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Landslide frequency analysis in Wushe reservoir drainage

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The purpose of landslide hazard analysis is that predicts where, how frequently, and how large. In other words, it requires spatial probability and temporal probability. Many researches estimate spatial probability in landslide susceptibility. In temporal domain, two different approaches are used to assess the landslide frequency. One is computing the probability of failure of a slope. The other is performing in the way similar to the hydrology analysis, and the frequency of past landslide events is obtained.

This study collects ten landslide inventories which cover 16 years in Wushe reservoir drainage. We assume that occurrence of landslide are randomly and independently, and the poisson distribution be used to assess the annual probability of occurrence of landslide. Finally, it is obtained the relation between frequency and magnitude.