BOOS Annual Meeting 2014

Member report

Country	Denmark
Institution(s)	FCOO
Observations **Status and new initiatives**	Collecting profiles from navy vessels.
Modelling **Status and new initiatives**	**Wave modelling:** Present: + Three one-way nested setups of model WAVEWATCH III covering the North Atlantic, North Sea – Baltic Sea and the Inner Danish waters, respectively. New: + Update the three operational setups WAVEWATCH III to latest stable version, + Set up WAVEWATCH III for the Arctic Ocean with special focus on waters around Greenland. **Circulation modelling:** Present: + Three oneway nested setups of the General Estuarine Transport Model (GETM) covering the North Atlantic, North Sea – Baltic Sea and the Inner Danish waters, respectively. New: + Couple a thermodynamic ice module to the GETM setups that cover the North Sea – Baltic Sea region, and the Inner Danish waters. + Uptate the GETM setups to a recent developers version, 2.4 + Increase ramping period of the meterological forcing from six to nine hours. (Ramping is a linear interpolation for a given time period from the previous to the latest forecast) + Change the annual variation of elevation at the open boundary of the North Atlantic model; to improve the simulation of elevation due to the steric effect. + Change elevation offset at the open boundary of the North Sea – Baltic Sea setup to better simulate the observed elevations at Danish coastal stations. + Study model internal variability, given small perturbations in initial field or met.forcing **Particle/Oil spreading:** FCOO operates, maintains and develops the oil drift forecasting system Seatrack Web. The development of Seatrack Web is a cooperation between FCOO, SMHI, BSH and FMI. Seatrack Web is an on-demand, user operated, online system that operates both in forecast and backtracking mode, with the possibility to combine oil spill trajectories with AIS ship track information. Present status: + Seatrack Web v2.6, with java based GUI. New initiatives: + Seatrack Web v2.7, completely new web based GUI, and an updated spreading code **Calibration/Validation:** "Operational" hindcast runs and analysis of all three operational setups. Statistics, and images showing time series and difference between experiments are presented on an internal web bases system. Sea level is validadated at coastal stations in the North Sea – Baltic Sea region. Salinity and temperature are validated from the eastern North Sea, to the central Baltic Sea, and velocities are validated for the Danish Straits. The open source code pyncview are used for statistical computations, to generate images showing time series. **Operational system, DevOps:** FCOO uses a so-called DevOps approach to development and operations. The

	purpose of this approach (or mindset) is to break down barriers between development and operations thus facilitating agile, fast release and deployment cycles. We do this by having both development and operations in the same department, training some developers so that they can fulfill both roles and by automatizing deployment, 24/7 surveillance and response. The result is that the time it takes to go from development into production is very small and that developers quickly get feedback on the products facilitating further product improvements. Regarding operations, FCOO utilises a partly self-developed automatic 24/7 surveillance and response system.
Dissemination **Status and new initiatives**	Present: New version of Marine Forecase: http://marineforecast.dk New version of homepage http://fcoo.dk New Geolocated Forecasts http://metoc.fcoo.dk Navy/SARIS, Search-and-rescue tool in Danish waters New: Next version of Marine Forecast will be based on new Web Map Service (WMS) with METOC data
Relevant national projects	
Relevant International projects	EuroGOOS NOOS BOOS ArcticROOS – new member in 2013
Additional information	