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Database of seismological observations in the Severomuysky region of the Baikal rift during the operation of the local network of stations (1978–1993)

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Abstract The Severomuysky region should be considered as one of the key areas of the northeastern flank of the Baikal rift zone. The most important infrastructure facilities of the Baikal-Amur Mainline, in particular the Severomuysky tunnel, require an objective assessment of the seismic hazard of this territory. The work on converting a unique set of seismological data obtained during the period of operation of the analog local network of seismic stations (1978–1993) into digital format was carried out at the BB GS RAS in order to ensure the safety of all primary seismological observation materials and comprehensive analysis. This information was presented in printed form only. A database has been developed. It provides a relational approach to storing and managing large volumes of data. The database contains complete information on 15,832 earthquakes with $K_p=4–13$ (station information, catalogues, bulletins, etc.). A client application has been created for convenient work with the database. The article illustrates examples of working with a database when solving typical seismological problems. It is obvious that extensive seismological information presented in digital form is of great importance for assessment of seismic hazard of the study under region.

Keywords Earthquakes, database, Severomuysky tunnel, Baikal rift zone.

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