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Active fault earthquakes triggered by mega thrust earthquakes on plate boundaries

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Crustal movement and seismic waves caused by the 2011 off the Pacific Coast of Tohoku Earthquake (Tohoku Earthquake) effects on the generation the inland active fault earthquakes. For example, earthquakes on Nagano-Niigata prefecture boundary (M6.7), eastern Shizuoka (M6.4) and Fukushima Hamadori (M7.0) are triggered earthquakes of Tohoku Earthquake. Fukushima Hamadori Earthquake impacted on active fault study by the reason of not only the appearance of significant surface faults with displacement up to 2.1 m, but also the reactivation of the normal faults under the E-W compressional stress field. HERP reported that the Tohoku Earthquake increased the probabilities of earthquake occurrence on some active faults, such as Gofukuji, Tachikawa and Miura Peninsula faults. It is important to realize the relation between mega-thrust earthquakes on plate-boundary and intra-plate active fault earthquakes. Triggered earthquakes by Tohoku Earthquake and other plate-boundary earthquakes in Japan and other region are also discussed.

Keywords: active fault, triggered earthquake, plate boundary earthquake