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Climate changes during the past 150 kyr based on biongenic silica record in Takashima-oki Drilling Core, Lake Biwa

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Biogenic silica content (BSC) from Takashima-oki Drilling Core in Lake Biwa during the past 150 kyr was analyzed by means of molybdenum-yellow method at high-resolution. Other proxies obtained from the same core such as Median diameter, Md (Saitoh and Inouchi, 2004) and total carbon content, TC (Iwamoto and Inouchi, 2007) were also analyzed in previous studies.

BSC record was correlated with oxygen isotope record of NGRIP ice core (NGRIP members, 2004) and other proxies of the Takashima-oki core. Comparison between BSC and NGRIP record shows that BSC record is synchronous with D-O cycle (Dansgaard et al., 1993; Grootes et al., 1993; NGRIP members, 2004) and that Younger Dryas and Heinrich events no.1-6 (Bond et al., 1993) can be identified in BSC change. The result also suggests that the age model in this study is highly reliable. In addition, BSC record has strong similarities with Md and TC record, which indicates that our BSC got evidence as an proxy of primary production.

Keywords: Lake Biwa, Biogenic silica, Takashima-oki Drilling Core, Paleoclimate, D-O cycle