



BOOS
Baltic Operational
Oceanographic System

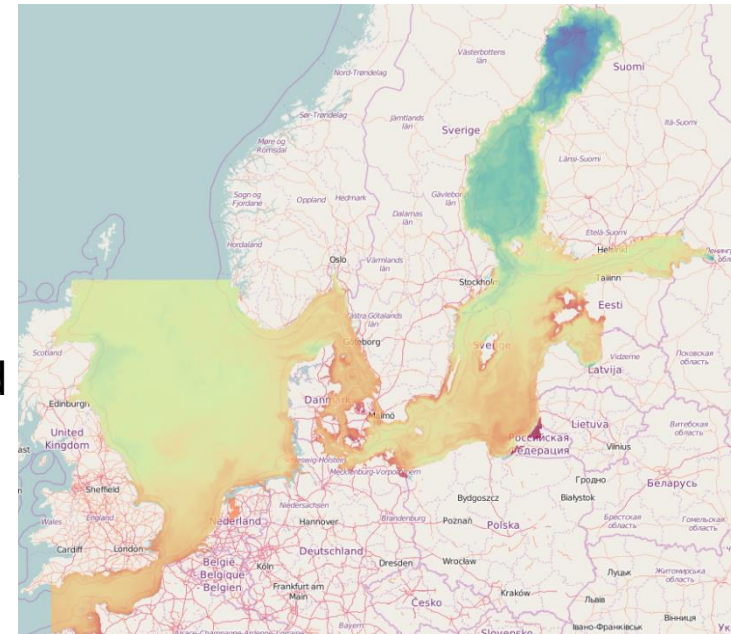


NEMO-Nordic

Adam Nord, BOOS May 2018

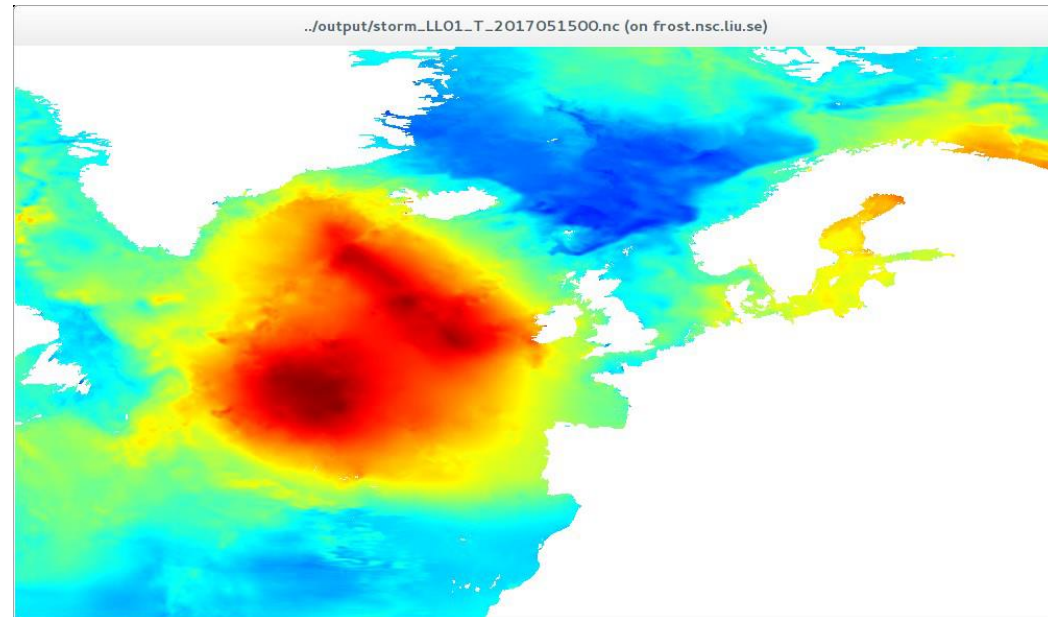
NemoNordic NS01 (short)

- NEMO-Nordic 60 hour forecast
- 1 Nautical mile resolution
 - 56 depth levels
 - Forced by:
 - Arome 2.5 km and ECMWF 9km
 - E- and S-hype
- Runs four times a day, 00z, 06z, 12z and
- Output:
 - Netcdf
 - Grib
 - Surface and 3D-files



