

Seismic activity beneath Mt. Ontake volcano before and after the 2007 and 2014 eruptions

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We developed a portable seismic telemetry system. This system is compact size, and the consumption electricity is small (Horikawa et al., 2017VSJ). From October 2017 performance test of this system has been carried out in the summit region of Mt. Ontake volcano. 10 seismic observations were installed. We determined seismic activity around Mount Ontake volcano by using those 10 summit observations and the seismic networks of Nagoya University and Japan Meteorological Agency, and obtained station corrections. Most of earthquakes were located beneath the craters of the 2014 eruption, and those depths were close in sea level or were shallower. The seismic activity is almost distributed on a straight line at -1.5km from 0km in depth and spreads through the northeast-southwest direction at around -1.5km (Yamanaka et al., 2018JpGU).

We try to determine seismicity linked to the 2007 and 2014 eruption of the Mount Ontake by using obtained station corrections. Before the 2014 eruption, earthquakes occurred from 1.0 km to -0.6 km linearly. This seismic activity is on an extension line of the 2017-2018 linear activity. After the 2014 eruption, earthquakes spread in the north and south direction from around -0.6 km in depth. The seismic activity gradually become shallow and extended to the current seismic activity. The events before the 2007 eruption also occurred from 3.0 km to 0 km on an extension line of the 2017-2018 linear activity. It is considered that some kind of fluid has risen through almost the same passage at the 2007 and 2014 eruptions.

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