Energy of the 2000 Miyake-Jima Eruption deduced from the geomagnetic change

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In Miyake-Jima Volcano, remarkable decrease in the total force of geomagnetic field was detected from July to August on the southern flank associated with the 2000 eruption. This decrease consists of the gradual change and the step-like decrease associated with the change of the tilt. The latter change, 90 nT, means a collapse beneath the summit crater, while the former, 30 nT, means thermal demagnetization. This value indicates the region in 0.3 km3 is heated in 200 degree. The amount of the thermal energy stored in this region is evaluated in 4 x 10E17 J. The average heat discharge rate in 3 GW after September indicates that this region needs 4 years to be cooled.