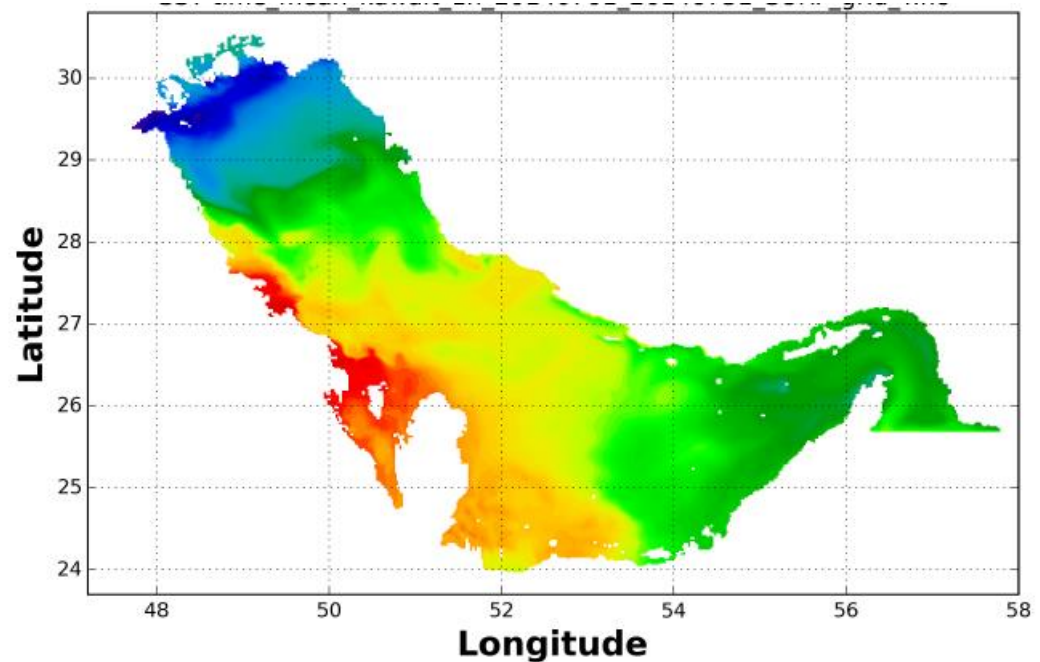
Nemo Nordic NS02 (Long)

- NEMO-Nordic 240 hour forecast
 - 2 Nautical mile resolution
 - 56 depth levels
 - Forced by:
 - ECMWF 9km
 - E- and S-Hype
 - Runs two times a day,
 - 00z, and 12z
 - Output:
 - Netcdf
 - Grib
 - Surface and 3D-files



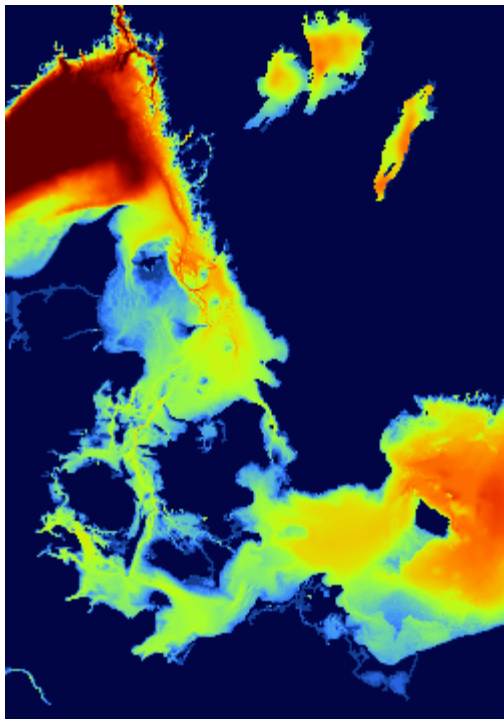
NEMO set-ups for STW

- Commercial set-ups used for Seatrackweb
- Persian gulf
 - 1 nautical mile resolution
- Lake Vänern
 - 360 m resolution
- Brofjorden
 - 60 m resolution

