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MTT43-07 Room:311 Time:May 1 17:00-17:15

Low-frequency atmospheric pressure waves associated with the outer-rise earthquake on Oct. 25, 2013, 17:10 UTC.

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Sensitive microbarographs in and around Japan recorded unequivocal signals associated with the 2011 Off the Pacific Coast of Tohoku, Japan earthquake (Mw = 9.0) (*Arai et al., 2011*).

These signals retained the original shape of the tsunami and traveled in the atmosphere significantly faster than the tsunami waves in the ocean, therefore, we think that an establishment of a network of infrasound observation along the coast line facing the subduction zone would improve the tsunami warning system.

According to this idea, we deployed three (3) microbarograph stations in Ofunato City, Iwate last July as the first step of the establishment of a network of infrasound observation and are trying to observe atmospheric pressure changes continuously.

The outer-rise earthquake occurred off the Fukushima region on Oct. 25, 2013, 17:10 UTC and the tsunami waves with few tens centimeter heights observed at coastal area of Tohoku region. And some curious atmospheric pressure waves detected at our Ofunato sites. The characteristics of the observed signals are consistent with the features of the tsunami source produced by the outer-rise earthquake.

Reference:

Arai et al. , Atmospheric boundary waves excited by the tsunami generation related to the 2011 great Tohoku-Oki earthquake, Geophysical Research Letters, Vol. 38, L00G18, doi:10.1029/2011GL049146.

Keywords: Infrasound, atmospheric pressure change, outer-rise earthquake, detection of tsunami