

Sediment Types and Genesis Analysis of Quaternary Volcanic Accumulation Profile in Fusong, Changbai Mountain

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The Changbai Mountain region is located in the southeast of Jilin Province in northeastern China. It has undergone multiple periods of volcanic activity, and volcanic sediments overlap with other types of Quaternary sediments, forming unique and complex Quaternary geological and geomorphic features. This article takes the Quaternary sediments from a volcanic deposit section in Manjiang Town, Fusong County, Changbai Mountain as the research object. Based on the record of the rock types and sedimentary characteristics of the section, the sedimentary types and genesis of the Quaternary sediments in the research area were comprehensively identified through Grain size analysis and scanning electron microscope method. Further attempts were made to explore the changes in paleoclimate and paleoenvironment in the Changbai Mountain area. Attempts are made to further explore the changes in paleoclimate and paleoenvironment in the Changbai Mountain region. The results show that the main grain size of Quaternary sediment in the volcanic accumulation profile of Fusong County, Changbai Mountain, is fine gravel and coarse sand, and the grain size from bottom to top becomes finer, reflecting the trend that hydraulic conditions gradually decrease from bottom to top along the profile. The types of sedimentary processes mainly comprise debris flow deposits and a small amount of aeolian deposits. The material source is mainly near-source material, supplemented by far-source material, and the debris flow supply is uninterrupted during flow circulation. The surface of quartz particles in the sedimentary bedrock shows alternating influences of runoff and wind erosion, and with the formation process of the accumulation profile, the characteristics of the decreasing runoff effect and the increasing wind effect gradually appear. The above results provide a basis for exploring the changes in paleosedimentary environments and responding to paleoclimate in the Changbai Mountain region.