

## Landslides accompanying dammed lake in the Miyagawa drainage area, eastern Kii Peninsula, Southwest Japan

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Two historic or prehistoric landslides and dammed-lakes in the Miyagawa drainage area, eastern Kii Peninsula were described.

Ikenotani Landslide: Dimensions of the source area are 300 m wide, 450 m long, and 30 to 50 m thick. Volume of the moved mass is inferred to be  $2 \times 10^6$  m<sup>3</sup>. The moved mass dammed the valley and formed the lake which has about 7 ha area and maximum 50 m deep. Part of the lake remains at the upstream of the dam. The moved mass is composed of chert in the Southern Chichibu Belt, and the bedrocks are terrigenous clastic rocks such as mudstone and felsic tuff. The landslide occurred at the north facing slope forming a dip slope. The moved mass includes large blocks, 20 m in diameter at maximum, was deposited with hummocky earth surface, which suggest that the movement of the mass was debris avalanche.

Sono Landslide: The source area has 600 m wide, 700 m long, and 100 m thick. Volume of the moved mass reaches  $2 \times 10^7$  m<sup>3</sup>. The moved mass dammed the upstream of the Sono-kawa River, and a lake of 8 ha area and maximum 80 m deep was formed. At present, the dam was dissected and the lake does not remain, but the lake deposits mainly composed of laminaceous mud are observed. Although greenstones, limestone, sandstone and mudstone in the Northern Chichibu Belt are complexly distributed around the depositional area, chert blocks of several meters in diameter are the only rock constituent of the moved mass. Hummocky topography is not so clear, however, it may be the influence of reworked debris covering the original earth surface.

Inferred from the degree of dissection and vegetation, both landslides did not occur recently. Because a Zelkova tree of a few hundred years old is growing on the delta plane aggrading the lake, the Ikenotani Landslide collapsed in the Edo period or former. The Sono Landslide which has indistinct topography seems to have occurred older than the Ikenotani Landslide.

In the Miyagawa drainage area, many landslides occurred induced by heavy rain accompanied by the Typhoon in 2004. Such heavy rainfalls are possible triggering cause of the landslides, whereas earthquakes along the Nankai Trough with about one hundred years interval are also likely cause. Several landslides with dammed lakes can be distinguished by topographical map interpretation in the Kii Peninsula. Determining the ages of landslides from samples of dammed-lake deposits and moved mass will make sure the estimated history of earthquakes or add new information to the history.