

## Model experiment on cone breaching caused by a dike intrusion

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The lava effusion process and its mechanism from cinder cone are discussed based on the model experiment. The mode of lava effusion from cinder cone is divided roughly as C-type and D-type. The C-type is the overflow-type from the central crater, and the D-type is outflow-type from the flank vent of the cinder cone. The D-type is further divided into two types by geographical feature; Dc type is accompanied by the mountain body collapse with lava effusion and Dp type not accompanied by the collapse. The cone collapse is not related to the shape of the cone, but to the total volume. The majority of the Dc-type cones are larger in size than the Dp-type ones, although the ratios of  $H_{co}/W_{co}$  are similar.

Experiments were conducted on the analogue cinder cone of porous grain (Smashed chaff) which causes slope failure by a moving blade toward the outside from the center at the bottom of the cone. The mass of the slope which fell outside the base was measured by electronic balance. The mass of the crumbled slope was compared with the cone size, the blade width and stress on the blade.