

Detection Patterns for Two IMS Infrasound Stations in the Vicinity of the North Korean Test Site

Recently we analyzed infrasound data relevant to the North Korean underground nuclear tests since 2006 at the two IMS infrasound stations closest to the DPRK test site. As has also been found for national infrasound arrays in South Korea at closer distances, most of these tests can be detected acoustically at IMS stations IS45 in Russia and at IS30 in Japan at distances of some 400 km and nearly 1200 km, respectively. Except for the DPRK test in 2013 and the corresponding infrasound signals at IS45, none of these detections can be identified in any of the waveform data. This is further the case for the weak signal detections that can be associated to the seismic event of 12 May 2010 on or very close to the test site. For IS45 and IS30 a continuous detection catalogue is available and we have scanned this catalogue to infer the probability of incidental detections from directions towards the test site. We present the results from this study which indicate that for both IS45 and IS30 the probability of chance detections is very low and that all signals identified for DPRK test site events are highly likely related to these events.

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