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Remote monitoring of eruptive events in SE Asia: Detection capability of SE Asia infrasound network in terms of minimum plume height

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70% of the global volcanic threat is located in Southeast Asia. Once an eruption is detected by the infrasound network of the region, we use a frequency-dependent modeling technique coupled with realistic atmospheric specifications and time-varying noise at the station, to predict the minimum detectable source pressure of the recorded signal. Combining this parameter with a radiation mechanism of the source leads to a new vision of detection capabilities in terms of specific source parameters such as eruptive plume height. Such work is of paramount interest for aviation alerts, and in particular for ash-modeling systems. The implementation of such work into automated eruption detection systems could lead to substantial improvements in infrasound monitoring of remote volcanic region and mitigate the impact of ash clouds on air traffic.