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Stromboli and Etna volcanoes: natural sources of infrasound for the Mediterranean area

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Volcanic eruptions are efficient sources of infrasound and are often recorded by IMS arrays located at thousands of km of distance. The systematic study of active volcanoes, even during periods of moderate activity, can be very useful for refining the details of the atmospheric structure over a certain region of the globe.
Stromboli and Etna volcanoes in southern Italy are characterized by a persistent activity and are located in the centre of the Mediterranean, at distances of 500-3000 km from IMS and National infrasound arrays. Activity at Stromboli is persistently explosive, with a mean of 500 mild (<20 Pa) explosions/day. Here the mild background activity is interrupted 3-4 times a year by major explosions (100-200 Pa excess pressure at 1 km) and was punctuated twice in the last 7 years by paroxysmal events, clearly recorded in northern Europe. Activity at Etna volcano ranges from lava flow to strong Strombolian explosions and lava fountains, lasting from hours to days that have been recorded at thousands of kilometers of distance.
The activity of Stromboli and Etna volcanoes is monitored continuously in real-time since 2003 with small aperture infrasound arrays and single stations located close to the craters of the two volcanoes, providing a precise timing and pressure time history of infrasound emissions. This might represent a valuable information, when integrated with distant records from National and IMS infrasound stations, for atmospheric tomography in the Mediterranean area and Europe.