

Airborne measurement of CO₂/SO₂ ratio in volcanic plume from Miyakejima volcano

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Airborne measurements of CO₂ and SO₂ concentration in the volcanic plume of Miyakejima volcano were conducted with helicopter to evaluate CO₂/SO₂ concentration ratio in the plume. Daily SO₂ emission rate averages about 50 kt for these several months. As the plume is so dense and large, the traverse measurement passing through the plume center was no possible, and the measurements were conducted at rim of the plume. The estimated CO₂/SO₂ wt ratio ranges from 0.2 to 2 with the average of 0.5, although these values can still contain large error. Further evaluations of background CO₂ fluctuation, spatial variation of CO₂/SO₂ ratio in the plume and short-term variation of the ratio are necessary to obtain quantitative conclusions.