



The Selected Some Cities and an Approach to Earthquake Risk Assesment In Turkey

D. Kepekci (1) and F. Ozcep (2)

(1) Bogazici University, Kandilli Observatory, Istanbul, Turkey (dilek.kepekci@boun.edu.tr), (2) Istanbul Univerisity, Geophysics, Turkey (ferozcep@istanbul.edu.tr)

When we look the triggered risks by natural events in Turkey, the studies on earthquake related risks must be in the most important place. In this study, 23 cities in Turkey were selected to estimate their relative earthquake risk levels. Risk factors for cities are selected the house numbers, national incomes of cities and population and ground motion levels. Combining ground motion levels and other risk factors, a relative risk evaluation was carried out each selected cities. To estimate the ground motion level, the earthquakes bigger than 4.5 magnitudes and locations in 100 km radius around the cities are selected for 1900-2006 period of years. Probabilistic seismic hazard analysis for selected cities was carried out by using Poisson probabilistic approaches. For selected cities, ground motion level were estimated as probability in a given level of acceleration with %10 exceedence rate in 50 years of time period. Risk level of the cities was evaluated by using house number, national incomes of cities and population and ground motion levels. Maximum risk level obtained from the cities was taken reference value for relative risk assessment and other risk values were estimated according to the maximum risk level. In our study, Istanbul, Izmir, Ankara and Bursa cities were respectively revealed most important risky cities in Turkey.