

## **DEVELOPMENT OF AN EARTHQUAKE INFORMATION SYSTEM FOR GERMANY**

N. Gestermann, G. Jahnke, G. Hartmann, A. Schick, L. Ceranna, M. Henger

Federal Institute of Geosciences and Natural Resources, Stilleweg 2, 30655 Hannover, Germany. Tel.: +49 511 6433156, FAX: +49 511 6433663. E-mail: [gestermann@sdac.hannover.bgr.de](mailto:gestermann@sdac.hannover.bgr.de).

The earthquake information system provides comprehensive and reliable data immediately after an earthquake occurred in Germany and adjacent areas. It consists of the following main components:

- A seismometer network at selected sites with low noise and with a minimum number of disturbing signals from man-made activities.
- A communication system which allows near real-time transmission of waveform data to a central data recording and processing system.
- Powerful processing software for rapid and reliable event parameter determination.
- An interface to communication facilities, such as internet, SMS, e-mail and fax for the distribution of alert messages.
- A graphic information system which allows detailed information on the epicenter region and on potential damage to be displayed.

Two new seismic stations have been built northeast of Hannover and close to Bad Hersfeld to supplement selected stations of the GRSN to make up a network of seven stations. The currently implemented data transfer method is based on a communication protocol which allows, in case of an interruption, simultaneous transmission of most recent and earlier waveform data. This protocol ensures immediate access to the most current data.

With a network of only seven stations, data processing is the most important element of the information system. The drawback of having only seven stations is compensated by sophisticated software which makes use of improved procedures for seismic phase identification and consistency checks. These methods make it possible to recognize errors in the processing of the data.

A graphic information system has been developed for display of results. This system acts as an interface for the users. The epicenter of an earthquake can be plotted on several maps together with additional information such as historical earthquakes, seismic stations, mines, quarries, oil and gas fields, as well as geological fault zones.

Poster presentation