

What is the major factor which control global climate in the ice age?

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The author and his co-workers have been analyzed total organic carbon (TOC) and total nitrogen (TN) contents of the various lake and marine sediment cores. The temporal changes of TOC show quasi-periodic fluctuation patterns similar to LR04 marine oxygen isotope curve and delta 18O profile of NGRIP ice core. Among the several long records of TOC in and around the Japanese islands, the TOC record from the Japan Sea is the most excellent one, and can be correlated precisely with the NGRIP record both on the orbital- and millennial time-scale in the ice ages.

This intimate relationship of climate is confirmed between Greenland and the Japanese islands. The good concordance of climate change can be explained by a hypothesis that extension of ice sheets in the Arctic region is major factor to control global climate not only in orbital-time scale but also in millennium-time scale.

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