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NDC-in-a-Box waveform data processing tools: current status, recent achievements, and future plans

To support National Data Centers (NDCs) in their ability to process IMS data, the Provisional Technical Secretariat provides the NDC-in-a-box software package. Many NDCs do real-time processing of continuous data from IMS waveform technology stations, with a particular focus on seismic monitoring data. This data can be used for verification purposes, as well as for civil and scientific applications. Automated data acquisition, archiving, and processing are performed by SeisComP software, whose standard package is supplemented in the NDC-in-a-Box distribution by exclusive CTBTO components and modules. These include tools for data format transformation and event location based on IDC methodologies. For follow-up manual review, including refining event associations and improving location solutions detected automatically, the NDC-in-a-Box offers the Geotool software. Additionally, detailed analysis of infrasound and hydroacoustic detections is performed using another interactive tool, DTK-GPMCC. The development of these components is ongoing, driven by the needs of NDCs for additional functionality, gap-filling, and issue resolution. This presentation highlights the current status, recent achievements, ongoing development activities, and future plans for these tools.

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