The correlation between magma eruption rate and the eruptive sequence of magma from stratified magma chamber

Tsuyoshi Miyamoto [1], Hirokazu Fujimaki [2]

[1] CNEAS,Tohoku U, [2] Inst. Min. Pet. Econ. Geol., Tohoku Univ.

Based on the previous works, magma eruption rate (MER) plays a significant role when a magma starts the ascending from the stratified magma chamber which consists of mafic and felsic magma. In this study we examined the correlation between MER and eruptive sequence of magma for Takahara scoria fall (ThS) deposits in Kirishima volcanoes. ThS eruption consists of four eruptive episodes. In the sole eruption effusive magmas progress from mafic end member magma (black scoria) to mingling magma (banded pumice) and felsic end member magma. This transition corresponds to the variation of scoria texture (e.g. vesicularity, groundmass crystal size) that caused by the distinction of MER. These correlations imply that MER in the sole episode has abruptly decreased at the last stage.