

Ice2Ice workshop Bergen 3rd December 2015, 8:30-16:15

Past, present and future interactions between the Subpolar North Atlantic and the Nordic Seas

The northward transport of heat and salt by the Atlantic inflow into the Nordic Seas plays a key role in the formation of deep waters and in the climate of NW Europe. The overarching aim of this workshop is to gain a holistic view of the ocean exchange between the North Atlantic and the Nordic Seas from a multidisciplinary perspective involving observations, climate models and paleoceanographic reconstructions. Specifically, the intention of this workshop is to provide an opportunity to promote discussion across these disciplines in order to better understand the processes that govern variability in the transport and properties of the Atlantic inflow waters flowing into the Nordic Seas and the ocean-atmosphere-sea ice interactions associated with it.

8:30-9:00

Opening and introduction to workshop focus

Margit Simon (*Uni Research Climate & Bjerknes Centre for Climate Research, Bergen, Norway*)

Paola Moffa-Sanchez (*Department of Marine and Coastal Sciences, Rutgers University, U.S.*)

Thermohaline processes and Arctic/Atlantic exchanges

9:00-9:20

Tor Eldevik (*GFI, University of Bergen & Bjerknes Centre for Climate Research, Bergen, Norway*): *The Arctic–Atlantic thermohaline circulation*

9:20-9:40

Erwin Lambert (*GFI, University of Bergen & Bjerknes Centre for Climate Research, Bergen, Norway*): *On the freshwater sensitivity of the Arctic-Atlantic thermohaline circulation.*

9:40-10:00

Marius Arthun (*GFI, University of Bergen & Bjerknes Centre for Climate Research, Bergen, Norway*): *On Anomalous Ocean Heat Transport toward the Arctic and Associated Climate Predictability.*

10:00-10:20

Helene Langehaug (*Nansen Environmental and Remote Center & Bjerknes Centre for Climate Research, Bergen, Norway*): *Arctic/Atlantic exchanges at the entrance of the Nordic Seas in climate models.*

10:20-10:35 Discussion round I

10:35-11:00 coffee break

Ocean-ice interactions

11:00-11:20

Anne Britt Sandø (*Institute of Marine Research & Bjerknes Centre for Climate Research Bergen, Norway*): *Variable North Atlantic-Arctic exchanges and effects on sea ice processes and extent.*

11:20-11:40

Laura Herraiz (*Niels Bohr Institute, University of Copenhagen, DK*): *Dansgaard-Oeschger cycles: interactions between the ocean and sea ice in a CCSM4 experiment*

11:40-12:00

Ingrid Ornaheim (*GFI, University of Bergen & Bjerknes Centre for Climate Research, Bergen, Norway*): *Skillful prediction of Barents Sea ice cover*

12:00-12:15 Discussion round II

12:15-13:15 Lunch

Subpolar gyre dynamics over the Common Era

13:15-13:35

Odd Helge Otterå (*Uni Research Climate& Bjerknnes Centre for Climate Research, Bergen, Norway*): Simulated and reconstructed Atlantic gyre circulation and its relationship with the North Atlantic Oscillation during the last millennium.

13:35-13:55

Trond Dokken (*Uni Research Climate& Bjerknnes Centre for Climate Research, Bergen, Norway*): Inflow variability to the Nordic Seas over the past 2k

13:55-14:15

Paola Moffa-Sanchez (*Department of Marine and Coastal Sciences, Rutgers University, U.S.*): Changes in the North Atlantic surface hydrography over the last millennium

14:15-14.30 Discussion round III

14.30-14.45 coffee break

Subpolar Gyre and Atlantic inflow dynamics: a paleo perspective

14:45-15:05

Kerim H Nisancioglu (*GFI/GEO, University of Bergen& Bjerknnes Centre for Climate Research, Bergen, Norway*): Sea ice induced changes in the Subpolar North Atlantic and Nordic Seas during the Eemian

15:05-15:25

Nil Irvalli (*GEO, University of Bergen& Bjerknnes Centre for Climate Research, Bergen, Norway*): Subpolar gyre changes from the penultimate glaciation to glacial inception and their relationship to Nordic Seas exchanges

15:25-15:45

Eystein Jansen (*GEO, University of Bergen& Bjerknnes Centre for Climate Research, Bergen, Norway*): On the utility of using grain size proxies to study inflow variability in the Nordic Seas

15:45-16:05

Amandine Tisserand (*Uni Research Climate& Bjerknnes Centre for Climate Research, Bergen, Norway*): The Bipolar see-saw: What can we learn from the Tropics?

16:05-16:15 Discussion round IV and wrap up