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Diatoms – Powerful Indicators of Environmental Changes in Skalafjord, Faroe Islands

Abstract

The Faroe Islands are located in eastern portion of the North Atlantic Ocean. They are surrounded by the North Atlantic Current which is responsible for the mild climate in both NW Europe and the Faroe Islands. Any shifts in the position of this current or in generation of North Atlantic Deep Water cause fast and significant changes in climatic conditions in the entire region.

A 9-meter long sediment core (DAPC01) containing sediments as old as 7800 years before present (BP) was collected from Skalafjord in eastern portion of the Faroe Islands. Fossil diatoms collected from the core have been used to determine changes in environmental and climatic condition in this region. The bottom part of the core is dominated by freshwater planktonic taxa (eg. *A. islandica*, *A. italica*, *A. subarctica*, *C. ocellata*) mixed with less abundant marine planktonic diatoms which indicate that ca. 7700 yrs BP Skalafjord was a lagoon constantly transgressed by oceanic waters. Overlying sediments are dominated by marine taxa including *Paralia sulcata* and *Thalassionema nitzschioides* which indicates increasing marine conditions in the fjord. Increased abundance of epiphytic species in the bottom and central part of the core indicates presence of macrophytes at that time.