Investigation into the Properties of the Ayasegawa Fault based on tectonic landforms, capital area of Japan

Mitsuhisa Watanabe[1]

[1] Fac.Sociol. Toyo Univ.

Tectonic landform is the only real evidence of active crustal movement. Deformed landforms are indispensable for making sure we have not missed any active fault out. We should understand the direct relevance of tectonic relieves to active faults. The southern part of the Ayasegawa Fault, locating in highly urbanized area of Saitama Prefecture, was reported as not being active one based on some prospected records. However, geomorphic investigations have raised a query against the explanation. The fault extends in NW-SE direction over 30km, at least. Although its southeastward extension remains obscure, there are discontinuities in the height of natural levees and sand bars in the southeastern part of Tokyo, which coincide exactly with the seismic reflection records. The vertical component of the Ayasegawa Fault is upthrown on the southwest and the average vertical slip rate is 0.05 to 0.1 m/ky. The straight fault trace is indicative of much larger lateral movement. The Ayasegawa Fault is the southeastern extension of the Fukaya Fault and may compose a over 120-km long active fault traversing the Kanto Plain across the capital area of Japan. In order to prepare for real seismic hazard and to estimate the strong ground motion, it is a urgent task to check the properties of the active faults in highly urbanized Holocent lowland on the basis of tectonic relieves and prospected geological data.