

The most recent surface-rupturing event of the Ushikubi fault, Toyama/Gifu prefectural border area

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<http://unit.aist.go.jp/actfault/activef.html>

We identified the most recent surface-rupturing event on the central part and the southwestern part of the Ushikubi fault located on the Toyama/Gifu border. We excavated a total of four trenches during 2002 and 2003 in order to evaluate the future earthquake potential. As a result, it was made clear that the most recent event occurred about 1000 years ago on the central part and 1290-980 cal.y.B.P. or later on the southwestern part.

The Ushikubi fault is a NE-SW-trending right-lateral strike-slip fault, which extends 60 km along the Toyama/Gifu border. The Atotsugawa fault runs about 10 km south, parallel to the Ushikubi fault.

In 2003 we dug a new trench, named as Kamishirakimine trench, on the central part of the fault in addition to three trenches on the southwestern part of the fault excavated in 2002 (Ushikubi site and Mizunashi site). Details of the trench are described below.

The Kamishirakimine trench site is located on the terrace near the uppermost stream of the Osaka-dani, northwestern part of the Miyagawa Village, Gifu Prefecture. We excavated a trench across a 60-m-long, 1- to 2-m-high NW-facing fault scarp.

Trench walls exposed predominantly gravel and humic soil. Based on the trench wall observation, we identified a 2-m-wide fault zone which corresponds to the lower extension of fault scarp. Colluvial humic soil between two clear fault planes at the SE end of the fault zone shows the latest faulting event. The youngest radiocarbon age of colluvial deposits shows 1060-930 cal.y.B.P. and the oldest age of humic soil covering the fault zone shows 1160-910 cal.y.B.P.

On the other hand, the preliminary trenching survey of the southwestern part of the Ushikubi fault in 2002 revealed that the latest event occurred 1290-980 cal.y.B.P. or later, as indicated by a wood fragment trapped in the fault zone and humic soil covering the fault zone. We also inferred different faulting event(s), 11,100-10,700 cal.y.B.P. or later, from displaced scarp-failure deposits (Miyashita et. al., 2003a,b).

The detailed timing of the latest events and the other older events is now being analyzed.

References

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