

Eruptive activities of Ta-c stage in Tarumai volcano and long-term forecast

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Tarumai volcano started its activities on south rim of Shikotsu caldera since 9 ka. Latest stage activity is the largest in magnitude and eruptive volume through the history. However respective eruptions since 19th century are decreasing their magnitude and volume. We focus on Ta-c eruptive stage to envisage long-term tendency of the activity. Ta-c stage consists of three eruptions: Ta-c1, Ta-c2, Ta-c3. The Ta-c1 eruption started after the ca. 6500 years of dormancy. Eruptive product is northeasterly dispersed scoria fall c1-fa and intercalated scoria flow deposit c1-fl in total 0.3 cubic km. Juvenile scoriae is olivine-bearing orthopyroxene-clinopyroxene basaltic andesite. Ta-c2 eruption ejected c2-fa pumice fall dispersed northeast by east and intercalated c2-fl pumice flow deposits in total 0.8 cubic km. Juvenile pumice is hornblende-bearing clinopyroxene-orthopyroxene andesite. Ta-c3 eruption ejected moderate-scale pumice fall within 10km to the east of crater. Volume is ca 0.01 cubic km and no pyroclastic flow or lava are found. Juvenile pumice is olivine-bearing orthopyroxene-clinopyroxene andesite. Age of the Ta-c2 eruption is well reported by carbon datings converge into 2.5-2.7 ka. Ta-c1 product is widely overlain by Ta-c2 ejecta directly or occasional thin soil less than 2 cm thick. Age of Ta-c3 is supposed 2.0-1.5 ka from soil thickness between Ta-c2 and Ta-b (AD1667). The Ta-c eruptive stage lasted about 500 years from 2.5 ka to 2.0 ka. Characteristics of sequential variation in eruptive magnitude and duration of eruptive stage are similar to latest stage activity.