

Characteristics and paleoseismic history of the surface rupture of the April 11, 2011 earthquake at Iwaki City

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A large normal faulting earthquake (Mw6.6) occurred on April 11, 2011 in Iwaki City, Fukushima Prefecture due to east-west crustal extension associated with the March 11 mega-thrust earthquake. Clear surface ruptures appeared along the previously mapped Yunodake and Itozawa faults. We mapped the surface ruptures in the field and found that 1) the surface ruptures with predominant normal sense of slip along the Yunodake and Itozawa faults are both ~15 km long and 2) the maximum displacement on the Yunodake fault is ~80 cm and that on the Itozawa fault is ~2.2 m. Paleoseismic trenching across the Itozawa fault revealed that the penultimate faulting event occurred sometime during 13000 and 16500 cal yrBP, indicating that the fault was not reactivated during the 869 Jogan earthquake.

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