



## **Sea surface conditions during the Younger Dryas and the Holocene on the western Barents Sea margin**

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Detailed stratigraphical analyses of a sediment core located on the continental slope off the western Barents Sea margin, 72 °N bring evidence of sea surface oceanographic changes during the Younger Dryas (YD) and the Holocene in a sensitive boundary area. The relatively stable cold (YD) was followed by strong fluctuations in the sea surface temperatures, which could be due to a varying strength in the inflow of the Atlantic Water to the study area. This variation may have been caused by a gradually strengthening of the thermohaline circulation system in the North Atlantic region. Maximum Holocene sea surface temperatures of c. 10°C were reached between 10800 and 7700 cal. years BP. Four cooling events have been recognized during the middle and upper part of the Holocene. These coolings correlate well to other marine proxy records in the NE Atlantic region and thus seem to be regional response to a southward penetration of cool Arctic Water along the NW European Arctic margin. The two oldest and the youngest cooling events correlate relatively well to a significant increase in the atmospheric dataset of  $\Delta^{14}\text{C}$ . By correlating three marine records between 70 and 74 °N on the N. Norwegian- W. Barents Sea margin, a possible time transgressive transition from a cold to a warm climate at the YD-early Holocene, is indicated.