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Holocene Climate Variability on Millennial Scales Recorded in Greenland Ice Cores

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Climate variability is triggered by several solar and orbital cycles as well as by the intern ocean dynamics. Consequently, paleoclimate proxy records are expected to vary on very different time scales ranging from decadal to millennial duration. We demonstrate, that Foster's wavelet analysis technique is an appropriate tool for investigating temporarily changing spectral properties of records of awkward data quality which is typical for most climate proxy records. By analyzing the Holocene part of different glaciochemical records of Greenland ice cores we investigate centennial to millennial scale climate variability. This investigation results in the identification of time intervals which cover most part of Holocene during which snow accumulation rates or ammonium concentration expose a cyclicity of 1500 years, that is the scale of Dansgaard-Oeschger and Bond cycles.