A Nested High-Resolution Simulation of Circulation in Sermilik Fjord, Greenland

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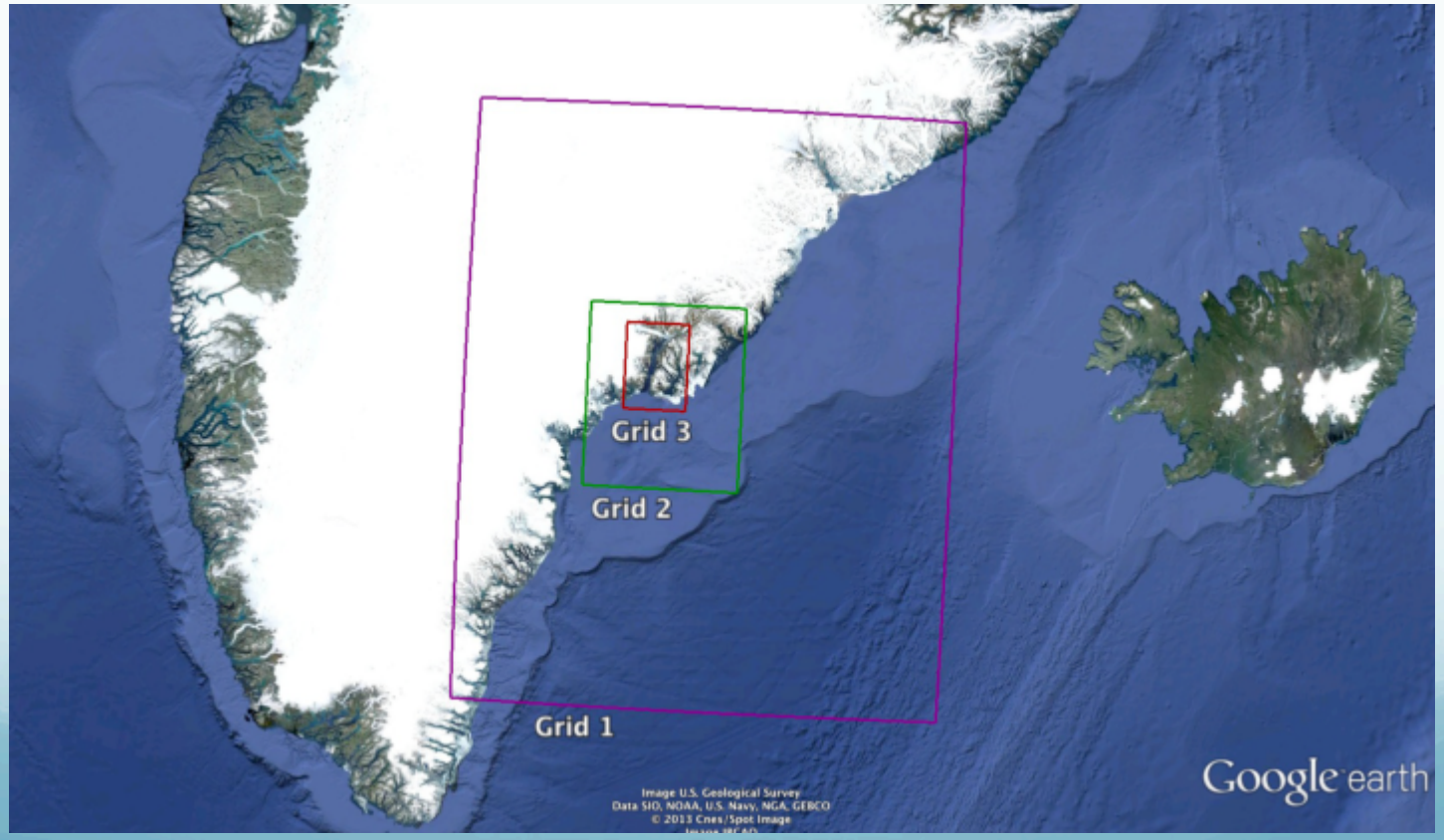
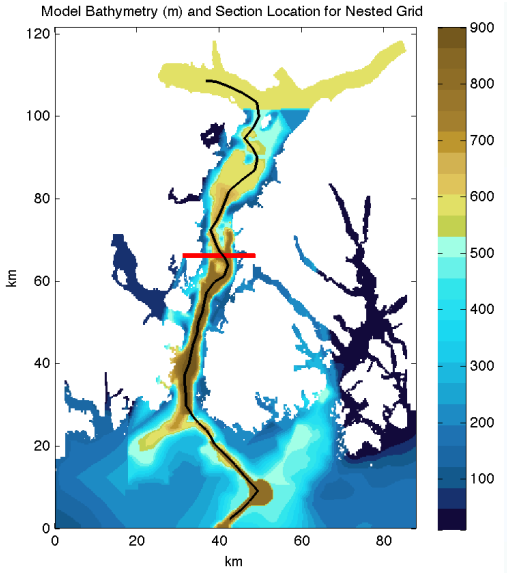
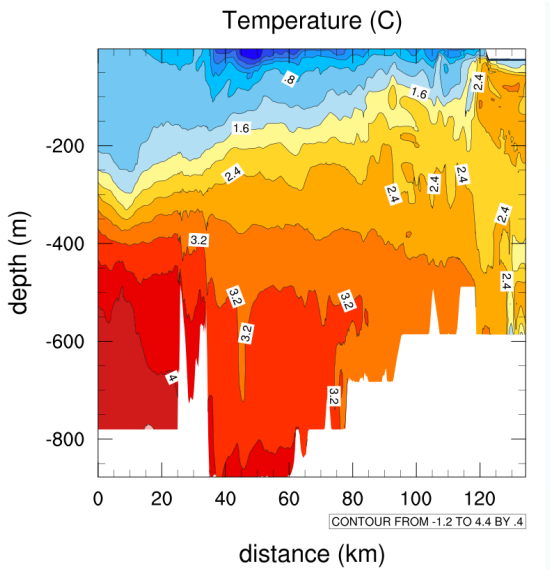
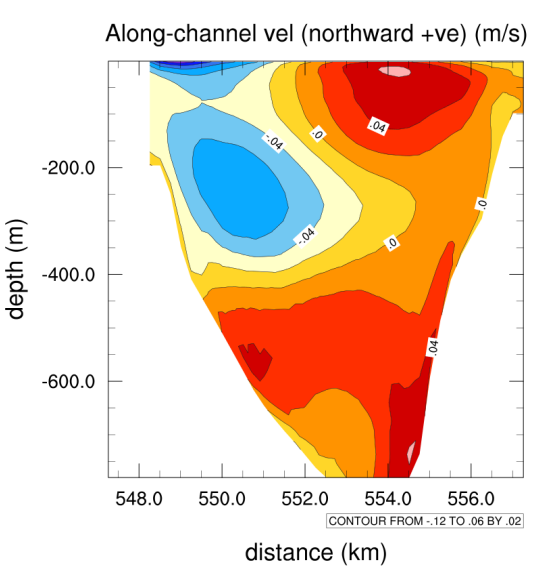




