



## **Probabilistic Forecasting of Rock Avalanche Runout using a Numerical Model**

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The estimation of impact area, velocity and flow depth is a key step in the assessment of landslide hazard and risk for rock avalanches. There are many sources of uncertainty when predicting rock avalanche motion, so forecasting must be performed in a probabilistic context. Semi-empirical runout models are one tool that can be used to forecast rock avalanche runout. These models are physically based, however the parameters that govern motion can only be determined through back-analysis of case histories. This work describes the systematic calibration of a semi-empirical runout model using a database of 24 rock avalanche case histories. Trends in the calibration results are used to develop a framework for probabilistic analysis of rock avalanche motion.