

25 Years of Seismic, Hydroacoustic, and Infrasound Data Analysis at the CTBTO – Achievements, Changes, and Challenges

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Automatic bulletins are created using data from the International Monitoring System (IMS) seismic, hydroacoustic and infrasound stations. These bulletins are interactively analysed and reviewed by the Monitoring and Data Analysis (MDA) Section at the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO). The automatically processed Standard Event Lists (SEL3) are reviewed in detail to modify phases, parameters, and locations; raw data from all stations are also analysed and scanned to build missing events in the automatic process. This routine analysis results in delivering the Late Event Bulletins (LEB) and the Reviewed Event Bulletins (REB), which are released on a daily basis since 1999. However, over the last 25 years, the number of operational IMS stations has grown. In addition, there have been changes, updates, and improvements in the technologies, methods, and analysis tools. Here, we present statistics of the automatic processed bulletins as well as the output LEB and REB for the past 25 years. Moreover, we show how the network growth has affected the bulletins in terms of the number of detections. We also illustrate how the new tools could affect both automatically processed and reviewed bulletins. Furthermore, we discuss the routine interactive analysis challenges along with suggestions on how to overcome these.

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Promotional text

One of the main outcomes of the CTBTO is the event bulletins being released and available to the States Signatories on a daily basis. We present the statistics of these bulletins that have been delivered over the past 25 years as well as discuss the challenges of data analysis.

Oral preference format

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