



Shelf Exchange Processes of CO₂, Ra, and Ba in the Canadian Arctic Archipelago

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The Canadian Arctic Archipelago has been sampled during the Canadian GEOTRACES program in summer 2015. In Baffin Bay and Archipelagic waters dissolved inorganic carbon (DIC), alkalinity (AT), and barium (Ba) measurements have been performed, which were paralleled at selected stations by measurements of the two short-lived radium isotopes ²²³Ra and ²²⁴Ra. Using these observations we investigate relevant transport processes within the Canadian Arctic Archipelago: lateral and vertical diffusion from the sediments, river runoff, transport of water masses through the Archipelago and inflow of water masses of Atlantic and Pacific origin, respectively into the Archipelago. The impact of these processes on the biogeochemistry, and in particular ocean acidification will be assessed.