

Disastrous flood events found in lacustrine sediments around Lake Biwa

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Lacustrine sediments have high-resolution regional environmental records on lake and its surrounding catchments in addition to global information. Therefore they are of great use for reconstructing past hydro-environmental fluctuations and understanding lake-catchment processes. Lake-catchment systems with many instrumental stations are of great use for past environmental reconstruction in detail and process-understanding of the systems (e.g. Lake Biwa).

Here we discuss about hydro-environmental fluctuation in the instrumental observation period on the basis of physical properties of sediments. Some sediment core samples were obtained with 1-m sampler in Lake Biwa and Lake Yogo, central Japan.

Analytical results for the core sediments, obtained in Lake Biwa, show that disastrous flood events, Isewan Typhoon (1959) and Meiji heavy rainfall (1896), are clearly recorded in physical properties of sediments; density and mineral content are good proxies of rainfall intensity (100mm excess rainfall); and grain size distribution in lakes may be a function of rainfall intensity in the catchment and transporting distance from the river mouth. Additionally, we compare results of physical properties of sediments in Lake Biwa with those in Lake Yogo during the flood events in detail.

Keywords: flood event, lacustrine sediment, lake-catchment process