



Tsunamigenic earthquakes in the Chios-Cesme strait, Aegean Sea

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Some historical earthquakes occurred in and around Turkey have resulted in tsunamis. Most risk-prone areas in the eastern central Aegean Sea are the Izmir Bay, Karaburun peninsula and Chios Island. The level of seismic activity and tsunami potential is influenced by the presence of normal faults around the region. There have been about 40 moderate-size earthquakes from 496 BC to 1949 AD. Among these earthquakes, 20.03.1389, 13.11.1856, 19.01.1866, 03.04.1881 and 23.07.1949 events produced tsunamis. The Chios-Cesme earthquake (1881, Mw 6.5) took place to the south of the Cesme strait while the Chios-Karaburun earthquake (1949, Mw 6.7) occurred to its north. Both events created tsunamis that resulted in destruction along the coasts of Chios Island and Cesme. In both cases, abnormal sea level changes were observed following the aftershocks. These events are found to be associated with slumps and landslides along the steep shores of the Chios Island and the Karaburun Peninsula. Seafloor slope, slope direction, and roughness as defined by the curvature of contours, can aid the identification of potential slides more likely to produce tsunamis.