

## Records of paleomagnetic secular variation obtained from piston-core sediments of Lake Biwa

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We newly obtained six piston-core samples from Lake Biwa in 2007, intending to recover paleoenvironmental and paleomagnetic records for the last 50 kyrs. Here we report initial results of directional variations of natural remanent magnetizations (NRMs) of a piston core, BIW07-1 (9.4 m long), obtained between Omatsugasaki and the Okinoshima Island, and two piston cores, BIW07-3 (8.6 m long) and BIW07-5 (13.8 m long), recovered along a depth transect with water depth from 30 to 50 m off Nagahama City.

Coring site of BIW07-1 was chosen near the previous coring site in 1995 (Site 3 of Takemura et al., 2000), where Ali et al. (1999) reported a Holocene paleosecular variation record (BIWA SV-3). The new core is composed of bluish-gray homogenous clay with volcanic ash layers, the Kawadodaira (Kg), Kikai-Akahoya (K-Ah) and Ulreung-Oki (U-Oki) tephra layers. Measurement of anisotropy of magnetic susceptibility (AMS) shows that main part of the core sediment was not affected by disturbance during the core recovery. In spite of systematic declination shift suggesting that the corer might have corkscrewed into the sediments, the NRM after 15 mT AF demagnetization show directional variations similar to the BIWA PSV-3 record between the K-Ah and U-Oki ashes.

The main lithology of BIW07-5 from the deeper site is massive silt and silty clay, while the near-shore BIW07-3 core contains sandy layers in the lower part. Several ash layers found in these cores were correlated to widespread tephra deposits, including U-Oki, Aira-Tanzawa (AT) and Sanbe-Ikeda (SI). These correlations suggest that the bottom part of these cores may date back to around 50 ka. AMS data of BIW07-5 suggests that the core sediment had been significantly deformed during the coring operation, but that core BIW07-3 is scarcely deformed. The NRM data of BIW07-3 obtained through AF demagnetization tests show a fluctuation of inclinations, which may represent a geomagnetic excursion between 40 and 50 ka.