

The latest fault event of the Kochien fault of the Tokachi-heiwa fault zone, southeastern Hokkaido, Japan

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Kochien Fault is NNW-SSE trending reverse fault, bounding between the Hidaka Range and the Tokachi Plain. We conducted a paleoseismological trench survey and drilling survey at two sites, Kashiunnai and Nozuka, on this fault. At Kashiunnai trench, a high angle reverse fault was observed, which displaced gravel layer deposited after Spfa-1 (30-40 ka) and covered with silt layer with the 14C age of 12 ka. Vertical displacement of this gravel layer was 5 m and a height difference of basement rock between both sides of fault was also 5 m from the result of drilling survey. At Nozuka trench, a humic silt layer flexure toward upstream side was observed. This deformed layer had 14C ages older than 40 ka and covered with gravel layer with the age younger than 9 ka. Vertical displacement of deformed layer was 3 m on the trench wall and a height difference of basement rock was also 9 m. Based on these results, we concluded that the Kochien fault acted only once between 40 ka and 12 ka, whereas the previous study indicated a possibility that two events occurred after 20 ka. Amount of vertical displacement during the last fault event was 3-5 m.

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