICOS Sweden  <b>Partners:</b> SMHI and Swedish national partners  <b>Link:</b> <a href="https://www.icos-sweden.se">https://www.icos-sweden.se</a>  <b>Proposal submitted</b></p> <p><b>Project title:</b> The European Marine Biological Resource Centre, EMBRC  <b>Partners:</b> SMHI and Swedish national partners  <b>Link:</b> <a href="http://www.embrc.eu/">http://www.embrc.eu/</a>  <b>Proposal submitted</b></p>
Involvement in BOOS tasks	Regarding the “Observation program” SMHI is prepared to support new engagement.
Involvement in EuroGOOS WGs, TTs	SMHI is currently not involved in any EuroGOOS TT or WG
Suggestions to BOOS future activities	
Additional information	On SMHI’s home page: Sea levels are now referring to RH 2000/BSCD 2000 instead of mean sea level

