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Surface water temperature (TEX_{86}) record from Lake Baikal for the last climatic cycle

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There are still many questions to be resolved concerning climate change in Central Asia given the lack of quantitative climate reconstructions. In this region, Lake Baikal has been proved to be a highly climatically sensitive system and with a detailed and well preserved sedimentary record which allows high resolution studies potentially spanning the last 12 Myr. Furthermore, its strong continentality makes it a key site to study the extension of potentially global/hemispheric climatic features, such as changes occurring in the North Atlantic region.

A quantitative record of lake surface temperature derived from the archaeal lipid based index TEX_{86} (Schouten et al., 2002) has been obtained from two cores drilled in Lake Baikal following the CONTINENT project. CON01-605-3 is located at Vydrino Shoulder in the south basin and the samples analysed span the last 27 kyr, while the last 57 kyr have been analysed for the CON01-603-2 drilled at the Academician Ridge in the north basin. The terrestrial input of archaeal lipids to the aquatic sediment can potentially bias the TEX_{86} signal. A way to appraise the occurrence of such bias is by measuring the BIT index which indicates the relative inputs of terrestrial vs *in situ*-aquatic archaeal lipids (Hopmans et al., 2004). The high BIT values found in the northern record suggest that this index could be applied to estimate the extent of the erosion affecting the Baikal catchment area but they also hamper the paleoclimatic interpretation of derived temperatures. The south basin shows globally low BIT values, suggesting a more reliable TEX_{86} derived temperature record. Furthermore, in the south basin, the available TEX_{86} values show low-amplitude variability, compared to the north basin record. These records show evidences of north-Atlantic climate teleconnections and they also arise questions on the synchronicity and ampli-

tude of changes recorded in both basins of Lake Baikal, which may be linked to some extent to the differences in organic composition, fluxes of biomarkers and preservation of some compound classes reported for the north and south basins (Russell and Rosell-Melé, 2005).

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