



Tectonic interpretation of the 13 february 2001, mw 6.6, El Salvador Earthquake: New evidences of coseismic surface rupture and paleoseismic activity.

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In February 2001 a major strike slip earthquake stroke the central part of El Salvador causing hundreds of people killed, thousands injured and extensive damage. After this event the scientific effort was mainly focused on the study of the enormous and catastrophic landslides triggered by this event and no evidences of surface faulting were detected. This earthquake was produced by the reactivation of the Ilopango-San Vicente segment of the El Salvador Fault Zone. Recently, a surface rupture displacement on the ground was identified. The analysis of aerial and field photographs taken few hours after the event and the mapping of the conserved ground structures shows a pure strike-slip displacement ranging from 20 to 50 cm, with secondary features indicating dextral shearing. The paleoseismic analysis made through the excavation of six trenches and Radiocarbon dating indicate a minimum slip rate of 2.0 mm/yr and a recurrence of major ruptures ($M_w > 6.5$) lower than 500 yr. These evidences give interesting local data to increase our understanding about the tectonic behavior and the way how active deformation develops along the northern limit of the forearc sliver related to the Centroatlantic subduction area.