

Remanent magnetization observed in core sediments from the Ichinomegata Maar, Akita Prefecture

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The Ichi-no-megata is a maar lake with a maximum water depth about 45 m, located in the Oga Peninsula on the Japan Sea coast. A piston-core sample (IMG13P) obtained in 2013 provided a Holocene paleomagnetic secular variation (PSV) record through measurements of natural remanent magnetization (NRM) of 7cm³ cubic samples. Also, we collected Mackereth core samples (IMG13M-1 and IMG13M-2) at the center of the lake, and measured magnetic susceptibility, anisotropy of magnetic susceptibility (AMS) and NRM of 7cm³ cubic samples.

The core sediments are mostly composed of laminated clay or silt intercalating sandy turbidite layers. According to correlation between the Mackereth cores and the piston cores based on lithological and magnetic susceptibility data, it is revealed that uppermost parts of the piston cores were missed. Inclinations of minimum axis and shape parameters q of AMS ellipsoids indicate that turbidite layers of upper parts have not preserved primary sedimentary fabric. Stepwise AF demagnetization of the NRM showed that remanence of the laminated layer is more stable than turbidite layers. Therefore, we argue that the turbidite sediment is not suitable for preservation of NRM.

Keywords: Remanent magnetization, magnetic susceptibility, Ichi-no-megata Maar