

Proposal of new definition for Japanese active volcanoes (1)

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Current definition of active volcanoes in Japan covers any volcano which was erupted within 2000 years or any volcano which has active solfataric field. Judging from eruption history of some stratovolcanoes, it is obvious that eruption interval may exceed 2000 years. Several foreign countries, the database of active volcanoes by Smithsonian Institution and several textbooks defined active volcanoes as any volcano which was erupted within ten thousand years. Japan Meteorological Agency is now planning to revise the definition of Japanese active volcanoes as any volcano which was erupted within ten thousand years or solfataric activity is currently on going. This presentation shows basic concept of the revised definition. Detailed processes to judge individual volcano will be presented on a separate poster presentation.

More than 60 candidate volcanoes were selected from the Catalogue of Quaternary Volcanoes of Japan (Volcanological Society of Japan, 1999). Eruption history and age data are reviewed mainly from literatures. Additional information for some volcanoes were directly obtained from scientists who are currently doing research works on the candidate volcanoes. Topographic expressions were inspected from aerial photographs and topographic maps.

The followings are basic and new concept to judge as active volcanoes in Japan.

- 1) In case of submarine volcanoes, any volcano where hydrothermal activity or color change of seawater are identified and depth of the active vent is shallower than 500 meter is assigned as active volcano.
- 2) Data of age determination to use our judgment rely on author's original description.
- 3) Eruption interval for large-scale caldera formation is several ten thousands years at island-arc environment. Thus, new definition is not applicable for large caldera volcano.
- 4) Smaller (less than 3 km in diameter) caldera volcano may repeat caldera-forming eruption. We include this type of volcanoes even if previous eruption was slightly older than ten thousand years.
- 5) Eruption interval for dacitic dome stage of stratovolcano is also longer than the case of cone stage of andesitic stratovolcano. We include this type of volcanoes even if previous eruption was slightly older than ten thousand years.
- 6) Entire region of monogenetic volcanoes is assigned as single active volcano.
- 7) Name and area of each active volcano is defined under the viewpoint to prevent volcanic disaster.

Such definition to assign as single volcano may differ from academic point of view.

Total number of active volcanoes under the new definition is around 110, although around 30 others volcanoes are reserved to make final judgment because of insufficient geologic data and age determinations.