Geophysical Research Abstracts
Vol. 12, EGU2010-11153, 2010
EGU General Assembly 2010
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Preliminary results on earthquake triggered landslides for the Haiti earthquake (January 2010)

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This study presents the first results on an analysis of the landslides triggered by the Ms 7.0 Haiti earthquake that occurred on January 12, 2010 in the boundary region of the Pacific Plate and the North American plate. The fault is a left lateral strike slip fault with a clear surface expression. According to the USGS earthquake information the Enriquillo-Plantain Garden fault system has not produced any major earthquake in the last 100 years, and historical earthquakes are known from 1860, 1770, 1761, 1751, 1684, 1673, and 1618, though none of these has been confirmed in the field as associated with this fault.
We used high resolution satellite imagery available for the pre and post earthquake situations, which were made freely available for the response and rescue operations. We made an interpretation of all co-seismic landslides in the epicentral area. We conclude that the earthquake mainly triggered landslide in the northern slope of the fault-related valley and in a number of isolated area. The earthquake apparently didn't trigger many visible landslides within the slum areas on the slopes in the southern part of Port-au-Prince and Carrefour. We also used ASTER DEM information to relate the landslide occurrences with DEM derivatives.