

LATE QUATERNARY PALEOCEANOGRAPHIC RECORDS FROM SOUTHWEST OF THE FAEROE ISLANDS, NORTHEASTERN ATLANTIC

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Late Quaternary Paleoceanographic Records from Southwest of the Faeroe Islands, Northeastern Atlantic BÄCKSTRÖM, L. D., Earth Sciences Centre, Marine Geology, Göteborg University, Göteborg, Sweden. Piston cores taken within the framework of the European North Atlantic Margin (ENAM) project from water depths of around 1100-1200m, southwest of the Faeroe Islands, were investigated. The distribution of planktonic foraminiferal species and associated oxygen and carbon isotopes, mineralogical features and continuous magnetic susceptibility (MS) were analyzed. The age of the sediments is based on AMS ¹⁴C measurements and on the oxygen isotope stratigraphy. The study area is strongly influenced by bottom currents of Norwegian Sea Overflow Water (NSOW) and North Atlantic surface water masses. The cores span a period back in time to beyond the Oxygen Isotope Stages (OIS) 6/7 boundary, approximately 200 000 years. Micropaleontological data indicates that the Polar Front was located south of the study area during the glacial stages, although several warming episodes are observed during OIS 6. Most of the analyzed parameters suggest much more varying hydrographic conditions during OIS 7-3, compared to the stable OIS 2 and OIS 1. At the OIS 4/3 boundary isotope data and sediment composition indicate strong climatic warming, comparable with warming trends at the OIS 2/1 and OIS 6/5 boundaries. After the initial high temperatures at the beginning of interglacial OIS 5 and OIS 3 a trend of colder episodes can be observed. This trend could also develop in the future of the Holocene. A cyclic trend can be observed in the MS records corresponding to the timing of the climatic cycles found in the SUMMIT ice core from Greenland, confirming the idea of a close atmosphere-ocean interaction. Differences in MS may be linked to varying Norwegian Sea Overflow Water flow strength, which is a major component of deep-water formation in the North Atlantic Ocean.