



UK participation in 2007 NDC exercise

D. Bowers, S. Peacock, D. Porter, N. D. Selby and N. J. Wallis
UK NDC, AWE Blacknest

The UK National Data Centre (UKNDC) participated in the 2007 NDC Preparedness Exercise. The purpose of the exercise was to test NDCs' ability to first confirm that a seismic event produced automatically is genuine, then to locate and identify a potentially suspicious source under the Comprehensive Test Ban Treaty (CTBT), simulating possible conditions after Entry-Into-Force. Participating NDCs used data and tools provided by the International Data Centre (IDC), and other resources. The German NDC triggered the exercise when a randomly selected test event that met agreed criteria appeared in the first automated bulletin (SEL1) produced by the IDC. The exercise started at midnight UTC on 19 June 2007 – the test event selected was a seismic disturbance occurring at 0922 UTC on 20 June 2007 in a seismically active region of Iran.

The UKNDC carried out the exercise in three phases, (I) preparation, (II) UKNDC/IDC analysis, and (III) UKNDC in-depth analysis. The purpose of Phase II was to use and assess tools and products provided by the IDC, such as the current version of the “NDC-in-a box” software. Phase III was an independent analysis using other tools and data available to the UKNDC.

The biggest challenge was the correct identification of seismic phases associated with the test event. Mis-associated phases from a small seismic disturbance in the Dead Sea region were identified and discounted from the test event analysis, and IDC surface wave identifications re-assessed. UKNDC picks from IDC and non-IDC records were combined to give a larger set of reliably associated station surface-wave magnitudes than provided by the IDC. The results have helped target research and development at the UK NDC, and may help with development of seismic processing at the IDC.