

# ECOSMO MODEL SYSTEM

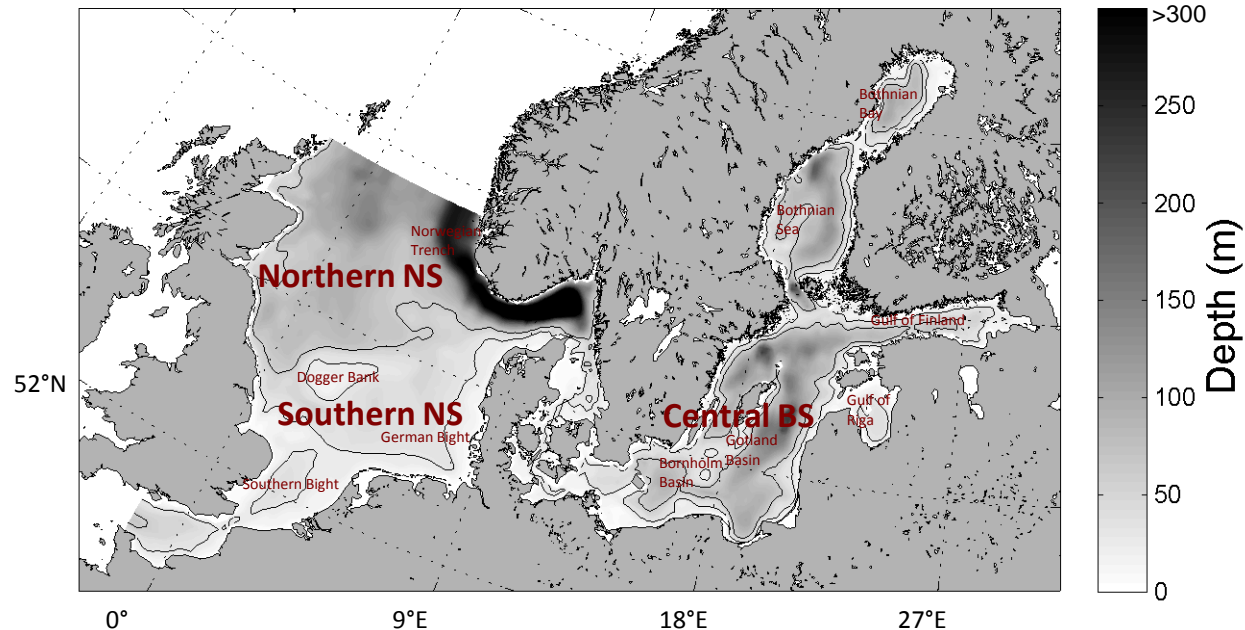


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# ECOSMO - HYDRODYNAMICS

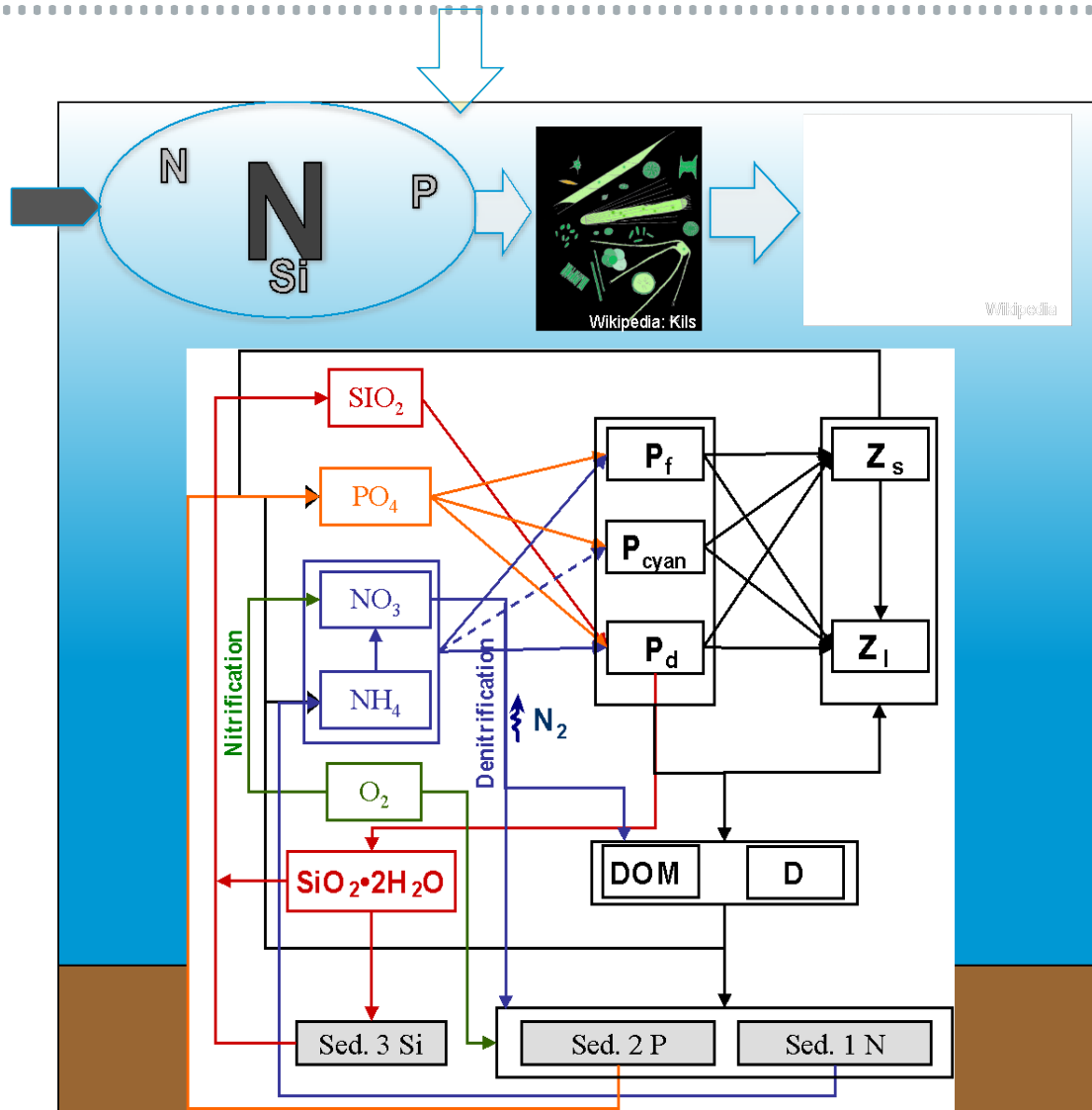
Daewel and Schrum, 2013 JMS



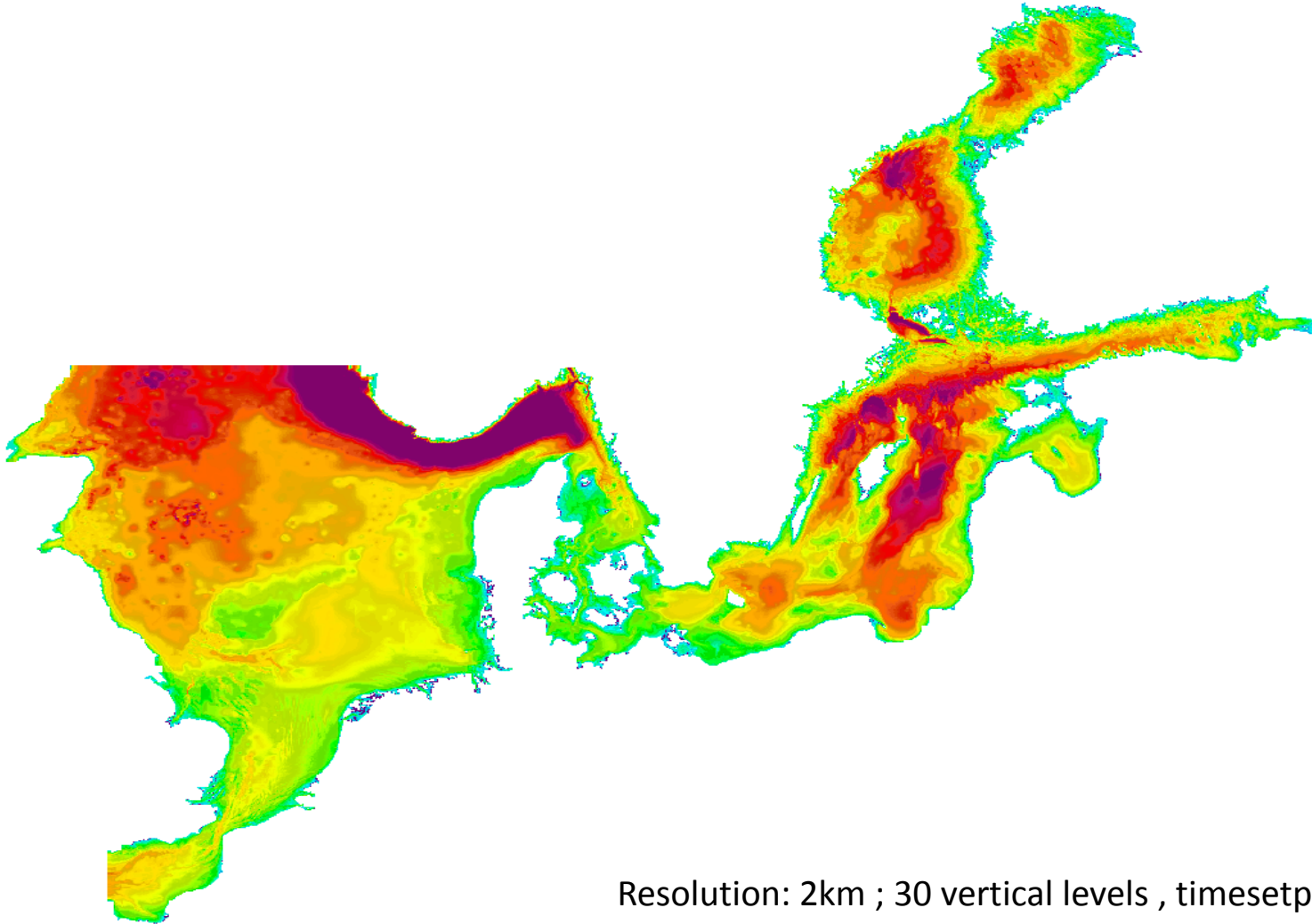
- 3-D hydrodynamic Model (*Schrum and Backhaus, 1999*)
- primitive equation model
- Solved on staggered Arakawa-C grid
