

Mantle diapir model for Rishiri volcano. Part1. geology and the magmatic temperature of felsic magmas

Yoshihiro Ishizuka [1], Mitsuhiro Nakagawa [2]

[1] Earth and Planetary Sci., Hokkaido Univ., [2] Earth and Planetary Sci., Hokkaido Univ

Rishiri volcano is a single polygenetic volcano and has started its volcanic activity since 0.13~0.20 Ma. The magmatic temperatures of the felsic magmas increase from ~800 C in the initial stage to ~1050 C in the climactic stage, and then decrease to ~700 C in the final stage. This variation indicates that volcanic activity with higher eruption rate (the climactic stage) produced magma with higher temperature. It can be concluded that whole-life of the Rishiri volcano may be explained by the evolution of a single mantle diapir, which played a heat source to produce these felsic magmas.