Waveform analysis of low frequency earthquakes associated with the 2000 eruption of Mt. Usu

Wakana Matsubara[1], Kiyoshi Yomogida[2]

[1] Earth and Planetary Sci., Hokkaido Univ, [2] Earth and Planetary Sci., Hokkaido Univ.

We located about 670 earthquakes associated with the 2000 eruption of Mt. Usu, including about 40 low frequency earthquakes. We defined a low frequency earthquake as its predominant frequency to be about 1Hz. The location of normal earthquakes and low frequency earthquakes are different, and the activity of low frequency earthquakes almost died out within 3 days after the first eruption in 2000, though normal earthquakes were still active. We made waveform analysis of low frequency earthquakes after the correction of site effects estimated from a teleseismic event. They are composed of high-frequency waves(-3Hz), followed by low frequency ones(-1Hz) with the duraion of about 10sec. Their amplitudes show some systematic azimuthal dependency.