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## Climate changes along the Labrador coasts during the Holocene based from pollen assemblages

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The rapid ongoing warming recorded across northern regions is unprecedented. This warming is however not uniform across the territory and large regional discrepancies exist. It is therefore relevant to document the variations of climate in the past in both time and space in order to understand the regional climate dynamics. However, in Labrador, instrumental and historical data are rare and only cover a short period of time. Our knowledge of the natural evolution of the climate is therefore limited, which hampers our capacity to evaluate the natural modes of variability and simulate changes at regional scales. From this viewpoint, quantitative climate reconstructions from pollen assemblages are useful because they allow the development of time series covering long periods of time. Here, we report on pollen data from peat and lake sediments collected in the area of Okak, Nain and Dog Island along the Labrador coast. These data are used for climate reconstruction over the last millennia, thus allowing to document natural climate variability at regional scale. The climate parameters we reconstruct by the means of the modern analogue technique include the summer temperature, sunshine and precipitation. The results provide new insights about the climate of Labrador at local to regional scale, illustrating notably the importance of the Labrador Current on climatic conditions at nearshore locations. In fact, our climate reconstructions demonstrate a disparity with the regional climate curve which may testify of the east-west climatic gradient between islands and the land.

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