

Supplementary Material

- **S1_landslide_catalogue.xlsx**: catalogue of landslides used in this paper. More information about the dataset can be found in the text in Table 1 of the main text.
- **S2_bayes_no_uncertainty.R**: R code implementing the Bayesian framework for rainfall-triggered landslide forecasting without accounting for uncertainty. The code computes prior probability, rainfall exceedance probability, likelihood, posterior probability, and probability gain for multiple rainfall thresholds and rain gauges. Details on the formulation and calculation of the Bayes' theorem terms are provided in Section 4.2 (Application to rainfall-triggered landslides) of the main text.
- **S3_bayes_uncertainty.mat**: MATLAB code implementing Bayesian forecasting of rainfall-triggered landslides with uncertainty. The script applies Bayes' theorem using probability distributions and random sampling to estimate posterior distributions, posterior statistics (median and 5th–95th percentiles), probability gain, and interquartile range (IQR) for multiple rainfall thresholds and rain gauges. Details on the modelling of uncertainties are provided in Section 4.4 (Modelling of uncertainties) of the main text.