



## Preliminary results from three Faroese lakes

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The Faeroe Islands with their crucial location in the main path of the flow of the North Atlantic Drift (*NAD*) is a highly sensitive region for registering climate changes. In warm periods with a generally strong or northward displaced ocean and atmospheric circulation system, the islands lie continually in the main arm of the *NAD*. In contrast, during cold periods, when the *NAD* weakens or its core is placed further south, a tongue of polar water approaches the Faeroese from the north. This investigation aims to study these linkages, and thus to contribute to a greater understanding of the coupling between (*North*) Atlantic Ocean dynamical behaviour and atmospheric circulation in relation to the northern hemisphere Holocene climate change.

We present XRF results and a preliminary  $^{14}\text{C}$  and tephra chronology from three Faroese lakes. Stórvatn and Brúnavatn are located on a highland plateau at 260 and 250 m.a.sl. respectively. In contrast Mjáuvötn is located in a valley c. 70 m.a.sl. All three lakes are fed by surface run off, but display different hydrological conditions (*open/closed conditions and catchments areas*). The three lakes Stórvatn, Brúnavatn and Mjáuvötn exhibit very different limnological environments, yet they are positioned so closely together that they must experience similar climatic forcing. This allows us to test the impact and magnitude of local limnological changes contra a general climate signal. Additionally the deposits on the Faeroe Islands may be complicated by anthropogenic effects. Ever since the first settlers and their domestic animals arrived in the Faeroe Island (AD 500 – 700) the landscape and vegetation pattern have been permanently altered. This opens for the possibility of studying the implications of massive landscape changes on lake water chemistry in supplement to previous veg-

etation studies. For example well-dated lacustrine deposits may help narrow down the exact timing of the first settlers, which today is widely debated.