

## **GIS Based Geotechnical Microzoning of Antalya – Kepez (Turkey) District**

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The aim of the study is to GIS (Geographical Information Systems) based geotechnical microzoning of Antalya-Kepez district (292 km<sup>2</sup>), where is on a major earthquake belt, by utilizing last 10 years field and laboratory tests that based on ground surveys, geological studies that made for the district, seismic history and seismic data researches.

Preparation of data sets and transforming to digital data of borehole points was achieved for Kepez district and outcomes of the studies were shown at the microzoning maps.

Data of the field and laboratory tests also used for forming of spectral acceleration – period graphics due to shear wave velocity by using EERA (Equivalent-linear Earthquake site Response Analysis) computer program.

In the light of studies and calculations for Kepez district, cohesive, non-cohesive soils and travertine were found. Microzoning maps were generated due to soil type, bearing capacity, groundwater level and correlated for the district by using 296 borehole data. While generating microzoning maps boundaries of the area were created with ArcMap 10.1 and 3 dimensional scene was created with ArcScene 10.1 computer programmes. The DEM (Digital Elevation Models) data which have 30 meters of spatial resolution were applied both raster and polyline data and for the result topographic view of the district was generated and the data were treated.