



ALISE - an Alert and Information System for Earthquakes in Germany

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Since the devastating Sumatra earthquake on 26 December 2004, there is an increasing public interest in the establishment of earthquake alert and information systems. Although Germany is not a region with high seismic risk, damaging earthquakes are occasionally occurring as history has shown. We present "ALISE", an alert and information system that informs quickly, comprehensively and reliably on the source parameters and on the possible impact of major earthquakes in Germany and adjacent areas. This information can be used by emergency services or disaster relief organizations.

Seismic waveform data is mainly gained in near real-time from selected stations of the German Regional Seismic Network (GRSN). Together with two newly installed stations the monitored area is well covered. Seismic data from this network is transmitted via the Internet or dedicated communication links to the data center at BGR. Newly developed processing and analysis software determines automatically the basic source parameters and generates seismic alert messages which are distributed to interested users by email and SMS. This data is also provided on the Web. The results are also sent to a map server. This system provides additional detailed information about the epicentral area, as well as on the population density, historical earthquakes, contributing seismic stations, mines, quarries, power plants, oil and gas fields and geological fault zones.

The reliability of the system was tested against a set of former significant German earthquakes. A rough estimate of the expected damage e.g. in terms of vulnerability is derived from the source parameters using additional data such as the population density and geological conditions. The development of the alert and information system for earthquakes "ALISE" was initially started within the DFNK (German Research Network Natural Disasters) project and continued after the project ceased in 2003.