



## **Using the IMS infrasound network for the identification of mountain-associated waves and gravity waves hotspots**

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The infrasound network of the International Monitoring System (IMS) has been established for monitoring the atmosphere to detect violations of the Comprehensive nuclear-Test-Ban Treaty (CTBT). The IMS comprises 49 certified infrasound stations which are globally distributed. Each station provides data for up to 16 years. Due to the uniform distribution of the stations, the IMS infrasound network can be used to derive global information on atmospheric dynamics' features.

This study focuses on mountain-associated waves (MAWs), i.e. acoustic waves in the frequency range between approximately 0.01 Hz and 0.05 Hz. MAWs can be detected in infrasound data by applying the Progressive Multi-Channel Correlation (PMCC) algorithm. As a result of triangulation, global hotspots of MAWs can be identified. Previous studies on gravity waves indicate that global hotspots of gravity waves are similar to those found for MAWs by using the PMCC algorithm.

The objective of our study is an enhanced understanding of the excitation sources and of possible interactions between MAWs and gravity waves. Therefore, spatial and temporal correlation analyses will be performed. As a preceding step, we will present (seasonal) hotspots of MAWs as well as hotspots of gravity waves derived by the IMS infrasound network.