



## **Detection of volcanic activity at Mt. Etna using the experimental infrasound array at Meron, Israel**

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Volcanic activity has long been known as a natural producer of very low frequency acoustic waves, known as infrasound. Because of its proximity to both Europe and Tunisia, many observations of Mt. Etna have been made by various infrasound arrays, especially by IS48, the Tunisian infrasound array that is part of the International Monitoring System of the Comprehensive Nuclear Test Ban Treaty Organization. However, seasonal stratospheric wind changes cause infrasound to propagate well in the stratospheric waveguide either eastward or westward, in winter and summer respectively. For this reason, except in cases of wind reversal due to sudden stratospheric warming (SSW), all of the above observations were made in summer, from west of Mt. Etna. Upon studying the first four years of data from our experimental array in the north of Israel, we noticed that a great number of our winter-time detections come from a specific azimuth to the north west. Comparing these with the Reviewed Events Bulletin of CTBTO, we were able to indeed conclude that these detections likely come from Mt. Etna, over 2000 km away. Here we show some of these observations, the first extensive winter-time observations of Mt. Etna in infrasound