

Paleoseismological Study of the Iyo Fault of the Median Tectonic Line Active Fault System in Shikoku, Southwest Japan

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The Median Tectonic Line active fault system (MTLAFS) is one of the longest active faults in Japan with a 400 km-length extending from the Kii Peninsula to Kyushu. Much research has been conducted to reveal the MTLAFS activity since the 1980s. However, there is a heterogeneous distribution of activity data along the fault system. We must obtain more activity data in order to discuss the assessment of future earthquakes, fault segmentation and rupture propagation, so we conducted a trenching study of the Iyo fault, and obtained information of five faulting events as mentioned below.

The latest faulting event occurred in 1450 A.D.-1800 A.D., and the penultimate event occurred from 970 B.C.-790 A.D. Other events occurred from 2870 B.C.-840 B.C., 5980 B.C.-2630 B.C., and before 8250 B.C. The timing of the latest faulting event revealed in this study is consistent with that of Goto et al. (2001). The recurrence interval of the Iyo fault is roughly calculated to be 1600 years, coinciding with previous research data (Tsutsumi and Okada, 1996; Okada et al., 1998).

Furthermore, we compared the paleoseismological data over the past 10000 years with that of the Hongu fault (Ikeda et al., 2005), which runs parallel to the Iyo fault. The results suggest that the Hongu fault and Iyo fault would have moved simultaneously before 2000 years ago, but after that, the activity of the Hongu fault would have been terminated and only the Iyo fault would have brought about faulting ruptures.