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Seismological Data Information System of Kamchatka Branch of Geophysical Survey of RAS as of mid-2016

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The main aim of the Kamchatka branch of the Geophysical Survey of Russian Academy of Sciences (KB GS RAS) are fundamental and applied researches in the fields of seismology and geophysics. Among the main objectives are complex geophysical observations; development and improvement of methods and techniques of observation, data collection, processing and data storage. Also KB GS RAS provides the storage of results of data processing and multi-level access for internal and external users.

Seismological Data Information System (SDIS) of KB GS RAS was put into operation in 2013. The SDIS was aimed on 1) the automatic processing, collection, systematization and access providing to seismological data of KB GS RAS; 2) centralized management of KB GS RAS information resources, including archival and new seismic data.

SDIS database is a uniform data repository, managed by DBMS PostgreSQL. Structure of SDIS database is consistent with Standard for the Exchange of Earthquake Data (SEED) format and parametric seismological information (IASPEI Seismic Format, ISF).

Database updated automatically in real-time by data from earthquakes with $M \geq 0$ located in the Kamchatka region, and with $M \geq 6.0$ around the world; and by information for seismic network of Far Eastern region. Currently, the database contains information about more than 255 thousand earthquakes and more than 100 actual seismic sensors, also for number of deinstalled ones. Earthquake data include: the basic parameters (date, time, coordinates, etc.); the processing bulletin (onset times, amplitudes, etc.); different magnitudes (including magnitudes obtained by international seismological agencies); marcoseismic intensity and description of felt earthquakes; focal mechanisms and moment tensor solutions; records of earthquakes in the mini-SEED format. In addition, earthquake data may be linked with results of related researches: source spectra, corner frequencies, advanced source models and others. Sensor information includes: sensor parameters (type, name, coordinates, installation method, etc.); station parameters (name, code in IASPEI coding standard, coordinates, timeline changes, soil conditions, etc.); information about transfer functions, power spectral density of seismic noise; and others.

On the web-site www.emsd.ru/sdis the multi-level model of access to SDIS data is organized. Access level is determined during the registration. Part of the SDIS data is available only with the permission of administration KB GS RAS.

At present SDIS is used in routine work of KB GS RAS and in scientific researches. The development of SDIS is continuing. Flexible structure of SDIS allows to develop new tools for informational support of investigations that are conducted by distributed research groups.