- ca 10 km horizontal res. / 2km horizontal resolution
- 20 vertical layer / 30 vertical levels
- Thermodynamics/Dynamical Sea-Ice model

- Multidecadal hindcast-1948-2015
- COASTDAT atmospheric forcing
- daily runoffs and nutrient loads (data + balt hype)
- Open boundary conditions North Sea, anomalies in T,S are considered – Climatologies + annual variations for S

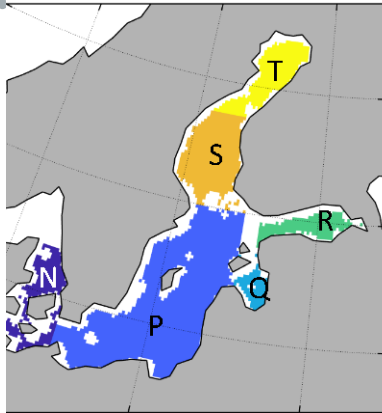
# ECOSMO – NPZD model



# MODEL SETUP WITH 2KM HORIZONTAL RESOLUTION

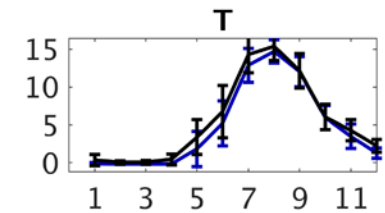
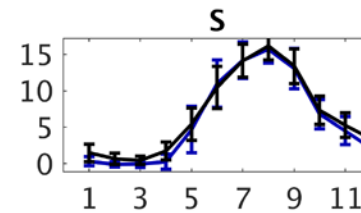
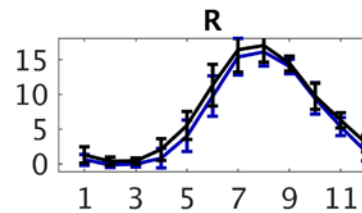
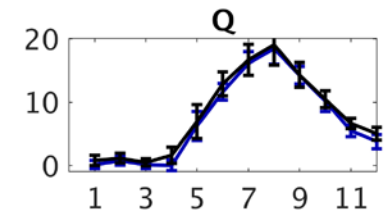
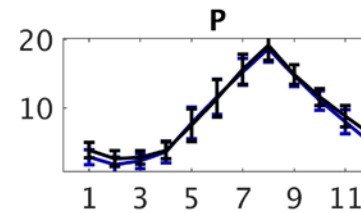
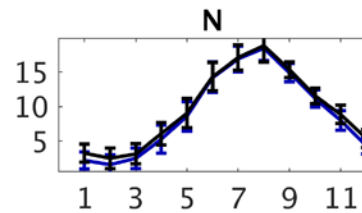


Resolution: 2km ; 30 vertical levels , timestep 90 sec.

