

Analysis of multiple detections of May 2011 Grímsvötn (Iceland) eruptive activity at different IMS infrasound stations and its correlation with local observations

Grímsvötn volcano, located under the Vatnajökull glacier on the center of the active NE rift zone of Iceland, is the most active volcano of Iceland. Its last eruption, on May 2011, broke the ice cover and became subaerial explosive, ejecting volcanic ash into the atmosphere, causing a major impact in air traffic in Northwestern Europe and in the North Atlantic. We present long-range observations of the May 2011 Grímsvötn eruptive activity recorded at IS18, IS26, IS42, IS43, IS31, IS10, IS53, and IS17, at source-to-receiver distances ranging from approximately 2,250 km to 6,500 km, with a maximum azimuthal gap of approximately 210°. We attribute those volcanic sources of infrasonic waves to events described in the Reviewed Event Bulletin (REB) of the CTBTO International Data Center (IDC), based on the detections associated back azimuths and in the local volcanological observations from the Icelandic Meteorological Office (IMO) published reports.

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