Time Series lines in the North Atlantic and Arctic Archipelago by Department of Fisheries and Oceans, Canada

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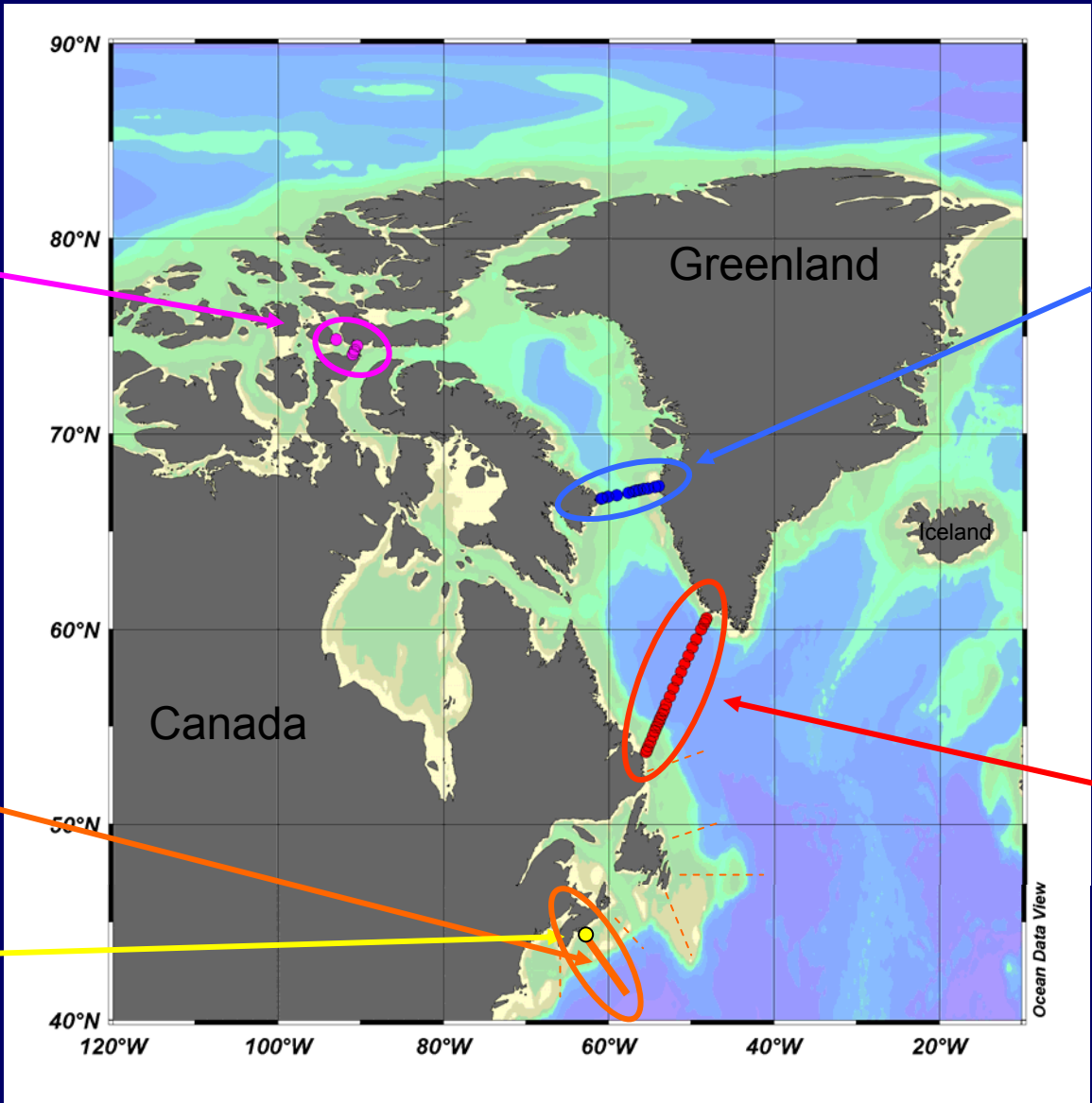
Barrow Strait
2002 – annual
(DIC, Alkalinity, O-18, nutrients, pCO_2 sensor since 2008, SW auto-sampler for O-18 since 2007)

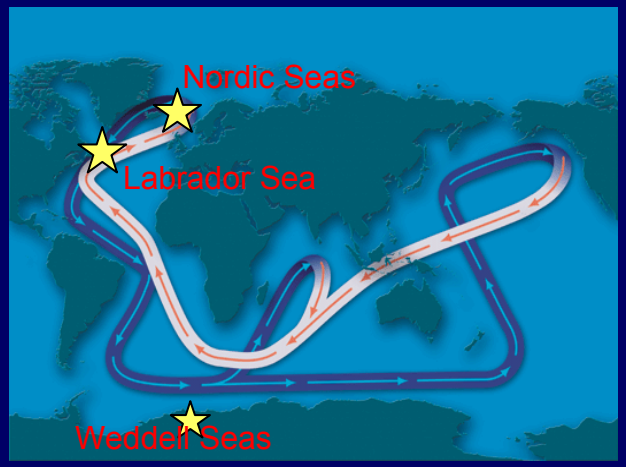
Atlantic Zone Monitoring Program (AZMP)
•Halifax line – annual
(DIC, Alkalinity, CFCs, nutrients, O_2, biology)
•Station 2 – CARIOCA Buoy
(Thomas, Dalhousie U.)

