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# Earthquake source localization from the analysis of coseismic landslide catalogues

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In the epicentral area of large continental earthquakes, the density of seismically induced landslides is controlled by the intensity of the ground shaking, the local gradient and lithology. Once corrected for the latter parameters, the decrease of the landslide density with distance to the seismic source in depth is adequately described by a wave attenuation law. This relationship allows to localize the earthquake source using coseismic landslide catalogues and a fault plane geometry [1]. We summarize the results of the inversions of the seismic sources of the 1999 Chichi, the 2004 Niigata, the 2008 Iwate and the 2008 Sichuan earthquakes and discuss the changes in the values of the parameters, namely the source term and the quality factor, with the local geology.

[1] Meunier, P., Uchida, T., & Hovius, N. (2013). Landslide patterns reveal the sources of large earthquakes. Earth and Planetary Science Letters, 363, 27-33.