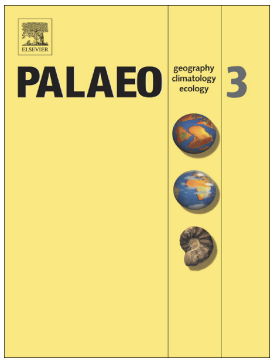

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Changes in vegetation and environment in Yamzhog Yumco Lake on the southern Tibetan Plateau over past 2000 years

Chao Guo[a], Yuzhen Ma[a*], Hongwei Meng[b], Caili Hu[a], Dandan Li[a], Jierui Liu[a], Congwen Luo[a], Kai Wang[a]

[a] State Key Laboratory of Earth Surface Processes and Resource Ecology, Faculty of Geographical Science, Beijing Normal University, Beijing 100875, China

[b] Key Laboratory of Plateau Geographical Process and Environmental Change of Yunnan Province, School of Tourism and Geographical Sciences, Yunnan Normal University, Kunming 650500, China

*** Corresponding author at**: Xueyuannan Street, #12, Haidian District, Beijing 100082, China. Tel: 86-15810387969. *E-mail Addresses*: mayzh@bnu.edu.cn.

Abstract: High-resolution palynological analyses of the sediment of Yamzhog Yumco Lake can potentially provide new insight into vegetation change and climate dynamics of the southern Tibetan Plateau over the past 2000 years. The chronology, presented herein, is based on ^{210}Pb and AMS ^{14}C dates from the macro-remains of plants. Reconstruction of vegetation types, temperature and moisture indices indicate that the vegetation was alpine meadow, under relatively wet and cool conditions, from approximately 100 to 780 A.D. Later, the vegetation between approximately 780 and 1400 A.D. was alpine steppe, with a warmer and drier climate prevailing during the Medieval Warm Period (MWP). Then, the vegetation during the period from approximately 1400 to 1890 A.D. reverted back to alpine meadow, under relatively cold and moist climate conditions, which may have corresponded to the Little Ice Age (LIA). Since the 20th century, an alpine steppe has dominated the landscape, developed under a dry climate with a lower effective moisture. Climate records from Yamzhog Yumco Lake have confirmed a cold-moist/warm-dry climate oscillation on the southern Tibetan Plateau over the past 2000