

Correlation of Middle Pleistocene widespread tephra layers and geomorphic processes in central Japan

TAMURA, I. Tokyo Metropolitan Univ., Tokyo, Japan.

Takayama basin is located to the west of Northern Japan Alps in central Japan. The Takayama pumice fall deposit (Tky, for short) characterized by abundant biotite and quartz crystals is distributed in and around Takayama basin. On the other hand, four river terraces are developed along the River Kohachiga flowing from the Northern Japan Alps to Takayama basin. A fillstrath terrace represented by Hosokosi terrace is covered by Tky. As the age of Tky is unknown, it is not clear when this terrace was formed.

Tky is correlated with the Ng-1 Ash (Ng-1, for short), which is a conspicuous Middle Pleistocene time-markers and widespread tephra derived from a volcano in Northern Japan Alps, based on the following evidences: 1. Tky is almost same as Ng-1 in petrographic character. 2. Tky and Ng-1 erupted from the southwest of Northern Japan Alps and have the same disposal axis toward the southwest. It is uncommon to find the fall tephra spreading to the west in Japan.

In this result, the age of Tky is estimated to be about 0.3Ma and correlated to marine isotope stage MIS 9.1 to 8.6. Consequently, it is revealed that Hosokosi terrace formed at Middle Pleistocene. Usually, due to severe tectonic movement, the Middle Pleistocene terraces are not preserved in the mountainous area in Japan. In Takayama basin, however, the Middle Pleistocene river terrace has kept its form well. This fact means that the erosion rate of the basin has been exceptionally low since Middle Pleistocene.