

The response of terrestrial climate variations in the orbital cycles based on a marine pollen records

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A pollen analysis of drilled marine core, that is effective for long-scale and continuous paleoclimate reconstruction because marine sediments have direct $\delta^{18}O$ -based timescales, which is absent in terrestrial materials. In this study, we carried out pollen analysis to the core C9001C drilled off Shimokita Peninsula, for paleoclimate reconstruction and compose pollen stratigraphy during the Brunhes paleomagnetic chron. As a result, during the interglacial periods is dominated by cool temperate pollen assemblages that is similar to the present-day Shimokita vegetation. In contrast, during the glacial periods is dominated by subarctic pollen assemblages, and the weak glacial periods or the transition periods of interglacial to glacial dominated by cool mixed pollen assemblages. In order to extract more detailed paleoclimate information we apply the modern analogue technique to our pollen records. As a result, paleoclimatic parameters suggested two different variations of paleo-temperature and paleo-precipitation, these are good correlates glacial-interglacial cycles and summer insolation variations, respectively.

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