

## Recent transition of geothermal condition in Akita-komagatake Volcano

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[1] none

In Akita-Komagatake Volcano, Geophysical observations have been carried out mainly on ground-temperature (1m-depth), geomagnetic field (total intensity), and gravity since 1975, to monitor volcanic condition. Observation points were situated around and in Me-dake, one of central cones in the south caldera of the Volcano, which was erupted in 1970-71. Geothermal zones were expanded around the crater on the top of Me-dake in several years after stop of the eruption, although the crater itself was rapidly cooled. The geothermal zones were decayed after the uppermost period of 1978-79. In the present, ground-temperature in most of the areas was lowered nearly to the normal temperature, except a narrow zone (about 180m by 40m) in the north-east edge of the top area of Me-dake, where ground-temperature was also in tendency of decay until recent years. But observation in 2006 confirmed that ground-temperature in this zone had been transited to tendency of increase. We should carefully watch whether this new tendency will expand or not.

Variation of geomagnetic total intensity in main areas corresponds to that of ground-temperature, but in reversed sense. It is explained as temperature effect on magnetization of rock. Remarkable variation of total intensity (423nT in the maximum in 1979-98) in the above narrow area can be caused by variation of 1A/m in the column region with very shallow top. This variation is 10% of overall magnetization(10A/m) of Me-dake. It may be caused by temperature variation bellow the boiling point.