Hydrographic measurements in Jkulssoon, Iceland

Conference Item

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Jökulsárlón lagoon is an enclosed lake bordering the Breiðamerkurjökull glacier.

The inflow to the lagoon is in discrete pulses.

The synoptic CTD Stations show the hydrographic structure across the lagoon.

Away from the ice face advection-diffusion dominates.

The warmest and coldest water in Jökulsárlón lagoon were adjacent to the Breiðamerkurjökull glacier.

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

The location of the synoptic CTD stations is shown in Figure 1. The stations were chosen as they represent the full range of hydrographic conditions. The contribution from glacial ice melt is shown in Figure 2. The hydrographic structure in the lagoon is explained by a combination of the three processes: the warming of the Atlantic water, the density-driven convection and the freezing of the freshwater input. The warming of the Atlantic water is clearly shown in Figure 3. The density-driven convection is shown in Figure 4. The freezing of the freshwater input is shown in Figure 5. The contribution from glacial ice melt is shown in Figure 6.