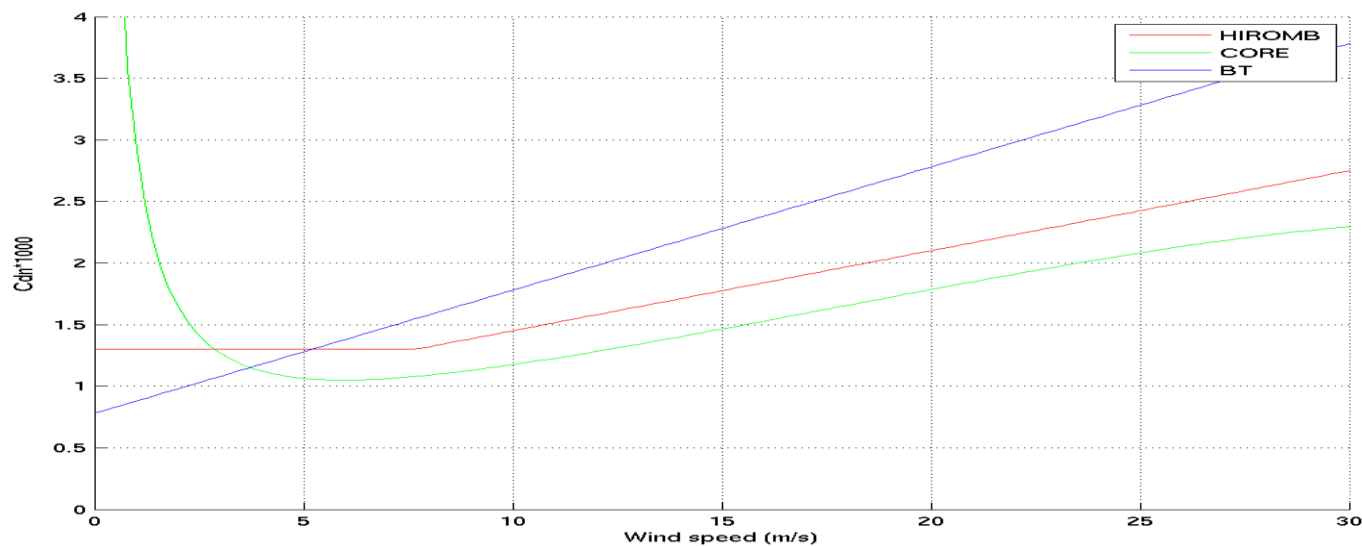


New version (NS01)

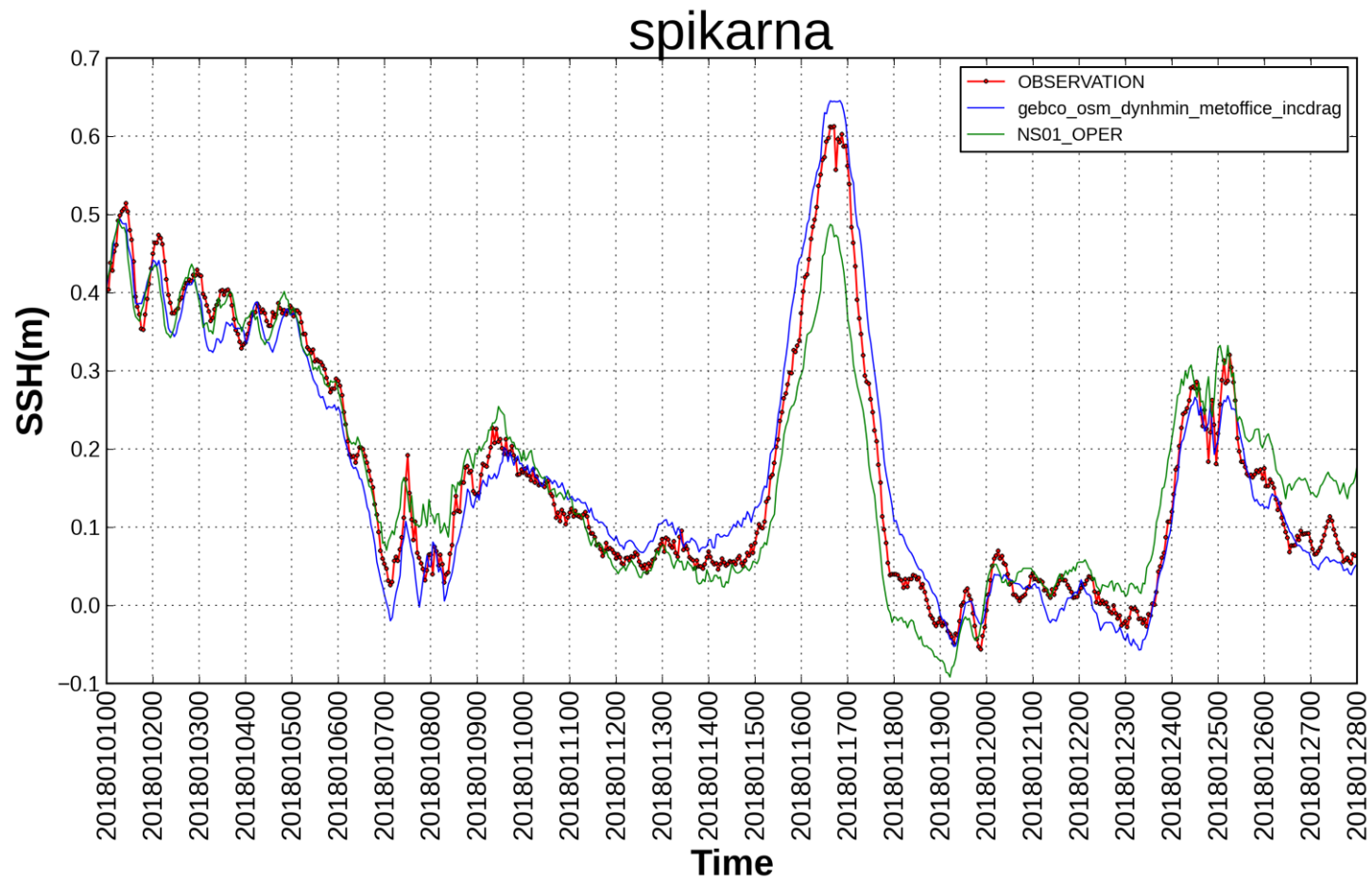
- New improved bathymetry and coastline
 - GEBCO bathymetry data
 - 0.5 nautical mile.
 - Coastline from OSM (Open Street Map).
- Boundary data from NWS-MFC FOAM model. (T, S, U, V, SSH)

