

Across arc variation of Sr isotope ratio and K₂O content in the Quaternary volcanic rocks, West Java Indonesia: Tracing Argoland beneath West Java Arc

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The correlation between Sr and K₂O characteristic of erupted West Javanese rocks and the existing of micro continent “argoland” beneath West Java Arc since Late Cretaceous that has been suggested by several researchers [1,2] is poorly known. This research aims at casting light on the lithospheric interior beneath West Java Arc constrained by Sr isotopic ratio and K₂O content studies. New Sr and Nd isotopes data are presented for Galunggung Volcano in West Java. The data are combined with published geochemical and isotopic data to reveal the involvement of crustal assimilation and subducted component in the magma genesis beneath West Java Arc. Our study shows that there is rough across arc variation for K₂O and no across arc variation for Sr isotopic ratio. This phenomenon is due to medium K₂O content and high Sr isotopic of Papandayan data and it is attributed as the mixing of clear mantle wedge (I-MORB + AOC ± Indian Sediments) with Paleozoic to Pre-Cambrian Australian Granites as the missing “Argoland” which have separated from Western Australia in the Late Jurassic and collided to SE Sundaland in the Late Cretaceous [3]. Lithospheric interior beneath West Java Arc is presented.

[1] Abdurrachman and Yamamoto (2011) *Min Mag*, **75** (3), 401. [2] Smyth *et al.* (2007) *Earth & Planetary Sci. Lett.* **258**, 269-282. [3] Metcalfe (2011) *Gondw. Res*, **106**, 97-122.