



Comprehensive Nuclear-Test-Ban Treaty (CTBT) Monitoring in the Context of the National Data Centre Preparedness Exercise (NPE)

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The Comprehensive Nuclear Test Ban Treaty Organization (CTBTO) is tasked with monitoring compliance with the CTBT. In order to fulfill this mission, the CTBTO is building the International Monitoring System (IMS), which consists of 337 seismic, hydroacoustic, infrasound, and radionuclide monitoring facilities. Data from the IMS are collected, processed and reviewed by the International Data Centre (IDC). Event listings are formed and subsequently communicated to authorized users designated by States Signatories, which are ultimately responsible of characterizing the CTBT relevance of each event. To be better prepared for this some States Signatories have established National Data Centers (NDCs).

In coordination with the CTBTO, NDCs have agreed to organize and conduct annual preparedness exercises to provide for an opportunity for staff from CTBTO and the NDCs to collaborate to gain a better understanding of how IDC data and products may fulfill verification needs. In doing so an in-depth examination of a selected seismo-acoustic event, automatically formed at the IDC, is made. The NDC leading the exercise chooses the event that best mimics a realistic CTBT relevant event. For the related analysis it may also add data from other sources.

The NPE 2009 was to-date the most comprehensive exercise as for the first time the event was chosen from an IDC list comprising, three types of observations: Seismic, infrasound and virtual radionuclide. The latter is inferred from atmospheric transport modeling calculations for a hypothetical release from the event location.

The presentation will describe the sequence of coordinated actions at NDCs and IDC from seismo-acoustic observation and event formation down to event selection and joint analysis.