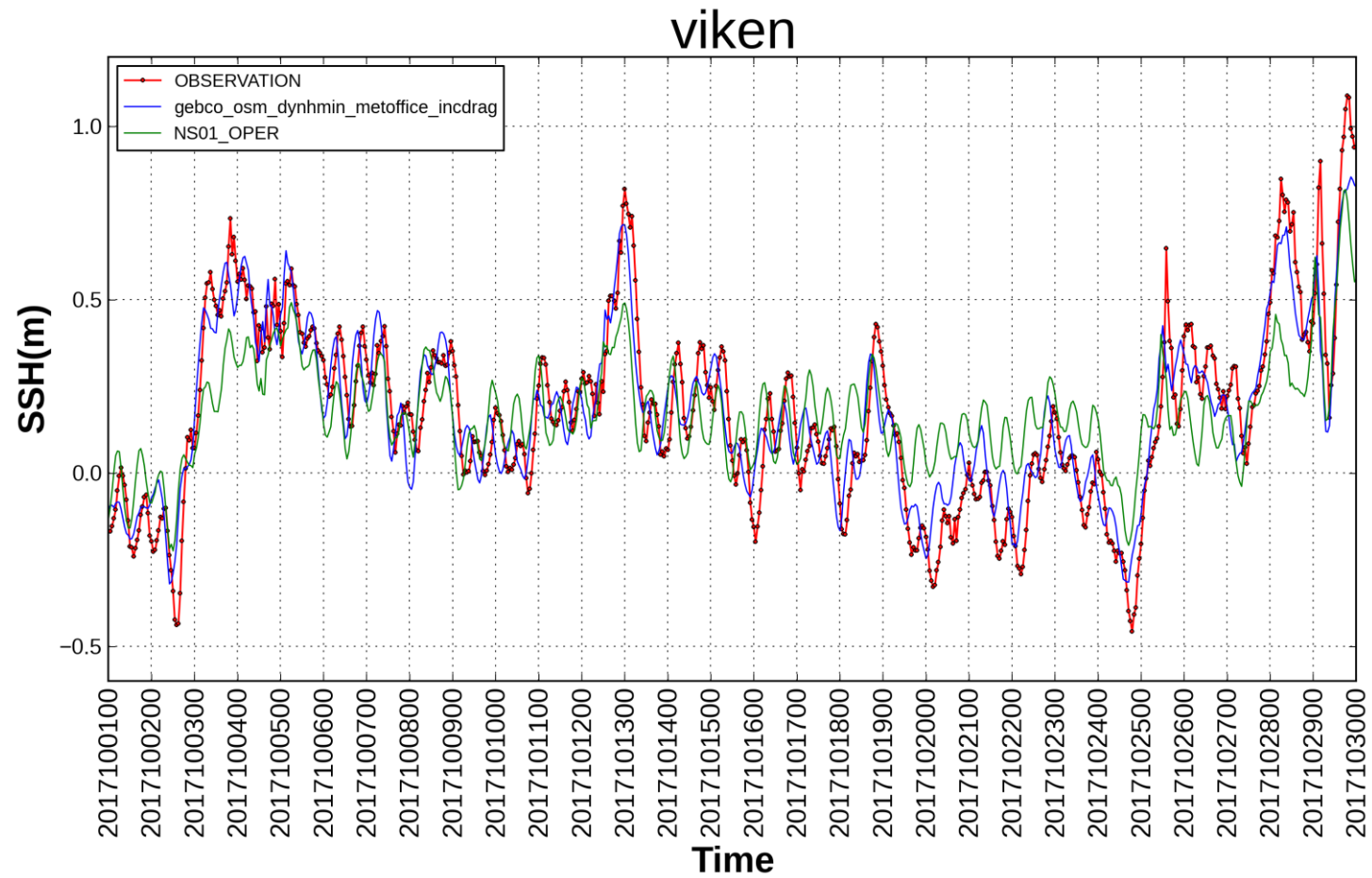


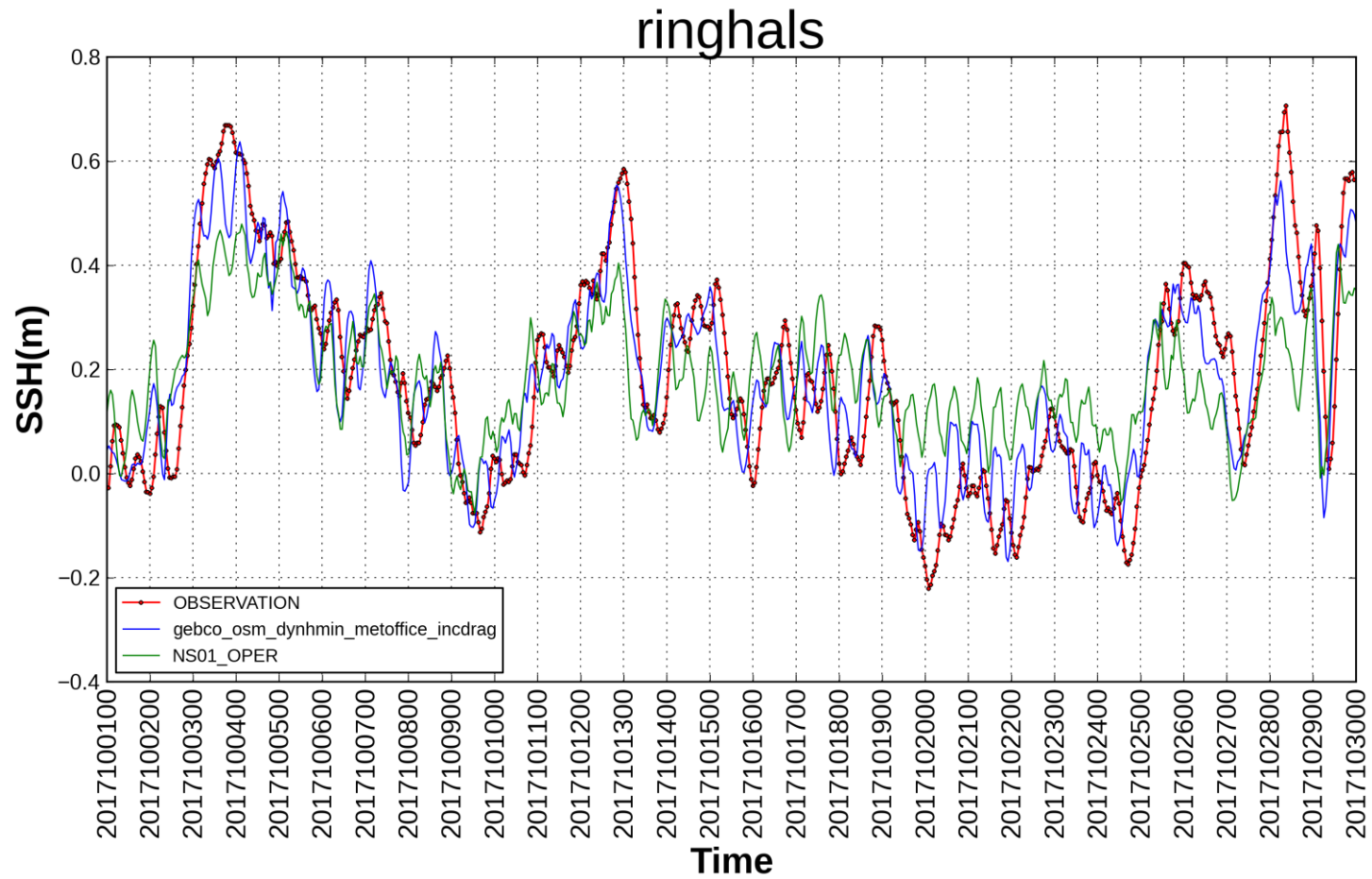
- Introducing dynamic minimum depth
- Improving the wind drag parametrization

