

National and regional approaches for the prediction of rainfall-induced landslides in Italy: an overview

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In Italy, rainfall-induced landslides with severe consequences in terms of economic damage and casualties occur every year. The Italian National Department for Civil Protection (DPC) has the responsibility, in agreement with regional and local governments, to protect individuals and communities from natural hazards, including landslides. In particular, the DPC has a guiding role in projects and activities for the prevention, forecast and monitoring of landslide risk.

The alert system for the landslide risk is assured by the DPC and by the Italian Regions through the network of the regional functional centres, the regional structures and the competence centres. More specifically, each Region has to define procedures and methods to set up customized early warning system for the prediction of rainfall-induced landslides.

In this work, we report an overview of approaches, methods and early warning systems adopted by the DPC and by the Italian Regions to forecast the occurrence of rainfall-induced slope failures.

This study is a description of the state of the art in the prediction of landslides triggered by rainfall at national and regional scale. The collection and organization of this information is of considerable interest both for the DPC, and for the individual Regions. This overview can be a starting point for a constructive debate about the local expertise, in order to improve the landslide prediction capability and to contribute to reducing landslide risk.