

Late Pleistocene paleolakes formed by landslide activities on the eastern foot of Mt. Kushigata, the Koma Mountains, central Japan

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Landslide activities are important agent on shaping slopes and creating landscapes in mountain areas. For example, geomorphic changes by landslide often provide natural environments rich in diversity.

Slope development of Mount Kushigata seems to have been affected by landslides activities and deep-seated gravitational slope deformation on both its eastern and western sides under earthquake-prone humid environments during the late Quaternary. In particular, on the eastern piedmont areas facing to the subsiding Kofu Basin and the active Kushigatayama fault, many large landslide bodies with secondary landslide activities are commonly identified on the basis of our geomorphic classification.

In this area, thick lacustrine sediments and debris flow deposits bearing the Ontake Pm-1 tephra layer (95 ka) are seen at several locations with different altitudes. Basically, those lacustrine sediments blanket large landslide bodies. Thus paleolakes would have been developed on closed depressions and gentle slopes formed on such landslide masses around 95 ka.

The timing of emergence and extinction of paleolakes are not clear due to the paucity of chronological information of the lacustrine sediments yet. However, those paleolakes were probably destructed and filled by valley head incision, secondary landsliding, and influx of debris from nearby slopes. Lacustrine sediments on the eastern face of Mount Kushigata demonstrate a portion of changing natural environments by landslide processes during the late Pleistocene.

Keywords: Tephrochronology, On-Pm1 tephra, lacustrine sediments, deep-seated gravitational slope deformation