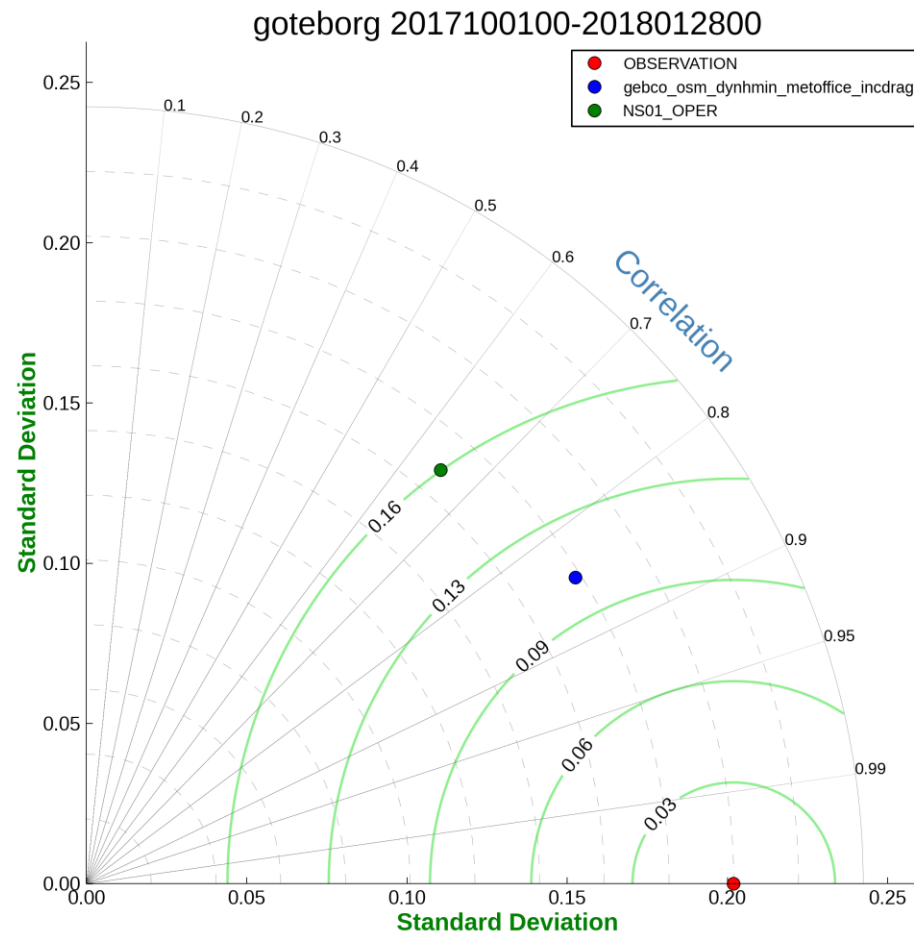


Inspired by this, we simply increased core drag by 20%











Soon operational

- Testfiles will be available in the coming weeks
- The goal is to have it operational before summer

Future development

- Implementation of PDAF Data assimilation
 - PDAF is now used in reanalysis
 - Sea ice DA needs to be developed
 - Investigation if DA of SLA improves forecast
- Coupling to ERGOM and SCOBI (Bio model)
- Wetting and drying: Existing version in the NEMO-community is not ready yet.
- 10 day forecast with NS01
- 15 min surface dataset (SSH & currents)
- Potentially include stokes drift from wave model