

Fig. S1. Comparisons of lake level changes in Wulungu Lake (Liu, 2015) (d) and precipitation records of annual (a), summer half-year (b) and winter half-year (c) from Fuyu meteorological station (in Wulungu River catchment) during 1962-2006 AD.

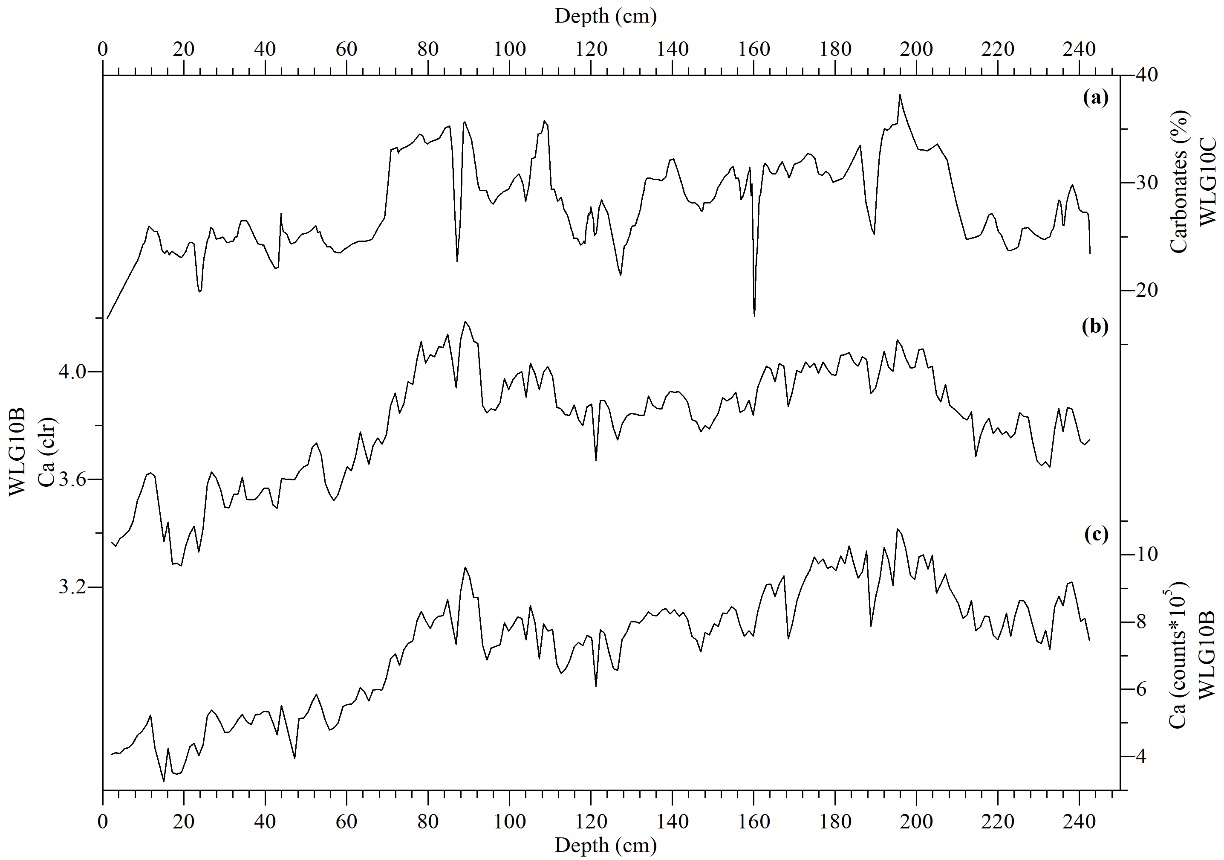


Fig. S2. Comparisons of carbonate content in core WLG10C, XRF-Ca intensity and clr-transformed XRF-Ca in core WLG10B.

