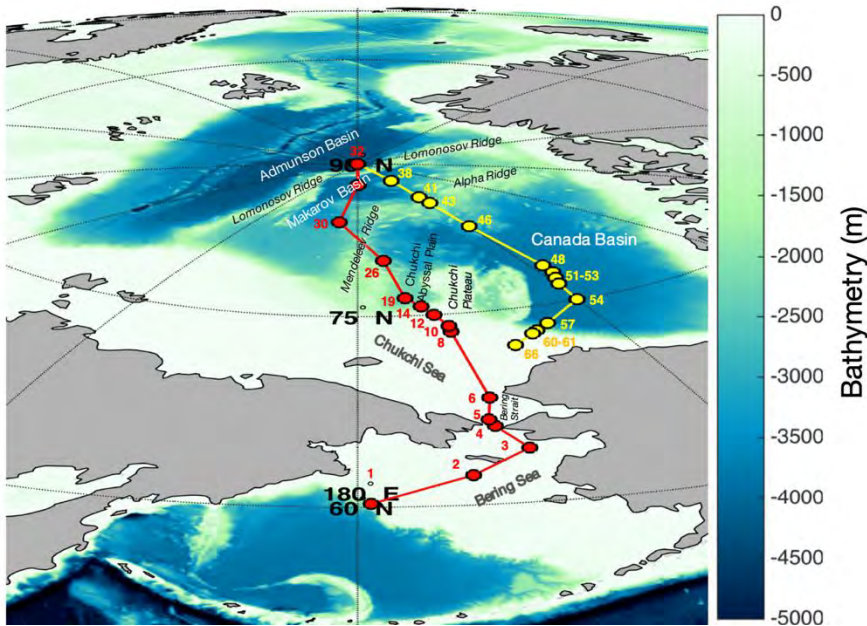


US Arctic GEOTRACES GA01 transect - John Lab data



Prof. Ruifeng Zhang, SJTU

Dissolved metal concentrations

Fe, Zn, Cd, Ni, Cu, REEs

Dissolved metal stable isotopes

$\delta^{56}\text{Fe}$, $\delta^{56}\text{Zn}$, $\delta^{56}\text{Cd}$

Melt pond, aerosol, and particle data

$\delta^{56}\text{Fe}$, $\delta^{56}\text{Zn}$, $\delta^{56}\text{Cd}$, and concs

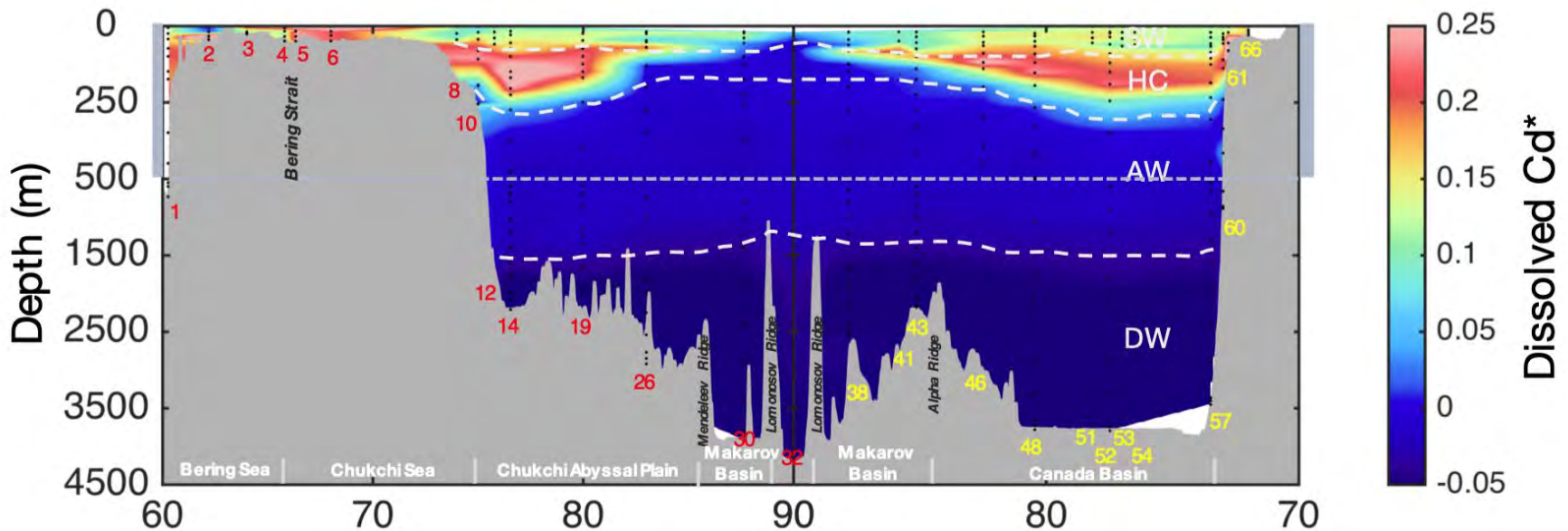
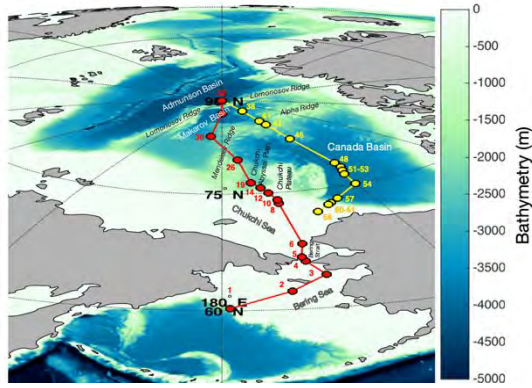
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Why is Cd* in the deep Arctic so low?



- Cd* is the lower in Arctic Deep Waters (below ~1500 m) than anywhere else in the whole ocean.
- (Cd* is a conservative property, you can't ever make low Cd* by mixing together two different high-Cd* water masses)
- There must be some previously-unidentified source of P in the deep Arctic, or some sink of Cd!?!)

Fe isotopes distinguish shelf Fe from riverine Fe near the North Pole

