

How does Greenland's Runoff Affect Ocean Circulation?

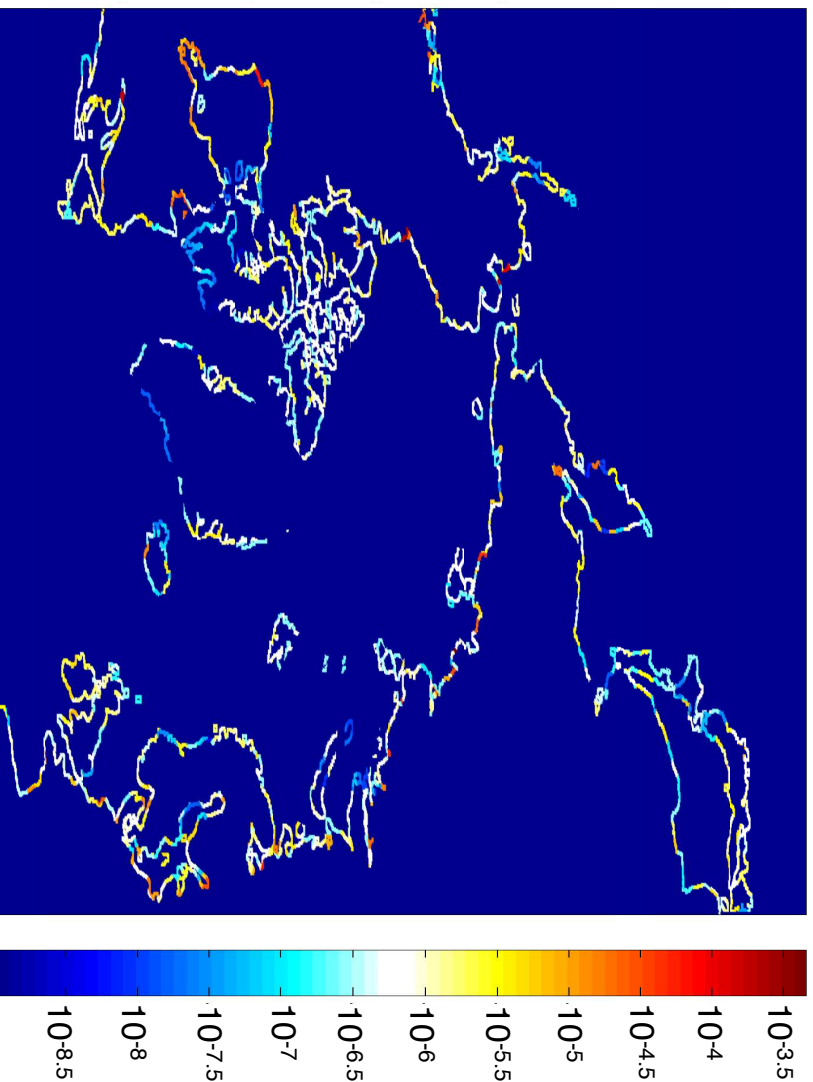
in a regional model

- In turn, how does oceanic circulation, which has been forced by realistic time varying runoff flux, affect the water properties along the shelf and margins of Greenland?
- These water masses are adjacent to the mouth of fjords; forcing of fjord circulation given by these water masses



- **Regional Arctic System Model**
- Ocean and sea ice components
- only, forced by atmospheric reanalysis data

Mean Freshwater Flux Forcing (1958-2007) ($\text{kg}/\text{m}^2/\text{s}$)



- 2 Runs: Force coastal cells with or without freshwater flux
- Focus on sensitivity of West Greenland Boundary Current to freshwater forcing

West Greenland Results

- Heat, volume flux along west coast of Greenland follow the same trend but vary in magnitude
- Strength of currents and freshwater surface layer between runs vary spatially and temporally

Not clear, at the onset of analysis, what role freshwater forcing plays. However, the ability of the model to simulate the correct oceanographic conditions due to realistic forcings will affect future predictions.