

Flow dynamics of Pumice flow in the 15ka eruption, Nantai Volcano

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The sequence of the 14-15 ka eruption at Nantai volcano was as follows: leading phreatic explosions, Imaichi scoria fall (1 km³), pyroclastic flows, Shichihonzakura pumice fall (0.2 km³), Ryuzu-Shrakake pumice flow (2 km³), and Osawa lava flow (0.2 km³). The purpose of this study is to simulate Ryuzu-Shrakake pumice flow by TITAN2D program (Patra et al.,2005) and to consider flow-dynamics of this pumice flow.

By using data of drilled core and filed survey at north to west flank of Nantai volcano, we estimated digital topographic features of old Yukawa valley area (Senjyo-ga-hara Marsh) before this eruption. The present result of simulations tested under various friction parameters is consistent with the distribution and the thickness of Ryuzu-Shrakake pumice flow estimated by date of drilled core and filed survey. As a result, the total VEI (Volcano Explosivity Index) for the 14-15 ka eruption at Nantai volcano was estimate to 5 approximately.