

## **Petrology and Geochemistry of Gede-Salak Volcano Northwest Java: Evolution of magmatic process**

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Gede-Salak volcano is located in the Banten Province, Northwest Java. This volcano is consisted of several volcanoes which are Gede, Salak, Batur, Wadas, Peda, Batu and Kedepel. Field mapping suggests that the formation of Gede-Salak volcano can be divided into two stages. The pre-caldera stage is consisted of Batu's lava, Gede's lava and Salak's lava. The post-caldera stage was formed by Batur's pyroclastic flows, Kedepel, Wadas and Peda lava dome. Most of the lavas are characterized by porphyritic texture and based on the composition of phenocrysts, they can be divided into 5 types, which are: Batu's lava is andesite hyperstene-augite; Gede's lava is basaltic andesite; Salak's lava is andesite; Kedepel and Wadas's lava domes are andesite hornblende and Peda's lava dome is andesite augite. Oscillatory zoning and opaque rim in hornblende are observed, which are related to the process of magmatism. Based on Harker and A-F-M diagrams the volcanic rocks of Gede-Salak volcano have Calc-alkaline affinity. The  $K_2O$  vs  $SiO_2$  diagram suggests that pre-caldera and post-caldera Gede-Salak volcanic rocks belong to the medium-K calc alkaline and high-K calc alkaline. Results of analysis spider diagram, normalized to chondrite, primitive mantle and MORB, lava rock in Gede-Salak volcano have a relatively similar pattern, reveal a pattern indicating magma arc intermediates in the continent arc. The existence of several elements such as anomaly Pb and Ce, indicating magmatic process is affected by subduction components. Petrogenetic processes viewed in petrography and geochemical character are (a) the occurrence of magma mixing or assimilation, (b) loss of pressure in the initial phase of Gede-Salak volcano eruption, (c) anomaly of Pb and Ce, indicating the influenced of sediment or water in magmatic process and (d) comparison of the ratio element B indicates that the subduction component affects the magmatic process in Gede-Salak volcano.