NordKyst-800m
The Norwegian Coastal Model

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What

● **NorKyst-800m** is a model setup under development with 800 m resolution covering the entire Norwegian coast

● **Flexible setup:** run the whole or subdomains

● **Present partners:** IMR, met.no, NIVA

● **Open access:** Model grid and forcing available to everybody, pilot setup for the Regional Ocean Modeling System (ROMS). Other partners and other models are welcome.
Why

● Increasing interest in coast and fjord areas
  – aquaculture, transport, tourism, ...

● Need knowledge for coastal management

● Operational use
  – Shipping accidents, oil spills, harmful algae blooms

● Additional products
  – Transport models: pollution, salmon lice, eggs and larvae of coastal cod

● Provide input to higher resolution fjord models
How

- Cross-institutional collaboration
  - Presently IMR, met.no, NIVA

- Initiative and project leader:
  - Lars Asplin, IMR
What

- Topography, land mask – Jon Albretsen, IMR
- Cartesian grid in polar stereographic plane
- 2602 x 902 grid cells
- Resolution approx. 800 m
- Topography from GEBCO-08
- Land contours from Norge digitalt
Bottom matrix
Bottom matrix around Askøy
What

- Topography, land mask – Jon Albretsen, IMR
- Tidal forcing – Ann Kristin Sperrevik, met.no
  - 8 constituents
- K2 S2 M2 N2 K1 P1 O1 Q1
- Data from TPXO, Oregon State University
What

- Topography, land mask – Jon Albretsen, IMR
- Tidal forcing – Ann Kristin Sperrevik, met.no
- River forcing – André Stålstrøm, NIVA
  - 247 rivers
  - Data from NVE
River positions
Version zero

- Interpolation from met.no operational 4 km to 800 m grid, no separate model run
- Early start for developing diagnostics, validation tools and other products around the model
- No extra cost: interpolation needed anyway to provide initial and boundary conditions
Version one

- Atmospheric, river and ocean boundary forcing available
- Setup for Regional Ocean Model System (ROMS)
- Test runs
Further work

- Operational use at met.no
- Distribution of operational results and forcing to partners
- Flexible ROMS setups at IMR, NIVA
- Validation
- Distribution of results and added products to users