

Crustal velocity structure beneath Unzen volcano

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Tomography structure of Unzen volcano was clearly imaged in this present study. The results are described a velocity pattern with high resolution, particularly 20 km beneath sea level. It is revealed that: High velocity anomaly was found in the shallower part (2 km below sea level) beneath the Unzen volcano. Further more low velocity anomaly was found beneath the Chijiwa bay western part of Unzen volcano with the deep around 15 km, and the anomaly extend to region around 5 km toward beneath the Unzen volcano. The low velocity seems to correspond with seismicity and pressure sources inferred from crustal deformation survey. The hypocenter distributions are located on the edge of the low velocity area, moreover the pressure sources are placed in the low velocity area, this indicates that the region with low velocity anomaly is possibly the path of magma. Breadth of the low velocity anomaly is less than about 10 km in a north-south direction at the depth of 5-20km. It suggests that the low velocity area is limited within the Unzen graben. Detail structure of the low velocity anomaly will present in this discussion.