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## Analysis of a database of landslides triggered by the 2016 Central Italy seismic sequence

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The seismic sequence that struck Central Italy in 2016 was characterized by three main shocks respectively occurred on August 24<sup>th</sup> Mw 6.0; October 26<sup>th</sup> Mw5.9 and October 30<sup>th</sup> Mw 6.5. The seismic sequence caused several ground effects over a large area of the central Apennine mountain range, mainly affecting transportation routes.

In the aftermath of the sequence, several research groups mapped around 820 landslides involving road cuts in rock and fill slopes over an area of about 2000 km<sup>2</sup> (GEER,ISPRA, C.E.R.I. by Roma La Sapienza). These data are summarized in the CEDIT catalog by Martino et al., (2017), where almost 150, 250 and 420 instability phenomena were respectively triggered by each mainshock. Further updates were carried out by the Authors in the framework of the Reluis projects of the Department of Civil Protection. In particular, other 550 phenomena were mapped by interpretation of aero photos provided by google-earth. For some of the largest ones, field surveys were carried out for mechanical, structural, and geometrical characterization.

The dataset distribution was analyzed with geological, geomorphological, and seismic parameters, such as lithology, fault distance, landslide run-out, estimates of mobilized volumes, distance from the epicenter, PGA, and damages.

The triggered events are mainly characterized by Category I of Keefer (1984) classification, namely rockfalls and rockslides. The maximum triggering distance resulted as high as 50 km far from the epicenter. The most affected areas are characterized by ridge crests or flanks of valleys in carbonate rocks.

This study permitted to highlight the most relevant parameters for the assessment of earthquake-triggered susceptibility for the study area and identify some meaningful and critical case studies for the future development of the research.