Geophysical Research Abstracts
Vol. 15, EGU2013-10615, 2013
EGU General Assembly 2013

Near- and far-field infrasound monitoring in the Mediterranean area

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The Mediterranean area is characterized by a number of very interesting sources of infrasound signals and offers a promising playground for the development of a deeper understanding of such sources and of the associated propagation models.
The progress in the construction and certification of infrasound arrays belonging to the International Monitoring System (IMS) of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) in the vicinity of this area has been complemented, in the last decade, by the construction of infrasound arrays established by several European research groups.
The University of Florence (UniFi) plays a crucial role for the detection of infrasound signals in the Mediterranean area, having deployed since several years two infrasound arrays on Stromboli and Etna volcanoes, and, more recently, three infrasound arrays in the Alpine area of NW Italy and one infrasound array on the Apennines (Mount Amiata), designed and established in the framework of the ARISE Project.
The IMS infrasound arrays IS42 (Graciosa, Azores, Portugal) and IS48 (Kesra, Tunisia) recorded, since the time of their certification, a number of far-field events which can be correlated with some near-field records of the infrasound arrays belonging to UniFi.
An analysis of the results and potentialities of infrasound source's detections in near and far-field realized by IS42, IS48 and UniFi arrays in the Mediterranean area, with special focus on volcanic events is presented.
The combined results deriving from the analysis of data recorded by the Unifi arrays and by the IS42 and IS48 arrays, in collaboration with the Department of Analyse et Surveillance (CEA/DASE), will generate a synergy which will certainly contribute to the progress of the ARISE Project.