

Stratigraphy of fluvial terraces in the north Uonuma Hill, Niigata Prefecture

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We are studying on tectonic movement during late Quaternary around the epicenter of the Mid Niigata prefecture Earthquake in 2004. In this paper, we report stratigraphy of fluvial terraces in the north Uonuma Hill near the epicenter of this earthquake, and preliminarily discuss the activity of the Muikamachi fault. This fault is located at the eastern edge of the Uonuma hill, and some researchers think that it caused the earthquake in 2004. We divided fluvial terraces into 3 terrace groups by the air-photo interpretation: higher group, middle group and lower group. The higher group includes Hf1, Hf2 and Hf3 terraces, and the lower group includes Lf1, Lf2, Lf3 and Lf4 terraces. The Hf3 terrace was formed, at least, before MIS6 (MIS: marine oxygen isotope stage), and be assumed to be formed during MIS8. It is probable that the Mf terrace was formed in MIS6. The formation ages of Lf1, Lf2, Lf3 and Lf4 are estimated to MIS5/MIS4-MIS4/MIS3, MIS3/MIS2, MIS2 and MIS1 each other. Using the uplift index of the values of relative height between terraces, we estimated that the uplift difference on the both side of the Muikamachi fault during late Quaternary was more than 40m. It suggests that the slip rate of the Muikamachi fault is more than 0.4m/1000year.