

2011 May-August Mount Etna paroxysmal activity episodes: Infrasonic Long-range observations at IS42 Station, Azores Islands

IS42 is located in the Azores islands, in the middle of the North Atlantic and is one of the International Monitoring System (IMS) infrasound stations. Within the ARISE2 project, University of Azores and University of Florence (UniFi) are carrying out a collaborative research focused on the long-range detection and analysis of infrasound from volcanic eruptions at Etna Volcano recorded at IS42 at a source-to-receiver distance of 3700 km. Mt. Etna is the largest and most active volcano of Europe, located in NE region of Sicily Island, Southern Italy. Typically, effusive with explosive episodes and lava fountaining, its recent volcanic activity is able to produce high (up to 15 km) eruptive plume affecting local air traffic and nearby airports and cities. In this work we present the detections at IS42 of the May-August 2011 related to Etna Volcano, when eruptive activity was characterized by 9 (nine) paroxysmal eruptive episodes from “Pit Crater”. Infrasound recording and detections at IS42 are compared with the pressure time history at the source obtained from local infrasound array observations, performed at 5 km from the source since 2007 by UniFi to investigate the long-range signal detectability and potentials of long-range infrasound monitoring of eruptive volcanoes.

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Track Classification: Analysis of Sources and Scientific Applications