

Analysis Prospective on Implementation of the NET-VISA in the International Data Centre Bulletin Production

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Data from the International Monitoring System (IMS) stations of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) are being processed by automatic processing, Global Association, interactively analysed and reviewed, resulting in International Data Centre (IDC) bulletins. The Network Processing Vertically Integrated Seismic Analysis (NET-VISA) is a Bayesian seismic monitoring system designed to process IMS data to reduce the number of missed and false events in the automatic processing. NET-VISA has been implemented in operation as an additional event scanner in operation since January 2018. In this study we assess the effect of NET-VISA automatic scanner on the number of events in the IDC bulletins, Late Event Bulletin (LEB) and Reviewed Event Bulletin (REB). In particular, the impact of NET-VISA scanner on the number of scanned events during the interactive analysis is assessed. We use three distinct time periods to evaluate the NET-VISA performance as well as the effect of the other possible factors, such as global seismicity and network performance. The results show a 4.6% increase in the number of LEB events after including the NET-VISA scanner in operation, with an average of seven events per day and a notable increase of 17.90% in the number of scanned events.

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Promotional text

NET-VISA has been recently used operationally as a scanner tool in addition to the GA scanner. A comparison between the different bulletins in distinct periods shows NET-VISA is beneficial to build more valid events, providing opportunities to improve nuclear-test-ban monitoring.

Oral preference format

in-person

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