

On temporal variation of SP spatial distribution on Miyakejima Island before and after the 2000 summit eruption

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We performed repeated SP surveys before and after the 2000 Miyake summit eruption. Before the eruption, stable W-shape anomaly was detected in 1991, 1995, 1996 (Sasai et al., 1997) and the stability was confirmed by long baseline electrical potential difference monitoring from 1997 to 2000 (Sasai et al., 2002). After the eruption, we performed repeated SP surveys in 2002 for the south-line, in 2005 and 2011 for both the south and north-lines. We detected enhancement of the electrical potential at altitudes from 300 to 600m, where minimal potential of -600 to -500 mV compared with the potential near the coast had been detected in the 1990-s surveys. The temporal variation of the spatial distribution of SP was still detected in 2011 compared with results in 2005. The potential enhancement probably indicates large-scale temporal variation of hydrothermal activity or that of subsurface resistivity structure.

Keywords: miyakejima, 2000 summit eruption, self potential, hydrothermal activity, resistivity