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Seismic sources along the North Anatolian Fault for seismic hazard assessment

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The North Anatolian Fault Zone (NAFZ) extending from Karliova in eastern Turkey to the northern Aegean constitutes a continuous seismic source of more than 1000 kilometers capable of generating large destructive earthquakes. A sequence of westward migrating earthquakes has started in 1939 in Erzincan. The disastrous earthquakes of Izmit and Düzce that occurred in 1999 are the last two events in this sequence that manifest the importance of NAFZ in the seismic hazard potential of this region. Increased knowledge about the characteristics of the NAFZ in recent years provides now a good basis for assessing the seismic hazard in this region. In the present study we have compiled the available information about the behaviour of the NAFZ and its different segments and have prepared a new seismic source zonation which will be used for a revised probabilistic seismic hazard assessment. The details of the NAFZ are parameterized following criteria which take into account both the probabilistic seismic hazard calculations as well as the deterministic ground motion simulations.