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Stromboli volcano eruption 2019-07-03 and atmospheric influence on the detection capability on the infrasound stations.

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The International Monitoring System (IMS) is part of the verification regime of the CTBT; in addition, civil and scientific applications are a possible additional benefit that State Signatories could gain from participation in the Treaty verification regime. One of the four technologies used in the IMS is the infrasound network composed of 60 array stations when the network is complete and which is effective for tracking and quantifying volcano eruptions phenomena. In this paper we will focus on one of the most violent eruptions of Stromboli volcano which is one of the most active volcanoes in Italy and on the earth, occurred on 03 July 2019 using data from four IMS Infrasound stations situated in different distance from the Stromboli volcano to observe the detection capability of the Infrasound network in the IMS and the influemce of zonal wind on the infrasound stations detectability as the infrasound propagate in different layer of the atmosphere and depends also on the wind field. The analysis of infrasonic pressure waves generated by Stromboli volcano is essential to the understanding of volcanic explosion. DTK_GPMCC and DIVA software are used to perform this study (Cansi, 1995; Le Pichon, Matoza, Brachet and Cansi, 2010).

Promotional text

A study of a violent eruptions of Stromboli volcano, occurred on 03_07_2019 using data from four IMS Infrasound stations situated in different distance from Stromboli volcano to observe the detection capability of the IMS Infrasound station and the influence of the atmosphere.

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