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Field observations for Holocene earthquake activity on the Gölbaşı-Türkoglu segment of the East Anatolian Fault Zone, Turkey

Erhan Altunel (1), Volkan Karabacak (1), Önder Yönlü (1), Mustapha Meghraoui (2), Hüsnü Serdar Akyüz (3), and Nafiye Güneç Kıyak (4)

(1) Osmangazi University, Department of Geology, Eskisehir, Turkey (ealtunel@ogu.edu.tr), (2) Institut de Physique du Globe, Strasbourg, France , (3) Istanbul Technical University, Department of Geological Engineering, 34469, İstanbul, Turkey, (4) Işık University, Department of Physics, Istanbul, Turkey

East Anatolian Fault Zone is one of the most active tectonic structures in the Eastern Mediterranean region. The fault zone extends about 450 km long between Karlıova triple junction in northeast and Türkoğlu in southwest. The soutward extension of the fault zone is under discussion further west of Türkoğlu. The segments of the fault zone are reactivated in historical and instrumental periods by surface rupturing earthquakes. According to historical earthquake catalogues; although northeastern part of the fault zone has ruptured between 1866-1905 years, the Gölbaşı-Türkoğlu segment has not been ruptured since 1513. Pre-1513 earthquake activity of the southwestern part of the fault zone is not known in detail because there are no paleoseismological studies

We conducted geomorphological studies on the southwestern part of the East Anatolian Fault Zone and mapped the fault between Gölbaşı and Türkoğlu in detail. Offset morphological features were measured precisely by ground-based LIDAR, D-GPS and total-station. Paleoseismological trench studies were conducted at two localities and at least three paleoearthquke evidence were determined in young sediments. Samples were collected for OSL and C14 dating to date the past events but dating analyses are in progress.