# Feature of tectonic landforms derived from the stress-strain changes induced by strike-slip fault activities

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Understanding the tectonic landforms derived from fault activities contributes to the long-term safety assessment of geological environment. Accumulation of the stress-strain changes induced by fault activities results in such tectonic landforms. Here we tried to precisely determine the fault-related tectonic landforms through the use of aerial photographic interpretation and numerical analysis of crustal deformation.

The study area is around the Median Tectonic Line active fault system in the Tokushima Prefecture, southwest Japan. We confirmed the distribution of faults, terraces and alluvial fans, and determined steps, blanches and bends of faults by interpreting aerial photographs. Next we calculated horizontal and vertical displacements, dilatation and Coulomb stress changes by use of the software 'Coulomb' (Toda et al., 1998), which implements elastic dislocation and boundary element formulae. We input the fault distribution identified by the aerial photograph interpretation for the 'Coulomb' calculation. In consequence, we identified that dilatation and Coulomb stress changes tend to cumulate around steps, blanches and bends of faults. Furthermore, good relationship between upheaval or subsidence in fault steps interpreted by aerial photograph and the stress-strain changes displayed by the 'Coulomb' calculation was represented.