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## 70-years contribution of “Borovoye” Geophysical Observatory into nuclear explosions monitoring

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2021 is 70-years from the day when nuclear explosion of 38 Kt yield was conducted at STS and recorded at Borovoye area. Following first successful experiment and field works, the Special Division of IPE USSR decided to establish “Borovoye” geophysical observatory. In 1961, it recorded UNE of 2.6 Kt from Nevada Test Site at ~10 thousand km distance.

“Borovoye” Observatory is one of the most known global stations for nuclear explosions monitoring. Its uniqueness is determined by good seismological-geological settings for seismic signals recording, the most continuous history of digital recording started in 1966.

In 1974, Vostochnoye, Chkalovo, and Zerenda seismic stations were installed near the Observatory, and formed a so-called large-aperture “Triangle” array with the central station on the Observatory territory. In different years, the magnetotelluric and infrasound stations were used here for monitoring.

In the post-Soviet period, BVAR seismic array of the IMS was constructed at the Observatory area and certified in 2002; in addition, BORK seismic station of IRIS IDA was installed here.

The report presents the history of Borovoye Observatory, shows the examples of recorded nuclear explosions conducted at different world Test Sites, and investigates the spectral density of seismic noise in different periods of time.

### Promotional text

The report shows the history of establishing of “Borovoye” Geophysical Observatory that this year celebrates its 70-years of operation and invaluable contribution into the nuclear explosions monitoring. In addition, the station has the longest period of digital observations.

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