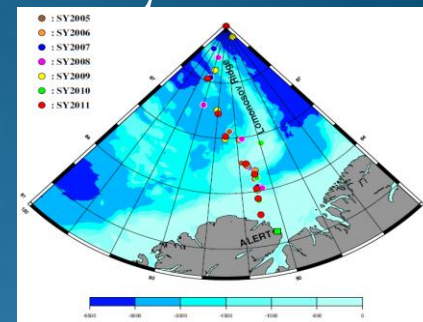


Freshwater Variability in the Arctic: Tracing freshwater sources and quantities

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2005-2011 Switchyard Stations



- The Arctic Switchyard project's goal is to determine interannual freshwater variability of the Arctic
- Summer sea ice extent has been on the decline
- Each spring water samples are collected in an area north of Ellesmere Island to the North Pole
 - Measured for constituents to tell the source of freshwater, it's inventory, and age
- Sources of freshwater in the Arctic are meteoric water (river runoff and precipitation), Pacific freshwater, and sea ice melt
- Increases in total freshwater at most stations in the mixed layer
 - 2007 major sea ice retreat leading to more freshwater- possibly related to a positive shift in the Arctic Oscillation
- Most freshwater exits the Arctic to the North Atlantic Ocean
- Increases in freshwater could alter the formation of North Atlantic Deep Water and weaken the thermohaline circulation