

Geophysical Characterization of hydrothermal vents in Java

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Context

Little is known about the plumbing structure of hydrothermal vents. The island of Java has an elevated geothermal potential (Purnomo and Pichler, 2014) but little is still known about ongoing processes at depth. This project aims at investigating the processes taking place in Kawah Sikidang Dieng, which is an active hydrothermal system in East Java. The candidate will use geophysical and geochemical methods to describe the interaction between hydrocarbon and magmatic fluids feeding the plumbing system. The project envisages the use of geoelectrical methods and geochemical sampling.

Objectives and Methods :

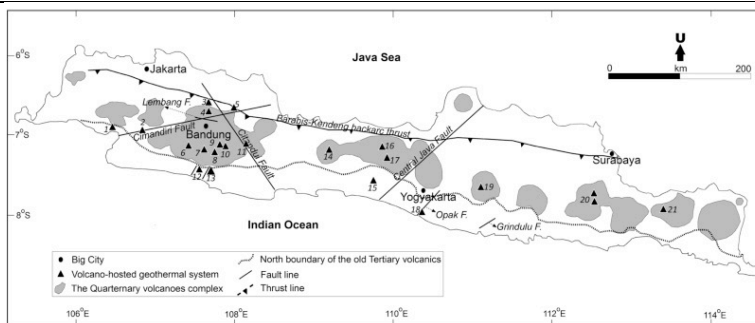
This master aims at studying the eruptive activity of the hydrothermal vent Kawah Sikidang, East Java.

The progression of the study will be the following:

- 1) Literature analysis
- 2) ERT survey and fluid sampling
- 3) Data treatment, including geoelectrical inversion and integration of available geological and geochemical data

References

- Purnomo, B.J., Pichler, T., 2014. Geothermal systems on the island of Java, Indonesia. *J. Volcanol. Geotherm. Res.* 285, 47–59. doi:10.1016/j.jvolgeores.2014.08.004
- Purnomo, B.J., Pichler, T., You, C.-F., 2016. Boron isotope variations in geothermal systems on Java, Indonesia. *J. Volcanol. Geotherm. Res.* 311, 1–8. doi:10.1016/j.jvolgeores.2015.12.014



From Purnomo et al., (2016)



Choice of orientation : RGEOL, SERG, GATO