

Concept of the WebGIS for the ISTL active fault

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The geographical information with regard to active faults (for example: precise location, cumulative amount and shape of deformation, and slip-rate) is compiled on the 'Active fault GIS'. This can be a compilation of the basic information not only for earthquake anticipation but also for land use planning in order to mitigate earthquake disaster. We are here presenting methodology for constituting 'Active fault GIS' as an effected hazard map toward disaster mitigation.

Tectonic geomorphological survey of the northern Itoigawa-Shizuoka Tectonic Line was conducted and it clarifies the detailed distribution of the slip-rates of the fault. That would enable us to forecast the behavior of the fault and to estimate the strong ground motion associated with an earthquake. Furthermore, the digital elevation model with high density and high precision was constructed photogrammetrically by using 1:10,000 scale aerial photographs. The aerial photographs taken in the 1940s or 60s are also used in areas where tectonic landforms had already been artificially modified; this was intended to reconstruct the original landforms. The landform deformations by faulting were analyzed densely from many transactions that were measured under the photogrammetrical system.

The distribution pattern of the slip-rate probably enables us to estimate strong ground motions. These fundamental data and visual graphics illustrating relation between active faults and tectonic landforms are compiled on the webGIS, which is to be opened for public.