Late Holocene history of the Fuji Five Lakes (Japan)

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Within the framework of the QuakeRecNankai project, which focuses on the geological record of paleoearthquakes rupturing the Nankai-Suruga subduction zone, we acquired a grid of reflection-seismic profiles in the Fuji Five Lakes at the foot of Mount Fuji. The lake sedimentary architecture and the Holocene sedimentation were studied in detail, with a very high resolution GEOPULSE pinger system in October 2014. The Motosu, Sai, Kawaguchi and Yamanaka Lakes were covered by seismic grids with total lengths of 39 km, 24 km, 31 km and 28 km respectively. The seismic profiles provided a clear image of the entire (the upper 20-25 m on the reflection seismic profile) lacustrine infill in the deep Motosu and Sai Lakes. Regarding the shallow Yamanaka and Kawaguchi Lakes, gas blanking prevailed, but the upper 15 m of sedimentary infill was still visible locally. We establish a seismic stratigraphy for each lake over the Late Holocene period and integrate this into the wide range of published data on the Mount Fuji and Fuji Five Lakes. In particular we seek to tie the seismic stratigraphy to the geological record obtained in long drilling cores (Koshimizu *et al.*, 2007) and to major eruption phases of the Mount Fuji. Our goal is to define a common time frame, which will enable integrated investigations of evidence for mass-wasting deposits, major eruptions and lake-level changes contained within the lakes.

Reference:

Koshimizu S. Uchiyama T. Yamamoto G. (2007) Volcanic history of Mt Fuji recorded in borehole cores from Fuji Five Lakes surrounding Mt. Fuji. *in* Aramaki, S., Fujii, T., Nakada, S. and Miyaji, N. eds., Fuji volcano, Yamanashi Institute of Environmental Sciences, p. 365-374.