

The Wind Influence to the Detection Ability of Permanent and Mobile Infrasound Stations in Mongolia

The theory of the infrasound wave propagation states that the acoustic waves of infrasound sources, related with wind and temperature conditions, can be detected in between distance 200 km & 250 km (McKenna, 2005; Golden et al., 2007). From our seasonal observations (winter and summer monitoring) and research studies, we want to understand why some seismo-acoustic waves are detected inside a zone of silence (which is located in a distance inferior to 200 kilometers from the source), and to understand the influence of seasons. Our research study's purpose is to determine the level of detection of infrasound waves in the north hemisphere at distance of 250 km from the source. Because of its topography, continental localization and height, the Mongolian country is very windy. Therefore, the goal of our study is to reduce the wind noise detected in the array station and then to increase the detection level of the infrasound stations. In the context of the above study, we will determine the noise level by spectrum analysis of the mobile barometer without any filters on two different sites: nearby infrasound array station and in a forest.

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