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Access Products from International Monitoring System Infrasound Bulletins for Atmospheric Science Applications

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We introduce infrasound data products of all certified International Monitoring System infrasound stations for scientific studies and applications. We have reprocessed the IMS infrasound waveform data of the last 20 years using the Progressive Multi-Channel Correlation (PMCC) method, configured with one-third-octave frequency bands between 0.01 and 4 Hz. From the comprehensive detection lists we derived four products for each of the 53 stations. These cover different frequency ranges and temporal resolutions, and thus different sources. The low-frequency product (0.02–0.07 Hz, 30 min) primarily covers mountain-associated waves. The second product mainly reflects the spectral peak of microbaroms (0.15–0.35 Hz, 15 min). Higher frequencies of microbaroms and other sources are summarized in the third product (0.45–0.65 Hz, 15 min). Observations with centre frequencies of between 1 and 3 Hz (5 min) are part of the high frequency product. Our intention for these data products is to facilitate using this unique global infrasound dataset for scientific applications. The products open up the IMS observations to user groups who do not have access to IMS data or are unfamiliar with data processing using the PMCC method. We demonstrate the data products based on recent and global atmospheric infrasound sources, such as volcanic eruptions and ocean ambient noise.

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Promotional text

We highlight updated products from IMS infrasound detections (publication: https://doi.org/10.5194/essd-14-4201-2022). These products shall contribute to making infrasound observations available to a broad community and advancing their use for atmospheric studies.

Oral preference format

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