



Increased iceberg discharges from SW Greenland during the Allerød and early Holocene warm intervals: Implications for the Younger Dryas and 8.2 ka cooling events

P. Knutz (1), H. Ebbesen (1), S. Christiansen (2) and A. Kuijpers (1)

(1) National Geological Survey of Denmark and Greenland, (2)

Institute of Geography and Geology, University of Copenhagen, Denmark (pkn@geus.dk / Tel: +45 38142513)

Large ice sheets respond differently to warming according to their climate sensitivity. In the North Atlantic region the Pleistocene ice sheets were particularly sensitive to changes in oceanic heat transport governed by changes in Meridional Overturn Circulation. Sediment proxies of iceberg (ice-rafted debris) and meltwater (planktonic $\delta^{18}O$) discharge suggest that mid-latitude ice sheets collapsed asynchronously following the LGM. Accordingly ice sheets in northern Europe responded to ocean warming several thousands of years earlier than the Laurentide Ice Sheet. Despite the attention drawn to the present state of the Greenland Ice Sheet (GIS) we have little knowledge from the marine record on its past behavior and its influence on North Atlantic ocean circulation. This talk will address the deglacial response of the southern GIS based on new paleoceanographic data from the Davis Strait - northern Labrador Sea. The results suggest that the marine-based margin of the southwest GIS disintegrated during the Allerød and the early Holocene. Our data support an active or triggering role of the GIS for the Younger Dryas cooling and possibly also the 8.2 ka event.