

Case study of the precursors of the volcanic eruption in Japan.

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Various kinds of precursors of volcanic eruption have been reported in Japan in these one and a half millennium. They are earthquake, rumbling, tremor, fumaroles activity, thermal activity, ground deformation, and low frequency earthquake. It is too difficult to announce the precursors for the purpose of the prediction of the volcanic eruption. Major of the events have been reported after the eruption. It was easy to report the earthquake and rumbling without any measurement instruments even in medieval age. But some of them should be taken place not before the eruption but during the eruption. Around thirty precursory events had been reported within three days prior to the eruption in the last half century. There were seven reports from Miyakejima, five from Hokkaido-Komagatake and Sakurajima volcanoes, and major of the events were earthquakes and rumblings. Among the total reported precursory events, 4% of them were the real precursors of the volcanic eruption in the last three days, 11% in around one month, and 31% in around one year. On the other hand we can not recognize any eruption as to 37% temporal premonitory events. Volcano monitoring system has been well established especially in these one or two decades, and the number of reported events increased year by year. But the number of eruption has not been increased as the precursor events. So it tends to becoming difficult to distinguish the real precursor of the volcano eruption from other events.