Early Holocene large landslide in the Goansawa River Basin on the southern slope of Mount Amari in Yamanashi Prefecture, central Japan

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This presentation describes the features of a large-scale landslide as well as a synchronous dammed-lake and a flood plain occurred in the early Holocene from Quaternary geological and geomorphological perspectives. This landslide, called Goan-sawa landslide (GOA), has a set of distinct head scarp and landslide body on the southern face of Mount Amari (1740 m ASL) in the Koma Mountains. The estimated volume of landslide body is over V=1.2×10^7 m^3. Thick lacustrine and flood plain deposits formed by damming of the landslide body provide chronological constraints of GOA. Radiocarbon ages of fossil wood fragments and a very thin tephra bed of the Kikai-Akahoya (7300 cal BP) in the lacustrine and flood plain deposits demonstrate that the initial activity of GOA and formation of the dammed-lake took place during 8000-7700 cal BP. A dammed-lake persisted for 3000 yr until ca. 5000 cal BP. A possible trigger of the initial movement of GOA is a paleoearthquake derived from nearby or remote active faults including active plate margins such like Suruga and Nankai Troughs. In particular, the southern behavioral segment of the Itoigawa Shizuoka Tectonic Line Active Fault Zones situated 5 km east of GOA is a strong candidate that was displaced around 8400-7200 cal BP. Furthermore, this presentation provides a conspicuous lineament with systematic dextral offsets of minor ridges and channels on the southern face of Mount Amari, just behind the main head scarp of GOA. This extensive surface feature would reflect large-scale deep-seated gravitational slope deformation of Mount Amari and may relate to the activities of GOA. An attached figure is a geomorphological map of GOA and its adjacent slopes. A star indicates the outcrop locality of dammed-lake and flood plain deposits.

Keywords: Deep-seated gravitational slope deformation, Kikai-Akahoya tephra, Itoigawa-Shizuoka Tectonic Line Active Fault Zone, 14C ages, Quaternary geology and geomorphology

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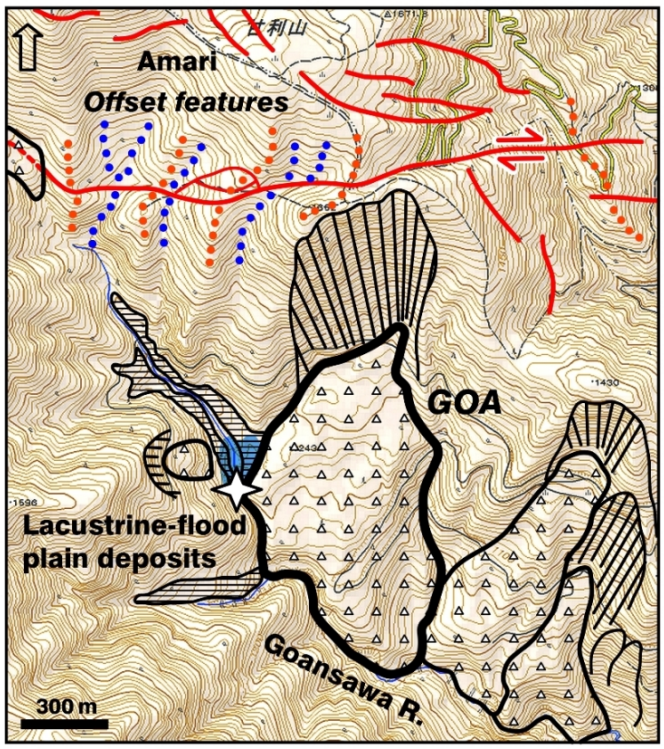

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