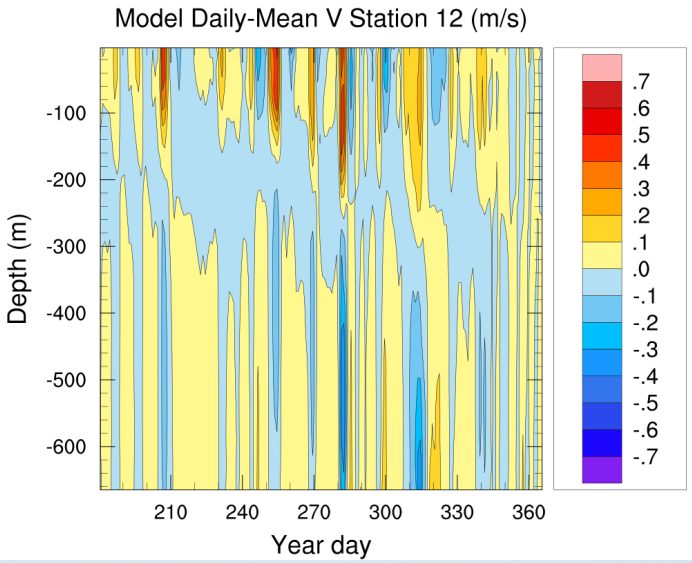


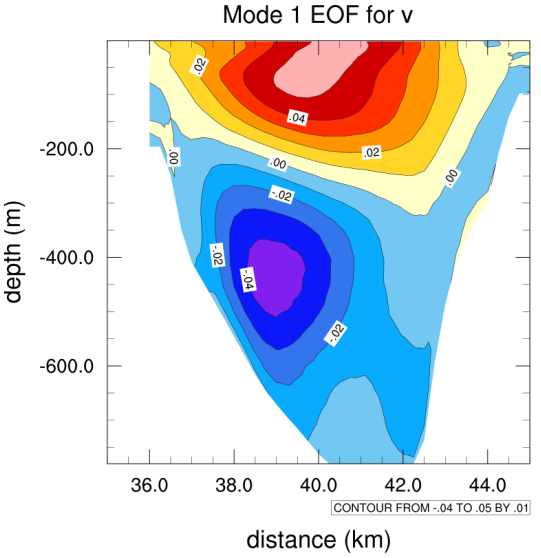


Considerable lateral variation in fjord

Temporal variability dominated by 2-layer exchange on 10-20 day scale

PW outflow/AW inflow +ve correlation with intensifying Icelandic low





(My) Knowledge Gaps

- How to treat melange in the fjord model?
- How to treat the submarine melting at the glacial wall? Jenkins plume model? Can we avoid non-hydrostatic treatment?
- Need to analyze limited area (outer grid) for contributions of shelf dynamics, atmospheric forcing to 10-20 day variability
- How to proceed towards coupling the fjord circulation and dynamics to tidewater glacier dynamics? Melange-ocean interactions?