

# **Alternative models of seismic hazard evaluation along the Jordan dead sea transform**

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Three models were used to produce three probabilistic hazard maps for the Jordan-Dead Sea transform (DST). No seismic source zones were proposed. Models I and II are based on spatially smoothed historical and instrumentally recorded earthquakes. Model I used the data with magnitudes greater than 3.0 for the time period 1900 to 2003, while model II used data with the magnitude range between 5.0 and 7.0 for the time period 2100 B.C. to 2003 A.D. Model III is the weighted model that is based on characteristic earthquakes that occurred along each major fault in the last  $\sim 4100$  years. To assess the peak ground acceleration (PGA), three different attenuation equations were used. The resulting hazard maps represent 10% probability of being exceeded in 50 years, which corresponds to return period of 475 years. The maximum PGA value was  $350 \text{ cm/sec}^2$  for the northernmost part of the DST namely between latitude of  $35.5^\circ$  and  $36.5^\circ$  N, and the southwestern part of Cyprus. In the regions of maximum expected ground motion, there is general agreement between the results of this study and those of previous studies that used the seismic source zones. However, peak ground accelerations predicted in this study are typically 10 – 20% less than those of previous studies. We believe this study represents an improvement on prior seismic hazard evaluations for the region: In addition to the updated input data, we believe that, by integrating three models, a more robust estimate of the hazard is provided.