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# Analysis Of Historical Seismograms Of Central Asia Stations To Precise The Parameters Of Nuclear Tests At Lop Nor Test Site

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The Lop Nor Test Site is located in Xinjiang Province in the Peoples Republic of China, about 600 km away of Kazakhstan. From 1964-1996, there were 47 nuclear tests, including 3 surface, 19 atmospheric, and 25 underground. During this time, the USSR operated monitoring networks of sensitive seismic stations having both analog and digital instruments.
A seismic catalog and bulletin was created using the archived seismograms of Central Asian stations located in Kazakhstan, Kyrgyzstan, and Russia (epicentral distance 700-2500 km). In total, 800 seismograms of 41 explosions were processed. Using satellite imagery, epicenters were précised for all explosions, including atmospheric and small underground tests. The mb, regional mpv and MLV magnitudes, and energy class K were calculated. The waveforms of Lop Nor air and surface explosions were analyzed using microbarograph records from the Talgar Observatory in Kazakhstan. For several small explosions, locations were précised, dynamic parameters of seismic and infrasound records were analyzed, and origin times were calculated for the first time. As a result, the précised catalogue of nuclear explosions conducted at Lop Nor Test Site was compiled. Many of the explosions can be used as Ground Truth events to construct the regional travel-time curves and for stations calibration.

## Promotional text

The precise catalogue of nuclear explosions conducted at Lop Nor Test Site was compiled.

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