

Standardized procedures of active structure characterization in the field

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One of the primary goals of the Taiwan Earthquake Model (TEM) project is to establish a comprehensive database of active seismogenic structures of Taiwan. Such database would need to include the geometry, moment magnitude, deformation rate, recurrence interval, and other important parameters of the structures. The most important parameter for hazard analysis is the recurrence interval, which can be derived from the slip rate and the accumulated displacement of the structure. However, it is not easy to obtain slip rate information for many structures, and only about half of the structures in Taiwan have published slip rates. In order to systematically estimate a reasonable slip rate for all structures, we established a standardized procedure for field investigation of active structures. In this procedure, we first identify fluvial or marine terraces along the structures, measure the amount of deformation of the terraces by the structures, and estimate the age of the terraces based on a standardized terrace age category. Based on such a procedure, we have successfully built a complete structure parameter table for all seismogenic structures for the TEM, and we hope such information would provide significant constraint for seismic hazard analysis of Taiwan.