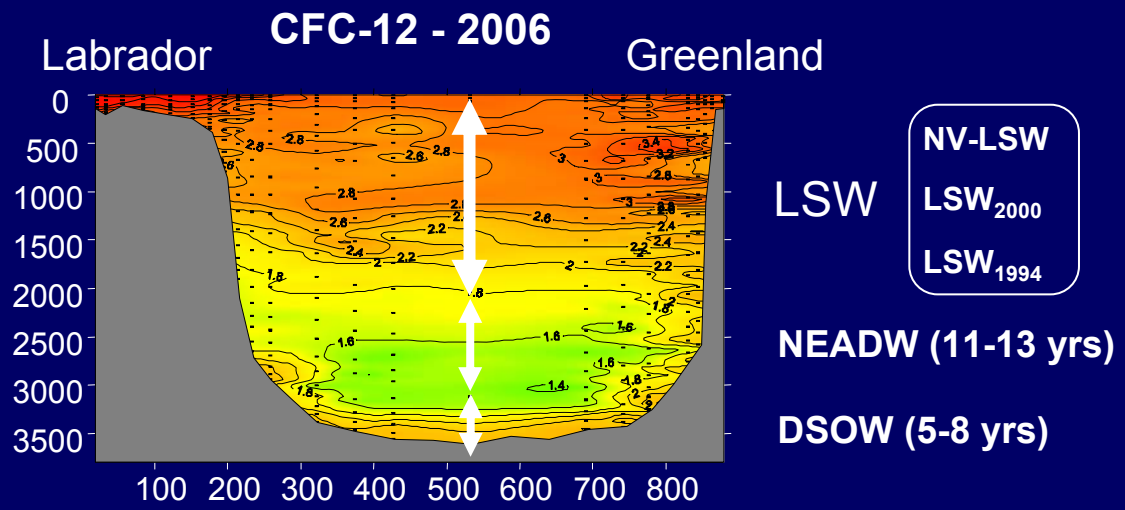


Davis Strait
2004 – annual
(DIC, Alkalinity, O-18, nutrients, physics - mooring & gliders)

The Labrador Sea (AR7W)
1993 – annual
(DIC, Alkalinity, CFCs, nutrients, O_2, pCO2 surface drifting buoy (JAMSTEC), biology)

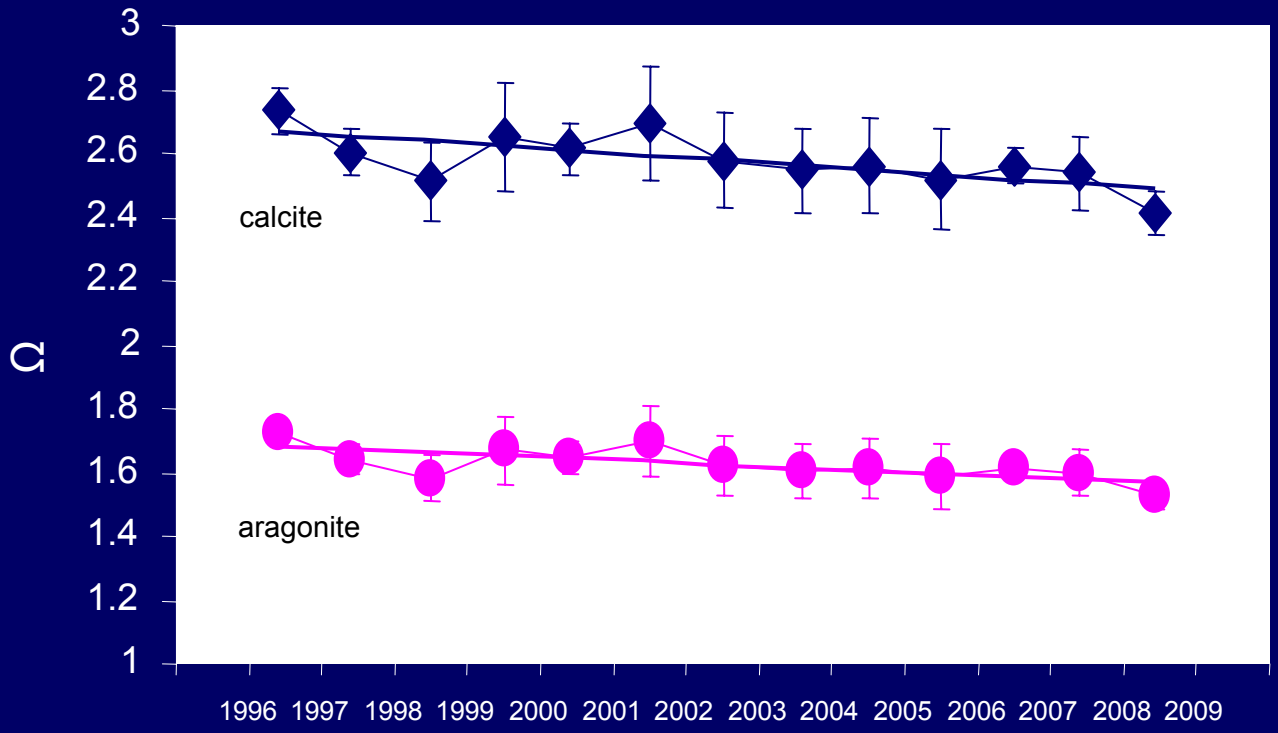
Why the Labrador Sea ?





- The Labrador Sea is one of the deepest convection sites in the world - Labrador Sea Water (LSW)
- A major conduit for the transport of atmospheric gases, including CO_2 and transient tracers, to the intermediate and deep ocean - a long-term sink
- North East Atlantic Deep Water (NEADW) and Denmark Strait Over Flow Water (DSOW) flow into the Labrador Sea

Ω (calcite) and Ω(aragonite) in newly ventilated Labrador Sea Water



Ω=1 for aragonite around year 2071 and for calcite around 2109