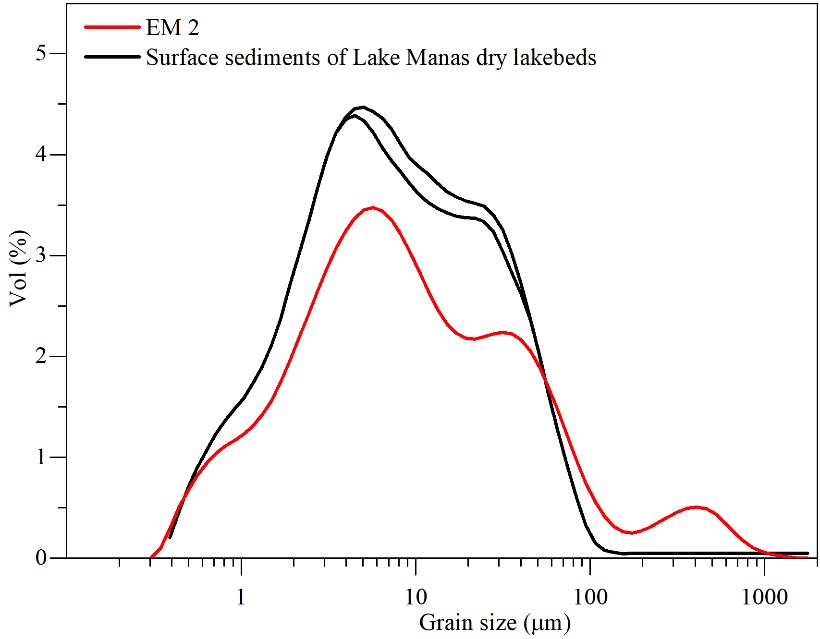


Fig. S3. Distribution of EM 2 and GSDs of surface samples from Lake Manas dry lakebeds (Yang et al., 2008).

