

## Comparison between crustal movement and seismicity in and around Izu Ohshima Island, part 3

\*Hiroyuki Takayama<sup>1</sup>, Tetsuya Yamamoto<sup>1</sup>, Shin'ya Onizawa<sup>1</sup>

1. Volcanological Division 1st laboratory, Meteorological Research Institute

In the Takayama et.al.(2017), we compare between crustal movement and seismic activity. We find that seismic swarm in and around Izu Ohshima Island occur in dilatation period. On the other hand, in the Morita(2013), he find that seismic activity in summit caldera area of Izu Ohshima occur in rapid inflation of crustal movement. Therefore, in this research, we divide Izu Ohsima to 5 areas. We compare between seismic activity and crustal movement in each area.

We use JMA hypocenter catalogue from April, 2002 to January, 2017. The number of earthquakes are 9969. We divide Izu Ohshima to 5 areas as to summit caldera, around Okada, around North Motomachi, around Motomachi and around Fudeshima. We check Magnitude-Frequency plot. We decide minimum magnitude in each area. We use baseline length from GSI 96054 to GSI 96055. We average baseline length in each month. We count earthquakes in each month.

As a result, as in the Morita(2013), when we compare between seismic activity in the summit caldera and crustal movement, 6 times increase seismic activity correspond with rapid inflation. When we compare between seismic activity around the Okada area and crustal movement, 3 times increase seismic activity correspond with rapid inflation and 1 times increase seismic activity correspond with peak of dilatation and 1 times increase seismic activity correspond with stagnation of dilatation. When we compare between seismic activity around the North Motomachi area and crustal movement, 3 times increase seismic activity correspond with rapid inflation and 3 times increase seismic activity correspond with peak of dilatation and 2 times increase seismic activity correspond with stagnation of dilatation. When we compare between seismic activity around the Motomachi area and crustal movement, 2 times increase seismic activity correspond with rapid inflation and 4 times increase seismic activity correspond with peak of dilatation and 1 times increase seismic activity correspond with stagnation of dilatation. When we compare between seismic activity around the Fudeshima area and crustal movement, 1 times increase seismic activity correspond with rapid inflation and 1 times increase seismic activity correspond with stagnation of dilatation. Accordingly, seismic activity of the summit area is different from that of the Okada area, the North Motomach area and the Motomachi area.

Keywords: Izu Oshima volcano, seismic activity, crustal movement