

Freshwater variability in the Arctic: Tracing freshwater sources and quantities from 2005 to 2011 in a transect from Ellesmere Island to the North Pole

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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 decreasing
- Each spring water samples are collected in an area north of Ellesmere Island to the North Pole
 - Measured for constituents to calculate the source of freshwater, its distribution, and thickness
- Sources of freshwater in the Arctic are meteoric water, sea ice melt, and Pacific freshwater
- Increases in total freshwater from 2005-2009
 - 2007 major sea ice retreat leading to more freshwater- possibly related to a positive shift in the Arctic Oscillation Index
- 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

