



INVESTIGATION OF HISTORIC SEISMIC AND INFRASOUND RECORDS FROM EVENTS OCCURRED AT THE REGION OF NOVAYA ZEMPLYA TEST SITE BY THE USSR STATIONS

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Located in the north the Novaya Zemlya Test Site was used in Soviet time for conducting unique nuclear weapon tests in different mediums. 130 nuclear explosions with total yield 265 megatons were conducted at the Test Site for the period 1955-1990. During this period the following nuclear explosions were conducted: 1 surface explosion, 85 air explosions, 2 above water explosions, 3 underwater explosions and 39 underground explosions (in boreholes and tunnels). In addition, tectonic earthquakes and induced earthquakes caused by multi-megatons UNE occur near the Test Site.

Unfortunately, only few seismic events occurred on the territory of the Test Site were recorded by digital stations. However, the archives of different seismological organizations of the USSR contain huge amount of analogue seismograms recorded by permanent and temporary stations. Historical seismograms of nuclear explosions and earthquakes from Novaya Zemlya Test site territory were digitized by the Complex Seismological Expedition IPE RAS and by the Institute of Geophysical Researches RK; a database of the events from the Test Site containing 470 seismograms at epicentral distance 2100-3800 was created. The database includes seismic records of air, underground nuclear explosions, and records of underwater nuclear explosion conducted within "Korall" exercise. In addition, infrasound records of waves from multi-megatons air nuclear explosions recorded by a microbarograph installed at Talgar seismic station at distance ~3600 km from the Test Site were digitized.

Kinematic and dynamic parameters of nuclear explosions records conducted in different mediums (air, under water and underground) were investigated by the digitized records from events at Novaya Zemlya Test Site; specific features of wave pattern for each class of events were found.