

Simulation of the Daisen-Kurayoshi tephra, in the San-in district, SW Japan, using Tephra2

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The Daisen-Kurayoshi tephra, which erupted from Daisen volcano at about 53 ka, is one of the most voluminous Plinian fall deposits in Japan. Its apparent volume was estimated as more than 20 km³, but quantitative study of this tephra have not be done. So, we try to analyze this tephra using Tephra2 and decide its eruption parameters. In the simulation, we set 5 cases in height of the eruption column from 10 to 18 km, 4 cases in weight of the erupted magma from 1 to 8x10E+18 kg, 4 cases in medium grain size of the ejected materials from 0 to 3 phi, and 5 cases in sorting of the ejected material under the average wind data above Yonago. A total of 400 cases have been calculated. To explain the observed distribution of the tephra, the column height and ejecta weight have to be 18 km and 4 to 8x10E+18 kg (40 to 80 km³), respectively.

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