

Continuous observation of visible plume quantity, gas chemistry and water quality in Owakudani, Hakone volcano (2015-2016)

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We monitored quantity of visible volcanic plume from Owakudani fumarolic area, Hakone volcano before and after the phreatic eruption in 2015. Quantity of volcanic plume is represented by number of white pixel in pictures taken by a time-lapse camera installed near the eruption vents. The amount of volcanic plume increased soon after the eruption in June 29 to July 1 and decreased gradually until early November; however it increased again and marked its peak in December. We also monitored water quality of downstream of the vent and volcanic gas around Owakudani area. Our monitoring shows that water temperature, its Cl content and CO<sub>2</sub> content of volcanic gas also increased in December.

Such relationship between plume quantity and water and gas chemistry could indicate that there are aseismic upwelling of geothermal water in December.