Geophysical Research Abstracts, Vol. 7, 07472, 2005
SRef-ID: 1607-7962/gra/EGU05-A-07472

Holocene atmospheric Loading: Coherence between Greenland and Siberia

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Wavelet analysis is shown to provide evidence that Northern hemisphere atmospheric loading has been periodically but with varying amplitudes fluctuating on 1.5 and 3 kiloyear scales over the entire Holocene. The paleoclimate information is supplied by climate proxy data, namely variations of the potassium concentration of a Greenland ice core and of magnetic susceptibility of Lake Baikal sediments along the depth and under consideration of the related age depth models. The analysis of wavelet phases reveals coherence of both signals on both scales. The 3 ky portion can be related to expansion and contraction of the polar vortex, the 1.5 ky scale is the time period of the cycles found by Bond et al. which are expected to be the continuation of the pattern responsible for the Dansgaard-Oeschger interstadials during the last glacial.