

Implication between activity of faults and magma from an insight of He isotope in the Asahi Mountains, NE Japan

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Although no Quaternary volcano are distributed on the Asahi Mountains, an anomalous conductive body is imaged beneath the Asahi Mountains with MT method (Ninomiya et al., 2007). The low-frequency earthquakes around the body indicate that the body is due to a magma storage (JMA, 2002). Crustal earthquakes in the granite close to the magma are caused by fracturing of the granite due to infiltration of the fluid released from the magma (Ogawa and Honkura, 2004). There are two belts of active faults on the eastern edge of the Asahi Mountains. The crustal earthquakes are active beneath the Yamagata Basin faults and are not active beneath the western Nagai Basin faults. The high He isotope ratio from the hot spring gases on the Asahi Mountains and the Yamagata Basin faults indicate effective supply of ^3He from the magma. On the other hand low He isotope ratio imply that the western Nagai Basin faults do not work as a conduit of ^3He from the magma.

References

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- Ninomiya et al. (2007) Abstract, JGU meeting 2007.
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