



Integrated Use of Soil Amplification and Earthquake Induced Slope Stability in the Microzonation Studies : Esenyurt (Istanbul) Example

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Microzonation studies for seismic hazard have many uses. It can provide input for seismic design, land use management and estimation of the potential for liquefaction and landslides. Earthquake-induced landslides have caused tremendous amounts of damage throughout history. In many earthquakes, landslides have been responsible for as much or more damage than all other seismic hazards combined. When an earthquake occurs, the effects of earthquake-induced ground shaking is often sufficient to cause failure of slopes. Resulting damage can range from insignificant to catastrophic depending on geometric and material characteristics of the slope. The amplified motions have devastating effects on structures with periods close the site periods. The site conditions includes rock properties beneath the site to depths of up to about few kilometers, the local site conditions, and the topography of the site. In this study, soil amplifications and slope stability analysis will be evaluated in microzonation studies.