

Distribution and tectonic landforms around the Tsutsuga fault zone, western Chugoku region, Japan

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In the western Chugoku district (Yamaguchi prefecture, western Hiroshima Prefecture, western Shimane Prefecture), it has been thought that distribution of active faults is very sparse. However, several active faults were newly mapped by several researchers in recent years. We have been mapped active faults in the whole area of the Chugoku District by detailed air photograph interpretation during the last several years. As a result, we revealed that many active faults are densely distributed in this area. In this presentation, we report tectonic geomorphology along the Tsutsuga Fault Zone and its adjacent areas as an example of such active faults, and discuss the characteristics of distribution pattern of this Fault Zone.

Although distribution of active fault traces in our result is similar to those of the published data in large scale view, some active fault traces are mapped in different location and some active faults traces are newly mapped. Along the previously mapped active faults traces, many tectonic landforms (lateral offset streams, offset hills, beheaded stream, dammed stream) are newly mapped. As a result, we clarified that the Tsutsuga fault zone is an active fault system with 100 km in length. However, based on distribution of fault traces, we consider that a segment boundary exists at the central part of the Tsutsuga fault zone, and that the length of the northern part and the southern part of the fault zone are 60 km and 44 km, respectively. Therefore, the northern and southern part of the fault zone have a capability of causing M7.8 and M7.6 earthquake, respectively.

Keywords: Tsutsuga fault, active fault, Chugoku, inland earthquake, air photo