

Infra-Sound Observation Project (ISOP) 2.Pilot Observation at Syowa, Antarctica

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Infrasound is sub audible sound (pressure wave), and that frequency range is cut-off frequency of sound (e.g., 3.21 mHz for 15 degree Celsius isothermal atmosphere) to 20 Hz (that is lowest frequency of human audible band). Many natural phenomena (e.g., Earthquake, Tsunami, Volcanic Eruption, Icequake, Meteorite fall, Thunder, Sprite, and Aurora) generate infrasound. Recent years, for the purpose of monitoring nuclear tests, a global infrasound network is constructed by CTBTO. The CTBT-IMS infrasound network has 60 infrasound stations and each station contains at least 4 infrasound sensors (arrayed station), they can detect a some-kiloton TNT level atmospheric explosion in range of some 1000 kilometers. This network is enough for monitoring nuclear tests, but much sparse for detecting and analyzing in detail of natural infrasound phenomena.

We organize a community called Infra-Sound Observation Project (ISOP) for propose of to develop regional scale infrasound observational networks in the Japanese Islands and around the Syowa Station, Antarctica. Now, the networks are construction and pilot observation phase. At last year meeting, we reported pilot observation at Sendai, Japan. Now, we just started another pilot observation at Syowa station, Antarctica.

In this talk, we show the infrasound observation systems at Syowa station, and preliminary result of one element pilot observation.