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Hydrographic measurements in Jökulsárlón lagoon, Iceland

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Section 1: Temperature

Distance along glacier front (km): 0 on western end

The data here show that saline water enters the lagoon every day.

Section 2: The inflow to the lagoon is in discrete pulses

The three panels on the left show the vertical profiles for three days.

Regions with significant structure are close to the ice face. Away from the ice face the vertical structure is relatively smooth.

Section 3: The synoptic CTD Stations show the hydrographic structure across the lagoon

In April 2011 four hydrographic stations were sampled from the surface to the bed.

The data has significantly changed.

Section 4: Contribution from glacial ice melt %

Using this we can derive the contribution of glacial melt to the along ice face measurements.

Section 5: Close to Breiðamerkurjökull glacier the contribution from melting ice is clear.

Numbers in depth along ice face

This 0.5 °C increase of the water column is determined by by convection of the lowest 1°C layer of water and the inflow of relatively warm water from the glacier.

Section 6: The warmest and coldest water in Jökulsárlón lagoon were adjacent to the Breiðamerkurjökull glacier