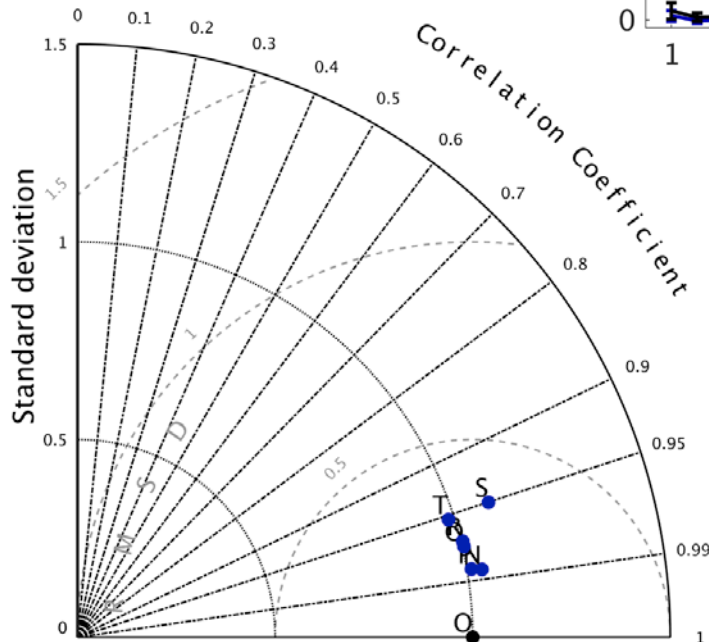


— ICES.dk surface data

— ECOSMO

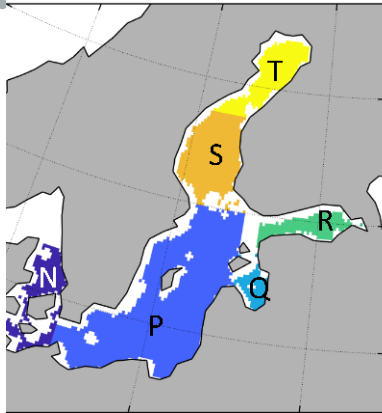


Time (month)



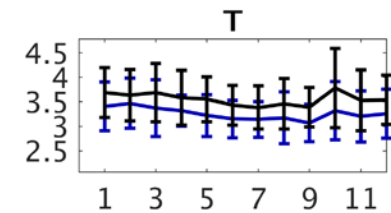
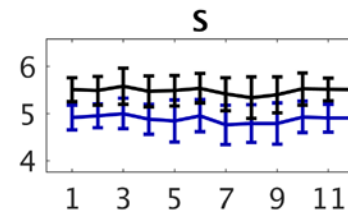
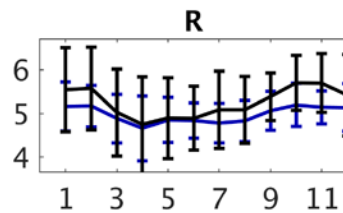
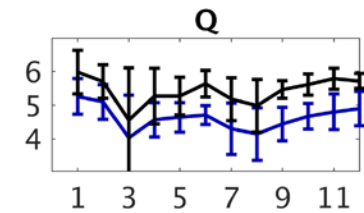
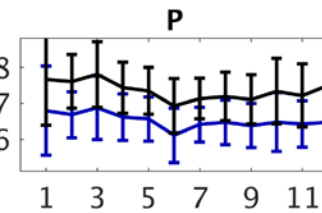
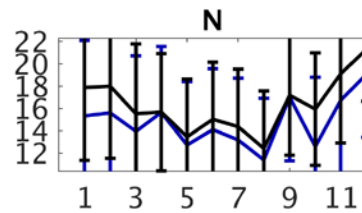
**Sea surface temperature**

# SIMULATION 1989-1997 (CDII FORCING) FIRST VALIDATION



— ICES.dk surface data

— ECOSMO



Time (month)

Sea surface salinity

