

Parameters calibration in rainfall induced landslides in the Langhe area (1994)



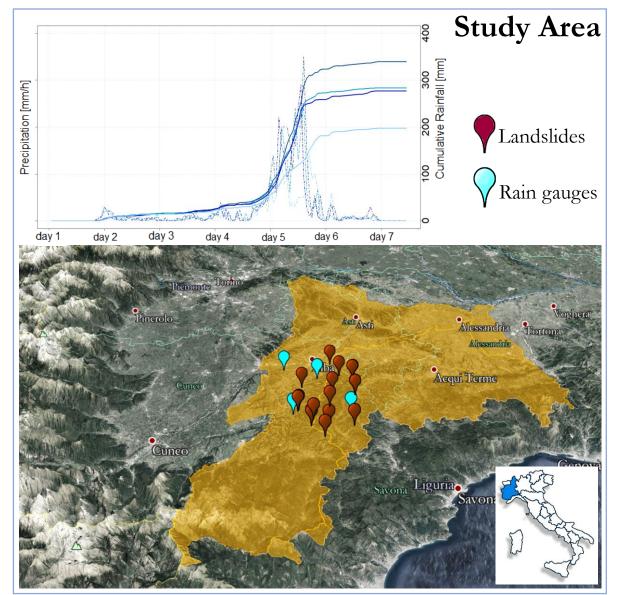
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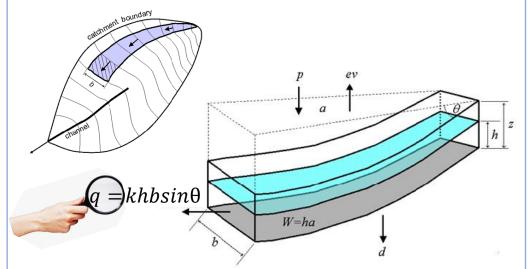
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Our goal

Small scale calibration with the aim of estimating the actual cohesion and permeability values over 13 selected shallow landslides.

Validation thanks to **regional databases** of well-documented **geometries** and **geotecnical parameters.**





Rosso et al. - A physically based model for the hydrologic control on shallow landsliding, Water Resources Research, 42, W06410, 2006

Flow Analysis for k calibration



Method



Mechanical Analysis for **c calibration**, by targeting SF to assume the value 1

$$SF = \frac{c' + \left[\left(1 - \frac{h}{z} \right) \gamma + \frac{h}{z} \gamma' \right] z \cos^2 \theta \tan \Phi'}{\left[\left(1 - \frac{h}{z} \right) \gamma + \frac{h}{z} \gamma_{sat} \right] z \operatorname{sen} \theta \cos \theta}$$

Results

