



On the Predictive Landslide Susceptibility Under Climate Change Conditions

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Among the most critical issues, climate abnormalities caused by global warming also affect Taiwan significantly for the past decade. The frequency of extreme rainfall events has increased, where the concentrated and heavy rainfalls generally caused geohazards, including landslides and debris flows.

Based on the rainfall data collected, this study employs rainfall frequency analysis and the domestic atmosphere general circulation model (AGCM) downscaling estimates to understand the past rainfall pattern and forecast the future rainfall trends, distributions, and the intensities. In this study, the Chingshui River Watershed, a watershed with major geohazards in Taiwan, was adopted as the study area. Rainfall estimates from the rainfall frequency analysis and AGCM were used in the susceptibility model to produce susceptibility zoning maps for various rainfall scenarios under climate change conditions. The results suggest the areas with high hazard potential, and the susceptibility maps can be used for disaster remediation, mitigation, and prevention plan for the study area.