

Re-examination of the magma plumbing system beneath Usu volcano of the 1663 and 1769 eruption

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It has been believed that magma mixing occurred in 1663 eruptions of Usu volcano produced the dacite magma, which has existed as one of end-member magmas until now. Newly determined whole-rock chemistry and mineral compositions of both 1663 and 1769 juvenile ejecta indicate that the 1769 dacite was formed by mixing of the two end-member magmas which were distinct from those in mixing occurred in 1663 eruptions. Possible mixing products formed during 1663 eruption were not one of end-member magmas during 1769 eruption. We suggest that previously proposed petrological model must be revised.