Late Holocene Expansion of the Greenland Ice Sheet and Implications for Its Current Decay

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Contribution

• 1. Independent glaciers and ice caps
  • History over late Holocene (~last 1000 yr)
  • *Independent assessment of atmosphere forcing of glaciers*

• 2. Outlet Glacier - expansion and thinning
  • Current retreat started in
    • Expansion?
    • Natural retreat?
  • *Starting conditions for current retreat*
Vindue Gletschert maximum position in the last ~4700 yrs achieved between 300 and 500 yr ago. ~10 m thinning
Summary

• Current marine margins cutting into the largest ice sheet of the Holocene

• Vertical thinning too far upstream to be margin effect (~35 km)

• Lakes along outlet glaciers hold an archive of expansions and retreats (~100 yr)