

Recurrence interval on the Kuromatsunai-lowland fault zone in southwestern Hokkaido, Japan

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The Kuromatsunai-lowland fault zone is one of the N-S trending fold and thrust systems in Hokkaido. Tectonic landform are recognized as fault (and flexural) scarps and the anticlinal deformations on the Middle to Late Pleistocene terraces along this fault zone. In 2003 we excavated a trench across Warabitai fault, which located in the middle part of this fault zone, and obtained the data on the timing of a fault event. In this study we excavated a trench across Warabitai fault again to know the recurrence intervals of this fault.

On the trench walls, several traces of reverse faults are recognized. They dip 40-60 degrees to the west and clearly deform sand and peat layer in the Middle Pleistocene age. Some fault deforms younger sediments, too. Based on the observed structures and dating result, there were two fault events after deposition of younger sediments (ca. 6,000 BC) and recurrence intervals are estimated as 3,000-4,000 years.