

Revised definition and ranking of active volcanoes in Japan

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So far the Coordinating Committee for Prediction of Volcanic Eruption (CCPVE), as the advisory committee for Japan Meteorological Agency, (1991) selected active volcanoes in Japan as any volcano which has erupted within 2000 years or any volcano which has active solfatar field. Total number of active volcano under this definition was 86. Simkin and Siebert (1981,1994) included all Holocene volcanoes in a database for volcanoes of the World. Francis (1993) noted that it is best to regard as potentially active any volcano that preserves geological evidence of eruptions within the last 10,000 years. We, as the working group of CCPVE, have recommended to revise a threshold age of 10,000 years instead of 2000 years. We have selected candidate volcanoes referring geologic literatures and topographic maps, and we have assigned 108 volcanoes or volcano groups as candidate of active volcanoes in Japan. Due to insufficient stratigraphic and chronological data of eruptions, we have to reserve around 20 volcanoes as a candidate status. Also, we did not select any caldera volcanoes because interval of caldera-genetic large-scale eruption is around several tens of thousand years. The second effort we have done is to give a rank to each active volcano due to its wide variety of long-term (100-10,000 years) magma production rate and fluctuation of short-term (-100 years) volcanic unrest. Long-term factor was evaluated referring frequency of volcanic eruption within 10,000 years, the maximum VEI value within 10,000 years and type of volcanic ejecta such using pyroclastic flows, lahar, lava flow etc. Short-term factor was evaluated referring total number of years when volcanic unrest was recorded within 100 years and total volume of volcanic ejecta within 100 years. Combining these two factors, we have selected 13 active volcanoes as rank A, 36 as rank B and 36 as rank C. We did not give any rank for remaining 23 volcanoes at submarine environment and volcanoes at the Northern Territory (South Kurile Islands) because of insufficient data.