



water



Special Issue Reprint

Rainfall Thresholds and Other Approaches for Landslide Prediction and Early Warning

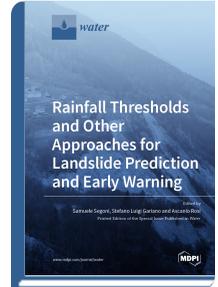
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mdpi.com/books/pdfview/book/3903



ISBN 978-3-0365-0930-3 (Hbk)

ISBN 978-3-0365-0931-0 (PDF)

Landslides are destructive processes causing casualties and damage worldwide. The majority of the landslides are triggered by intense and/or prolonged rainfall. Therefore, the prediction of the occurrence of rainfall-induced landslides is an important scientific and social issue. To mitigate the risk posed by rainfall-induced landslides, landslide early warning systems (LEWS) can be built and applied at different scales as effective non-structural mitigation measures. Usually, the core of a LEWS is constituted of a mathematical model that predicts landslide occurrence in the monitored areas. In recent decades, rainfall thresholds have become a widespread and well established technique for the prediction of rainfall-induced landslides, and for the setting up of prototype or operational LEWS. A rainfall threshold expresses, with a mathematic law, the rainfall amount that, when reached or exceeded, is likely to trigger one or more landslides. Rainfall thresholds can be defined with relatively few parameters and are very straightforward to operate, because their application within LEWS is usually based only on the comparison of monitored and/or forecasted rainfall. This Special Issue collects contributions on the recent research advances or well-documented applications of rainfall thresholds, as well as other innovative methods for landslide prediction and early warning. Contributions regarding the description of a LEWS or single components of LEWS (e.g., monitoring approaches, forecasting models, communication strategies, and emergency management) are also welcome.



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