GEOSCIENCE AND ENGINEERING IMPACTS OF THE FEB 6TH TURKIYE EARTHQUAKES

Robb Moss, PhD PE FASCE

Department of Civil & Environmental Engineering, Cal Poly San Luis Obispo

Abstract

GEER (Geotechnical Extreme Events Reconnaissance) mobilized several joint US and Turkish teams following the Feb 6th earthquakes in southwest Turkiye to collect perishable data. A collaborative EERI and GEER report was published disseminating the reconnaissance observations: https://www.geerassociation.org/index.php/component/geer_reports/?view=geerreports&layout=build&id=109

This presentation provides a brief summary of the surface fault rupture, landslides, rock fall, liquefaction, lateral spreading, and other ground damage and how these impacted the civil infrastructure and built environment. The damage zone from these earthquakes was on the order of 200 km wide by 350 km long with widespread left-lateral surface fault rupture and liquefaction/lateral spreading affecting many cities and towns in the region. Several earth dams experienced some form of seismic induced deformations and one experienced surface fault rupture. Ports and harbors were damaged primarily due to liquefaction, and landsliding and rock falls were documented throughout the damage zone. The goal of these efforts is to learn from this event so that these hazards can be mitigated in future seismic events.