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Late Pleistocene (MIS 2) Climate Change on the Northern Tibetan Plateau Inferred from Pollen and Geochemical Records from Lake Gomo Co

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Introduction

A 405-cm sediment section GM02 from Gomo Co salt lake in the northern Tibetan Plateau was used to reconstruct climate changes during marine isotope stage (MIS) 2, including the Last Glacial Maximum (LGM) and last degla-

ciation between 23.7 to 12 ka (Fig1).

Pollen, Chemical Index of Alteration (CIA) and Rb, Sr concentrations in Lake Gomo Co sediments were analyzed to study the climatic conditions during MIS 2. The results of pollen and geochemical analyses revealed three climatic and environmental phases from 23,700 to 12,000 cal yr BP.

The

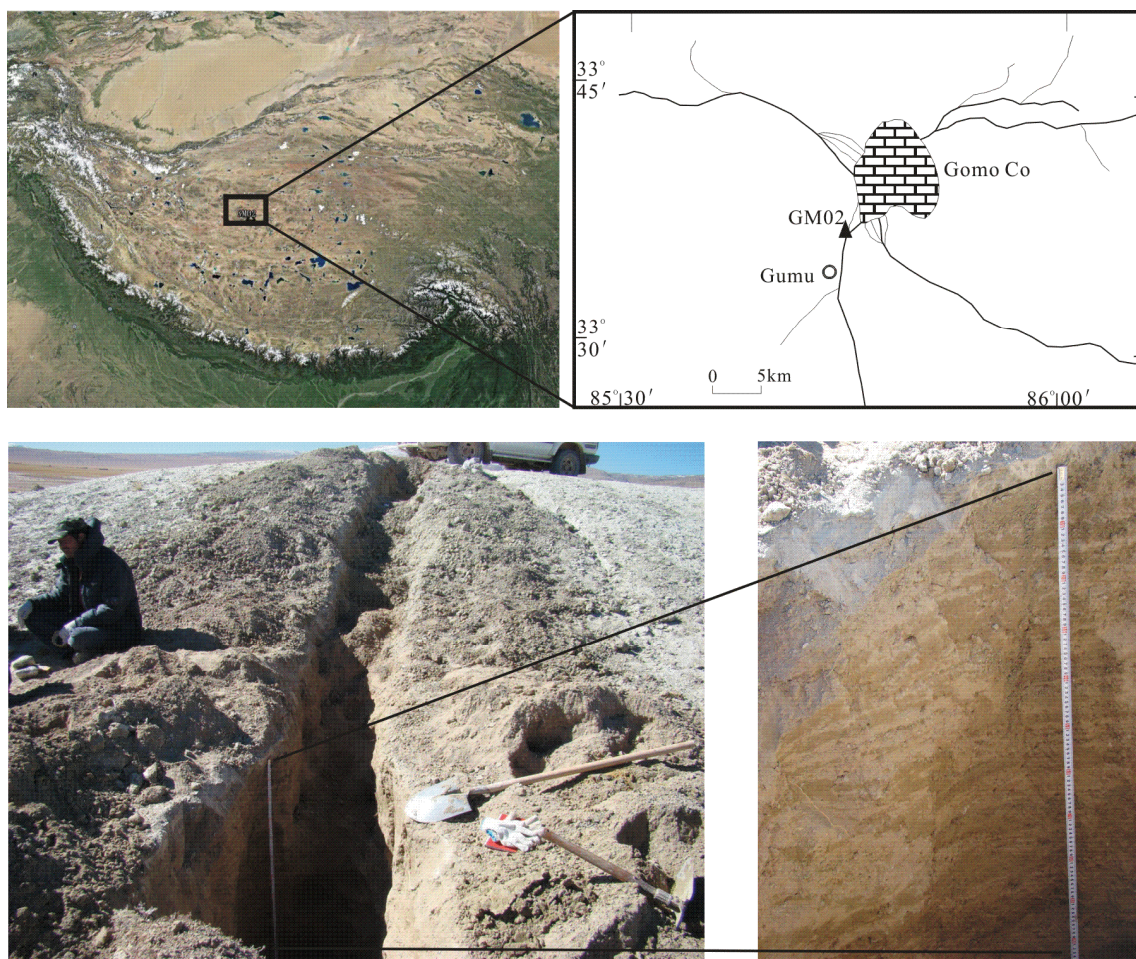


Fig. 1. Location of the study site GM02 in Gomo Co salt lake and sedimentary features of the section, northern Tibetan Plateau

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first phase, between 23,700 and 17,500 cal yr BP, was characterized by a slightly wet climate as suggested by relatively high pollen concentration and *Artemisia*/Chenopodiaceae (A/C) ratio. The second phase, between 20,000 cal yr BP and 17,500 cal yr BP, with a decrease of the total pollen grains, A/C and CIA, indicated a decrease in moisture in this phase. The climate in this period was cold and dry, corresponding to the Last Glacial Maximum. The third phase, from approximately 17,500 to 12,000 cal yr BP, was characterized by an increase in pollen concentration, A/C and CIA value indicating the last deglaciation abrupt warm event.

The salt lake sediment records in northern Tibetan revealed a significant climate change during MIS 2, started at the beginning of the last Deglaciation (17.5ka). This abrupt warm event may reflect a marked response to Asian summer monsoon strengthening during this period.

Key words: pollen, geochemical, MIS 2, Last Glacial Maximum, Tibetan Plateau

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