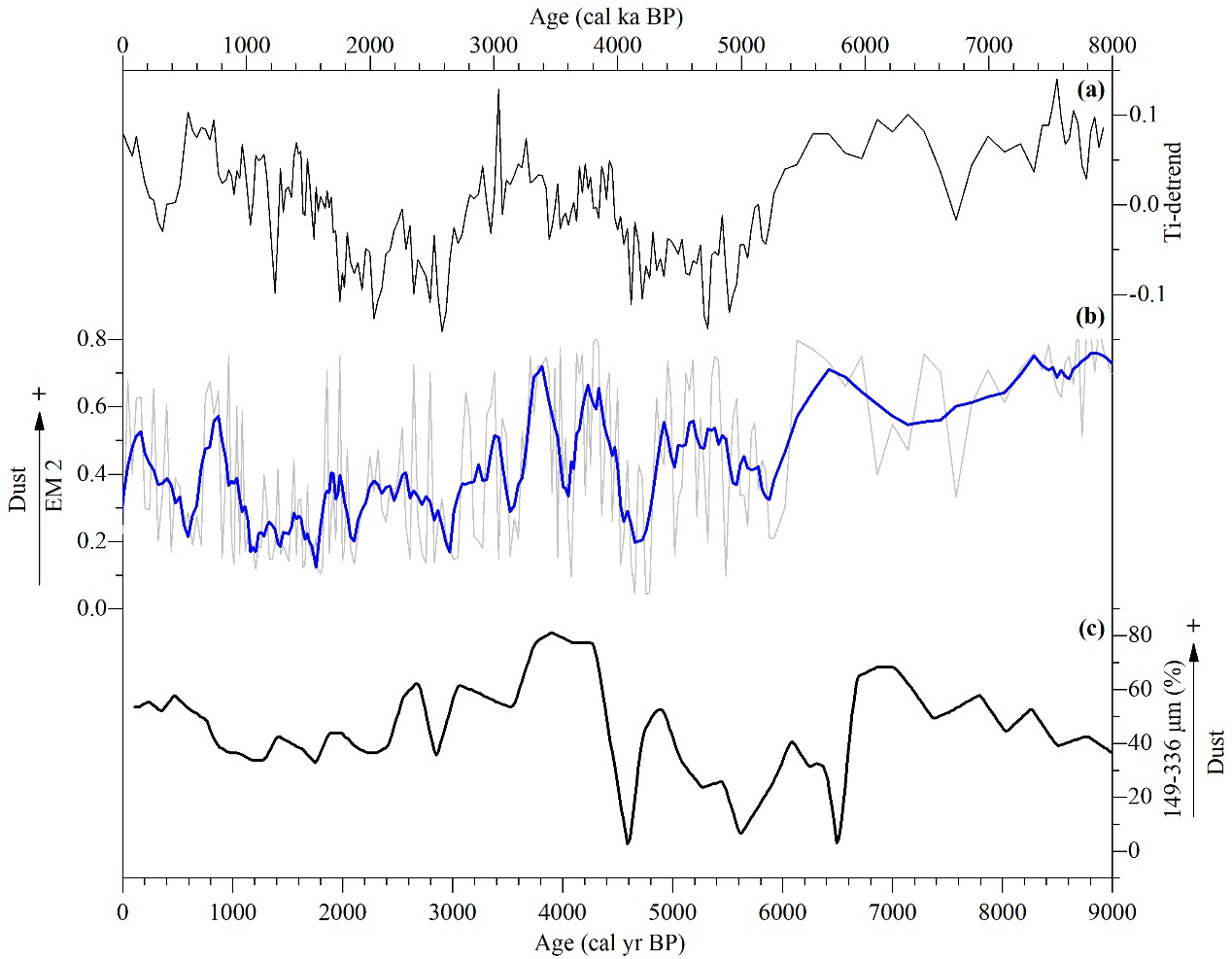


Fig. S4. Comparisons of detrended clr-transformed-Ti (a) and variances of EM 2 (b) from core WLG10B, and dust records from a sand dune in Balikun Basin (Ji et al., 2019) (c).

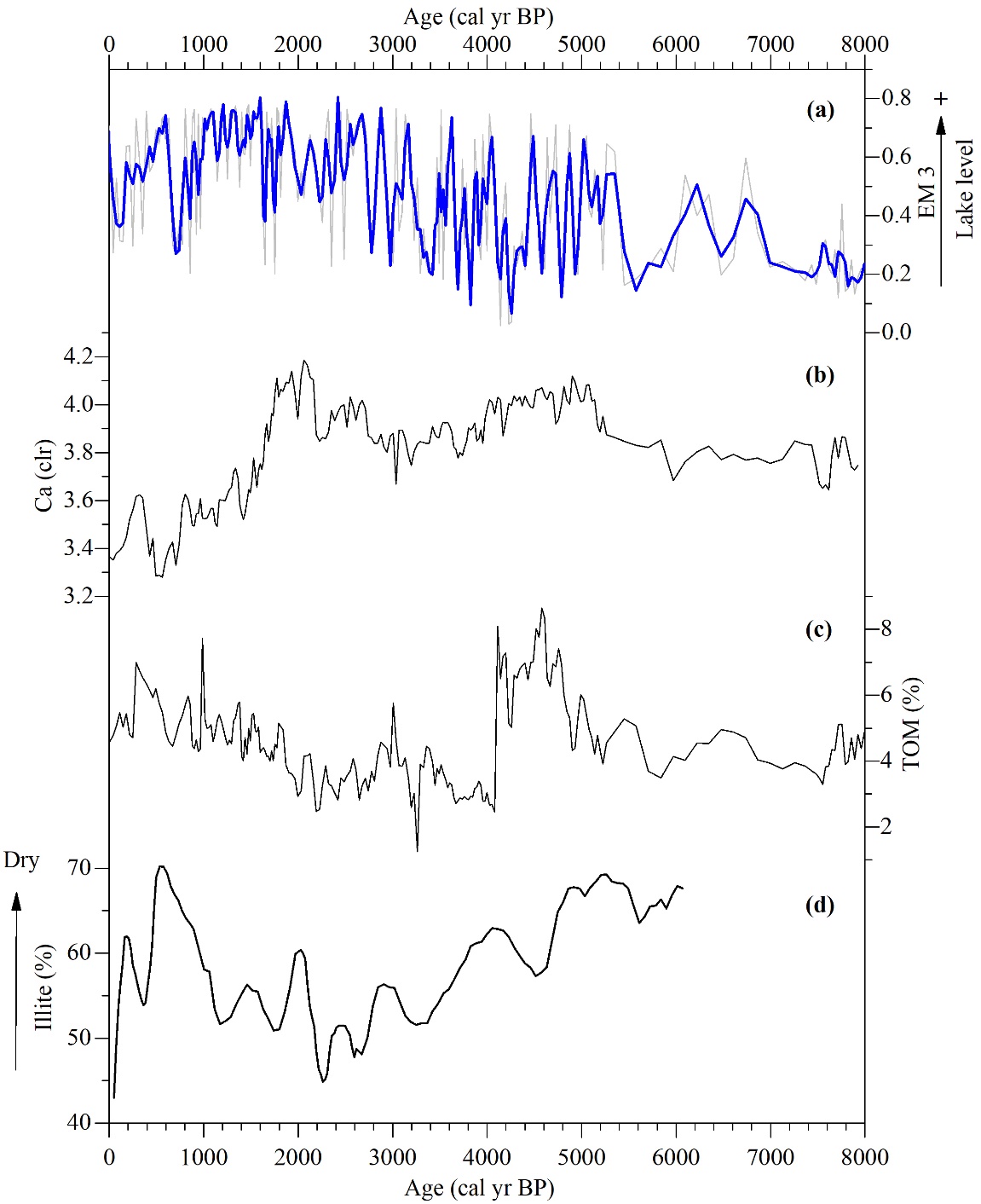


Fig. S5. Comparisons of EM 3 (a), clr-transformed Ca (b) and TOM of WLG10B (c), and illite record of sediments from the center of Wulungu Lake (Qian et al., 2014) (d).

