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Discussions

Interactive comment on "Derivation and evaluation of landslide triggering thresholds by a Monte Carlo approach" *by* D. J. Peres and A. Cancelliere

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This paper focuses on the determination of rainfall thresholds for the forecasting of rainfall induced landslides, and provides interesting food for thoughts. Use of stochastic rainfall data coupled with a slope stability model ensures a good balance between the classical empirical and physically based approaches. The ROC-based criterion offers several quantitative values âĂŃâĂŃ that contribute to make less subjective the identification of the thresholds.

Concerning the ROC-based analysis, I would like to highlight the following aspects.

In the (wide!) literature on ROC analyses, the same indexes are shown with different names and acronyms. This is unfortunate. To avoid possible misunderstandings,

Barnes et al. (2009) have recommend that Authors consider using the following nomenclature:

- Probability of Detection, POD = TP / (TP + FN),

- Probability of False Detection, POFD = FP / (FP + TN), and

- Probability of False Alarms, POFA = TP / (TP + FP).

I recommend that the authors adopt this nomenclature, and that they change their "TPR, FPR, and PRE" with "POD, POFD and POFA".

Further, the index that the authors call "Δ" [capital Delta] is known as the Hanssen-Kuipers discriminant, and was originally introduced by Pierce in 1884. It is also called True Skill Statistic (see e.g., Hanssen & Kuipers, 1965; Wilks, 1995; Stephenson 2000; Accadia et al., 2003). To avoid unnecessary confusion, the authors should consider using the notation "HK" (or "TSS"), instead of "Δ".

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