

CURRENT AND FUTURE CONTRIBUTION OF INFRASOUND STATIONS TO THE REB

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The International Data Centre (IDC) of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) Preparatory Commission receives and processes data from a globally distributed network of seismic, hydroacoustic, infrasound and radionuclide stations. These time series data are processed at the station level shortly after being received at the IDC. The results of this process are then used during network level processing, which results in a series of automatically generated Event Lists. The production deadlines are staggered to accommodate late arriving data and the signal propagation times for all technologies. The final event list is produced twelve hours after real-time, and is reviewed by analysts. The output of the review process is the Reviewed Event Bulletin (REB). At the present time, the IDC Operational system only considers infrasound data during station processing. However, in the IDC Testbed infrasound data are considered during both station and network processing. Infrasound events formed in the Testbed are interactively reviewed as resources permit. It is important to consider which types of Infrasound events are expected to appear in the REB. Events which appear in the REB must be observed by at least three stations in the primary seismic, hydroacoustic, or infrasound networks. Therefore only certain types of events detected with infrasound phases are expected in the bulletin. The treaty verification mission of the IDC must also be taken into consideration for the expected event types in the REB. Candidate events types for the REB include atmospheric explosions, large surface explosions, bolides, rocket launches, signals from large earthquakes, and explosive volcanoes. A recent example of an REB quality infrasound only event detected by four IMS infrasound stations will be shown.