



## **Utilization of web-based stationary rainfall data for near-real-time derivation of spatial landslide susceptibility**

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Scarcity of high-quality meteorological data is often referred to as one of the main constraints for performing real-time landslide forecasting. Meteorological data may be expensive or not up-to-date any more soon after it is acquired. However, the internet is a great source of freely available, high quality real-time weather data from different sources.

Web scraping has emerged into a highly valuable technique for utilizing information from public websites. Hereby, web scraping is the process of automatically gathering data from the internet, extracting these data according to required needs, storing the selected data and using those self-generated databases for further analysis. This technique is of great value, in particular for weather data that is released regularly in short intervals to the public, but may be applicable to any other type of continuously released data. By applying these techniques, research institutions in developing countries may be able to generate their own free data without the need of purchasing expensive, ready-made weather data. However, some weather data providers already offer application programming interfaces (API) that facilitate access to real-time weather data, but those usually have to be purchased.

Here we present an approach for integrating web-based rainfall data from different sources into an automated workflow. This workflow ranges from the query of near-real-time data to spatially interpolating those rain gauge measurements into a continuous rainfall raster. Subsequently, this raster is handed over into a dynamic, physical-based landslide model for generating hourly distributed landslide susceptibility maps on a regional scale. Future work involves the establishment or regional intensity-duration rainfall thresholds that are continuously evaluated against the distributed rainfall patterns based on real-time rainfall data.