Geophysical Research Abstracts, Vol. 8, 07721, 2006
SRef-ID: 1607-7962/gra/EGU06-A-07721
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Climate Variability over the last Glacial Cycle recorded in Grain-Size Distributions of Lake Baikal

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Grain-size distributions obtained in sedimentary sequences are a palaeoclimatic proxy that has attracted increasing interest during the last decades. Different sources and transport and deposition mechanisms lead to a varying shape which may be interpreted in terms of climate variability.

We present the results of a study of a well-resolved, 135,000-years spanning record of grain-size distributions which has been obtained in Lake Baikal, Eastern Siberia, in the framework of the recent CONTINENT project. In particular, we apply different statistical techniques to appropriately decompose the record into components with a meaningful palaeoclimatically interpretable variability.

Our results indicate that the Lake Baikal grain-size record can be used to derive reasonable estimates for changes in both, temperature and precipitation. We discuss possible interpretations of our results in terms of long-term variations of the atmospheric circulation over Central Eurasia during the last glacial cycle.