



## **Specific signature of seismic shaking in landslide catalogues: Case of the Chichi earthquake**

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The 1999 Chichi earthquake triggered 10 000 landslides in its epicentral area. In addition to coseismic landsliding, directly induced by the shaking, the hillslopes response extended to several years after the main shock, during which landslide susceptibility remained higher than during the pre-seismic period. We attribute this elevated rate to weakening effects caused by the shaking. The characteristics of the coseismic landslide catalogues (clustering, slope and azimuth distribution) bears the signature of the seismic triggering. Extended landslide mapping (1994-2004) allows to track changes in these signatures in order to better interpret them. We present a summary of the change of these signatures through time and space. At the scale of the epicentral area, we show that coseismic landslide clustering did clearly occur along the fault where the shaking is strong. In 3 sub-catchments of the Choshui river, a finer analysis of the landslide time series reveals a mixed signature of both geology and shaking. Pre-quake rain-induced landslides preferentially occurred down slope and along the bedding planes while coseismic landslides locate higher in the landscape, on slopes strongly affected by site effects. However, during the post seismic period, the signature of the shaking is not present while landslide rate remains high, suggesting that weakening effects seemed homogeneously distributed in the landscape.