

The relationship between BL-type earthquakes with small infrasonic pulse and preceding earthquake swarms at Miyakejima volcano.

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In Miyakejima volcano, after the major eruptions and the caldera forming in 2000, a large amount of volcanic gas emission has continued and very small eruptions that emit slight volcanic ash sometimes occur in the main crater.

When very small-scale eruptions occur, BL-type earthquakes with small infrasonic pulse are observed. The polarity of infrasonic pulses is initiated by dilatational phase, therefore, there is a possibility that it is caused by subsidence at the shallow part beneath the main crater. However, in most cases, no eruptions are observed when BL-type earthquakes with infrasonic pulse occur.

In most cases, swarms of BH-type earthquakes occur just before the BL-type earthquakes with infrasonic pulses.

In this study, we investigated the time sequences of BH-type earthquake swarm in order to predict the occurrence of BL-type earthquakes and small eruptions.

The BH-type earthquake swarms patterns were classified into three and we could predict the occurrence of BL-type earthquake in some cases.

In the presentation, we discuss the relationship between the BH-type earthquake swarms and BL-type earthquakes with the amplitude / periods data. We analyzed the characteristics of BH-type earthquake swarms using the amplitude and summarize the relationship between seismic activity and visual phenomena. The result above will be used as the manual for surveillance of the volcanic activity at Miyakejima.