

# The eruptive history of the Older Ontake Volcano in central Japan between 0.8Ma and 0.4Ma

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Ontake volcano is situated at the southern margin of the Norikura volcanic chain, central Japan. The volcano consists of the Older (0.78-0.39Ma) and Younger (0.09-0.02Ma) Ontake volcanoes with long dormancy between them.

Stratigraphy of the volcanic products from Older the Ontake volcano was established on the basis of stratigraphic relations with the dated lavas, and the petrographic features of tephra such as heavy mineral compositions, chemical compositions of hornblende and pyroxenes, etc. Conclusively that the activity of the Older Ontake Volcano was divided into the Tephra Stage (before 0.78-0.64Ma) and the Lava Stage (0.64-0.39Ma) based on the mode of eruption; the Tephra Stage is characterized by effusion of many air fall tephra and pyroclastic flows, whereas the Lava Stage contains many thicker lavas. The Tephra Stage is further subdivided into H Substage (before 0.78Ma), PH Substage (0.78-0.70Ma) and OP Substage (0.70-0.64Ma) on the basis of the assemblage of dominant heavy minerals in the air fall tephra as follows: H Substage, green hornblende; PH Substage, pyroxenes and brown hornblende; and OP Substage, olivine and pyroxenes. Ages of each stage and substage were inferred from the stratigraphic relations with the dated lavas.