

## Environmental magnetic study of core samples from Er Hai Lake in Yunnan Province, China.

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In order to detect environmental magnetic records related to climate change from the last interglacial period to the Holocene, we made environmental magnetic study of core sediments Er Hai Lake in Yunnan Province, China. Measurements of initial susceptibility ( $k$ ), anhysteretic remanent magnetization (ARM) were made on U-channel samples from both cores. Variations of natural remanent magnetization (NRM) directions and relative paleointensity were also examined for age estimation of the sediments. Variation of NRM direction in the upper part of the Er Hai core was clearly correlated a previous data, providing chronology for the Holocene. Below this interval, relative NRM intensity normalized by ARM was correlated to paleointensity records between 2 ka and 110 ka. The topmost part of the Er Hai core showed rapid downcore decrease of magnetic mineral content ( $k_{ARM}$ ) associated with increase of magnetic grain size ( $k_{ARM}/k$ ), suggesting reductive environment before 3 ka. Negative correlation between  $k_{ARM}$  and  $k_{ARM}/k$  may indicate a gradual change in degree of the reductive diagenesis. Significant increases of  $k$  and  $k_{ARM}/k$  were observed at several horizons between 6m and 43m (15ka to 110ka), suggesting that flux of fine magnetic minerals might be increased by enhanced Monsoon activity during the interstadial periods.