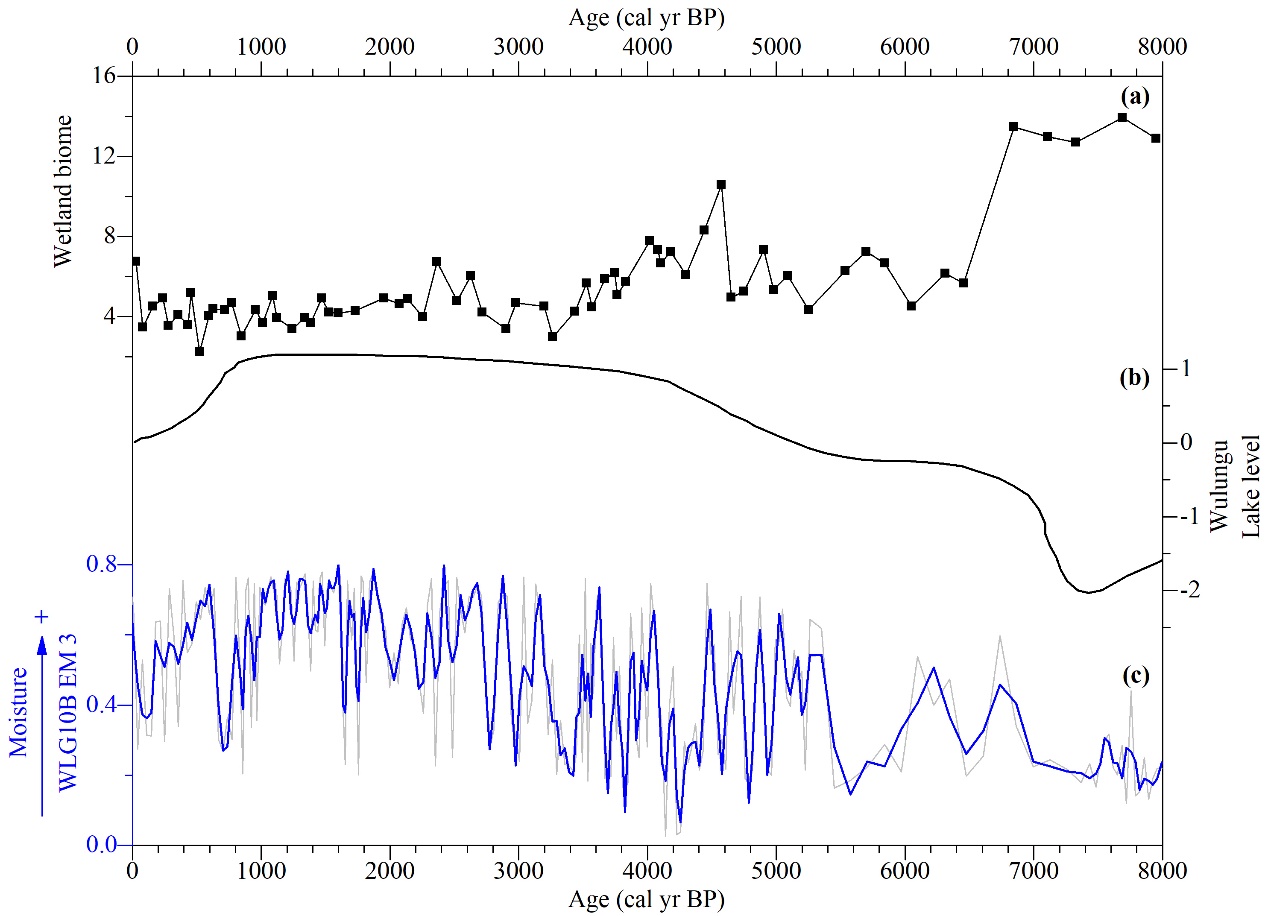


Fig. S6. Variances of WLG10B EM 3 (c), wetland biome reconstruction based on pollen (Liu et al., 2008) (a), and lake-level fluctuation derived from grain-size and pollen data from Wulungu Lake (Liu et al., 2008) (b).

