Grain size composition and distribution of bottom surface sediments in Lake Nojiri,central Japan

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More than a few meters of lake-level changes during the last 30 to 40 thousand years are presumed based on the analysis of acoustic records in Lake Nojiri, Central Japan. However, concrete scientific values are not acquired by the lack of data on surface sediment. This study aims at obtaining vertical grain size variation at lake bottom so that enables us to estimate lake level changes based on grain size change of drilled sediments.

We took 72 surface sediments in the lake at ca. 300 meters interval and measured grain size composition. The results show that sandy sediments are distributed at shallower depth less than 16 meters whereas homogeneous muddy sediments are distributed at more than 16 meters depth. These results show that swirl up by waves influences as deep as 16 meters, whereas only transportation by suspension is effective where the water-depth exceeds 16 meters. This data may be useful to reconstruct past lake level by measuring grain size of drilled sediments.