Mapping the source of the 1983 M_w 6.5 Coalinga thrust earthquake (California)

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We have recently shown that density patterns of co-seismic landslides associated to large thrust earthquakes can be used to map the area of maximum slip of the fault plan (Meunier et al., 2013), arguing that once adjusted for site effects, landslide distributions can supplement or replace instrumental records of earthquakes. We have applied our method to the 1983 M_w 6.5 Coalinga thrust earthquake (California). At the times of the main shock, the epicentral area of this earthquake was not covered with the dense network of accelerometers that has been installed since. Consequently, the slip inversion, inverted from leveling cross-sections and teleseismic data, is poorly constrained in comparison to the recent big thrust earthquakes we've been studied. We discuss the inversion of the source of this earthquake and compare its localisation with the one proposed by Stein and Ekstrom (1992).