

Holocene Faulting History of the Kawakami Fault of the Median Tectonic Line Active Fault Zone in northwest Shikoku, Sout

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Several long, active strike slip fault systems that produce cascade earthquakes have been observed to rupture over only part of their total length during large earthquakes. The faulting history of each segment is one of the important data to evaluate the relationship among neighboring segments. The detail faulting history of a fault segment needs to be considered by the contrasting fault event data obtained in several survey sites along the fault segment. However, the faulting history of some fault segments including the Kawakami Fault which are the parts of the Median Tectonic Line active fault zone is evaluated based on just one survey point data, however many surveys have been conducted since 1980.

We conducted a trench survey of the Kawakami Fault at the Ususaka in the Saijyo-city to obtain the faulting history data. The faulting history of the Kawakami Fault is evaluated on the basis of a trench survey at the Himi in the Saijyo-city (Tsutsumi et al., 2000). Tsutsumi et al. (2000) reported that the Kawakami Fault have occurred three faulting events in about 4000 years. The latest faulting event age is estimated to be from Asuka to Edo era, and contrasted with 1596 Keicho earthquake in historical document data.

This trench survey results revealed that the Kawakami Fault have occurred three faulting events in about 6000 years. The latest faulting event occurred after 525 cal. y.B.P. Other events occurred between 1885 and 4240 cal.y.B.P., and before 3895 cal.y.B.P. These data coincide with the fault event data reported by Tsutsumi et al. (2000). The faulting history of the Kawakami Fault based on both data is summarized as following. The latest faulting event occurred between 525 and 172 cal. y.B.P., and the penultimate event occurred between 950 B.C. and 1925 cal. y.B.P. Other events occurred between 1885 and 4240 cal.y.B.P. and before 3895 cal.y.B.P. Given that the 1596 Keicho earthquake is the latest faulting event of the Kawakami Fault, the average recurrence intervals are 1943 years in the longest and 765 years in the shortest.

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