



Interplate coupling along segments of the Central America Subduction zone

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We analyzed 5 major earthquakes that occurred during 1992 to 2012 in a segment of the Central America subduction zone along the coasts of Guatemala and El Salvador. These events include 1992/09/02 (Mw 7.7), 1993/09/10 (Mw 7.2), 2001/01/13 (Mw 7.7), 2012/08/27 (Mw 7.3) and 2012/11/07 (Mw 7.3). We derived the asperities of these earthquakes using two completely independent methods of body-waveform inversion and a gravity-derived measure, Trench Parallel Bouguer Anomaly (TPBA). Using TPBA we discuss the status of interplate coupling along the segment and interpret each of the major earthquakes as a piece of the governing rupture process. We delineate the critical unbroken asperities along the segment that will likely generate great earthquake(s) in the future.