



## A PARAMETRIC EARTHQUAKE CATALOGUE FOR TURKEY FOR THE PERIOD 1000 AD TO 1903

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We have compiled a revised and updated parametric earthquake catalogue for Turkey covering the period 1000 AD to 1903. The efforts in the SHARE, EMME and GEH Projects have been the major driving forces in the compilation. The procedure used encompasses the following steps:

1. Identifying the available parametric and descriptive catalogues as well as earthquake/region/period specific studies that provide information for the region and time period under consideration;
2. Compiling all the entries from the parametric catalogues and studies;
3. Merging under the same group all the entries concerning the same event
4. Using the information provided in the descriptive catalogues and earthquake specific studies, to validate the veracity of each group by accepting it as a true event / marking it as a doubtful event / rejecting it as a false event;
5. Retrieve the best available knowledge of each event and select the most reliable parameters for each family (i.e. from entries concerning the same event) as the parameters of the specific event in the final catalogue.

The intensity based parametric catalogue of Soysal et al. (1981) has been a widely used reference for the compilation of later catalogues for Turkey, however prone to duplications, mislocations and inclusion of false events. We have included the entire catalogue in our study, traced back its sources of information for each entry and validated the events with more recent studies. Ambraseys and Jackson (1998), Ambraseys and Melville (1982), Ambraseys and Finkel (1995), Guidoboni and Comastri (2005), Sbeinati et al. (2005), Shebalin and Tatevossian (1997) form the backbones of the compiled catalogue. Ambraseys (2009) provides an invaluable source of information for validation purposes. This process also helped us to include a considerable number of events missing from Soysal et al. (1981).

The critical reviewing process conducted in the study has revealed that although the seismic history of Turkey from written sources spans for about two millennia, the distribution of the events lacks homogeneity both in time and space, tending to cluster around main cities, changing as a function of the cities' relative importance in time. Especially the earlier catalogues are prone to duplications and mislocations in time and space, due to similarities in the location names, differences in the calendar systems used by different communities in the region and diffuse reporting of effects from different locations. Other natural events such as volcanic eruptions and landslides as well as fall of cities under conquests form the major causes of false events.

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