

High resolution stratigraphy of pyroclastic fall deposits of Asama-Maekake volcano since 10ka based on trenching and ^{14}C dating: 2 Eruptive history and type of pumice eruption

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The high resolution stratigraphy of pyroclastic fall deposits of Asama-Maekake volcano is revealed by trenching and ^{14}C dating, which was carried out as a part of "integrated program for next generation volcano research and human resource development" supported by the ministry of education, culture, sports, science and technology, Japan. The pumice fall eruption (sub-Plinian eruption) of Asama-Maekake volcano comprises at least 23 units and is classified into four types mainly based on the scale of eruption; they are (1) small-scale, (2) intermediate-scale, (3) large-scale, and (4) very large-scale pumice eruptions. The eruptive history of Asama-Maekake volcano consists of four eruptive stages: the first active stage (9,500 to 8,100 cal.y.BP), the first dormant stage (8,100 to 6,500 cal.y.BP), the second active stage (6,500 to 4,600 cal.y.BP), the second dormant stage (4,600 to 1,800 cal.y.BP), and the third active stage (1,800 cal.y.BP to present). The first active stage, the duration of which is about 1,400 years, consists of three small-scale (As-23, As-22, As-21) and one large-scale pumice eruptions (As-20). The first dormant stage, the duration of which is about 1,600 years, comprises one small scale pumice eruption (As-19). The second active stage, the duration of which is about 1,900 years, is composed of two large-scale pumice eruptions (As-18 and As-17), three intermediate-scale pumice eruptions (As-15, As-11 and As-10), and four small-scale pumice eruptions (As-16 and As-14, As-13, As-12), . The second dormant stage, the duration of which is about 2,800 years, is composed of four small-scale pumice eruptions (As-9, As-8, As-7 and As-6). The third active stage, the duration of which is at least 1,800 years, comprises four very large-scale pumice eruptions (As-5 (As-C), As-4 (As-B), As-3 (As-B') and As-1 (As-A)) and one small-scale pumice eruption (As-2 (As-A')). The second active stage is characterized by frequent intermediate-scal pumice eruptions, and the scale of pumice eruption is the largest in the third active stage.

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