

***Interactive comment on “Snow  
Accumulation-Melting Model (SAMM) for  
integrated use in regional scale landslide early  
warning systems” by G. Martelloni et al.***

**Anonymous Referee #1**

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The paper presents a Snow-Accumulation-Melting Model for use in a landslide early warning system. The author claim to use an intermediate approach between physically based models and empirical temperature index models to model snowmelt runoff which is then included in a landslide early warning systems. In general, the topic is of interest for the reader.

However, the claim that SAMM is an intermediate approach between physically based models and empirical temperature index models is overstated. To model snow storage/melt the author employ a rather ad hoc density description combined with the mass

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balance equation. To describe snow storage/melt they use a highly parameterized (13 empirical parameters) approach.

Their description of the model is ambiguous. It is not always clear which parameters are used from which time steps.

The author claim that their approach improved the landslide early warning. At this point I would have liked to see some kind of performance matrix or a bit more statistical evaluation as it is profided.

\* Observed and predicted landslides  
probability of detection (POD)  
probability of non detection (PON)  
hit rate (HR) etc.

The paper is reasonably well written, but it could gain if revised by a native english speaker.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 9, 9391, 2012.