Estimating the total mass of tephra from radar echo-top height of eruption column

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We estimated the total mass of tephra from the time series of echo-top height of eruption cloud detected by the Japan Meteorological Agency radar network. We discussed the relation between the total mass of tephra evaluated by field survey and the total mass estimated from the radar data, and discussed the error in the total mass estimation.

Keywords: total mass of tephra, weather radar, radar echo-top height, eruption column height, estimation of eruptive mass, volcanic ash cloud