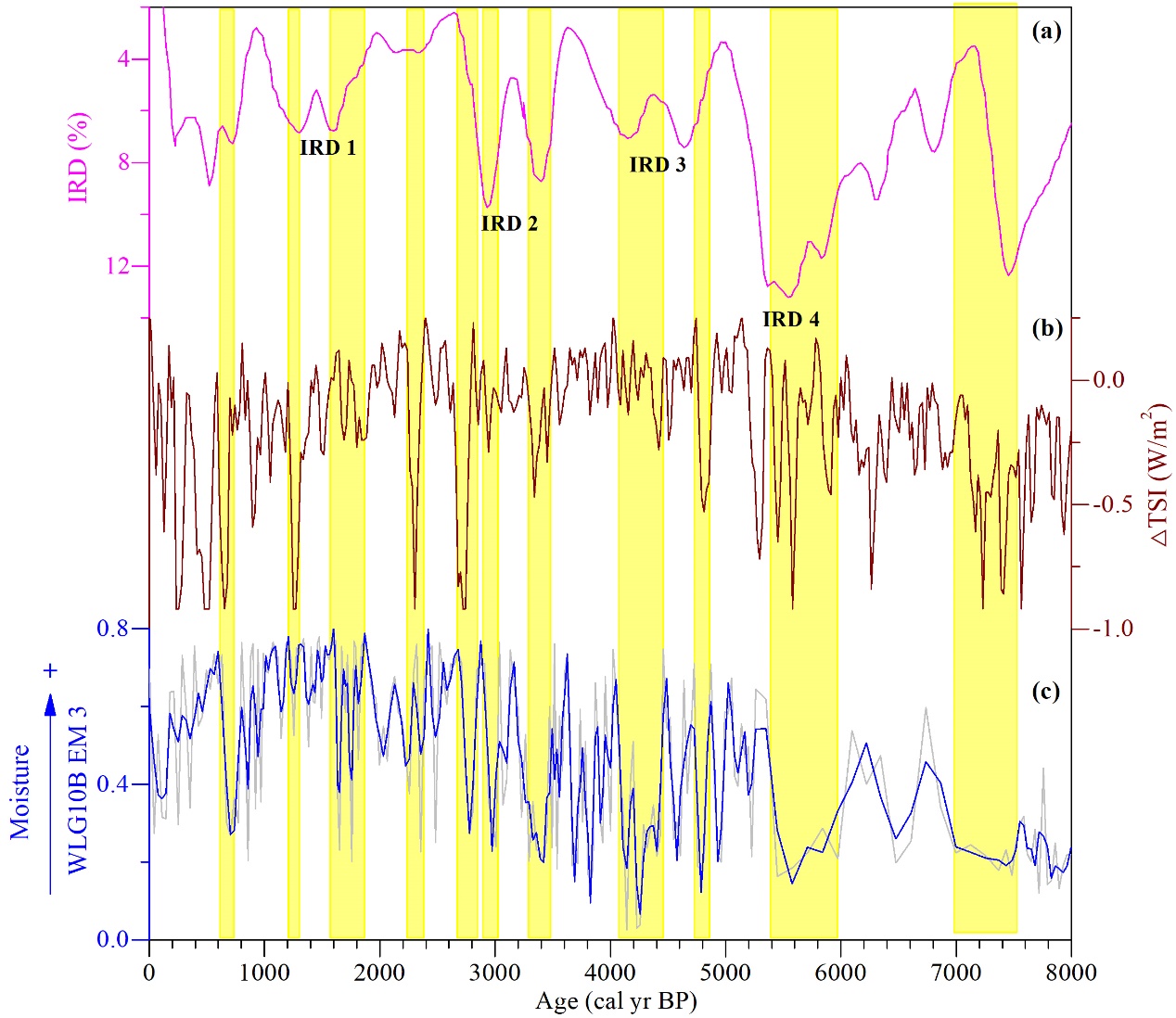


Fig. S7. Comparison of EM 3 of core WLG10B (c), concentration of IRD (ice-rafted debris) in North Atlantic sediments (Bond et al., 2001) (a), and solar activity (averaged total solar irradiance [△TSI]) (Steinhilber et al., 2012) (b). The yellow bars indicate dry events recorded at Wulungu Lake.

**References**

Liu, J., 2015. Analysis of water inflow in Wulungu Lake. Energy and Energy Conservation 2015, 103-105 (in Chinese).