Formation age of fluvial terraces at central Kanazawa City and late Quaternary activity of the Nomachi flexure

Yosuke Nakamura[1], Haeng Yoong Kim[2], Atsumasa Okada[3], Keiji Takemura[4]

[1] Geophysics, Sci., Kyoto Univ, [2] Earth and P;anetary Sci, Kyoto Univ), [3] Earth and Planetary Sci., Kyoto Univ., [4] Beppu Geo. Res. Labo., Grad. Sci., Kyoto Univ.

http://www-crus.kugi.kyoto-u.ac.jp/crus/default.htm

In the Kanazawa City area, northern part of central Japan, fluvial terraces are widely distributed along the Sai to the Asano rivers. The absolute age of these terraces has reported few, as primary visible volcanic ashes are not recognized within terrace deposits and overlying loamy soils, and outcrops are quite few in this area. In this study, we have carried out drilling survey on the terrace to obtain the whole sections of overlying loamy soil. We have extracted some concentrated zones of volcanic glass and mineral derived from well-known wide-spread volcanic ashes within the loamy soil and could estimate the approximate age of terraces.

Late Quaternary fluvial terraces in the Kanazawa City eria are divided into seven levels : Noda 1 terrace to Kasamai 2 terrace in descending order. Noda 1 terrace is overlain by the Kikai-Tozurahara tephra (75-95ka) and the it is contained at the lower part of the loamy soil. The Kotatsuno terrace is overlain by the Daisen-Kurayoshi tephra (43-55 ka) and Kasamai 2 terrace is overlain by the Aira-Tanzawa tephra (22-25ka). Especially, each tephra is contained the lowest part of loamy soil in the both terraces. We estimate that the Noda 1 terrace, the Kotatsuno terrace, and Kasamai 2 terrace were formed at 85-95ka, 50-60ka, 25-30ka, respectively.

The Kasamai 2 terrace is deformed about 20m, called Nomachi flexure, by the Morimoto-Togashi fault. From the approximate age of terraces and vertical displacement of active faults, average vertical slip rates for the Nomachi flexure is estimated to be 0.5-0.8mm/yr.