

Superheating in magma chamber: evidence from Daisen volcano, Japan

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Dacites and aphyric andesites from Daisen volcano, SW Japan, have a close relationship, which can be explained by superheating of dacite magma. These andesites and dacites of Daisen volcano have a same Sr and Nd isotopic ratios, and on the Harker diagrams, they have continuous trends, which are similar to fractional crystallization trends. Petrographic observations, however, suggest superheating of dacite magmas, which resulted in the production of aphyric andesites. We suggest that influx of hot, dense basalt magma into a reservoir containing lighter cool dacite magma played an important role in the Daisen magma system.