

Seismotectonics of southern Africa

Assessment of seismic hazard is challenging especially for low seismicity regions like southern Africa, where association of seismicity to causative faults is difficult as most of these faults are buried and show no surface rupture. However, the availability of good quality data from improved monitoring of earthquakes, recent geological, geodetic and geophysical studies, have made it possible to prepare an updated seismotectonic map of the region. The recognition and detailed mapping of historical and quaternary surface faulting in many zones of neotectonic activity have led to recent improvements in seismic hazard studies. The seismotectonic map assists in the delineation of seismic hotspots and potential earthquake sources in order to carry out a proper seismic hazard assessment using state of the art methodologies. Thus, in the study to prepare the seismotectonic map, concerted efforts were made to identify active faults and characterize them. To assist in that effort, stress data compiled mostly from fault plane solutions, were also obtained and could be used in characterising faults and seismic source zones. It is hoped that the information in the seismotectonic map will contribute to the preparation of more accurate seismic hazard assessments for South Africa.

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