

## Active tectonics of Nishikubiki area in Niigata prefecture

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The Nishikubiki area is located in the northern-most part of north Fossa Magna region and distributed thick Neogene sediments. Okamura(2003) suggests a tectonic model where three thrust sheets has been developed from land to offshore, and that the offshore area is active at the present. However, it is recognized that active faults also exist between alluvial plain and hills along the western margin of Takada Plain. The result of GSI leveling for 100 years along the coastal line in the study area clearly show that the present-day crustal movement is caused by displacement of the fault. The purpose of this study is to examine the vertical displacement by means of marine terraces on the basis of tephrochronology. Three levels of marine terraces, surfaces I, II, III, were confirmed from Torigakubi-cape to the Arima-river. Their former shore-lines are about 200m, 80m, and 50m, respectively. The terrace deposits were composed of silt and gravel, whose thicknesses indicated that the terraces are erosive. The surface-I and surface-II are overlain by the Kikai-Tozurahara tephra, and surface-III is overlain by the Daisen-Kurayoshi tephra. It is estimated that the surface-II and surface-III were formed at oxygen-isotope stages 5e, 5a, respectively. From the approximate age of terraces, average vertical displacement rates for the area is estimated to be about 0.65m/kyr.

In conclusion, active tectonics of Nishikubiki area is caused by tilting accompanied with faulting along the western margin of Takada Plain.