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A Seismic Data Collection for Eastern Thuringia

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Abstract

The area of Eastern Thuringia is subject to significant seismic activity. While the seismic hazard had been largely ignored in the past decades, the radical economic changes of the 1990s forced a paradigm shift. Particularly the emergence of high tech industry in the area made the investigation of seismic risk a subject of key importance. To this end, the authors initiated the Eastern Thuringia Seismic Network (OTSN), which began operation in 1997. Starting out with five stations, the network was subsequently expanded to its final configuration of 10 stations, allowing the observation of the area's seismicity in unprecedented detail. The authors analyzed the seismic hazard in Eastern Thuringia. Based on the manifold data gathered by the OTSN, the northernmost and previously unknown seismic swarm area was discovered in the vicinity of Werdau. The seismic events recorded until the end of 2003 are now made available in their entirety as Seismic Data Collection. This database contains event times, source parameters and detailed information from the individual seismic stations on roughly 800 events, 500 of which are of tectonic origin and 300 were identified as blasting events. It is available on the home page of the Institut für Geowissenschaften, Friedrich-Schiller-Universität Jena.