

## Sediment supply and sedimentation of the alluvium in the Tokyo lowland

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In the Tokyo lowland, the alluvium is widely distributed. Stratigraphic classification and examination of the sedimentation system of the alluvium in the Tokyo lowland have been made by Matsuda(1974), Aoki (1969), Endo et al.(1983), and Kimura et al. (2005) etc. Generally, the sea-level change gives a large effect to the sedimentation and sedimentary environment in the alluvium. However, it is necessary that the sedimentation of the alluvium examines not only sea level change but also supply of the sediment from hinterland and tectonic movement. In this study, the sedimentation and change of sediment supply of the alluvium in the Tokyo lowland. On GS-AMG-1 core of the Arakawa lowland, GS-MHI-1 core of the Nakagawa lowland, GS-KNJ-1 core of the merging point, are examined grain size distribution, mineral composition, heavy mineral composition, shape of volcanic glass, and it carried out concrete examination of the chemical composition analysis on volcanic glass and heavy mineral. In the GS-MHI-1 core, magnesiohornblende and anthophyllite are mainly included on the amphibole, and in the GS-AMG-1 and the GS-KNJ-1 cores actinolite and tschermakite are included in addition to magnesiohornblende and anthophyllite. The augite which was rich in Mg,Ca content and bronzite to hypersthene was included on each core. And, amphibole and orthopyroxene are divided into some groups from features of the chemical composition. There was the increase of content rate on the volcanic glass in some horizons of each core. The volcanic glass of this horizon was equal to chemical composition of volcanic glass of the As-K tephra and tephra from KS-Ku to As-Ut of the Asama volcano origin. The horizon in which the sedimentation rate was rapid in each core agreed with the increase horizon of the content rate of volcanic glass. It was estimated that the increase of pyroclastic material by volcanic activity of the hinterland might affect the sedimentation rate of the downstream. The sediment of recent river of the Tonegawa and the Arakawa water system can be divided from the analysis of heavy mineral and mineral composition. In comparison with recent river sediment and core sample, old Arakawa and old Tonegawa River changed the watercourse from the Arakawa lowland to the Nakagawa lowland at around 5ka. The petrological examination in the drill core sample indicated not only supply source of the sediment but also that it becomes a method for knowing the effect of the sediment on sedimentation rate and on the sedimentation system.