part of project 4.11: Deep-water Arctic marine fishes: Developing commercial fisheries and interactions with marine mammals



Origins of the deep water in Cumberland Sound, Baffin Island

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Deep water origins

bottom water is well oxygenated, therefore must be regularly replenished
dense enough water is found at the bottom under the dark green dots



- Deep water enters the sound infrequently on spring tides - most often in the fall of 2011.
 Corresponds to flow
- Corresponds to flow maximums in both the Baffin Island Current and West Greenland Current.

Potential Consequences of Change to Deep Water Renewal on Greenland Halibut

 A warming of the bottom waters (i.e. more WGC water entering the sound) could change the habitat from a Greenland Halibut feeding ground into a breeding ground.

- Melting of sea ice further north could reduce the stratification in the waters surrounding the sound, potentially stopping the replenishment of deep water.
- Bottom waters would become hypoxic within a few years and unable to support Greenland Halibut.