NOOS annual report 2018

**Member report - FCOO**

Novembre 2018

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| **Country** | Denmark |
| **Institution** | Defence Center for Operational Oceanography (FCOO) |
| **Modelling**  **Status and new initiatives** | ***Status:***  ***Operational***:  **Hydrodynamic model, GETM**  2D North Atlantic model (3nm). To generate open boundary conditions to baroclinic model.  3-dimensional model covering North Sea – Baltic Sea region (1nm)  3-dimensional model covering Kattegat – Western Baltic Sea (1/3 nm)   * One way nested. * Baroclinic setups have 60 vertical layers, general vertical coordinates * Forecasts produced 4x daily * Forecast length: 54 hours * Forced by ECMWF IFS (North Atlantic), DMI Harmonie (North Sea-Baltic)   **Wave model, Wave Watch III (WW3)**  Five one way nested models, with focus on the inner Danish waters. The horizontal  resolution for the Arctic – North Atlantic model, Greenland Waters, Northwest Shelf, North Sea – Baltic Sea, and the Inner Danish water models are 18 nm, 9nm, 9nm, 3nm and 1 nm, respectively.   * One way nested * Forecasts produced 4x daily * Forecast length: 54 hours * Forced by ECMWF IFS (Arctic&North Atlantic), DMI Harmonie (North Sea-Baltic)   **Seatrack Web:**  Oil dispersion model for the North Sea - Baltic Sea and Greenland waters  ***New Initiatives:*** Tune bathymetry to improve tidal signal.  Update WW3 to latest version (5.16)  Add Stokes drift vertical profile to model forcing for Seatrack Web  Add CMEMS observed seaice for wave forecast in the Baltic (FMI-BAL-SEAICE\_CONC-L4-NRT-OBS)  ***Under development:***  Sea ice module for the operational model (GETM) in the North Sea – Baltic Sea region  Use satellite SST to compute model error. To be used for ensemble model runs |
| **Dissemination**  **Status and new initiatives** | ***Status:***  ***Operational:***  Internet service (public):  Real-time observations and forecasts available at IFM Maps (ifm.fcoo.dk)  **Observations:** Sea level (Source: Danish Meteorol. Inst.)  **Forecasts:**   * Sea level * Sea temperature * Salinity * Near-surface currents * Wave significant height, mean direction, mean period * Wave height, direction, mean period 7 days, External source: ECMWF) * Sea surface meteorology (54 hours, , External source: DMI Harmonie)Sea surface meteorology (7 days, External source: ECMWF) * Ftp box services:  Sea level forecast at selected stations. The NOOS project e-surge   Cross section transports. To MyOcean2 project: MME  2D fields of salinity, temperature and currents (0-5m average). To MME project   * Impact Maps * Ocean forecasts in the Atlantic, Mediterranean and Arctic Seas ((Source: NOAA) * Tidal predictions at Greenland harbours (Source: DMI)   ***New Initiatives:***  ***Under development:*** |
| **Relevant International projects** | eSurge project  Multi-Model-Ensemble (MME) project |
| **Additional information** |  |