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A new database of historical earthquake-induced landslides in Italy

We present a new database of historical earthquake-induced landslides (HEILs) prepared within the project “Multi-scale, integrated approach for the definition of earthquake-induced landslide hazard in Italy” funded by the Italian Ministry for the Environment. The goal of this project is to develop a multidisciplinary approach for assessing the earthquake-induced landslide hazard, at national, regional and local scales, and integrating existing databases with previous projects and research activities results.

The CFTI database (<https://doi.org/10.1038/s41597-019-0091-9>) holds a central role, because it was compiled at the national scale and also because its latest version (CFTI5Med <https://doi.org/10.6092/ingv.it-cfti5>) documents about 600 landslides associated with strong historical earthquakes.

We review and integrate data relating to HEILs, already included in the CFTI database, by means of:

- 1) the identification of new landslides on the basis of the review of historical sources, newly found or already archived in the CFTI database;
- 2) the analysis of recent scientific articles and technical reports and on the comparison with other digital archives such as the CEDIT (<https://doi.org/10.4408/IJEGE.2012-02.O-05>) and the EEE catalogues (<http://eeecatalogue.isprambiente.it/>);
- 3) a more accurate localization and definition of the slope movement types of the HEILs, when the descriptions of historical sources allowed it, through the geographical comparison with data of different origin, such as aerial photographs, geomorphological and instability maps, associating them, where possible, to the individual landslides registered in the IFFI database (<https://www.progettoiffi.isprambiente.it/>).

The final result is a dataset with about 1,000 landslides divided into 3 classes of location accuracy (A, B, C). The dataset is addressed to a large audience of potential users: researchers and scholars, administrators and technicians of local institutions and civil protection authorities.

The results will be collected in a new independent database, connected to the CFTI5Med, that will be publicly accessible online through a dedicated geographic interface, designed to be interoperable with both INGV and external databases.

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