

Estimation of degassing state using shortwave infrared images of Landsat TM at Unzen

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To monitor state of degassing at growing lava domes, we developed a method using shortwave infrared images of Landsat TM. We inferred temporal variations of magma and gas discharge rates from the thermal radiance of the exogenous growth areas of the lava dome and the fumarolic area, respectively on the TM images at the Unzen 1991-1993 activity, and compared correlation between them. Estimated variations of the magma and gas discharge rates showed a positive correlation, which indicated that degassing occurred effectively.